Boundless

Accounting

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Chapter 1

Introduction to Accounting

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Section 1

What is Accounting

Defining Accounting

Inputs to Accounting

Outputs of Accounting

Uses of Financial Reports

https://www.boundless.com/accounting/introduction-to-accounting/what-is-accounting/

Defining Accounting

Accountancy is the process of communicating financial information about a business entity to users such as shareholders and managers.

KEY POINTS

- Accounting is thousands of years old; the earliest accounting records, which date back more than 7,000 years, were found in Mesopotamia (Assyrians).
- Luca Pacioli's "Summa de Arithmetica, Geometria, Proportioni et Proportionalità" represents the first known printed treatise on bookkeeping; and it is widely believed to be the forerunner of modern bookkeeping practice.
- Double-entry bookkeeping is defined as any bookkeeping system in which there was a debit and credit entry for each transaction.

Introduction

Accountancy is the process of communicating financial information about a business entity to users such as shareholders and managers. The communication is generally in the form of financial statements that show in money terms the economic resources under the control of management; the art lies in selecting the information that is relevant to the user. The principles of accountancy are applied to business entities in three divisions of practical art: accounting, bookkeeping, and auditing.

Accounting Defined

The American Institute of Certified Public Accountants (AICPA) defines accountancy as "the art of recording, classifying, and summarizing, in a significant manner and in terms of money, transactions and events which are, in part at least, of financial character, and interpreting the results thereof."

History

The earliest accounting records were found amongst the ruins of ancient Babylon, Assyria and Sumeria, which date back more than 7,000 years. The people of that time relied on primitive accounting methods to record the growth of crops and herds. Because there is a natural season to farming and herding, it is easy to count and determine if a surplus had been gained after the crops had been harvested or the young animals weaned (*Figure 1.1*).

When medieval Europe moved to a monetary economy in the 13th century, sedentary merchants depended on bookkeeping to oversee multiple simultaneous transactions financed by bank loans. One important breakthrough took place around that time: the introduction of double-entry bookkeeping, which is defined as any

Figure 1.1 Father of Double-Entry Accounting

Portrait of Luca Pacioli, attributed to Jacopo de' Barbari, 1495 (Museo di Capodimonte).

bookkeeping system in which there was a debit and credit entry for each transaction, or for which the majority of transactions were intended to be of this form. The historical origin of the use of the words 'debit' and 'credit' in accounting goes back to the days of single-entry bookkeeping in which the chief objective was to keep track of amounts owed by customers (debtors) and amounts owed to creditors. Thus, 'Debit,' from the Latin word debere means 'he owes' and 'Credit', from the Latin word credere, means 'he trusts'.

The earliest extant evidence of full double-entry bookkeeping is the Farolfi **ledger** of 1299-1300. Giovanno Farolfi & Company were a firm of Florentine merchants whose head office was in Nîmes, and who also acted as moneylenders to the Archbishop of Arles, their most important customer. The oldest discovered record of a complete double-entry system is the Messari (Italian: "Treasurer's") accounts of the city of Genoa in 1340. The Messari accounts contain debits and credits journalized in a bilateral form, and contain balances carried forward from the preceding year. Therefore, they enjoy general recognition as a double-entry system.

Luca Pacioli's "Summa de Arithmetica, Geometria, Proportioni et Proportionalità" (early Italian: "Review of Arithmetic, Geometry, Ratio and Proportion") was first printed and published in Venice in 1494. It included a 27-page treatise on bookkeeping, "Particularis de Computis et Scripturis" (Latin: "Details of Calculation and Recording"). It was written primarily for, and sold mainly to, merchants who used the book as a reference text, as a source of pleasure from the mathematical puzzles it contained, and to aid the education of their sons. It represents the first known printed treatise on bookkeeping; and it is widely believed to be the forerunner of modern bookkeeping practice (*Figure 1.2*).

In "Summa Arithmetica," Pacioli introduced symbols for plus and minus for the first time in a printed book, symbols that became standard notation in Italian Renaissance mathematics. "Summa Arithmetica" was also the first known book printed in Italy to contain algebra. Although Luca Pacioli did not invent double-entry **bookkeeping**, his 27-page treatise on bookkeeping contained the first known published work on that topic, and is said to have laid

the foundation for double-entry bookkeeping as it is practiced today. Even though Pacioli's treatise exhibits almost no originality, it is generally considered as an important work, mainly because it enjoyed a wide circulation, was written in the vernacular Italian language, and was a printed book.

Figure 1.2 Token Accounting in Mesopotamia

The invention of a form of bookkeeping using clay tokens represented a huge cognitive leap for mankind.

Past

Early accounts served mainly to assist the memory of the businessperson, and the audience for the account was the proprietor or record keeper alone. Cruder forms of accounting were inadequate for the problems created by a business entity involving multiple investors, so double-entry bookkeeping first emerged in northern Italy in the 14th century, where trading ventures began to require more capital than a single individual was able to invest. The development of joint stock companies created wider audiences for accounts, as investors without firsthand knowledge of their operations relied on accounts to provide the requisite information. This development resulted in a split of accounting systems for internal (i.e., management accounting) and external (i.e., financial accounting) purposes, and subsequently also in accounting and disclosure regulations, following a growing need for independent attestation of external accounts by auditors.

Present

Today, accounting is called "the language of business" because it is the vehicle for reporting financial information about a business entity to many different groups of people. Accounting that concentrates on reporting to people inside the business entity is called management accounting and is used to provide information to employees, managers, owner-managers, and auditors. Management accounting is concerned primarily with providing a basis for making management or operating decisions. Accounting that provides information to people outside the business entity is called financial accounting and provides information to both current and potential shareholders, creditors such as banks or vendors, financial analysts, economists, and government agencies. Because these users have different needs, the presentation of financial accounts is very structured and subject to many more rules than management accounting. The body of rules that governs financial accounting in a given jurisdiction is called Generally

Accepted Accounting Principles, or GAAP. Other rules include International Financial Reporting Standards (IFRS), U.S. GAAP, Canadian GAAP, and the GAAP in other specific countries.

Inputs to Accounting

Inputs into accounting include journal entries, the bookkeeping process, and the general ledger.

KEY POINTS

- In accounting, a journal entry is a logging of transactions into accounting journal items.
- The extraction of account balances is called a trial balance.
- The purpose of the trial balance is, at a preliminary stage of the financial statement preparation process, to ensure the equality of the total debits and credits.

Journal Entries

In accounting, a **journal entry** is a logging of transactions into accounting journal items. The **journal** entry can consist of several items, each of which is either a debit or a credit. The total of the debits must equal the total of the credits or the journal entry is said to be "unbalanced." Journal entries can record unique items or recurring items such as depreciation or bond amortization. Some data commonly included in journal entries are: journal entry number; batch number; type (recurring vs. nonrecurring); amount

of money, name, auto-reversing; date; accounting period; and description.

The balance sheet is a statement showing net worth on a particular date (*Figure 1.3*). Journal entries are used to record injections and ejections to such net worth. After recording the transactions through journal entries the revised balance sheet can be prepared.Journal entries are an easier means for perpetrating financial statement fraud than adjusting the subledgers. The former requires only a management override, while the latter requires collusion with other departments. False journal entries figured prominently in the frauds at WorldCom, Cendant, and Xerox.

Figure 1.3 The Balance Sheet

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Bookkeeping

In accounting, the two bookkeeping methods are the single-entry and double-entry bookkeeping systems. For modern day purposes, it is most important to know the double-entry bookkeeping system.

The 'basic accounting equation' is the foundation for the double-entry bookkeeping system. For each transaction, the total debits equal the total credits.

Bookkeeping is the recording of financial transactions. Transactions include sales, purchases, income, receipts and payments by an individual or organization. Bookkeeping is usually performed by a **bookkeeper**. Many individuals mistakenly consider bookkeeping and accounting to be the same thing. This confusion is understandable because the accounting process includes the bookkeeping function, but is just one part of the accounting process.

The accountant creates reports from the recorded financial transactions recorded by the bookkeeper and files forms with government agencies. There are some common methods of bookkeeping such as the single-entry bookkeeping system and the double-entry bookkeeping system. However, while these systems may be seen as "real" bookkeeping, any process that involves the recording of financial transactions is a bookkeeping process. A bookkeeper (or book-keeper), also known as an

accounting clerk or accounting technician, is a person who records the day-to-day financial transactions of an organization.

A bookkeeper is usually responsible for writing the "daybooks." The daybooks consist of purchases, sales, receipts, and payments. The bookkeeper is responsible for ensuring all transactions are recorded in the correct day book, suppliers ledger, customer ledger, and general ledger. The bookkeeper brings the books to the trial balance stage. An accountant may prepare the income statement and balance sheet using the trial balance and ledgers prepared by the bookkeeper.

The General Ledger

General Ledger is the final repository of the accounting records and data. In modern accounting softwares or ERP, the general ledger works as a central repository for accounting data transferred from all sub-ledgers or modules like accounts payable, accounts receivable, cash management, fixed assets, purchasing, and projects. General ledger is the backbone of any accounting system which holds financial and non-financial data for an organization. The statement of financial position and the statement of income and comprehensive income are both derived from the general ledger.

Each account in the general ledger consists of one or more pages. The general ledger is where posting to the accounts occurs. Posting is the process of recording amounts as credits, (right side), and amounts as debits, (left side), in the pages of the general ledger. Additional columns to the right hold a running activity total (similar to a checkbook). The listing of the account names is called the chart of accounts. The extraction of account balances is called a trial balance. The purpose of the trial balance is, at a preliminary stage of the financial statement preparation process, to ensure the equality of the total debits and credits.

The general ledger should include the date, description, and balance or total amount for each account. It is usually divided into at least seven main categories. These categories generally include assets, liabilities, owner's equity, revenue, expenses, gains, and losses. The main categories of the general ledger may be further subdivided into subledgers to include additional details of such accounts as cash, accounts receivable, accounts payable, etc.

Outputs of Accounting

Accounting outputs are financial statements that detail the financial activities of a business, person, or other entity.

KEY POINTS

- The balance sheet, reports on a company's assets, liabilities, and ownership equity at a given point in time.
- The income statement is also referred to as profit and loss statement, or a "P&L." This statement reports on a company's income, expenses, and profits over a period of time.
- A statement of changes in shareholder's equity explains the changes of the company's equity throughout the reporting period.

Financial Statements

A financial statement, or financial report, is a formal record of the financial activities of a business, person, or other entity. For a business enterprise, relevant financial information presented in a structured manner is called a financial statement. Statements typically include four basic financial statements accompanied by a management discussion and analysis. These statements are as follows:

Balance Sheet

This statement reports on a company's assets, liabilities, and ownership equity at a given point in time.

Income Statement

This statement, also referred to as profit and loss statement (or a "P&L"), reports on a company's income, expenses, and profits over a period of time. A profit and loss statement provides information on the operation of the enterprise. These statements include sale and various expenses incurred during the processing state (*Figure 1.4*).

Statement of Cash Flows

This statement reports on a company's cash flow activities—particularly its operating, investing, and financing activities. For large corporations, these statements are often complex and may include extensive notes, an explanation of financial policies, and management analysis. The notes typically provide detail for items on the balance sheet, income statement, and cash flow statement. Notes to financial statements are considered an integral part of the financial statements.

Figure 1.4 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

An example of an income statement

Statement of Shareholder's Equity

This statement explains changes in the company's equity throughout the reporting period.

Purpose of Financial Statements

The objective of financial statements is to provide information about financial position, performance, and changes. Statements are useful to a wide range of users making economic decisions. Financial statements should be understandable, relevant, reliable, and comparable. Reported assets, liabilities, equity, income, and expenses are directly related to an organization's financial position.

Financial statements are intended to be understandable by readers who have a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently.

Owners and managers require financial statements to make business decisions that affect continued operations. Statements are analyzed to provide management with a more detailed understanding of the figures. These statements are also used as part of management's annual report to the stockholders.

Employees need financial statements when making collective bargaining agreements (CBA) with the management and when discussing their compensation, promotion, and rankings.

Prospective investors hire analysts to prepare financial statements. This allows investors to assess the viability of a business

Financial institutions (banks and other lending companies) use statements to decide whether to grant a company fresh working capital or extend debt securities (such as a long-term bank loan or **debentures**).

Government entities (tax authorities) need financial statements to ascertain the propriety and accuracy of taxes and other duties declared and paid by a company.

Vendors who extend credit to a business require financial statements to assess the creditworthiness of the business.

Uses of Financial Reports

Financial reporting is used by owners, managers, employees, investors, institutions, government, and others to make important decisions about a business.

KEY POINTS

- Owners and managers require financial statements to make important business decisions that affect its continued operations.
- Employees also need these reports in making collective bargaining agreements with the management, in the case of labor unions or for individuals in discussing their compensation, promotion, and rankings.
- Although laws differ from country to country, an audit of the financial statements of a public company is usually required for investment, financing, and tax purposes.

Financial statements may be used by different stakeholders for a multitude of purposes

Owners and managers require financial statements to make important business decisions affecting its continued operations. Financial analysis is then performed on these statements, providing management with a more detailed understanding of the figures.

These statements also are used as part of management's annual report to the stockholders.

Employees need these reports in making collective bargaining agreements with the management, in the case of labor unions or for individuals in discussing their compensation, promotion, and rankings.

Prospective investors make use of financial statements to assess the viability of investing in a business. Financial analyses are used by investors and prepared by professionals (financial analysts), thus providing them with the basis for making investment decisions.

Financial institutions (banks and other lending companies) use them to decide whether to grant a company working capital or extend debt securities (such as long-term bank loans or debentures) to finance expansion and other significant expenditures.

Government entities (tax authorities) need financial statements to ascertain the propriety and accuracy of taxes and other duties declared and paid by a company.

Vendors who extend credit to a business require financial statements to assess the **creditworthiness** of the business.

Media and the general public are interested in financial statements for a variety of reasons.

Government

Government also produces financial reports to stay accountable to the public and people. The rules for recording, measurement and presentation of government financial statements may be different from those required for business and even for non-profit organizations.

Not-for-profit Organizations

The requirements for non-profit financial statements differ from those of a for profit institution and therefore, will not be discussed.

Personal

Personal financial statements may be required from persons applying for a personal loan or financial aid. Typically, a personal financial statement consists of a single form for reporting personally held assets and liabilities (debts) or personal sources of income and expenses, or both. The form to be filled out is determined by the organization supplying the loan or aid.

Audit and Legal

Although laws differ from country to country, an audit of financial statements of a public company is usually required for investment, financing, and tax purposes. These are usually performed by independent accountants or auditing firms (*Figure 1.5*). Results are

Figure 1.5 Auditing Firm

Auditing firm office building in San Francisco.

in an audit report that either provides an unqualified opinion on the financial statements or qualifications as to its fairness and accuracy. The audit opinion on the financial statements is usually included in the annual report. There has been legal debate over who an auditor is liable to. Since audit reports tend to be addressed to the current shareholders, it is commonly thought that they owe a legal duty of care to them. This may not be the case, as determined by common law precedent. In Canada, auditors are liable only to investors using a prospectus to buy shares in the primary market. In the United Kingdom, they have been held liable to potential investors when the auditor was aware of the potential investor and how they would use the information in the financial statements. Nowadays, auditors tend to include in their report liability restricting language, discouraging anyone, other than the addressees of their report, from relying on it. Liability is an important issue: In the UK, for example, auditors have unlimited liability. In the United States, especially in the post-Enron era, there has been concern about the accuracy of financial statements.

Corporate officers (the chief executive officer (CEO) and chief financial officer (CFO)) are personally liable for attesting that financial statements "do not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by the report." Making or certifying misleading financial statements exposes the people involved to civil and criminal liability. For example Bernie Ebbers (former CEO of WorldCom) was sentenced to 25 years in federal prison for allowing WorldCom's revenues to be overstated by billions over five years.

Section 2

The Accounting Concept

Terminology of Accounting

Debits and Credits

Fundamental Accounting Equation

An Expanded Equation

Types of Transactions

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Reasons for a Conceptual Framework

A conceptual framework is a system of ideas and objectives that lead to the creation of a consistent set standards.

KEY POINTS

- The main reasons for developing an agreed conceptual framework are that it provides a framework for setting accounting standards, a basis for resolving accounting disputes, fundamental principles which then do not have to be repeated in accounting standards.
- The Financial Accounting Standards Board (FASB) is a private, not-for-profit organization whose mission is "to establish and improve standards of financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information.
- Created in 1973, FASB replaced the Committee on Accounting Procedure (CAP) and the Accounting Principles Board (APB) of the American Institute of Certified Public Accountants (AICPA).

KEY POINTS (cont.)

- FASB's Conceptual Framework, a project begun in 1973 to develop a sound theoretical basis for the development of accounting standards in the United States. From 1978 to

Conceptual Framework

A conceptual framework can be defined as a system of ideas and objectives that lead to the creation of a consistent set of rules and standards. Specifically in accounting, the rule and standards set the the nature, function and limits of financial accounting and financial statements.

The main reasons for developing an agreed conceptual framework are that it provides:

a framework for setting accounting standards;

a basis for resolving accounting disputes;

fundamental principles which then do not have to be repeated in accounting standards.

History

Prior to 1929, no group—public or private—was responsible for accounting standards. After the 1929 stock market crash, the Securities and Exchange Act of 1934 was passed. This resulted in the U.S. Securities and Exchange Commission (SEC) supervising public companies. The Securities and Exchange Commission (SEC) designated the FASB as the organization responsible for setting accounting standards for public companies in the U.S.

The Financial Accounting Standards Board (FASB) is a private, not-for-profit organization whose mission is "to establish and improve standards of financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information." Created in 1973, FASB replaced the Committee on Accounting Procedure (CAP) and the Accounting Principles Board (APB) of the American Institute of Certified Public Accountants (AICPA).

FASB's Conceptual Framework, a project begun in 1973 to develop a sound theoretical basis for the development of accounting standards in the United States. From 1978 to 2010 the FASB released eight concept statements.

1. OBJECTIVES OF FINANCIAL REPORTING BY BUSINESS ENTERPRISES (SFAC No. 1) 1978
2. QUALITATIVE CHARACTERISTICS OF ACCOUNTING INFORMATION (SFAC No. 2)1980
3. ELEMENTS OF FINANCIAL STATEMENTS OF BUSINESS ENTERPRISES (SFAC No. 3)1980
4. OBJECTIVES OF FINANCIAL REPORTING BY NONBUSINESS ORGANIZATIONS (SFAC No. 4) 1980
5. RECOGNITION AND MEASUREMENT IN FINANCIAL STATEMENTS OF BUSINESS ENTERPRISES (SFAC No. 5)1984
6. ELEMENTS OF FINANCIAL STATEMENTS; a replacement of FASB Concepts Statement N. 3, also incorporating an amendment of FASB Concepts Statement No. 2 (SFAC N. 6) 1985
7. USING CASH FLOW INFORMATION AND PRESENT VALUE IN ACCOUNTING MEASUREMENTS (SFAC No. 7) 2000
8. No. 8. CONCEPTUAL FRAMEWORK FOR FINANCIAL REPORTING, a replacement of SFAC No. 1 and No. 2 2010

Why is the Framework Necessary

Figure 1.6 Laying a Foundation for Building

U.S. Navy Petty Officer 3rd Class Channing Connelly, right, uses a laser-guided level to check for proper frame elevation as other Seabees adjust a frame board while working on a building foundation at a patrol base in Mahawil, Iraq, Feb. 4, 2009.

With a sound conceptual framework in place the FASB is able to issue consistent and useful standards. In addition, without an existing set of standards, it isn't possible to resolve any new problems that emerge.

The framework also increases financial statement users' understanding of and confidence in financial reporting and makes it easier to compare different companies' financial statements (*Figure 1.6*).

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Objectives of Accounting

The objective of business financial reporting is to provide information that is useful for making business and economic decisions.

KEY POINTS

- Specifically, the information should be useful to investors and lenders, be helpful in determining a company's cash flows, and report the company's assets, liabilities, and owner's equity and the changes in them.
- Financial accountants produce financial statements based on the accounting standards in a given jurisdiction.
- Generally Accepted Accounting Principles refer to the standard framework of guidelines for financial accounting used in any given jurisdiction.
- International Financial Reporting Standards (IFRS) are designed as a common global language for business affairs so that company accounts are understandable and comparable across international boundaries.

Objectives of Accounting

The Financial Accounting Standards Boards Statements of Financial Accounting Concepts No. 1 states the objective of business financial reporting, which is to provide information that is useful for making business and economic decisions. Specifically, the information should be useful to investors and lenders, be helpful in determining a company's cash flows, and report the company's **assets**, **liabilities**, and owner's equity and the changes in them.

With these objectives in mind, financial accountants produce financial statements based on the accounting standards in a given jurisdiction. These standards may be the generally accepted accounting principles of a respective country, which are typically issued by a national standard setter, or International Financial Reporting Standards, which are issued by the **International Accounting Standards Board**.

Figure 1.7 Project Managers
Gary Roughead talks with project managers while touring Pacific Beacon.

U.S GAAP

Generally Accepted Accounting Principles refer to the standard framework of guidelines for financial accounting used in any given jurisdiction; generally known as accounting standards or Standard accounting practice. These include the standards, conventions, and rules that accountants follow in recording and summarizing, and in the preparation of financial statements.

IFRS

International Financial Reporting Standards (IFRS) are designed as a common global language for business affairs so that company accounts are understandable and comparable across international boundaries. They are a consequence of growing international shareholding and trade and are particularly important for companies that have dealings in several countries (*Figure 1.7*). They are progressively replacing the many different national accounting standards.The rules to be followed by accountants to maintain books of accounts which is comparable, understandable, reliable and relevant as per the users internal or external.

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Fundamental Concepts in Accounting

In order to prepare the financial statements, it is important to adhere to certain fundamental accounting concepts.

KEY POINTS

- Going Concern, unless there is evidence to the country, it is assumed that a business will continue to trade normally for the foreseeable future.
- Accruals and Matching, revenue earned must be matched against expenditure when it was incurred.
- The objectives of financial reporting is to provide information that is relevant and useful.

Fundamental Concepts in Accounting

Financial statements are prepared according to agreed upon guidelines. In order to understand these guidelines, it helps to understand the objectives of financial reporting. The objectives of financial reporting, as discussed in the Financial Accounting standards Board (FASB) Statement of Financial Accounting Concepts No. 1, are to provide information that

Figure 1.8 Accounting Concepts in a Diagram

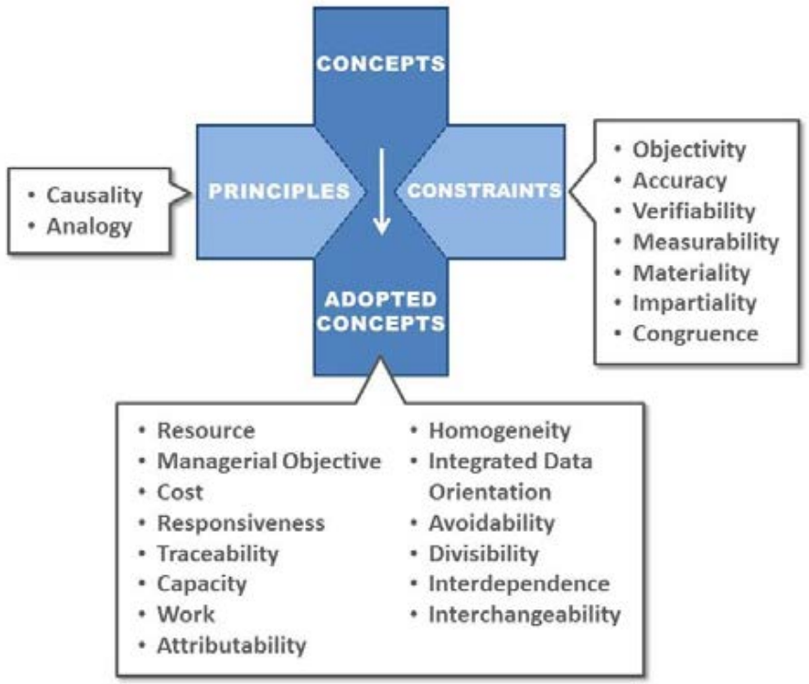

Diagram of details for principle, concepts, and constraints within the field of Management Accounting

- Is useful to existing and potential investors and creditors and other users in making rational investment, credit, and similar decisions;
- Helps existing and potential investors and creditors and other users to assess the amounts, timing, and uncertainty of prospective net cash inflows to the enterprise;
- Identifies the economic resources of an enterprise, the claims to those resources, and the effects that transactions, events, and circumstances have on those resources.

Preparing Financial Statements

In order to prepare the financial statements, it is important to adhere to certain fundamental accounting concepts (*Figure 1.8*).

Going Concern, unless there is evidence to the country, it is assumed that a business will continue to trade normally for the foreseeable future.

Accruals and Matching, **revenue** earned must be matched against expenditure when it was incurred

Prudence, if there are two acceptable accounting procedures choose the one gives the less optimistic view of profitability and asset values.

Consistency, similar items should be accorded similar accounting treatments.

Entity, a business is an entity distinct from its owners.

Money Measurement, accounts only deal with items to which monetary values can be attributed.

Separate Valuation each asset or liability must be valued separately.

Materiality, only items material in amount or in their nature will affect the true and fair view given by a set of accounts.

Historical Cost, tTransactions are recorded at the cost when they occurred.

Realization, revenue and profits are recognized when realized.

Duality, every transaction has two effects.

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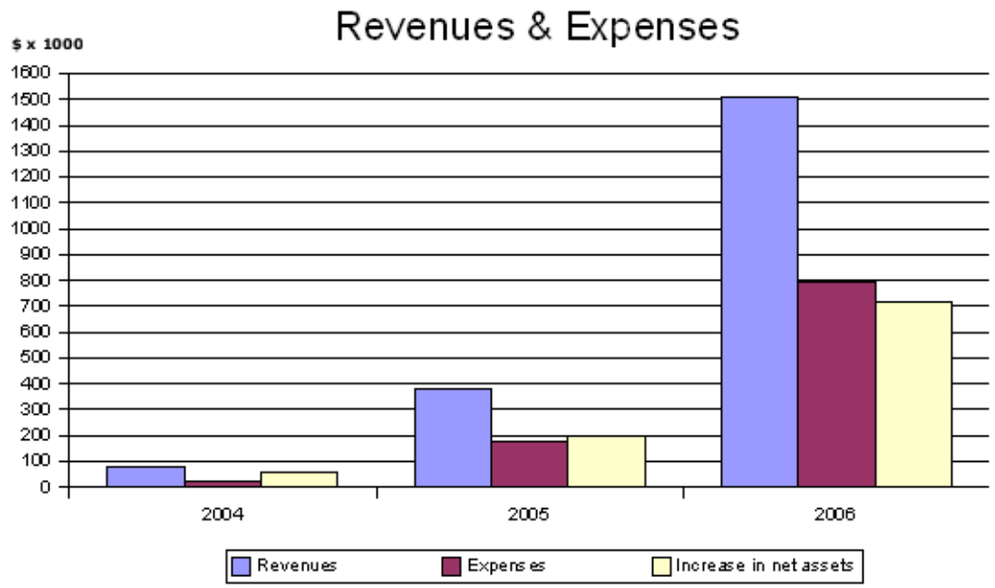
Importance of Recognition and Measurement

In accounting, recognition of revenues and expenses is based on the matching principle.

Figure 1.9 Revenues and Expenses



This graph shows the growth of the revenues, expenses, and net assets of the Wikimedia Foundation from june 2003 to june 2006.

KEY POINTS

- Accrued revenue: Revenue is recognized before cash is received.
- Deferred revenue: Revenue is recognized after cash is received.
- Accrued expense: Expense is recognized before cash is paid out.
- Deferred expense: Expense is recognized after cash is paid out.

Revenue Recognition Principle

The revenue **recognition** principle and the matching principle are two cornerstones of accrual accounting. They both determine the accounting period, in which revenues and expenses are recognized. According to the revenue recognition principle, revenues are recognized when they are realized or realizable and earned—usually when goods are transferred or services rendered—regardless of when cash is received. In contrast, cash accounting revenues are recognized when cash is received regardless of when goods or services are sold. Cash can be received before or after obligations are met—when goods or services are delivered. Related revenues as two types of accounts:

Accrued revenue: Revenue is recognized before cash is received.

Deferred revenue: Revenue is recognized after cash is received.

Accruals and Deferrals: Timing of Recognition vs. Cash Flow

Two types of balancing accounts exist to avoid fictitious profits and losses. These might occur when cash is not paid out in the same accounting period in which expenses are recognized. According to the matching principle in accrual accounting, expenses are recognized when obligations are incurred—regardless of when cash is paid out. In contrast to recognition is disclosure. An item is disclosed when it is not included in the financial statements, but appears in the notes of the financial statements. Cash can be paid out in an earlier or later period than the period in which obligations are incurred. Related expenses result in the following two types of accounts:

Accrued expense: Expense is recognized before cash is paid out.

Deferred expense: Expense is recognized after cash is paid out.

Accrued expenses are a liability with an uncertain timing or amount; the uncertainty is not significant enough to qualify it as a provision. One example would be an obligation to pay for goods or services received from a counterpart, while the cash is paid out in a later accounting period—when its amount is deducted from accrued expenses. Accrued expenses shares characteristics with deferred revenue. One difference is that cash received from a counterpart is a liability to be covered later; goods or services are to be delivered later—when such income item is earned, the related revenue item is recognized, and the same amount is deducted from deferred revenues.

Deferred expenses, or prepaid expenses or prepayment, are an asset. These expenses include cash paid out to a counterpart for goods or services to be received in a later accounting period—when fulfilling the promise to pay is actually acknowledged, the related expense item is recognized, and the same amount is deducted from prepayments. Deferred expenses share characteristics with accrued revenue. One difference is that proceeds from a delivery of goods or services are an asset to be covered later, when the income item is earned and the related revenue item is recognized; cash for the items is received in a later period—when its amount is deducted from accrued revenues.

The Matching Principle

The matching principle is a culmination of accrual accounting and the revenue recognition principle. They both determine the accounting period, in which revenues and expenses are recognized. According to the principle, expenses are recognized when obligations are:

Incurred (usually when goods are transferred or services rendered—e.g. sold)

Offset against recognized revenues, which were generated from those expenses (related on the cause-and-effect basis), regardless of when cash is paid out. In cash accounting, on the other hand, expenses are recognized when cash is paid out, regardless of when obligations are incurred through transfer of goods or rendition of services.

If no cause-and-effect relationship exists (e.g., a sale is impossible), costs are recognized as expenses in the accounting period they expired—when have been used up or consumed. Prepaid expenses are not recognized as expenses, but as assets until one of the qualifying conditions is met resulting in a recognition as expenses. If no connection with revenues can be established, costs are recognized immediately as expenses (e.g., general administrative and research and development costs).

Prepaid expenses, such as employee wages or subcontractor fees paid out or promised, are not recognized as expenses (cost of goods sold), but as assets (deferred expenses), until the actual products are sold.

The matching principle allows better evaluation of actual profitability and performance. It reduces noise from the timing **mismatch** between when costs are incurred and when revenue is realized. Keep in mind that recent standards have moved away from matching expenses and revenues in favor of "balance sheet" model of reporting.

Section 3

Overview of Key Elements of the Business

Business Stakeholders: Internal and External

Activities of the Business: Financing, Investing, & Operating

Role of Accounting in the Business

Ethical Considerations

https://www.boundless.com/accounting/introduction-to-accounting/overview-of-key-elements-of-the-business/

Business Stakeholders: Internal and External

A stakeholder is an individual or group that has a legitimate interest in a company.

KEY POINTS

- A corporate stakeholder is a person or group who can affect or be affected by the actions of a business.
- Internal stakeholders are groups within a business or people who work directly within the business, such as employees, owners, and investors.
- External stakeholders are groups outside a business or people who are not directly working within the business but are affected in some way from the decisions of the business, such as customers, suppliers, creditors, community, trade unions, and the government.

A **corporate stakeholder** is an individual or group who can affect or be affected by the actions of a business. The stakeholder concept was first used in a 1963 internal memorandum at the Stanford Research Institute. It defined stakeholders as "those groups without whose support the organization would cease to exist."

In the last decades of the 20th century, the word "stakeholder" has become more commonly used to refer to a person or group that has a legitimate interest in a project or entity. In discussing the decision-making process for institutions—including large business corporations, government agencies, and non-profit organizations -- the concept has been broadened to include everyone with an interest (or "stake") in what the entity does.

Internal stakeholders are groups within a business or people who work directly within the business, such as employees, owners, and investors. Employees want to earn high wages and keep their jobs. Owners are interested in maximizing the profit the business makes. Investors are concerned about earning income from their investment (*Figure 1.10*).

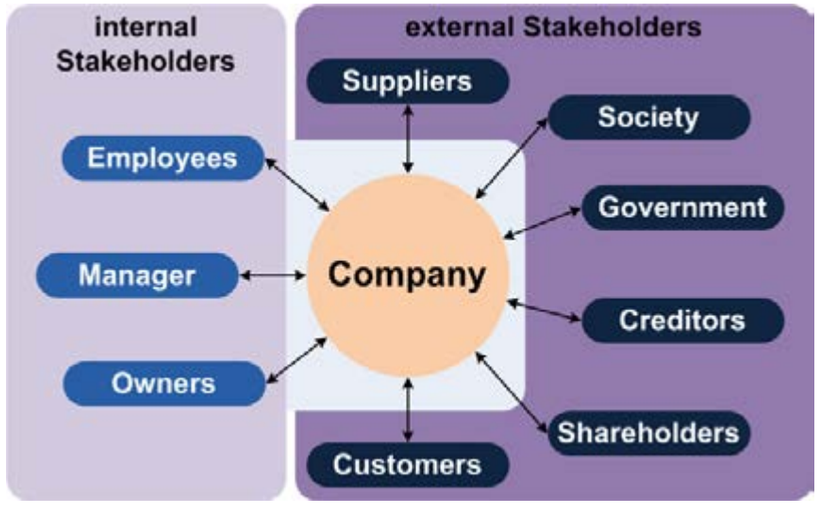


Figure 1.10
Stakeholders
The picture shows the typical stakeholders of a company. The stakeholders are divided in internal and external stakeholders.

External stakeholders are groups outside a business or people who are not directly working within the business but are affected in some way from the decisions of the business, such as customers, suppliers, creditors, community, trade unions, and the government. The government wants the business to pay taxes, employ more people, follow laws, and truthfully report its financial conditions. Customers want the business to produce quality products at reasonable prices. Suppliers want the business to continue to buy their products. Creditors want to be repaid on time and in full. The community has a stake in the business as employers of local people.

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Activities of the Business: Financing, Investing, & Operating

Activities of the business include operating activities and non-operating activities such as investing activities, and financing activities.

KEY POINTS

- Operating activities include the production, sales, and delivery of the company's product as well as collecting payment from its customers. This could include purchasing raw materials, building inventory, advertising, and shipping the product.
- Investing activities include purchases or sales of an asset (assets can be land, building, equipment, marketable securities, etc.), loans made to suppliers or received from customers, payments related to mergers and acquisitions, and dividends received.
- Financing activities include the inflow of cash from investors, as well as the outflow of cash to shareholders as dividends as the company generates income. Other activities which impact the long-term liabilities and equity of the company are also listed in the financing activities.

Activities of the business include operating activities, investing activities, and financing activities (*Figure 1.11*).

Figure 1.11 Business activities

Cash flows from (used in) operating activities		
Cash receipts from customers	9,500	
Cash paid to suppliers and employees	(2,000)	
Cash generated from operations (**sum**)	**7,500**	
Interest paid	(2,000)	
Income taxes paid	(3,000)	
Net cash flows from operating activities		2,500
Cash flows from (used in) investing activities		
Proceeds from the sale of equipment	7,500	
Dividends received	3,000	
Net cash flows from investing activities		10,500
Cash flows from (used in) financing activities		
Dividends paid	(2,500)	
Net cash flows used in financing activities		(2,500)
.		
Net increase in cash and cash equivalents		10,500
Cash and cash equivalents, beginning of year		1,000
Cash and cash equivalents, end of year		$11,500

Business activities include operating, investing and financing activities.

Operating activities, or the **fundamental** activities the business engages in can include the production, sales, and delivery of the company's product as well as collecting payment from its customers. This could include purchasing raw materials, building inventory, advertising, and shipping the product. Under GAAP, operating cash flows include:

Receipts from the sale of goods or services

Receipts for the sale of loans

Debt or equity instruments in a trading portfolio

Interest received on loans

Payments to suppliers for goods and services

Payments to employees or on behalf of employees

Interest payments (alternatively, this can be reported under financing activities in IAS 7 and US GAAP)

Buying merchandise

In addition to **operating activities** businesses engage in non-operating activities. Non-operating activities are not related to the day-to-day, ongoing operations of a business. Non-operating cash flows include borrowings, the issuance or purchase of stock, asset sales, dividend payments, and other investment activity.

Some examples of non-operating activities include:

Investing activities include purchases or sales of an asset (assets can be land, building, equipment, marketable securities, etc.), loans made to suppliers or received from customers, payments related to mergers and acquisitions, and dividends received.

Financing activities include the inflow of cash from investors such as banks and shareholders, as well as the outflow of cash to shareholders as dividends as the company generates income. Other activities which impact the long-term liabilities and equity of the company are also listed in the financing activities.

As with operating activities GAAP principles dictate how non-operating items are classified on the statement of cash flows.

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Role of Accounting in the Business

The role of accounting in business is to help interested parties (internal and external) to make business decisions.

KEY POINTS

- Financial accounting generates some of the key documents, including profit and loss account showing the method of business traded for a specific period and the balance sheet which provides a statement showing mode of trade in business for a specific period.
- Without these financial documents it would be impossible to run the business or to make decisions regarding the business.
- The accounting process consists of measuring and summarizing business activities, interpreting financial information, and communicating the results to management and other decision makers.

The role of accounting in business is to help interested parties, both internal such as shareholder's, and external make business decisions. The accounting process consists of measuring and summarizing business activities, interpreting financial information,

and communicating the results to management and other decision makers.

Financial accounting generates some of the key company documents, including profit and loss statement, which shows the method of business traded for a specific period and the balance sheet which provides a statement showing mode of trade in business for a specific period. The role of financial accounting in a business include recording financial transactions from sales, payments, etc., helping the managers in the business to manage more efficiently by preparing standard financial information which includes monthly management report presenting the costs and profits against budgets, sales and investigations of the cost.

Without these financial documents it would be impossible to run the business or to make decisions regarding the business (*Figure 1. 12*)."

Figure 1.12 Role of accounting

Accounting helps direct and control operating activities.

Business Decisions

Outside parties may decided to invest in a company based on its economic performance as shown on the income statement, but there are other ways to use the financials statements to make business decisions. By carefully reviewing the financial statements companies can make best use of their assets.

Companies can use the statement of cash flows to make sure they are collecting all the cash they are due. Companies can also choose to delay major purchases or the retirement of equipment based on the affect that transaction would have on the financials statements.

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Ethical Considerations

Business ethics is a form of applied ethics that examines ethical principles, moral/ethical problems that arise in a business environment.

KEY POINTS

- Business ethics reflects the philosophy of business, one of whose aims is to determine the fundamental purposes of a company.
- Ethical issues include the rights and duties between a company and its employees, suppliers, customers and neighbors, its fiduciary responsibility to its shareholders. Issues concerning relations between different companies include hostile take-overs and industrial espionage.
- There are different area of business ethics, including finance, human resource management, production...
- The Securities Act of 1933 and 1934, were both put in place after the stock market crash in 1929. The acts are designed to prevent that type of situation from happening again.
- In response to a number of major corporate and accounting scandals including those affecting Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom the Sarbanes-Oaxley Act was put into place.

Business ethics (also known as corporate ethics) is a form of applied ethics or professional ethics that examines ethical principles and moral or ethical problems that arise in a business environment. It applies to all aspects of business conduct and is relevant to the conduct of individuals and entire organizations (*Figure 1.13*).

Business ethics reflects the philosophy of business, one of whose aims is to determine the fundamental purposes of a company. If a company's purpose is to maximize shareholder returns, then sacrificing profits to other concerns is a violation of its **fiduciary responsibility**. Corporate entities are legally considered as persons in USA and in most nations. The 'corporate persons' are legally entitled to the rights and liabilities due to citizens as persons.

Figure 1.13
Standard Ethics Logo
Standard ethics

Ethical issues include the rights and duties between a company and its employees, suppliers, customers and neighbors, its fiduciary

responsibility to its shareholders. Issues concerning relations between different companies include hostile take-overs and industrial espionage. Related issues include corporate governance; corporate social entrepreneurship; political contributions; legal issues such as the ethical debate over introducing a crime of corporate manslaughter; and the marketing of corporations' ethics policies.

Sarbanes-Oxley Act

In response to a number of major corporate and accounting scandals including those affecting Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom the **Sarbanes-Oxley Act** was put into place.

The Sarbanes–Oxley Act of 2002 (enacted July 30, 2002) also known as the 'Public Company Accounting Reform and Investor Protection Act' (in the Senate) and 'Corporate and Auditing Accountability and Responsibility Act' (in the House) and more commonly called Sarbanes–Oxley, Sarbox or SOX, is a United States federal law that set new or enhanced standards for all U.S. public company boards, management and public accounting firms.

While it may seem scandals involving a lack of business ethics are a recent development, the Securities Act of 1933 and 1934, were both put in place after the stock market crash in 1929. The acts are designed to prevent that type of situation from happening again.

Human resource management occupies the sphere of activity of recruitment selection, orientation, performance appraisal, training and development, industrial relations and health and safety issues. Business ethicists differ in their orientation towards labour ethics. Some assess human resource policies according to whether they support an egalitarian workplace and the dignity of labor. Discrimination by age (preferring the young or the old), gender/ sexual harassment, race, religion, disability, weight and attractiveness.

The business ethics in production usually deals with the duties of a company to ensure that products and production processes do not needlessly cause harm. In some case consumers demand products that harm them, such as tobacco products. Production may have environmental impacts, including pollution, habitat destruction and urban sprawl. The downstream effects of technologies nuclear power, genetically modified food and mobile phones may not be well understood. While the precautionary principle may prohibit introducing new technology whose consequences are not fully understood, that principle would have prohibited most new technology introduced since the industrial revolution.

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Section 4

Conveying Accounting Information

Introduction to the Balance Sheet

Introduction to the Income Statement

Introduction to the Retained Earning Statement

Introduction to the Statement of Cash Flows

Relationships Between Statements

Financial Statement Notes

Additional Items: Auditor and Management Reports

https://www.boundless.com/accounting/introduction-to-accounting/conveying-accounting-information/

Introduction to the Balance Sheet

The balance sheet is a summary of the financial balances of a company and reflects the company's solvency and financial position.

KEY POINTS

- The balance sheet captures the financial position of a company at a particular point in time.
- The balance sheet lists a company's assets, liabilities, and stockholders' equity (including dollar amounts) at a specific moment in time.
- There are two types of balance sheets, classified and unclassified.
- A balance sheet is used externally and internally.

Introduction to the Balance Sheet

The balance sheet is one of the four basic financial statements companies prepare each accounting cycle. The balance sheet is a summary of the financial balances of a sole proprietorship, a business partnership, a corporation, or other business organization, such as an LLC or an LLP. The balance sheet is also referred to as a statement of financial position because it reflects a company's **solvency** and financial position. The International Accounting Standards Board, along with country specific organizations and companies set the guidelines for the appearance of the balance sheets.

What Period Does the Balance Sheet Cover

A balance sheet is like a photograph in that it captures the financial position of a company at a particular point in time. More specifically, it captures the financial position at the end of business on the day the balance sheet is run (*Figure 1.14*).

What Items Appear On the Balance Sheet

The balance sheet lists a company's assets, liabilities, and stockholders' **equity** (including dollar amounts) as of a specific moment in time. Assets are the total resources of the business including cash, notes and accounts receivable, while liabilities are anything the company owes to someone, such as debt, mortgage or interest payments. The stockholder's equity or just equity refers to the ownership interest in a company. The stockholder's equity is determined by subtracting liabilities from assets.

There are two types of balance sheets, classified and unclassified.

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 1.14 The Balance Sheet

The balance sheet shows a company's financial position.

Unclassified balance sheets have three major categories: assets, The Balance Sheetliabilities, and stockholder's equity. The main categories of assets are usually listed first, and typically in order of liquidity (for example, cash on hand appears above accounts receivable). Liabilities are listed after assets. The difference between assets and liabilities is referred to as equity. According to the accounting equation, equity must equal assets minus liabilities. Equity is either calculated as proprietary or residual. For residual equity dividends to preferred shareholders are deducted from net income before calculating residual equity holders' dividend per share.

A **classified balance sheet** has the same three major categories of assets, liabilities, and stockholder's equity, but it breaks those categories down further to give a better idea of the profitability and strength of the company.

Who Uses a Balance Sheet

Both internal and external users use the balance sheet. The balance sheet is valuable because it shows the magnitude of the company's financial obligations. If its debts are too high, for instance, a business may not be able to grow. The balance sheet also demonstrates how liquid the business is. An investor or business may want to ensure that the company's resources are not overly invested in assets that cannot be easily converted into cash in case of an unexpected **expense**. Finally, the balance sheet shows the book value of the owners' stake in the business. For an outside investor, this information can be especially useful in determining an appropriate price for an ownership share in the business.

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Introduction to the Income Statement

The income statement shows revenues and expenses for a specific period.

KEY POINTS

- The income statement is also referred to as a profit and loss statement (P&L), revenue statement, statement of financial performance, earnings statement, operating statement and statement of operations.
- The income statement reflects the operating performance of a business and the changes in its assets and obligations.
- The income statement represents a period of time, in contrast to the balance sheet which represents one moment in time.
- The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported.
- The income statement is prepared on the accrual basis.

Overview of the Income Statement

The income statement is one of the four basic financial statements that a company prepares each accounting cycle. The income

statement reflects a company's the operating performance of a company. The income statement also shows changes in the company's assets and obligations. The important thing to remember about an income statement is that it represents a period of time. This contrasts with the balance sheet, which represents a single moment in time. The income statement is prepared on an accrual basis.

The income statement displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write offs (e.g., depreciation and amortization of various assets) and taxes.

The income statement is also referred to as a "profit and loss statement" (P&L), revenue statement, statement of financial performance, earnings statement, operating statement and statement of operations (*Figure 1.15*).

Purpose of the Income Statement

The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported.

The income statement explains how the revenue, which is money received from the sale of products and services before expenses are taken out, is transformed into the net income. Net income is what is

Figure 1.15 A Sample Income Statement

XYZ Retailers
Income Statement
For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

The income statement shows whether or not a company is profitable.

left after all the revenues and expenses have been accounted for, it is also known as "Net Profit."

Types of Income Statement

There are two types of income statement, a single-step income statement and a multi-step income statement. The single-step income statement takes a simpler approach, totaling revenues and subtracting expenses to find the bottom line.

The multi-step income statement is more complex. It takes several steps to find the bottom line, starting with the gross **profit**. It then calculates operating expenses and, when deducted from the gross profit, yields income from operations. Adding to income from operations is the difference of other revenues and other expenses. When combined with income from operations, this yields income before taxes. The final step is to deduct taxes, which finally produces the net income for the period measured.

Operating vs. Non-operating Activities

Operating income occurs from any activity that is a direct result of its primary business, such as sales of goods and services.

Non-operating income, in accounting and finance, is gains or losses from sources not related to the typical activities of the business or organization. Non-operating income can include gains or losses from investments, property or asset sales, currency exchange, and other atypical gains or losses. Non-operating income is generally not recurring and is therefore usually excluded or considered separately when evaluating performance over a period of time (e.g. a quarter or year).

Introduction to the Retained Earning Statement

The statement of retained earnings explains the changes in a company's retained earnings over the reporting period.

KEY POINTS

- Retained earnings are the accumulated net income of the corporation (proprietorship or partnership) minus dividends distributed to stockholders.
- The U.S. Generally Accepted Accounting Principles require a statement of retained earnings to be prepared whenever comparative balance sheets and income statements are presented.
- The retained earnings statement may appear in the balance sheet, in a combined income statement and changes in retained earnings statement, or as a separate schedule.
- The statement of retained earnings uses information from the income statement and provides information to the balance sheet.

The Statement of Shareholder's Equity

The Statement of Shareholder's Equity is one of the four main financial statements prepared during a company's accounting cycle. The Statement of Shareholder's Equity is also known as the Equity Statement, Statement of Owner's Equity (single proprietorship), Statement of Partner's Equity (**partnership**), and Statement of Retained Earnings and Stockholders' Equity (corporation). The U.S. Generally Accepted Accounting Principles (U.S. GAAP) requires a statement of retained **earnings** to be prepared whenever **comparative** balance sheets and income statements are presented.

What are Retained Earnings?

Generally, retained earnings are the accumulated net income of the corporation (proprietorship or partnership) minus dividends distributed to stockholders.

What Does a Statement of Shareholder's Equity Show?

The **retained earnings statement** explains the changes in a company's retained earnings over the reporting period. The statement breaks down changes in the owner’s interest in the organization, and in the application of retained profit or surplus from one accounting period to the next. Line items for the retained earnings statement typically include profits or losses from operations, dividends paid, issue or redemption of stock, and any

Figure 1.16 The Statement of Retained Earnings

Part of a company's financial statements, the statement of retained earnings shows changes in earnings over the period.

other items charged or credited to retained earnings (*Figure 1.16*).The Statement of Shareholder's Equity shows the inflows and outflows of capital, including treasury stock purchases, employee stock options and secondary equity issuance.

The statement of retained earnings also shows any adjustments that were made to financial statements from prior financial periods in the current period. Adjustments are corrections or abnormal nonrecurring errors that may have been caused by an improper use of an accounting principle or by mathematical mistakes. Normal recurring corrections and adjustments that follow inevitably from the use of estimates in accounting practice, are not prior period adjustments and are not included in the retained earning statement.

Comprehensive income is the sum of net income and other items that must bypass the income statement because they have not been realized, including items like an unrealized holding gain or loss from available for sale securities and foreign currency translation gains or losses. These items are not part of net income, yet are important enough to be included in comprehensive income, giving the user a bigger, more comprehensive picture of the organization as a whole.Items included in comprehensive income, but not net income are reported under the accumulated other comprehensive income section of shareholder's equity.

Where Does the Shareholder's Equity Statement Appear?

The retained earnings statement may appear in the balance sheet, in a combined income statement and changes in retained earnings statement, or as a separate schedule. The statement of shareholder's equity uses information from the income statement and provides information to the balance sheet. Retained earnings are part of the balance sheet under Stockholders Equity (Shareholders Equity) and are mostly affected by net income earned by the company during a specified period, less any dividends paid to the company's owners/ stockholders. The retained earnings account on the balance sheet represents an accumulation of earnings since net profits and losses are added/subtracted from the account from period to period.

Retained Earnings are part of the Statement of Changes in Equity and are a component of shareholder's equity.

The general equation can be expressed as follows:

Ending Retained Earnings = Beginning Retained Earnings – Dividends Paid + Net Income.

Introduction to the Statement of Cash Flows

The cash flow statement provides information on a firm's liquidity and solvency.

KEY POINTS

- The cash flow statement is intended to provide information on a firm's liquidity and solvency.
- The money coming into the business is called cash inflow, and money going out from the business is called cash outflow. To show the affects on the inflows and outflows on a company, a statement of cash flow is used.
- The cash flow statement includes only inflows and outflows of cash and cash equivalents.
- Potential lenders or creditors use the statement of cash flows to determine a company's ability to repay the funds.

Overview of a Statement of Cash Flows

The money coming into the business is called cash inflow, and money going out from the business is called cash outflow. To show the affects on the inflows and outflows on a company, a statement of cash flow is used. The statement of cash flows is a cash basis report on three types of financial activities: operating activities,

investing activities, and financing activities. Any non-cash activities are usually reported in footnotes.

Purpose of a Statement of Cash Flows

The cash flow statement is intended to provide information on a firm's liquidity and solvency. The statement of cash flows show the company's ability to change cash flows in future circumstances. The statement of cash flows also reconciles the cash balance from one balance sheet to the next. It provides additional information for evaluating changes in assets, liabilities and equity (*Figure 1.17*). The statement of cash flows makes it easier to compare different companies, because it eliminates allocations (such as depreciation). In essence, it helps assess how well the expected payments are being realized as cash.

Contrasting Income Statement to the Statement of Cash Flows

The income statement is accrual based. It shows net income, which is calculated as follows: revenues earned minus the expenses incurred in order to earn those revenues. For example, a company earns revenues in April, but allows customers 30 days to pay, so the cash from April sales will not be received until May.The same for expenses, while inventory bought in April might not sell until May, the inventory was bought and paid for in April.

Figure 1.17 Statement of Cash Flows

Statement of Cash Flows

	General Electric Company and consolidated affiliates		
For the years ended December 31 (In millions)	2011	2010	2009
Cash flows – operating activities			
Net earnings	$ 14,443	$ 12,179	$ 11,225
Less net earnings attributable to noncontrolling interests	292	535	200
Net earnings attributable to the Company	14,151	11,644	11,025
(Earnings) loss from discontinued operations	(77)	873	(219)
Adjustments to reconcile net earnings attributable to the Company to cash provided from operating activities			
Depreciation and amortization of property, plant and equipment	9,185	9,786	10,617
Earnings from continuing operations retained by GECS	–	–	–
Deferred income taxes	(203)	930	(2,778)
Decrease (increase) in GE current receivables	(466)	(126)	3,273
Decrease (increase) in inventories	(1,168)	342	1,101
Increase (decrease) in accounts payable	1,235	883	(464)
Increase (decrease) in GE progress collections	(1,394)	(1,177)	(500)
Provision for losses on GECS financing receivables	4,083	7,176	10,585
All other operating activities	7,255	5,925	(9,828)
Cash from (used for) operating activities – continuing operations	32,601	36,256	22,812
Cash from (used for) operating activities – discontinued operations	758	(132)	1,605
Cash from (used for) operating activities	33,359	36,124	24,417
Cash flows – investing activities			
Additions to property, plant and equipment	(12,650)	(9,800)	(8,636)
Dispositions of property, plant and equipment	5,896	7,208	6,479
Net decrease (increase) in GECS financing receivables	14,652	21,773	36,665
Proceeds from sales of discontinued operations	8,950	2,510	–
Proceeds from principal business dispositions	8,877	3,062	9,978
Payments for principal businesses purchased	(11,202)	(1,212)	(7,842)
Capital contribution from GE to GECS	–	–	–
All other investing activities	6,094	10,249	3,758
Cash from (used for) investing activities – continuing operations	20,617	33,790	40,402
Cash from (used for) investing activities – discontinued operations	(735)	(1,354)	1,976
Cash from (used for) investing activities	19,882	32,436	42,378
Cash flows – financing activities			
Net increase (decrease) in borrowings (maturities of 90 days or less)	5,951	(1,228)	(26,114)
Net increase (decrease) in bank deposits	6,748	4,603	(3,784)
Newly issued debt (maturities longer than 90 days)	43,847	47,643	82,846
Repayments and other reductions (maturities longer than 90 days)	(85,706)	(99,933)	(83,290)
Repayment of preferred stock	(3,300)	–	–
Net dispositions (purchases) of GE shares for treasury	(1,456)	(1,263)	623
Dividends paid to shareowners	(6,458)	(4,790)	(8,986)
Capital contribution from GE to GECS	–	–	–
Purchases of subsidiary shares from noncontrolling interests	(4,578)	(2,633)	–
All other financing activities	(1,867)	(3,648)	(3,204)
Cash from (used for) financing activities – continuing operations	(46,819)	(61,249)	(41,909)
Cash from (used for) financing activities – discontinued operations	(44)	(337)	(1,604)
Cash from (used for) financing activities	(46,863)	(61,586)	(43,513)
Effect of exchange rate changes on cash and equivalents	(841)	(333)	795
Increase (decrease) in cash and equivalents	5,537	6,641	24,077
Cash and equivalents at beginning of year	79,085	72,444	48,367

Source: GENERAL ELECTRIC CO, 10-K, February 24, 2012

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Cash and equivalents at end of year	84,622	79,085	72,444
Less cash and equivalents of discontinued operations at end of year	121	142	1,965
Cash and equivalents of continuing operations at end of year	$ 84,501	$ 78,943	$ 70,479
Supplemental disclosure of cash flows information			
Cash paid during the year for interest	$ (15,571)	$ (17,132)	$ (19,601)
Cash recovered (paid) during the year for income taxes	(2,919)	(2,671)	(2,535)

The statement of cash flows shows the liquidity of a company.

The statement of cash flows is cash based and it shows the actual inflows and outflows of cash for the given month.

Items on the Statement of Cash Flows

The cash flow statement includes only inflows and outflows of cash and cash equivalents. The statement of cash flows excludes transactions that do not directly affect cash receipts and payments. These non-cash transactions include depreciation or **write-offs** on bad debts or credit losses. The Statement of Cash Flows is composed of three sections:

Operating Activities. These include the cash inflows and outflows of all transactions related to core activities of the business.

Investing Activities. Investing activities include all transactions related to the acquisition or disposal of **non-current assets**. Non-current assets is another term for fixed assets, which includes all property that cannot be easily converted to cash. It also can refer to investments in other companies.

Financing Activities. Financing activities includes all transactions related to changes in the amount of a business's equity available for sale or the amount of the business's outstanding debt, with the exception of interest payments.

Users of a Statement of Cash Flows

Accounting personnel, who need to know whether the organization will be able to cover payroll and other immediate expenses

Potential investors, who need to judge whether the company is financially sound

Potential employees or contractors, who need to know whether the company will be able to afford compensation

Shareholder's of the business

Relationships Between Statements

The four main financial statements provide relevant financial information for internal and external users.

KEY POINTS

- Each statement has a specific purpose. The balance sheet reflects a company's solvency and financial position, and the statement of cash flows shows the cash inflows and outflows for a company over a period of time.
- The income statement reflects a company's profitability and specifically, net income reconciles the beginning (prior ending period) balance sheet to the current balance sheet.
- The statement of shareholder's equity shows the change in retained earnings between the beginning and end of a period (e.g., a month or a year) and it reconciles changes in the equity accounts (contributed capital, other capital, treasury stock) from the beginning to the ending balance sheet.
- The balance sheet reflects a company's solvency and financial position.
- The statement of cash flows shows the cash inflows and outflows for a company over a period of time.

The Purpose of Financial Statements

At the end of each accounting cycle, a company prepares financial statements. The purpose is to provide relevant financial information for both internal and external users.

The four most common financial statements are the balance sheet, income statement, **statement of cash flows** and the statement of stockholder's equity.

Each statement has a specific purpose; the income statement reflects a company's **profitability**, while the statement of retained earnings shows the change in retained earnings between the beginning and end of a period (e.g., a month or a year). The balance sheet reflects a company's solvency and financial position and the statement of cash flows shows the cash inflows and outflows for a company over a period of time.

Together these four statements show the profitability and strength of a company (*Figure 1.18*).

How the Statements Are Interconnected

The income statement reports the profitability of a business by comparing the revenues earned with the expenses incurred to produce these revenues. If revenue exceeds expenses for the period then a net income occurs. If expenses exceed revenue then a **net**

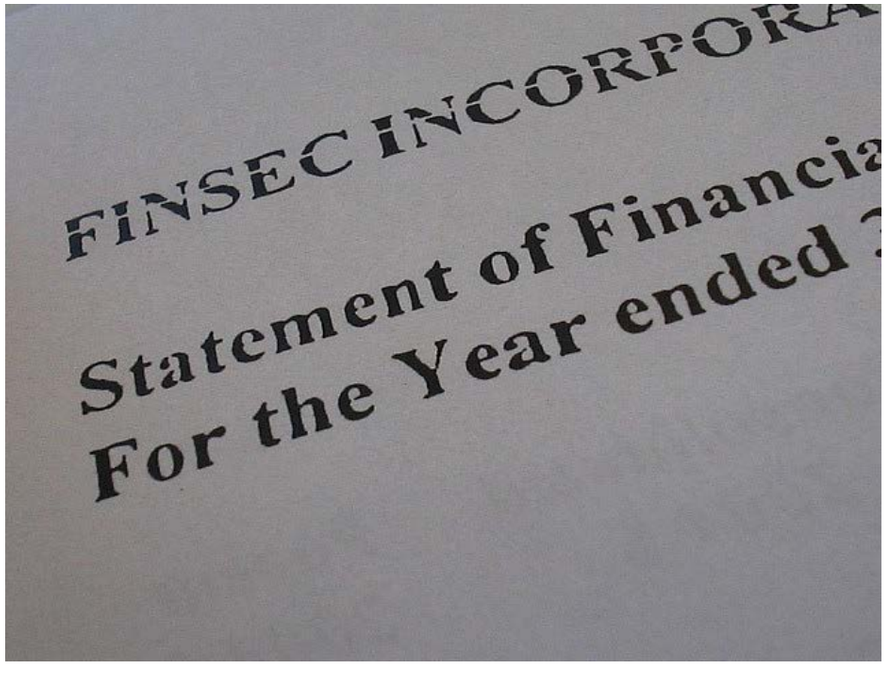

Figure 1.18 Financial Statements

The financials statements show a company's profitability.

loss is the result. The income statement, specifically, net income reconciles the beginning (prior ending period) balance sheet to the current balance sheet.

The statement of shareholder's equity connects the income statement and the balance sheet. The statement of shareholder's equity explains the changes in retained earnings between two balance sheet dates. These changes usually consist of the addition of net income (or deduction of net loss) and the deduction of dividends. The statement of shareholder's equity reconciles changes in the equity accounts (contributed capital, other capital, treasury stock) from the beginning to the ending balance sheet.

The balance sheet, sometimes called the "statement of financial position," lists the company's assets, liabilities, and stockholders' equity (including dollar amounts) as of a specific moment in time (usually the close of business on the date of the balance sheet).

The balance sheet is like a photograph; it captures the financial position of a company at a particular point in time, which is different from the other two statements, which show changes for a period of time.

Management is interested in the cash inflows to the company and cash outflows from the company, because these determine the cash the company has available to pay its bills when they are due.

The statement of cash flows shows the cash inflows and cash outflows from operating, investing, and financing activities. The statement of cash flows reconciles changes in the cash account from the beginning to the ending balance sheet. Operating activities generally include the cash effects of transactions and other events that enter into the determination of net income.

Clean Surplus vs. Dirty Surplus

A clean surplus occurs when all changes in the balance sheet are reconciled by the income statement. US GAAP doesn't have a clean surplus because some items that affect balance sheet accounts don't come through the income statement. Instead, there is said to be a

dirty surplus. That is, the net change in the balance sheet accounts will not equal net income. The difference is comprehensive income. Comprehensive income is reported on the statement of changes in shareholder's equity.

Financial Statement Notes

Financial statement notes explain specific items in the financial statements.

KEY POINTS

- Notes to financial statements can include information on debt, going concern criteria, accounts, contingent liabilities, or contextual information explaining the financial numbers (for example, if the company is facing a lawsuit).
- These notes help explain specific items in the financial statements. They also provide a more comprehensive assessment of a company's financial condition.
- The notes clarify individual statement line-items.

Financial Statement Notes

The goal of the financial statements is to convey the financial information about a company in an easy to understand format. While the Income Statement, Balance Sheet, Cash Flow Statement, and Statement of Retained Earning contain all numeric information about the company, these numbers often require a better explanation. So, additional supporting financial data is added in the Financial Statement Notes section (*Figure 1.19*). Including notes to the financial statement is not optional, it is a reporting requirement.

Figure 1.19 GE Financial Statement

Notes to Consolidated Financial Statements

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting Principles

Our financial statements are prepared in conformity with U.S. generally accepted accounting principles (GAAP).

Consolidation

Our financial statements consolidate all of our affiliates – entities in which we have a controlling financial interest, most often because we hold a majority voting interest. To determine if we hold a controlling financial interest in an entity we first evaluate if we are required to apply the variable interest entity (VIE) model to the entity, otherwise the entity is evaluated under the voting interest model.

Where we hold current or potential rights that give us the power to direct the activities of a VIE that most significantly impact the VIE's economic performance combined with a variable interest that gives us the right to receive potentially significant benefits or the obligation to absorb potentially significant losses, we have a controlling financial interest in that VIE. Rights held by others to remove the party with power over the VIE are not considered unless one party can exercise those rights unilaterally. When changes occur to the design of an entity we reconsider whether it is subject to the VIE model. We continuously evaluate whether we have a controlling financial interest in a VIE.

We hold a controlling financial interest in other entities where we currently hold, directly or indirectly, more than 50% of the voting rights or where we exercise control through substantive participating rights or as a general partner. Where we are a general partner we consider substantive removal rights held by other partners in determining if we hold a controlling financial interest. We reevaluate whether we have a controlling financial interest in these entities when our voting or substantive participating rights change.

Associated companies are unconsolidated VIEs and other entities in which we do not have a controlling financial interest, but over which we have significant influence, most often because we hold a voting interest of 20% to 50%. Associated companies are accounted for as equity method investments. Results of associated companies are presented on a one-line basis. Investments in, and advances to, associated companies are presented on a one-line basis in the caption "All other assets" in our Statement of Financial Position, net of allowance for losses, that represents our best estimate of probable losses inherent in such assets.

Notes on the financial statements convey specific information about the line-items on the statement.

Where the Notes are Located

Notes to financial statements are added to the end of financial statements. These notes help explain specific items in the financial statements. They also provide a more comprehensive assessment of a company's financial condition.

Items Included in the Financial Statement Notes

Notes to financial statements can include information and supporting data on debt, going concern criteria, accounts, **contingent** liabilities, or contextual information explaining the financial numbers (for example, if the company is facing a lawsuit).

The Purpose of Financial Statement Notes

The notes clarify individual line items on the various statements. For example, if a company lists a loss on a fixed asset impairment line in their income statement, notes could corroborate the reason for the impairment by describing how the asset became impaired. Notes can also explain the accounting methods used to prepare the statements. The notes support valuations for how particular accounts have been computed. In consolidated financial statements, all subsidiaries are listed as well as the amount of ownership (controlling interest) that the parent company has in the subsidiaries. Any items within the financial statements that are valuated by estimation are part of the notes if a substantial difference exists between the amount of the estimate previously reported and the actual result. Full disclosure of the effects of the differences between the estimate and actual results should be included.

Additional Items: Auditor and Management Reports

When an audit is performed on a company, the auditor issues a formal opinion in the form of an auditor report.

KEY POINTS

- The auditor report helps readers make a more informed decision about the company based on its results.
- There are four types of auditor reports: qualified opinion reports unqualified opinion reports, adverse opinion reports, and disclaimer of opinion reports.
- An adverse opinion is issued when the auditor determines that th financial statements of an auditee are materially misstated and, when considered as a whole, do not conform with GAAP.
- An opinion is unqualified when the auditor concludes that the financial statements give a true and fair view in accordance with the financial reporting framework used for their preparation and presentation.
- A qualified opinion report is issued when the auditor encounters one of two types of situations. While these specific situations do not comply with generally accepted accounting principles, the res of the financial statements are fairly presented.

Figure 1.20 Auditor and Management Reports

Auditor reports stem from an internal or external audit of the company's financial statements.

KEY POINTS (cont.)

- A disclaimer of opinion, also referred to as a disclaimer, occurs when the auditor could not form, and consequently refuses to present, an opinion on the financial statements.

Auditor Reports

If a company has an audit performed, whether by an internal auditor or an outside auditor, the auditor issues a formal opinion. This opinion takes the form on an auditor report (*Figure 1.20*). The auditor report is available for use by any individual, group, company, or government to review. The auditor report helps readers make a more informed decision about the company based on its results. Please note that the Securities and Exchange

Commission requires an audit by an outside auditor. The notes to the financials statement must include a reference to this report.

The Purpose Of the Auditor Reports

In business, the auditor report is consider an essential component of the financial statements. Since many third-party users prefer, or even require financial information to be certified by an independent external auditor, many companies rely on auditor reports to certify their information to attract investors, obtain loans, and improve public appearance.

Types Of Auditor Reports

There are four types of auditor reports:

Qualified opinion report

Unqualified opinion report

Adverse opinion report

Disclaimer of opinion report

Qualified Opinion Report

A qualified opinion report is issued when the auditor encounters one of two types of situations. While these specific situations do not comply with generally accepted accounting principles, the rest of the financial statements are fairly presented. The two types of situations that result in a qualified opinion report are a single deviation from generally accepted accounting principles (GAAP) and limitation of scope.

A deviation from generally accepted accounting principles occurs when one or more areas of the financial statements do not conform to GAAP. These misstated items do not affect the rest of the financial statements from being fairly presented when taken as a whole. An example of GAAP is incorrectly calculating depreciation.

Limitation of scope occurs when the auditor could not audit one or more areas of the financial statements, and although they could not be verified, the rest of the financial statements were audited and they conform to GAAP. For example, if the auditor cannot observe and test the company's inventory, but audited the rest of the statements and found them in accordance with GAAP, then the report is said to be limited in scope.

Unqualified Report

An opinion is **unqualified** when the **auditor** concludes that the financial statements give a true and fair view in accordance with the financial reporting framework used for their preparation and presentation. An auditor issues this report when the financial statements presented are free of material misstatements and are

represented fairly in accordance with GAAP. An unqualified report is the best type of report a company can receive from an external auditor.

Adverse Opinion Report

An adverse opinion is issued when the auditor determines that the financial statements of an auditee are materially misstated and, when considered as a whole, do not conform to GAAP.

It is considered the opposite of an unqualified or clean opinion, essentially stating that the information contained is materially incorrect, unreliable, and inaccurate.

Disclaimer Of Opinion Report

A disclaimer of opinion, also referred to as a disclaimer, occurs when the auditor could not form, and consequently refuses to present, an opinion on the financial statements. This type of report is issued when the auditor tried to audit an entity but could not complete the work due to various reasons. Although this type of opinion is rarely used, they may be used when the auditee willfully hides or refuses to provide evidence and information to the auditor in significant areas of the financial statements.

Section 5

Conventions and Standards

Standard Setting Groups: SEC, AICPA, & FASB

Introduction to GAAP

Introduction to IFRS

Differences Between GAAP and IFRS and Implications of Potential Convergence

Full Disclosure Principle

The Disclosure Process

Events Triggering Disclosure

https://www.boundless.com/accounting/introduction-to-accounting/conventions-and-standards/

Standard Setting Groups: SEC, AICPA, & FASB

The SEC enforces and regulates security laws, the AICPA dictates the professional conduct of accountants, and the FASB develops GAAP.

KEY POINTS

- The Financial Accounting Standards Board (FASB) is a private, not-for-profit organization whose primary purpose is to develop generally accepted accounting principles (GAAP) within the United States in the public's interest.
- Founded in 1887, the AICPA is a professional organization of Certified Public Accountants (CPAs) in the United States. The AICPA has nearly 386,000 CPA members in 128 countries in business and industry, public practice, government, education, student affiliates and international associates.
- The US SEC is a federal agency which holds primary responsibility for enforcing the federal securities laws and regulating the securities industry, the nation's stock and options exchanges, and other electronic securities markets in the United States.

The Financial Accounting Standards Board (FASB)

The Financial Accounting Standards Board (**FASB**) is a private, not-for-profit organization whose primary purpose is to develop generally accepted accounting principles (GAAP) within the United States in the public's interest.

Under the direction of the SEC the Committee on Accounting Procedure was created by the AICPA in 1939. It was the first private sector organization that had the task of setting accounting standards in the United States. In 1959, the Accounting Principles Board (APB) was formed to meet the demand for more structured accounting standards. The APB issued pronouncements on accounting principles until 1973, when it was replaced by the Financial Accounting Standards Board (FASB). The APB was disbanded in the hopes that the smaller, fully independent FASB could more effectively create accounting standards. The APB and the related Securities Exchange Commission were unable to operate completely independently of the U.S. government

The FASB's mission is "to establish and improve standards of financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information."

To achieve this, FASB has five goals:

1. Improve the usefulness of financial reporting by focusing on the primary characteristics of relevance, reliability, **comparability**, and consistency.
2. Keep standards current to reflect changes in methods of doing business and in the economy.
3. Consider promptly any significant areas of deficiency in financial reporting that might be improved through standard setting.
4. Promote international convergence of accounting standards concurrent with improving the quality of financial reporting.
5. Improve common understanding of the nature and purposes of information in financial reports.

The FASB sets standards based on their conceptual framework. In addition, they offer guidance on how to implement these standards, but they do not monitor companies for violations of the financial reporting standards. That is left to the **Securities and Exchange Commission**.

The US Securities and Exchange Commission (SEC)

The U.S. Securities and Exchange Commission (SEC) is a federal agency which holds primary responsibility for enforcing the federal securities laws and regulating the securities industry, the nation's stock and options exchanges, and other electronic securities

Figure 1.21 AICPA Offices

The offices of the American Institute of Certified Public Accountants (AICPA) at Palladian Office Park (220 Leigh Farm Road) in Durham, North Carolina.

markets in the United States. The SEC was created by Section 4 of the Securities Exchange Act of 1934 (now codified as 15 U.S.C. § 78d and commonly referred to as the 1934 Act).

Overview

The SEC was established by United States President Franklin D. Roosevelt in 1934 as an independent, quasi-judicial regulatory agency during the Great Depression. The main reason for the creation of the SEC was to regulate the stock market and prevent corporate abuses relating to the offering and sale of securities and corporate reporting. The SEC was given the power to license and regulate stock exchanges, the companies whose securities were traded on exchanges, and the brokers and dealers who conducted the trading.

Currently, the SEC is currently responsible for administering seven major laws that govern the securities industry:

1. The Securities Act of 1933
2. The Securities Exchange Act of 1934
3. The Trust Indenture Act of 1939
4. The Investment Company Act of 1940
5. The Investment Advisers Act of 1940
6. The Sarbanes–Oxley Act of 2002
7. The Credit Rating Agency Reform Act of 2006.

The enforcement authority given by Congress allows the SEC to bring civil enforcement actions against individuals or companies alleged to have committed accounting fraud, provided false information, or engaged in **insider** trading or other violations of the securities law. The SEC also works with criminal law enforcement agencies to prosecute individuals and companies alike for offenses which include a criminal violation.

To achieve its mandate, the SEC enforces the statutory requirement that public companies submit periodic reports. Quarterly and bi-annual reports from public companies are crucial for investors to make sound decisions in the capital markets.

The American Institute of Certified Public Accountants

Founded in 1887, the American Institute of Certified Public Accountants (AICPA) is the national professional organization of Certified Public Accountants (CPAs) in the United States. The AICPA has nearly 386,000 CPA members in 128 countries in business and industry, public practice, government, education, student affiliates and international associates. It sets ethical standards for the profession and U.S. auditing standards for audits of private companies, non-profit organizations, federal, state and local governments. It also develops and grades the Uniform CPA Examination.

Figure 1.22 The Seal of the SEC

Seal of the U.S. Securities and Exchange Commission.

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The AICPA's founding established accountancy as a profession distinguished by rigorous educational requirements, high professional standards, a strict code of professional ethics, and a commitment to serving the public interest. While the AICPA set the professional standards for the professional conduct of accountants, it plays no role in setting the standards for financial accounting.

Introduction to GAAP

Generally Accepted Accounting Principles (GAAP) is the standard framework for financial accounting used in any given jurisdiction.

KEY POINTS

- GAAP includes the standards, conventions, and rules accountants follow in recording and summarizing, and in the preparation of financial statements.
- GAAP is a codification of how CPA firms and businesses prepare and present their business income and expense, assets and liabilities in their financial statements.
- GAAP is not a single accounting rule, but rather an aggregate of many rules on how to account for various transactions.
- GAAP has four basic objectives, assumptions, principles, and constraints.

Generally Accepted Accounting Principles

Generally Accepted Accounting Principles (GAAP) refer to the standard framework of guidelines for financial accounting used in any given **jurisdiction**; generally known as accounting standards. GAAP includes the standards, conventions, and rules accountants follow in recording and summarizing accounting transactions, and in the preparation of financial statements.

GAAP is a codification of how CPA firms and corporations prepare and present their business income and expense, assets and liabilities in their financial statements. GAAP is not a single accounting rule, but rather an aggregate of many rules on how to account for various transactions. (*Figure 1.23*).

Figure 1.23 GAAP vs. IFRS Cash Flow Classification

Transaction US GAAP	Classification	IFRS Classification
Interest Received	Operating	Operating or Investing
Dividends Received	Operating	Operating or Investing
Interest Paid	Operating	Financing or Operating
Dividends Paid	Financing	Financing or Operating
Income Taxes	Operating	Operating unless specifically associated with financing or investing activity

This image demonstrates the differences in accounting standards between GAAP and IFRS regarding classifying cash flows.

Introduction to U.S. GAAP

Like many other common law countries, the United States government does not directly set accounting standards by statute. However, the U.S. Securities and Exchange Commission (SEC) requires that US GAAP be followed in financial reporting by publicly traded companies. Currently, the Financial Accounting Standards Board (FASB) establishes generally accepted accounting principles for public and private companies, as well as for non-profit organizations.

History

Historically, accounting standards have been set by the American Institute of Certified Public Accountants (AICPA) subject to Securities and Exchange Commission regulations. The AICPA first created the Committee on Accounting Procedure in 1939, and replaced it with the Accounting Principles Board in 1951.

In 1973, the Accounting Principles Board was replaced by the FASB under the supervision of the Financial Accounting Foundation with the Financial Accounting Standards Advisory Council serving to advise and provide input on the accounting standards.

Circa 2008, the FASB issued the FASB Accounting Standards Codification, which reorganized the thousands of US GAAP pronouncements into roughly 90 accounting topics. In 2008, the SEC issued a preliminary "roadmap" that may lead the U.S. to abandon GAAP in the future and to join more than 100 countries around the world already using the London-based IFRS.

As of 2010, the convergence project was underway with the FASB meeting routinely with the IASB. The SEC expressed its resolve to fully adopt IFRS in the U.S. by 2014. As the highest authority over IFRS, the IASB is becoming more important in the U.S.

Basic Objectives

Financial reporting should provide information that is:

Useful to present to potential investors and creditors and other users in making rational investment, credit, and other financial decisions.

Helpful to present to potential investors and creditors and other users in assessing the amounts, timing, and uncertainty of prospective cash receipts.

About economic resources, the claims to those resources, and the changes in them.helpful for making financial decisions.

Helpful in making long-term decisions.

Helpful in improving the performance of the business.

Useful in maintaining records.

Four Basic Assumptions

1. **Accounting Entity**: assumes that the business is separate from its owners or other businesses. Revenue and expense should be kept separate from personal expenses.

2. **Going Concern**: assumes that the business will be in operation indefinitely. This validates the methods of asset

capitalization, depreciation, and amortization. In cases when liquidation is certain, this assumption is not applicable. The business will continue to exist in the unforeseeable future.

3. **Monetary Unit Principle**: assumes a stable currency is going to be the unit of record. The FASB accepts the nominal value of the US Dollar as the monetary unit of record unadjusted for inflation.

4. **Time-period Principle**: implies that the economic activities of an enterprise can be divided into artificial time periods.

Four Basic Principles

1. **Historical Cost Principle**: requires companies to account and report based on acquisition costs rather than fair market value for most assets and liabilities.

2. **Revenue Recognition Principle**: requires companies to record when revenue is (1) realized or realizable and (2) earned, not when cash is received. This way of accounting is called **accrual** based accounting.

3. **Matching Principle**: Expenses have to be matched with revenues as long as it is reasonable to do so. Expenses are recognized not when the work is performed, or when a product is produced, but when the work or the product actually makes its contribution to revenue. Only if no connection with revenue can be established, cost may be charged as expenses to the current period (e.g. office salaries and other administrative expenses).

4. **Full Disclosure Principle**: Amount and kinds of information disclosed should be decided based on trade-off analysis as a larger amount of information costs more to prepare and use. Information disclosed should be enough to make a judgment while keeping costs reasonable. Information is presented in the main body of financial statements, in the notes or as supplementary information.

Please note: Historical cost and the matching principle are slowly disappearing, having been replaced by FASB No. 157 which requires companies to classify assets based on fair value.

Four Basic Constraints

1. **Objectivity principle**: the company financial statements provided by the accountants should be based on objective evidence.

2. Materiality **principle**: the significance of an item should be considered when it is reported.

3. **Consistency principle**: the company uses the same accounting principles and methods from year to year.

4. **Conservatism principle**: when choosing between two solutions, the one that will be least likely to overstate assets and income should be picked.

Introduction to IFRS

The IFRS is a common global financial language for business affairs that is understandable and comparable across international boundaries.

KEY POINTS

- The IFRS began as an attempt to harmonize accounting across the European Union, but the value of harmonization quickly made the concept attractive around the world.
- The Conceptual Framework for Financial Reporting states the basic principles for the IFRS.
- The IFRS defines the objective of financial reporting as reflecting an accurate view of the business affairs of the organization.
- The IFRS sets forth three basic accounting models and underlying assumptions of financial reporting.

An International Standard

Many countries use or are moving towards using the International Financial Reporting Standards (IFRS), which were established and maintained by the International Accounting Standards Board (IASB). In some countries, local accounting principles are applied for regular companies, but listed or larger companies must conform

to the IFRS, so statutory reporting is comparable internationally, across jurisdictions (*Figure 1.24*).

Figure 1.24 IFRS in Developing Countries

A map of developing countries, without the least advanced countries and the failed countries.

The IFRS: History and Purpose

The IFRS is designed as a common global language for business affairs so that company accounts are understandable and comparable across international boundaries. They are a consequence of growing international shareholding and trade. The IFRS is particularly important for companies that have dealings in several countries. They are progressively replacing the many different national accounting standards.

The IFRS began as an attempt to harmonize accounting across the European Union, but the value of harmonization quickly made the concept attractive around the world. They are occasionally called by the original name of International Accounting Standards (IAS). The IAS were issued between 1973 and 2001 by the Board of the International Accounting Standards Committee (IASC). On April 1, 2001, the new IASB took over the responsibility for setting International Accounting Standards from the IASC. During its first meeting the new Board adopted existing IAS and Standing Interpretations Committee standards (SICs). The IASB has continued to develop standards calling the new standards the IFRS.

Framework

The Conceptual Framework for Financial Reporting states the basic principles for IFRS. The IASB and FASB **frameworks** are in the process of being updated and converged. The Joint Conceptual Framework project intends to update and refine the existing concepts to reflect the changes in markets and business practices. The project also intends consider the changes in the economic environment that have occurred in the two or more decades since the concepts were first developed.

Deloitte states:

In the absence of a Standard or an Interpretation that specifically applies to a transaction, management must use its judgment in developing and applying an accounting policy that results in information that is relevant and reliable. In making that judgment, IAS 8.11 requires management to consider the definitions, recognition criteria, and measurement concepts for assets, liabilities, income, and expenses in the Framework. This elevation of the importance of the Framework was added in the 2003 revisions to IAS 8.

IFRS Defined Objective of Financial Statements

A financial statement should reflect true and fair view of the business affairs of the organization. As these statements are used by various constituents of the society/regulators, they need to reflect an accurate view of the financial position of the organization. It is very helpful to check the financial position of the business for a specific period.

Three Basic Accounting Models

1. Current Cost Accounting, under Physical Capital Maintenance at all levels of inflation and **deflation** under the Historical Cost paradigm as well as the Capital Maintenance in Units of Constant Purchasing Power paradigm
2. Financial capital maintenance in nominal monetary units, i.e., globally implemented Historical cost accounting during low inflation and deflation only under the traditional Historical Cost paradigm
3. Financial capital maintenance in units of constant purchasing power, i.e., Constant Item Purchasing Power Accounting – CIPPA – in terms of a Daily Consumer Price Index or daily rate at all levels of inflation and deflation under the Capital Maintenance in Units of Constant Purchasing Power paradigm and Constant Purchasing Power Accounting – CPPA – during hyperinflation under the Historical Cost paradigm.

Three Underlying Assumptions

1. Going concern: for the foreseeable future an entity will continue under the Historical Cost paradigm as well as under the Capital Maintenance in Units of Constant Purchasing Power paradigm
2. Stable measuring unit assumption: financial capital maintenance in nominal monetary units or traditional Historical cost accounting only under the traditional Historical Cost paradigm.

3. Units of constant purchasing power: capital maintenance in units of constant purchasing power at all levels of inflation and deflation in terms of a Daily Consumer Price Index or daily rate only under the Capital Maintenance in Units of Constant Purchasing Power paradigm.

Differences Between GAAP and IFRS and Implications of Potential Convergence

A major difference between GAAP and IFRS is that GAAP is rule-based, whereas IFRS is principle-based.

KEY POINTS

- Another difference between IFRS and GAAP is the methodology used to assess an accounting treatment. Under GAAP, the research is more focused on the literature whereas under IFRS, the review of the facts pattern is more thorough.
- The convergence of accounting standards refers to the goal of establishing a single set of accounting standards that will be used internationally to reduce the differences between US GAAP and IFRS.
- Convergence is also taking place in other countries, with "all major economies" planning to either adopt the IFRS or converge towards it, "in the near future".

Principles Based vs. Rules Based

A major difference between GAAP and IFRS is that GAAP is rule-based, whereas IFRS is principle-based.

With a principle based framework there is the potential for different interpretations of similar transactions, which could lead to extensive disclosures in the financial statements. Although, the standards setting board in a principle-based system can clarify areas that are unclear. This could lead to fewer exceptions than a rules-based system.

Another difference between IFRS and GAAP is the methodology used to assess an accounting treatment. Under GAAP, the research is more focused on the literature whereas under IFRS, the review of the facts pattern is more thorough.

Some Examples of Differences Between IFRS and U.S. GAAP

Consolidation — IFRS favors a control model whereas GAAP prefers a risks-and-rewards model. Some entities consolidated in accordance with FIN 46(R) may have to be shown separately under IFRS.

Statement of Income — Under IFRS, extraordinary items are not segregated in the income statement. With GAAP, they are shown below the net income.

Inventory — Under IFRS, LIFO cannot be used, but GAAP, companies have the choice between LIFO and FIFO.

Earning-per-Share — Under IFRS, the earning-per-share calculation does not average the individual interim period calculations, whereas under GAAP the computation averages the individual interim period incremental shares.

Development costs — These costs can be capitalized under IFRS if certain criteria are met, while it is considered as “expenses” under U.S. GAAP.

Convergence

The **convergence** of accounting standards refers to the goal of establishing a single set of accounting standards that will be used internationally, and in particular the effort to reduce the differences between the US Generally Accepted Accounting Principles (US GAAP), and the International Financial Reporting Standards (IFRS). Convergence in some form has been taking place for several decades, and efforts today include projects that aim to reduce the differences between accounting standards.

The goal of and various proposed steps to achieve convergence of accounting standards has been criticized by various individuals and organizations. For example, in 2006 senior partners at PricewaterhouseCoopers (PwC) called for convergence to be "shelved indefinitely" in a draft paper, calling for the IASB to focus instead on improving its own set of standards.

Convergence is also taking place in other countries, with "all major economies" planning to either adopt the IFRS or converge towards it, "in the near future." For example, Canada required all listed entities to use the IFRS from January 1, 2012, and Japan permitted the use of IFRS for certain multinational companies from 2010, and is expected to make a decision on mandatory adoption in "around 2012 (*Figure 1.25*)."

Implications of Potential Convergence

Figure 1.25 The Globe

IFRS is Global

The growing acceptance of International Financial Reporting Standards (IFRS) as a basis for U.S.financial reporting represents a fundamental change for the U.S. accounting profession. Today, approximately 113 countries require or allow the use of IFRS for the preparation of financial statements by publicly held companies. In the United States, the Securities and Exchange Commission (SEC) has been taking steps to set a date to allow U.S. public companies to use IFRS,and perhaps make its adoption mandatory.

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Full Disclosure Principle

The full disclosure principle states information important enough to influence decisions of an informed user should be disclosed.

KEY POINTS

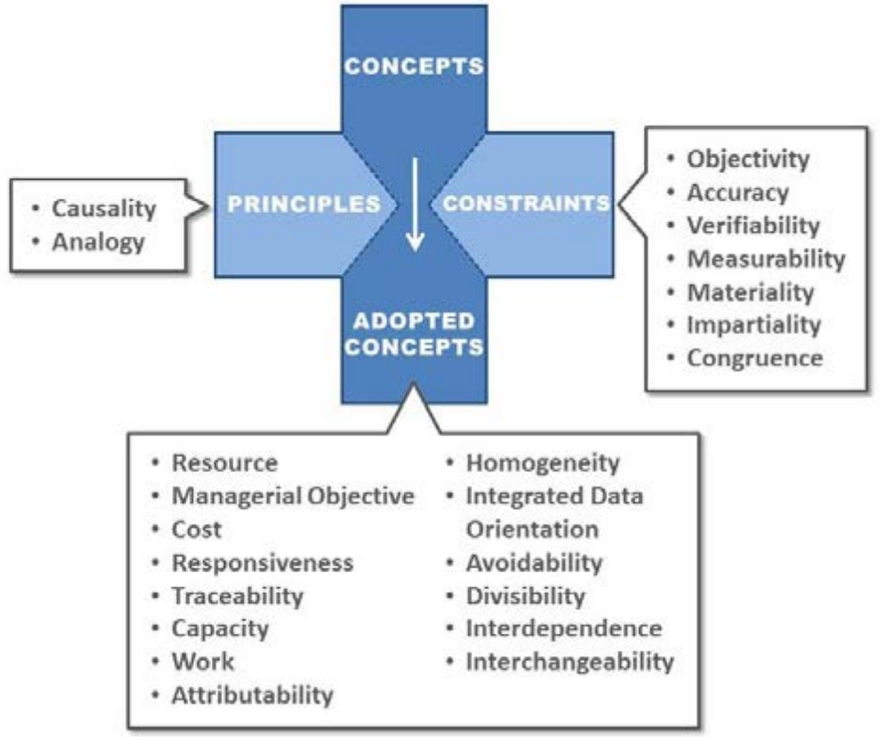
- In judging whether or not to disclose information, it is better to err on the side of too much disclosure rather than too little.
- Depending on its nature, companies should disclose this information either in the financial statements, in notes to the financial statements, or in supplemental statements.
- As an accountant, the full disclosure principle is important because the notes to the financial statements and other financial documents are subject to audit.

Principle of Full Disclosure

The **full disclosure principle** states that information important enough to influence the decisions of an informed user of the financial statements should be disclosed. Depending on its nature, companies should disclose this information either in the financial statements, in notes to the financial statements, or in supplemental statements. In judging whether or not to disclose information, it is better to err on the side of too much **disclosure** rather than too little. Many lawsuits against CPAs and their clients have resulted from inadequate or misleading disclosure of the underlying facts. A good rule to follow is—if in doubt, disclose. Another good rule is—if you are not consistent, disclose all the facts and the effect on income.

To be free from bias, information must be sufficiently complete to ensure that it validly represents underlying events and conditions.

Figure 1.26 Accounting Concepts in a Diagram



This is a diagram of details for principles, concepts, and constraints within the field of Financial Accounting.

Completeness means disclosing all significant information in a way that aids understanding and does not mislead. Firms can reduce the relevance of information by omitting information that would make a difference to users.

Required disclosures may be made in (1) the body of the financial statements, (2) the notes to such statements, (3) special communications, and/or (4) the president's letter or other management reports in the annual report. Another aspect of completeness is fully disclosing all changes in accounting principles and their effects.

Importance of Full Disclosure Principle: Subject to Audit

As an accountant, the full disclosure principle is important because the notes to the financial statements and other financial documents are subject to audit. To obtain an unqualified (or clean) opinion, one must have an intrinsic understanding of the full disclosure principle to insure sufficient information for an unqualified opinion on the financial audit.

An opinion is said to be unqualified when the auditor concludes that the financial statements give a true and fair view in accordance with the financial reporting framework used for the preparation and presentation of the financial statements. An auditor gives a clean opinion or unqualified opinion when he or she does not have any significant reservation in respect of matters contained in the financial statements.

An unqualified opinion is given when:

1. The financial statements have been prepared using the generally accepted accounting principles which have been consistently applied;
2. There is adequate disclosure of all material matters relevant to the proper presentation of the financial information subject to statutory requirements, where applicable;
3. Any changes in the accounting principles or in the method of their application and the effects thereof have been properly determined and disclosed in the financial statements.

The Disclosure Process

Events that trigger disclosure are based on an accountant's assessment of materiality.

KEY POINTS

- Materiality is a concept or convention within auditing and accounting relating to the importance/significance of an amount, transaction, or discrepancy.
- Notes to financial statements include additional supporting financial information that is added to the end of financial statements.
- The notes help explain specific items in the financial statements as well as provide a more comprehensive assessment of a company's financial condition.
- Notes to financial statements can include information on debt, accounts, contingent liabilities, or contextual information explaining the financial numbers (to indicate a lawsuit, for instance).The notes can also clarify individual statement line-items.

Assessing Materiality

Events that trigger disclosure should be based on an accountant's assessment of materiality, especially when facing decisions related to the full disclosure principle. When it is deemed necessary to disclose the information, it is done via Notes to the Financial Statement.

Materiality is a concept or convention within auditing and accounting relating to the importance/significance of an amount, transaction, or **discrepancy**. The objective of an audit of financial statements is to enable the auditor to express an opinion whether the financial statements are prepared, in all material respects, in conformity with an identified financial reporting framework such as Generally Accepted Accounting Principles (GAAP) (*Figure 1.27*).

Notes to Financial Statements

Notes to financial statements include additional supporting financial information that is added to the end of financial statements. The notes help explain specific items in the financial statements as well as provide a more comprehensive assessment of a company's financial condition. Notes to financial statements can include information on debt, accounts, contingent liabilities, or contextual information explaining the financial numbers (to indicate a lawsuit, for instance).The notes can also clarify individual statement line-items. Notes to the financial statement are not optional: they are required as part of the reporting standards.

For example, if a company lists a loss on a fixed asset impairment line in their income statement, notes could corroborate the reason

Figure 1.27 Pens in a Jar

The value of the pens in the jar is not material. It is not required for completeness. No accounting disclosure necessary.

Any items within the financial statements that are valuated by estimation are part of the notes if a substantial difference exists between the amount of the estimate previously reported and the actual result. Full disclosure of the effects of the differences between the estimate and actual results should be included.

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for the impairment by describing how the asset became impaired. Notes are also used to explain the accounting methods used to prepare the statements and they support valuations for how particular accounts have been computed. In consolidated financial statements, all subsidiaries are listed as well as the amount of ownership (controlling interest) that the parent company has in the subsidiaries.

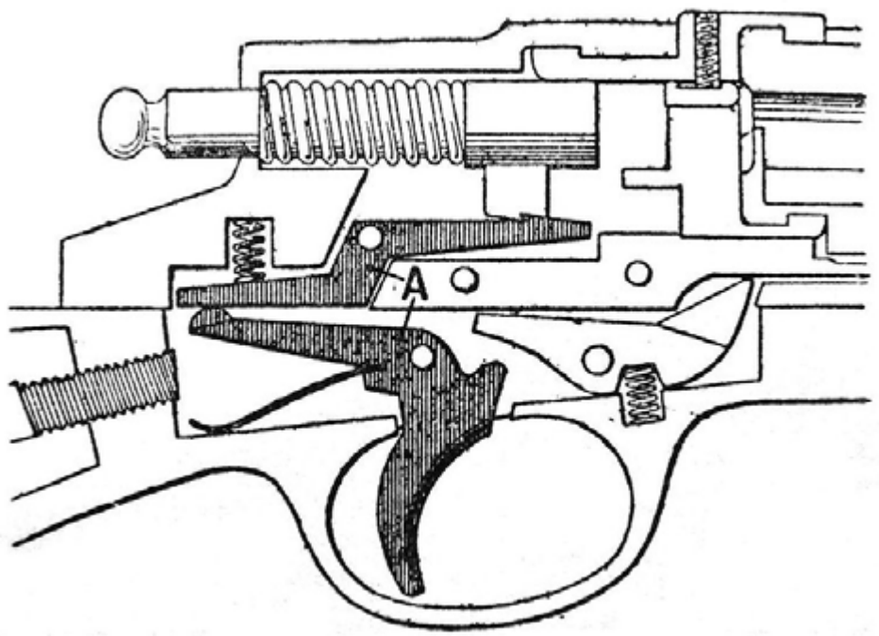
Events Triggering Disclosure

Events that trigger disclosure should be based on an accountant's assessment of materiality.

KEY POINTS

- Events that trigger disclosure should be based on an accountant's assessment of materiality, especially when facing decisions related to the full disclosure principle.
- Another event that can trigger a disclosure is prior period adjustments.
- Voluntary disclosure in accounting is the provision of information by a company's management beyond requirements.

Figure 1.28 Events Trigger Disclosure



Events that trigger disclosure should be based on materiality and the full disclosure principle

Events Triggering Disclosure

Consistency generally requires that a company use the same accounting principles and reporting practices through time. This concept prohibits indiscriminate switching of accounting principles or methods, such as changing inventory methods every year. However, consistency does not prohibit a change in accounting principles if the information needs of financial statement users are better served by the change. When a company makes a change in accounting principles, it must make the following disclosures in the financial statements (in the Notes to the Financial Statements):

1. Nature of the change.
2. Reasons for the change;
3. Effect of the change on current net income, if significant
4. Cumulative effect of the change on past income

Another event that can trigger a disclosure is prior period adjustments. Events that trigger disclosure should be based on an accountant's assessment of materiality, especially when facing decisions related to the full disclosure principle. Disclosures will normally include details to materiality decisions in the notes to financial statements.

Voluntary Disclosure

Voluntary disclosure in accounting is the provision of information by a company's management beyond requirements such as generally accepted accounting principles and Securities and Exchange Commission rules, where the information is believed to be relevant to the decision-making of users of the company's annual reports.

Voluntary disclosures can include strategic information such as company characteristics and strategy, non-financial information such socially responsible practices, and financial information such as stock price information.

FASB classified voluntary disclosures into six categories below, while Meek, Roberts and Gray (1995) classified them into three major groups: strategic, nonfinancial and financial information.

1. **Business data** - e.g. breakdown of market share growth and information on new products
2. **Analysis of business data** - e.g. trend analysis and comparisons with competitors
3. **Forward-looking information** - e.g. sales forecast breakdown and plans for expansion
4. **Information about management and shareholders** - e.g. information on stockholders and creditors and shareholding breakdown
5. **Company background** - e.g. product description and long-term objectives
6. **Information about intangible assets** - e.g. research and development and customer relations.

The determinants of the extent and type of voluntary disclosures of firms have been explored in the financial reporting literature. Meek, Roberts and Gray (1995) found that the extent and type of voluntary disclosure differs by geographic region, industry, and company size, and other research has found that the extent of voluntary disclosure is affected by the firm's corporate governance structure and ownership structure.

Current Issues in Reporting and Disclosure

Accountants must stay up to date with current issues in reporting and disclosures related to standards set by regulatory agencies.

KEY POINTS

- Mark-to-market or fair value accounting refers to accounting for the fair value of an asset or liability based on the current market price, or for similar assets and liabilities, or based on another objectively assessed "fair" value.
- Mark-to-market accounting can change values on the balance sheet as market conditions change.
- Stock option expensing is a method of accounting for the value of share options, distributed as incentives to employees, within the profit and loss reporting of a listed business.

Current Issues in Reporting and Disclosure

Accountants must stay up to date with current issues in reporting and disclosures related to standards set by regulatory agencies (*Figure 1.29*).

Figure 1.29 Current Issues

Accountants must stay up to date with current issues in reporting and disclosure

Mark-to-Market or Fair Value Accounting

Mark-to-market or **fair value** accounting refers to accounting for the fair value of an asset or liability based on the current market price, for similar assets and liabilities, or based on another objectively assessed "fair" value. Fair value accounting has been a part of Generally Accepted Accounting Principles (GAAP) in the United States since the early 1990s and used increasingly since then.

Mark-to-market accounting can change values on the balance sheet as market conditions change. In contrast, historical cost accounting, based on the past transactions, is simpler, more stable, and easier to perform, but does not reflect current fair value. Instead, it summarizes past transactions. Mark-to-market accounting can become inaccurate if market prices change unpredictably. Buyers and sellers may claim a number of specific instances when this is the case, including inability to both accurately and collectively value the future income and expenses, often due to unreliable information and over optimistic and over pessimistic expectations.

SFAS No. 157

In September 2006, the U.S. Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards 157: Fair Value Measurement, which “defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles (GAAP), and expands disclosures about fair value measurements.” This statement is effective for financial reporting fiscal periods commencing after November 15, 2007 and the interim periods applicable.

Fair Value GAAP vs. IFRS

Under GAAP, there is only one measurement model for fair value (with limited exceptions). GAAP defines fair value as the price that would be received to sell an asset or paid to transfer a liability (at the measurement date). Note that fair value is an exit price, which may differ from the transaction (entry) price.

Various IFRS standards use slightly varying wording to define fair value. Under IAS 39, fair value is defined as the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.At inception, transaction (entry) price generally is considered fair value.

Sarbanes-Oxley Act

Following the Enron scandal, changes were made to mark to market via the Sarbanes-Oxley Act in 2002. Sarbanes-Oxley affected mark to market by forcing companies to implement stricter accounting standards. These included more transparency in financial reporting and stronger internal controls to prevent and identify fraud and auditor independence. Also, the Public Company Accounting Oversight Board (PCAOB) was created by the Securities and Exchange Commission (SEC) for the purpose of overseeing audits. This act also implemented harsher penalties for fraud, such as enhanced prison sentences and fines for committing fraud. Although the law was created to restore investor confidence, the cost of implementing the regulations caused many companies to avoid registering on U.S. stock exchanges.

Internal Revenue Code Section 475 contains the mark to market accounting method rule for taxation. It provides that qualified security dealers who elect mark to market treatment shall recognize gain or loss as if the property were sold for its fair market value on the last business day of the year, and any gain or loss shall be taken into account in that year. The section also provides that commodities dealers can elect mark to market treatment for any **commodity** (or their derivatives) which is actively traded (i.e., for which there is an established financial market providing a reasonable basis to determine fair market value by disseminating price quotes from brokers/dealers or actual prices from recent transactions).

Stock Option Expensing

Stock option expensing is a method of accounting for the value of share options, distributed as incentives to employees, within the profit and loss reporting of a listed business. On the income statement, balance sheet, and cash flow statement it should say that the loss from the exercise is accounted for by noting the difference between the market price (if one exists) of the shares and the cash received, the exercise price, for issuing those shares through the option.

Opponents of considering options as an expense say that the real loss–due to the difference between the exercise price and the market price of the shares–is already stated on the cash flow statement. They would also point out that a separate loss in **earnings per share** (due to the existence of more shares

outstanding) is also recorded on the balance sheet by noting the dilution of shares outstanding. Simply, accounting for this on the income statement is believed to be redundant.

Currently, the future appreciation of all shares issued are not accounted for on the income statement but can be noted upon examination of the balance sheet and cash flow statement.

The two methods to calculate the expense associated with stock options are the "intrinsic value" method and the "fair-value" method. Only the fair-value method is currently U.S. GAAP. The intrinsic value method, associated with Accounting Principles Board Opinion 25, calculates the intrinsic value as the difference between the market value of the stock and the exercise price of the option at the date the option is issued (the "grant date"). Since companies generally issue stock options with exercise prices which are equal to the market price, the expense under this method is generally zero.

In 2002, another method was suggested–expensing the options as the difference between the market price and the strike price when the options are exercised, and not expensing options which are not exercised, and reflecting the unexercised options as a liability on the balance sheet. This method, which defers the expense, also was requested by companies.

FASB has moved against "Opinion 25," which left it open to businesses to monetize options according to their "intrinsic value," rather than their "fair value." The preference for fair value appears to be motivated by its voluntary adoption by several major listed businesses and the need for a common standard of accounting.

Chapter 2

Accounting Information and the Accounting Cycle

https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/

Section 1

Basics of Accounting

Terminology of Accounting

Debits and Credits

Fundamental Accounting Equation

An Expanded Equation

Types of Transactions

https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/basics-of-accounting/

Terminology of Accounting

Most important terms of accounting include cash vs. accrual basis of bookkeeping, assets, liabilities, and equity.

KEY POINTS

- The cash method of accounting records expenses paid by customers in cash. Accrual accounting records revenue when sales are made and records expenses when they incur.
- Assets are economic resources. Anything capable of being owned or controlled to produce value is considered an asset.
- A liability is an obligation of an entity arising from past transactions, the settlement of which may result in the transfer of assets, provision of services, or other yielding of economic benefits in the future.
- Equity is the residual claim or interest of the most junior class of investors in assets after all liabilities are paid.

There are two primary accounting methods - cash basis and accrual basis.The cash method records expenses paid by customers in cash. Accrual basis accounting records revenue when sales are made and records expenses when they incur.

In financial accounting, assets are economic resources. Anything capable of being owned or controlled to produce value is considered an asset. Simply stated, assets represent value of ownership that can be converted into cash. Two major asset classes are **intangible assets** and tangible assets. Intangible assets are identifiable non-monetary assets that cannot be seen, touched or physically measured, are created through time and effort, and are identifiable as a separate asset. Tangible assets contain current assets and fixed assets. Current assets include inventory, while fixed assets include such items as buildings and equipment (*Figure 2.1*).

Figure 2.1 Assets and liabilities

➢ Difference between Assets and Liabilities

Basis	Assets	Liabilities
Meaning	Assets are property or legal rights owned by an individual or business to which money value can be attached	Liabilities means the amount which the business owes to outsiders, that is, expecting the proprietors
Depreciation	Assets are depreciable as well as non-depreciable.	Liabilities are Non depreciable.
Definition by Finny & Miller	Assets are the future economic benefits, the rights, which are owned or controlled by an organisation or individual	Liabilities are debts, they are amount owed to creditors
Location	It is located on *left* side of balance sheet	It is located on *right* side of balance sheet
Classification	➢ Fixed assets ➢ Current assets ➢ Tangible assets ➢ Intangible assets ➢ Wasting assets	➢ Long-term liabilities ➢ Current liabilities
Examples	Money owed by debtors, stock of goods, stock of goods, cash, furniture, machines, building etc.	Creditors, bank overdraft, bills payable, outstanding liabilities

Differences between assets and liabilities

A liability is an obligation of an entity arising from past transactions, the settlement of which may result in the transfer of assets, provision of services, or other yielding of economic benefits in the future. A liability is defined by the following characteristics: (1) Any type of borrowing from persons or banks for improving a business or personal income; (2) A responsibility to others that entails settlement by future transfer of assets, provision of services, or other transactions; (3) A responsibility that obligates the entity to another, leaving it little or no discretion to avoid settlement, or; (4) A transaction or event obligating the entity that has already occurred.

In accounting and finance, equity is the residual claim or interest of the most junior class of investors in assets after all liabilities are paid. If liability exceeds assets, negative equity exists. In an accounting context, shareholders' equity represents the remaining interest in assets of a company, spread among individual shareholders in common or preferred stock.

Debits and Credits

Credit and debit are the two fundamental aspects of every financial transaction in the double-entry bookkeeping system.

KEY POINTS

- In financial accounting or bookkeeping, "Dr" (Debit) indicates the left side of a ledger account and "Cr" (Credit) indicates the right.
- The rule that total debits equal total credits applies when all accounts are totaled.
- An increase (+) to an asset account is a debit. An increase (+) to a liability account is a credit. Conversely, a decrease (-) to an asset account is a credit. A decrease (-) to a liability account is a debit.

In a non-accounting sense, "credit" is money that a creditor makes available to a client to borrow. However, "credit" in this sense is not an accounting term, although this word comes up regularly in business and, therefore, accounting. In the academic field of accounting (bookkeeping), such dictionary definitions are misleading, and the words "debit" and "credit" as used in accounting have little connection with the nonprofessional's understanding of "debit" and "credit."

In accounting, credit and debit are the two fundamental aspects of every financial transaction in the **double-entry bookkeeping system** for which every debit transaction must have a corresponding credit transaction(s), and vice versa.

Debits and credits are systems of notation used in bookkeeping to determine how to record any financial transaction. In financial accounting or bookkeeping, "Dr" (Debit) indicates the left side of a ledger account and "Cr" (Credit) indicates the right.

Debits and credits serve as the two balancing aspects of every financial transaction in double-entry bookkeeping. Debits are entered on the left side of a ledger, and credits are entered on the right side of a ledger. Whether a debit increases or decreases an account depends on what kind of account it is. In the accounting equation, Assets = Liabilities + Equity (A = L + E), if an asset account increases (by a debit), then one must also either decrease (credit) another asset account, or increase (credit) a liability or equity account.

Each transaction (say, of value £100) is recorded by a debit entry of £100 in one account and a credit entry of £100 in another account. When people say, "debits must equal credits" they do not mean that the two columns of any ledger account must be equal. If that were the case, every account would have a zero balance (no difference between the columns) which is often not the case. The rule that total debits equal the total credits applies when all accounts are totaled.

	Increase	Decrease
Asset	Debit	Credit
Liability	Credit	Debit
Income/Revenue	Credit	Debit
Expense	Debit	Credit
Equity/Capital	Credit	Debit

Figure 2.2 Debit and credit rules

Debit and credit rules

For example, from a bank customer's perspective, when the customer deposits cash into his bank account (US: checking account), this financial transaction has two aspects: the customer's cash-in-hand (the customer's asset) decreases and the customer's current account balance (the customer's asset) with the bank increases. The decrease in the cash-in-hand asset is the customer's credit while the increase in the asset balance in the bank account is the customer's debit.

The bank views that transaction using the same rules, but from a slightly different perspective. In the previous example, the bank's vault cash (asset) increases, which is a debit, and the corresponding

increase in the customer's current account balance (bank's liability) is a credit. This is why a customer's bank statement shows the bank's liability to the customer, with increases (bank deposits) as credits, and decreases (bank withdrawals and cheques) as debits (*Figure 2.2*).

In summary: An increase (+) to an asset account is a debit; an increase (+) to a liability account is a credit; conversely, a decrease (-) to an asset account is a credit; and a decrease (-) to a liability account is a debit.

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Fundamental Accounting Equation

To ensure that a company is "in balance," its assets must always equal its liabilities plus its owners' equity.

KEY POINTS

- The accounting equation displays that all assets are either financed by borrowing money or paying with the money of the company's shareholders.
- The balance sheet is a complex display of this equation, showing that the total assets of a company are equal to the total of liabilities and shareholder equity. Any purchase or sale has an equal effect on both sides of the equation or offsetting effects on the same side of the equation.
- A mark in the credit column will increase a company's liability, income, and capital accounts but decrease its asset and expense accounts. A mark in the debit column will increase a company's asset and expense accounts, but decrease its liability, income, and capital account.

The fundamental accounting equation can actually be expressed in two different ways. A double-entry bookkeeping system involves two different "columns;" debits on the left, credits on the right. Every transaction and all financial reports must have the total

debits equal to the total credits. A mark in the **credit** column will increase a company's liability, income and capital accounts, but decrease its asset and expense accounts. A mark in the **debit** column will increase a company's asset and expense accounts, but decrease its liability, income and capital account (*Figure 2.3*).

	Increase	Decrease
Asset	Debit	Credit
Liability	Credit	Debit
Income/Revenue	Credit	Debit
Expense	Debit	Credit
Equity/Capital	Credit	Debit

Figure 2.3 Debit and credit rules

To ensure that debits equal credits, increases and decreases in financial accounts should be recorded appropriately using a table like this.

For example, if a person buys a computer for $945. He borrows $500 from his best friend and pays for the rest using cash in his bank account. To record this transaction in his personal ledger, the person would make the following journal entry.

Computer (Increase in asset) $945

Cash (Decrease in an asset) $445

Loan from friend (Increase in debt) $500

As you can see, the total amount of the debits (the amount on the left) equal the credits (the total amount on the right). The transaction is in "balance."

An extension of that basic rule involves the balance sheet. The total assets listed on a company's balance sheet must equal the company's total liabilities, plus its owners' equity in the company. This identity reflects the assumption that all of a company's assets are either financed through debt or through the contribution of funds by the company's owners.

A simple balance sheet example:

Assets

Cash $100,000

PP&E $200,000

Liabilities & Equity

Mortgage $150,000

Equity $150,000

As you can see, the business's total assets equal the company's total liabilities and equity. This company is "balanced."

An Expanded Equation

Preparing financial statements requires preparing an adjusted trial balance, translating that into financial reports, and having those reports audited.

KEY POINTS

- The purpose of financial statements are to provide both business insiders and outsiders a concise, clear picture of the current financial status in the business. Therefore, the people who use the statements must be confident in its accuracy.
- Closing the books is simply a matter of ensuring that transactions that take place after the business's financial period are not included in the financial statements.
- Adjusting entries are generally made in relation to prepaid expenses, prepayments, accruals, estimates and inventory.
- When an audit is completed, the auditor will issue a report regarding whether the statements are accurate. To ensure a positive reports, some companies try to participate in opinion shopping. This practice is generally prohibited..

Preparing Financial Statements

When a business enterprise presents all the relevant financial information in a structured and easy to understand manner, it is called a financial statement. The purpose of financial statements are

to provide both business insiders and outsiders a concise, clear picture of the current financial status in the business. Therefore, the people who use the statements must be confident in its accuracy.

Adjusted Trial Balance - Closing the Books

The process of preparing the financial statements begins with the adjusted trial balance. Preparing the adjusted trial balance requires "closing" the book and making the necessary adjusting entries to align the financial records with the true financial activity of the business.

Closing the books is simply a matter of ensuring that transactions that take place after the business's financial period are not included in the financial statements. For example, assume a business is preparing its financial statements with a December 31st year end. It acquires some property on January 14th. If the books are properly closed, that property will not be included on the balance sheet that is being prepared for the period on December 31st.

Adjusted Trial Balance - Adjusting Entries

An **adjusting entry** is a journal entry made at the end of an accounting period that allocates income and expenditure to the appropriate years. Adjusting entries are generally made in relation to prepaid expenses, prepayments, accruals, estimates and inventory. Throughout the year, a business may spend funds or make assumptions that might not be accurate regarding the use of a good or service during the accounting period. Adjusting entries allow the company to go back and adjust those balances to reflect the actual financial activity during the accounting period.

For example, assume a company purchases 100 units of raw material that it expects to use up during the current accounting period. As a result, it immediately expenses the cost of the material. However, at the end of the year the company discovers it only used 50 units. The company must then make an adjusting entry to reflect that, and decrease the amount of the expense and increase the amount of inventory accordingly.

Translate the Adjusted Trial Balance to Financial Statements

Using the trial balance, the company then prepares the four financial statements. These statements are:

The Balance Sheet: A summary of the company's assets, liabilities and equity;

The Income Statement: A summary of the business's income, expenses, and profits

The Statement of Cash Flows: A report on a company's cash flow activities, particularly its operating, investing and financing

Figure 2.4 Example 1

Highland Yoga- Statement of Shareholders' Equity: June 30, 20xx

	Contributed Capital	Retained Earnings
Beginning	0	0
Net Income		
Dividends		
Increase/Decrease to Capital	4,000	
Ending	4,000	0

Highland Yoga- Balance Sheet: June 30, 20xx

Current Assets	
Cash	1,900
Prepaid Insurance	1,200
Inventory	400
Total Current Assets	**3,500**
Long-Term Assets	
PP&E	500
Total Assets	**4,000**
Liabilities & Equity	
Contributed Capital	4,000
Total Liabilities & Equity	**4,000**

Pre-opening financial statements for Highland Yoga.

activities; and

The Statement of Changes in Equity: A report that explains the changes of the company's equity throughout the reporting period

The company may also provide Notes to the Financial Statements, which are disclosures regarding key details about the company's operations that may not be evident from the financial statements.

Financial statements for Highland Yoga for each period would appear as follows in (*Figure 2.4*), (*Figure 2.5*), and (*Figure 2.6*)

Audit the Financial Statements

Once the company prepares its financial statements, it will contract an outside third party to audit it. An **audit** is an independent review and examination of records and activities to asses the adequacy of system controls, to ensure compliance with established policies and operational procedures, and to recommend necessary changes in controls, policies, or procedures. It is the audit that assures outside investors and interested parties that the content of the statements are correct.

When an audit is completed, the auditor will issue a report with the findings. The findings can state anything from the statements are accurate to statements are misleading. To ensure a positive reports, some companies try to participate in **opinion shopping**. This is

Figure 2.5 Example 2

Highland Yoga- Income Statement: July 31, 20xx

Revenue	800
Wage Expense	600
Rent Expense	1,000
Utility Expense	200
Insurance Expense	200
Depreciation Expense	20
Total Operating Expenses	**2,020**
Net Income	**(1,220)**

Highland Yoga- Statement of Shareholders' Equity: July 31, 20xx

	Contributed Capital	Retained Earnings
Beginning	4,000	0
Net Income		(1,220)
Dividends		
Increase/Decrease to Capital		
Ending	4,000	(1,220)

Highland Yoga- Balance Sheet: July 31, 20xx

Current Assets		
Cash		1,400
Prepaid Insurance		1,000
Inventory		400
Total Current Assets		**2,800**
Long-Term Assets		
PP&E (gross)	500	
Acc. Dep- PP&E	(20)	
PP&E (net)		480
Total Long-Term Assets		**480**
Total Assets		**3,280**
Liabilities & Equity		
Wage Payable		300
Utility Payable		200
Total Liabilities		**500**
Contributed Capital		4,000
Retained Earnings		(1,220)
Total Equity		**2,780**
Total Liabilities & Equity		**3,280**

July financial statements for Highland Yoga

Figure 2.6 Example 3

Highland Yoga- Income Statement: August 31, 20xx

Revenue	1,460
Cost of Goods Sold	150
Wage Expense	600
Rent Expense	1,000
Utility Expense	150
Insurance Expense	200
Depreciation Expense	20
Total Operating Expenses	**2,120**
Net Income	**(660)**

Highland Yoga- Statement of Shareholders' Equity: August 31, 20xx

	Contributed Capital	Retained Earnings
Beginning	4,000	(1,220)
Net Income		(660)
Dividends		
Increase/Decrease to Capital	(1,000)	
Ending	3,000	(1,880)

Highland Yoga- Balance Sheet: August 31, 20xx

Current Assets		
Cash		2,310
Prepaid Insurance		800
Inventory		250
Total Current Assets		**3,360**
Long-Term Assets		
PP&E (gross)	500	
Acc. Dep- PP&E	(40)	
PP&E (net)		460
Total Long-Term Assets		**460**
Total Assets		**3,820**
Liabilities & Equity		
Current Liabilities		
Wage Payable		300
Utility Payable		150
Unearned Revenue		250
Total Current Liabilities		**700**
Long-Term Liabilities		
Loan Payable		2,000
Total Liabilities		**2,700**
Contributed Capital		3,000
Retained Earnings		(1,880)
Total Equity		**1,120**
Total Liabilities & Equity		**3,820**

August financial statements for Highland Yoga

the process that businesses use to ensure it gets a positive review. Since Enron and the accounting scandals of the early 2000s, this practice has been prohibited.

Source:https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/basics-of-accounting/an-expanded-equation/

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Types of Transactions

Transactions include sales, purchases, receipts, and payments made by an individual or organization.

KEY POINTS

- Sales - A sale is a transfer of property for money or credit. Revenue is earned when goods are delivered or services are rendered. In double-entry bookkeeping, a sale of merchandise is recorded in the general journal as a debit to cash or accounts receivable and a credit to the sales account.
- Purchases transaction results in a decrease in the finances of the purchaser and an increase in the benefits of the sellers. Purchases can be made by cash or credit. As credit purchases are made, accounts payable will increase.
- Receipts refer to a business getting paid by another business for delivering goods or services. This transaction results in a decrease in accounts receivable and an increase in cash/ cash or equivalents.
- Payments refer to a business paying to another business for receiving goods or services. This transactions results in a decrease in accounts payable and an decrease in cash/ cash or equivalents.

Transactions include sales, purchases, receipts, and payments made by an individual or organizations.

Overview of Sales

A sale is a transfer of property for money or credit. Revenue is earned when goods are delivered or services are rendered. In **double-entry bookkeeping**, a sale of merchandise is recorded in the general journal as a debit to cash or accounts receivable and a credit to the sales account. The amount recorded is the actual monetary value of the transaction, not the list price of the merchandise. A discount from list price might be noted if it applies to the sale. Fees for services are recorded separately from sales of merchandise, but the bookkeeping transactions for recording sales of services are similar to those for recording sales of tangible goods (*Figure 2.7*).

Overview of Purchases

Purchasing refers to a business or organization acquiring goods or services to accomplish the goals of its enterprise. This transaction results in a decrease in the finances of the purchaser and an increase in the benefits of the sellers. Purchases can be made by cash or credit. As credit purchases are made, accounts payable will increase.

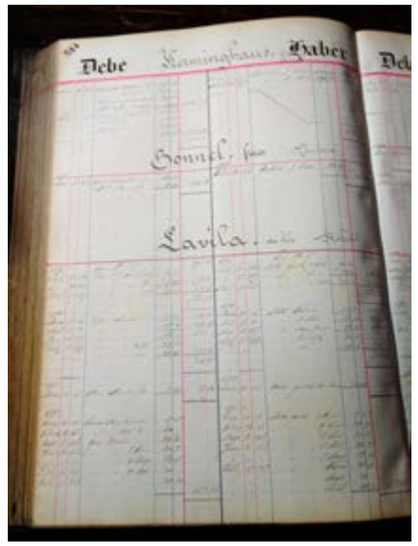
Overview of Receipts

Receipts refer to a business getting paid by another business for delivering goods or services. This transaction results in a decrease in accounts receivable and an increase in cash or equivalents.

Overview of Payments

Payments refer to a business paying another business for receiving goods or services. This transaction results in a decrease in accounts payable and an increase in cash or equivalents.

Figure 2.7 Bookkeeping



Purchases and sales in an old ledger

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Section 2

The Accounting Cycle

What is the Accounting Cycle

Recording Transactions

Journalizing

Posting

The Trial Balance

Adjustments

Preparing Financial Statements

Closing the Cycle

The Post-Closing Trial Balance

Reversing Entries

https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/the-accounting-cycle/

What is the Accounting Cycle

The accounting cycle is performed during the accounting period, to analyze, record, classify, summarize, and report financial information.

KEY POINTS

- The accounting cycle has 8 Steps.
- Each transaction must be analyzed to determine whether it qualifies as a business transaction.
- The accounting cycle runs within the accounting period.
- The goal of the accounting cycle is to produce financial statements for the company.

The Accounting Cycle

The accounting cycle is a series of steps performed during the accounting period (some throughout the period and some at the end) to analyze, record, classify, summarize, and report useful financial information for the purpose of preparing financial statements. In bookkeeping, the accounting period is the period for which the books are balanced and the financial statements are prepared. Generally, the accounting period consists of 12 months. However, the beginning of the accounting period differs according to the company. For example, one company may use the regular calendar year, January to December, as the accounting year, while another entity may follow April to March as the accounting period.

Eight Steps in the Accounting Cycle

There are eight steps in the accounting cycle and they are as follows:

Analyze transactions by examining source documents.

Journalize transactions in the journal.

Post journal entries to the accounts in the ledger.

Prepare a trial balance of the accounts and complete the worksheet (includes adjusting entries).

Prepare financial statements.

Journalize and post adjusting entries.

Journalize and post closing entries.

Prepare a post-closing trial balance.

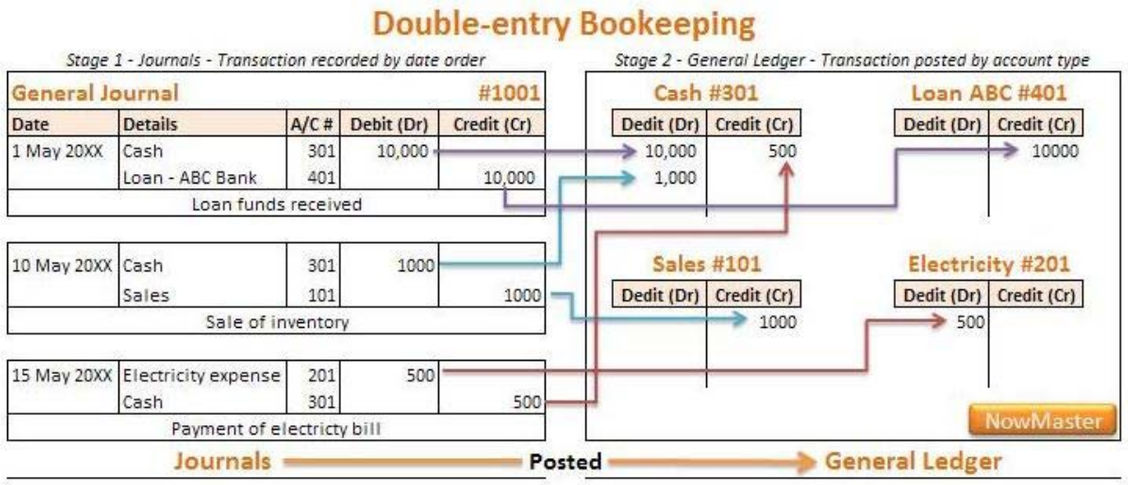
Source Documents

To begin the accounting cycle, it is necessary to understand what constitutes a business transaction. Business transactions are measurable events that affect the financial condition of a business. Business transactions can be the exchange of goods for cash

between the business and an external party, such as the sale of a book, or they can involve paying salaries to employees. These events have one fundamental thing in common: they have caused a measurable change in the amounts in the accounting equation, assets = liabilities + stockholders' equity. The evidence that a business event has occurred is a source document. Sales tickets, checks, and invoices are common source documents. Source documents are important because they are the ultimate proof that a business transaction has taken place.

After determining, via the source documents, that an event is a business transaction, it is then entered into the company books via a journal entry. After all the transactions for the period have been entered into the appropriate journals, the journals are posted to the general ledger (*Figure 2.8*). The trial balance proves that the books are in balance or that the debits equal the credits. From the trial balance, a company can prepare their financial statements. After the financials are prepared, the month end adjusting and closing entries are recorded (journalized) and posted to the appropriate accounts. After those entries are made, a post-closing trial balance is run. The post-closing trial balance verifies the debits equal the credits and that all beginning balances for permanent accounts are in place.

Figure 2.8 The General Ledger



The accounting cycle bring information into the general ledger.

Highland Yoga

As we walk through the steps of the accounting cycle, consider the following example. After a number of years as a successful CPA at a national firm, you decide to quit the rat race and pursue your true love -- yoga. You decide that Atlanta's Virginia-Highland neighborhood would be the perfect place to open an Ashtanga Yoga studio. Even better, your friend Solomon, a certified instructor, has just moved to town and is willing to teach at the studio. You hurriedly prepare to open the studio, Highland Yoga, by July 1.

Pre-opening (before July 1)

Prior to opening the business, you make the following transactions:

1. You contribute $4,000 in cash to start the business.
2. You purchase $500 worth of mats and other equipment for use during classes.

3. You purchase an additional $400 worth of mats, equipment, and clothing for sale at the studio.

4. You purchase liability insurance at a total cost of $1,200. The policy covers July 1 through December31.

July

The following transactions take place during July.

1. You receive cash totaling $800 for classes.

2. Your instructor teaches classes for the month. You agree to pay $600 for the classes; $300 is paid on July 15, and $300 will be paid on August 3.

3. You pay rent for July of $1,000 on July 1.

4. You use utilities (electricity and water) totaling $200. This amount is payable on August 15.

August

The following transactions take place during August.

1. You receive $1,500 in cash for classes. Of this amount, $1,000 was for classes in August. The remainder is for 2-month passes allowing unlimited classes in August and September.

2. Your instructor again earns $600 teaching classes; $300 due on August 16 and $300 on September 1.

3. Utilities total $150, payable September 15.

4. You pay rent of $1,000 on August 1.

5. You sell inventory costing $150 for a revenue of $225.

6. You are worried about money, so your Uncle Rafael makes you an offer. He agrees to loan you $2,000 in cash. You will need to repay him sometime later, but he doesn't say when.

7. A client is extremely dissatisfied with their class, and demands their money back. Reluctantly, you agree. The class cost $15.

8. After borrowing money, you decide to withdraw some of your investment in the studio to pursue other opportunities. You decide to withdraw $1,000.

Recording Transactions

All business transactions must be recorded to the proper journal by double-entry book keeping.

KEY POINTS

- Source documents are important because they are the ultimate proof a business transaction has occurred.
- An account is a part of the accounting system used to classify and summarize the increases, decreases, and balances of each asset, liability, stockholders' equity item, dividend, revenue, and expense.
- The accounting requirement that each transaction be recorded by an entry that has equal debits and credits is called double-entry procedure.
- This double-entry procedure keeps the accounting equation in balance.

Journal entries are business transactions that cause a measurable change in the accounting equation.

(Assets = Liabilities + Stockholders' Equity)

Since business transactions always generate documentation, it is the accountant or bookkeeper's job to analyze the source document to determine whether a journal entry is necessary. Source documents are important because they are the ultimate proof of business transactions. Some examples of source documents include bills received from suppliers for goods or services received, bills sent to customers for goods sold or services performed, and cash register tapes. Each source document is analyzed to determine whether the event caused a measurable change in the accounting equation. If it has, then it is necessary to prepare and record a journal entry in the proper account.

An **account** is the part of the accounting system used to classify and summarize the increases, decreases, and balances of each asset, liability, stockholders' equity item, dividend, revenue, and expense. Firms set up accounts for each different business element, such as cash, accounts receivable, and accounts payable. Individual companies may label their accounts differently.

All accounts have corresponding contra accounts depending on what transaction has taken place; i.e., when a vehicle is purchased using cash, the asset account "Vehicles" is debited as the vehicle account increases, and simultaneously the asset account "Bank" is credited due to the payment of the vehicle using cash. Some balance sheet items have corresponding contra accounts, with negative balances, that offset them. Examples are accumulated depreciation against equipment, and allowance for bad debts against long-term notes receivable.

The accounting requirement that each transaction be recorded by an entry that has equal debits and credits is called double-entry procedure. This double-entry procedure keeps the accounting equation in balance. For each business transaction recorded, the total dollar amount of debits must equal the total dollar amount of credits. If one account (or accounts) is debited for $100, then another account (or accounts) must be credited for the same amount.

T-accounts

The general ledger of all accounts is, simply, a comprehensive collection of T-accounts -- so called because there is a vertical line in the middle of each ledger page and a horizontal line at the top of each ledger page, like a large letter T. The account title will appear above the horizontal line, and debits and credits will appear to the left and right of the vertical line, respectively.

An account's normal balance will be the side on which increases are recorded. For example, assets and expenses normally have debit balances, and liabilities and revenues normally have credit balances.

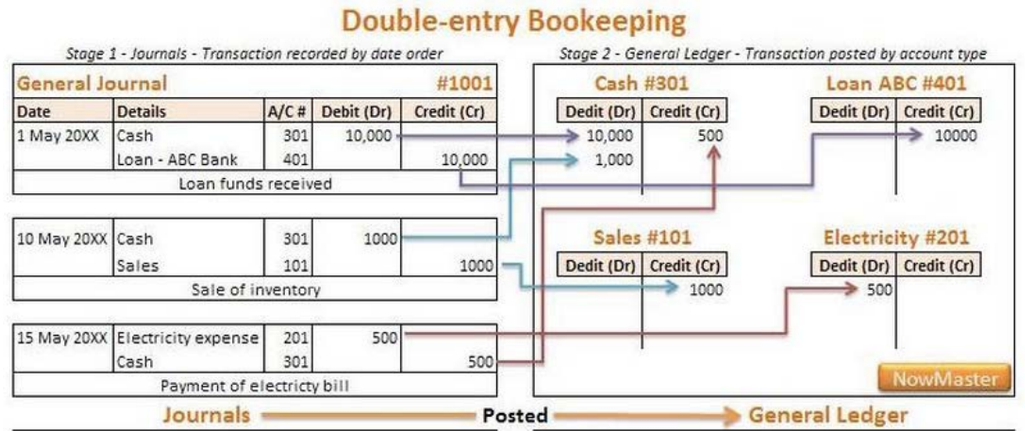
Continuing our example, how would we recognize and record the transactions involved in running our yoga studio?

Pre-opening

Prior to opening the business, you make the following transactions:

1. You contribute $4,000 in cash to start the business.

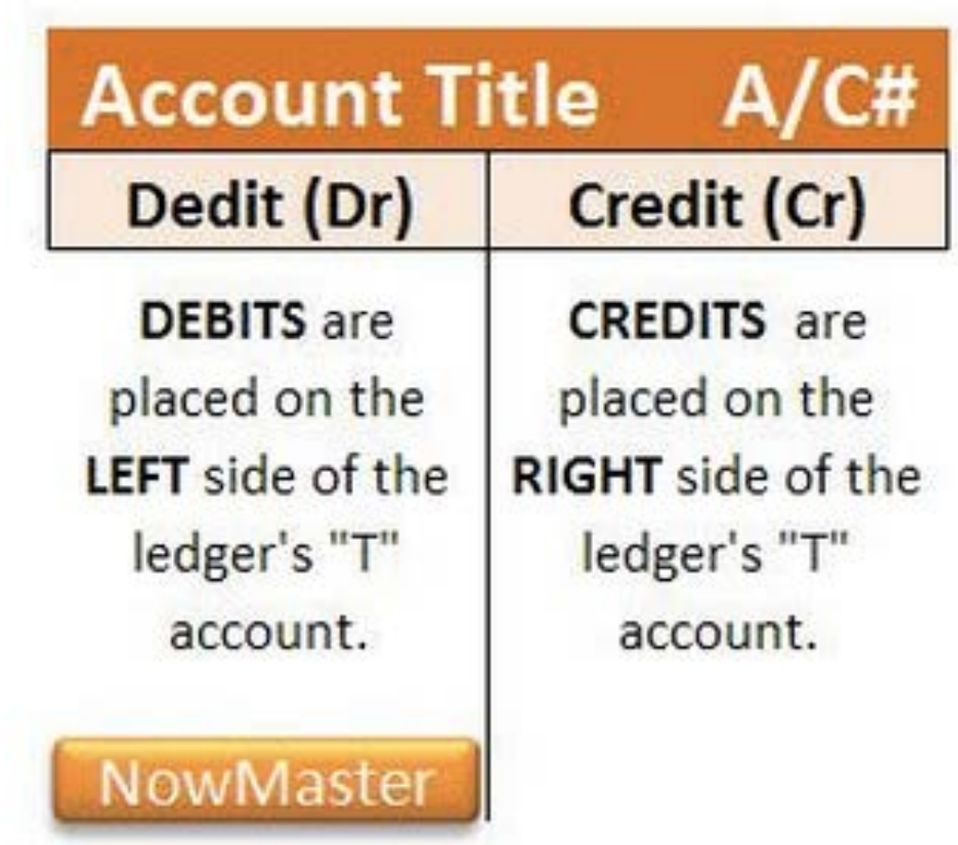
Figure 2.9 The General Ledger



Using a double entry system to record transactions keeps the accounts in balance.

2. Cash 4,000, Contributed Capital 4,000; Assets(+)=Equity(+)
3. You purchase $500 worth of mats and other equipment for use during classes.
4. Cash -500, PPE 500; Assets(+), Assets(-)=0
5. You purchase an additional $400 worth of mats, equipment, and clothing for sale at the studio.
6. Cash -400, Inventory 400; Assets(+), Assets(-)=0

Figure 2.10 T-Account



T-accounts are so named because of their "T" shape, with the name of the account on top, and debits and credits on the left and right, respectively.

7. You purchase liability insurance at a total cost of $1,200. The policy covers July 1 through December31.
   Cash -1,200, Prepaid Insurance 1,200; Assets(+), Assets(-)

July

The following transactions take place during July.

1. You receive cash totaling $800 for classes.
2. Cash 800, Service Revenue 800; Assets(+)= Equity(+)
3. Your instructor teaches classes for the month. You agree to pay $600 for the classes; $300 is paid on July 15, and $300 will be paid on August 3.
4. Cash -300, Wage Payable 300, Instructor Expense 600; Assets(-300)=Liabilities(+300)+Equity(-600)
5. You pay rent for July of $1,000 on July 1.
6. Cash -1,000, Rent Expense 1,000; Assets(-)=Equity(-)
7. You use utilities (electricity and water) totaling $200. This amount is payable on August 15.
   Utility Payable 200, Utility Expense 200; Liability(+) +Equity(-)=0.

August

The following transactions take place during August.

1. You receive $1,500 in cash for classes. Of this amount, $1,000 was for classes in August. The remainder is for 2-month passes allowing unlimited classes in August and September. Cash 1,500, Unearned Revenue 250, Service Revenue 1,250
   Assets(+1,500)=Liability(+250)+Equity(+1,250)

2. Your instructor again earns $600 teaching classes; $300 due on August 16 and $300 on September 1. Cash -300, Wage Payable 300, Instructor Expense 600; Assets(-300)=Liabilities(+300)+Equity(-600)

3. Utilities total $150, payable September 15. Utility Payable 150, Utility Expense 150; Liability(+)+Equity(-)=0

4. You pay rent of $1,000 on August 1. Cash -1,000, Rent Expense 1,000; Assets(-)=Equity(-)

5. You sell inventory costing $150 for a revenue of $225.

   a. Cash 225, Sales Revenue 225; Assets(+)=Equity(+)

   b. Inventory -150, Cost of Goods Sold 150; Assets(-)=Equity(-)

6. You are worried about money, so your Uncle Rafael makes you an offer. He agrees to loan you $2,000 in cash. You will need to repay him sometime later, but he doesn't say when. Cash 2,000, Loan Payable 2,000; Assets(+)=Liabilities(+)

7. A client is extremely dissatisfied with their class, and demands their money back. Reluctantly, you agree. The class cost $15. Cash -15, Service Revenue -15; Assets(-)=Equity(-)

8. After borrowing money, you decide to withdraw some of your investment in the studio to pursue other opportunities. You decide to withdraw $1,000. Cash -1,000, Contributed Capital -1,000; Assets(-)=Equity(-)

Journalizing

Items are entered into the general journal or the special journals via journal entries, also called journalizing.

KEY POINTS

- Special journals are designed to facilitate the process of journalizing and posting transactions. They are used for the most frequent transactions in a business.
- Journal entries are prepared after examining the source document to see if a business transaction has taken place.
- The total amount debited and the total amount credited should always be equal, thereby ensuring the accounting equation is maintained.

The General Journal

The general journal is where double entry bookkeeping entries are recorded by debiting one or more accounts and crediting another one or more accounts with the same total amount. The total amount debited and the total amount credited should always be equal, thereby ensuring the accounting equation is maintained.

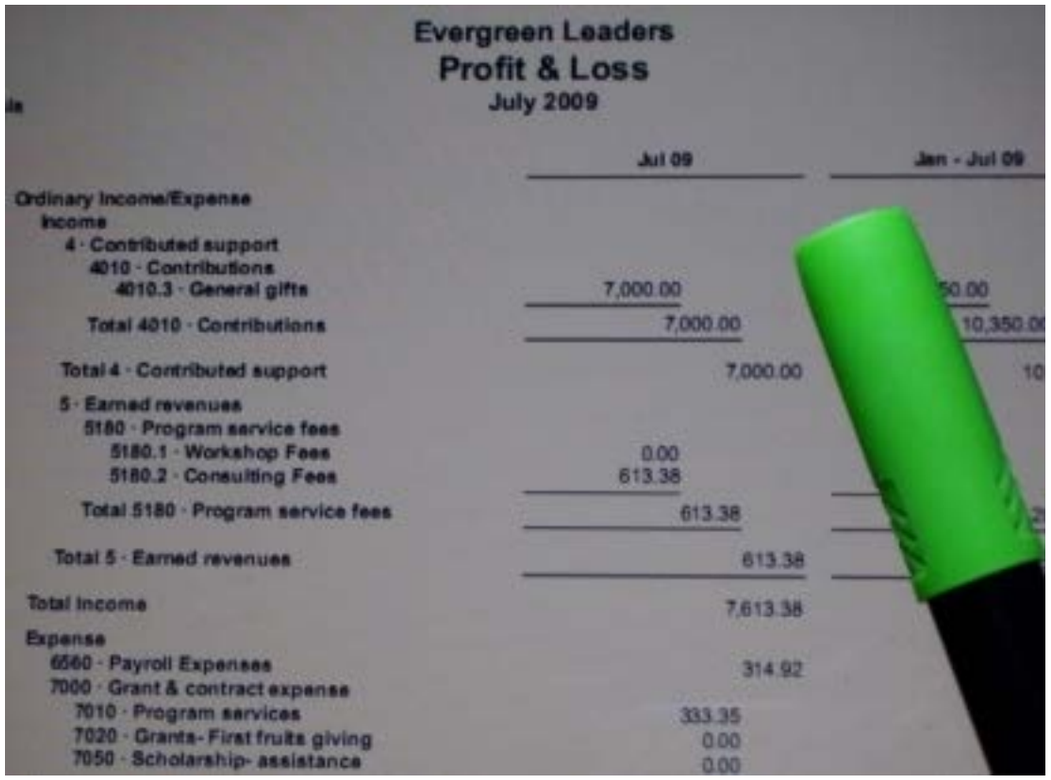
Depending on the business's accounting information system, specialized journals may be used in conjunction with the general journal for record-keeping. In such case, use of the general journal may be limited to non-routine and adjusting entries

Special Journals

Special journals are designed to **facilitate** the process of **journalizing** and posting transactions. They are used for the most frequent transactions in a business. For example, in merchandising businesses, companies acquire merchandise from vendors and then in turn sell the merchandise to individuals or other businesses. Sales and purchases are the most common transactions for merchandising businesses. A business like a retail store will record the following transactions many times a day for sales on account and cash sales.Journalizing

Items are entered the general journal or the special journals via journal entries, or journalizing. Journal entries are prepared after examining the source document to see if a business transaction has taken place. If a business transaction has taken place, that is a transaction that causes a measurable change in the accounting equation then a journal entry is necessary (*Figure 2.11*). Each journal entry must have a debit and a credit. Journal entries also include the date of the transaction, titles of the accounts debited and credited (credited account is indented several spaces), the amount of each debit and credit; and an explanation of the transaction also known as a Narration.

Figure 2.11 Journal Entry



Journal entries record business transactions so they may later be used to create financial statements.

Consider our example for the yoga studio. How would we record journal entries for each transaction?

Pre-opening

Prior to opening the business, you make the following transactions:

1. You contribute $4,000 in cash to start the business.
   Cash 4,000
   Contributed capital 4,000
2. You purchase $500 worth of mats and other equipment for use during classes.
   PPE 500
   Cash 500
3. You purchase an additional $400 worth of mats, equipment, and clothing for sale at the studio.
   Inventory 400
   Cash 400
4. You purchase liability insurance at a total cost of $1,200. The policy covers July 1 through December31.
   Prepaid insurance 1,200
   Cash 1,200

July

The following transactions take place during July.

1. You receive cash totaling $800 for classes.
   Cash 800
   Revenue 800
2. Your instructor teaches classes for the month. You agree to pay $600 for the classes; $300 is paid on July 15, and $300 will be paid on August 3.
   Wage expense 600

Cash 300
Wage payable 300

3. You pay rent for July of $1,000 on July 1.
   Rent expense 1,000
   Cash 1,000

4. You use utilities (electricity and water) totaling $200. This amount is payable on August 15.
   Utility expense 200
   Utility payable 200

August

The following transactions take place during August.

1. You receive $1,500 in cash for classes. Of this amount, $1,000 was for classes in August. The remainder is for 2-month passes allowing unlimited classes in August and September.
   Cash 1,500
   Revenue 1,250
   Unearned revenue 250

2. Your instructor again earns $600 teaching classes; $300 due on August 16 and $300 on September 1.
   Wage expense 600
   Cash 300
   Wage payable 300

3. Utilities total $150, payable September 15.
   Utility expense 150
   Utility payable 150

4. You pay rent of $1,000 on August 1.
   Rent expense 1,000
   Cash 1,000

5. You sell inventory costing $150 for a $225.
   Cash 225
   Revenue 225
   Cost of goods sold 150
   Inventory 150
   (these can be combined into a single entry if you choose.)

6. You are worried about money, so your Uncle Rafael makes you an offer. He agrees to loan you $2,000 in cash. You will need to repay him sometime later, but he doesn't say when.
   Cash 2,000
   Loan Payable 2,000

7. A client is extremely dissatisfied with their class, and demands their money back. Reluctantly, you agree. The class

cost $15.

Revenue 15

Cash 15

or

Refund expense 15

Cash 15

8. After borrowing money, you decide to withdraw some of your investment in the studio to pursue other opportunities. You decide to withdraw $1,000.

   Contributed capital 1,000

   Cash 1,000

   (this cannot be a dividend, because your balance of retained earnings is negative.)

Source:https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/the-accounting-cycle/journalizing/
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Posting

Posting is recording in the ledger accounts the information contained in the journal.

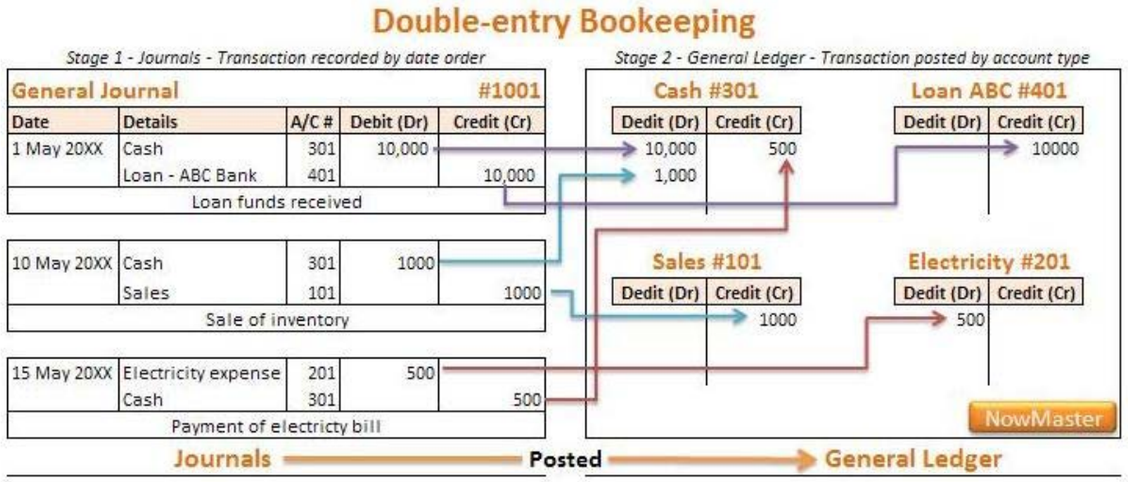
KEY POINTS

- Posting is always from the journal to the ledger accounts.
- Postings can be made at the time the transaction is journalized; at the end of the day, week, or month; or as each journal page is filled.
- Cross-indexing is the placing of the account number of the ledger account in the general journal and the general journal page number in the ledger account.

In accounting, each journal entry is like a set of instructions. Carrying out of these instructions is known as **posting**, a procedure that takes information recorded via journal entries (or journalizing) in the General or Special Journals and transfers it to the General Ledger. Each individual journal entry directs the input of a certain dollar amount as a debit in a specific ledger account, and directs the input of a certain dollar amount as a credit in a specific ledger account (*Figure 2.12*) Posting is always from the journal to the ledger accounts, and can be done two ways: the journal entries can be posted at the time the transaction is journalized; or the posting can be done at a set time like the end of the day, week, or month.

Journal entries may also be posted as the journal page is filled if using a manual accounting system as a matter of personal taste. When posting the **general journal**, the date used in the ledger accounts is the date the transaction was recorded in the journal, not the date the journal entry was posted to the ledger accounts.

Figure 2.12 The General Ledger

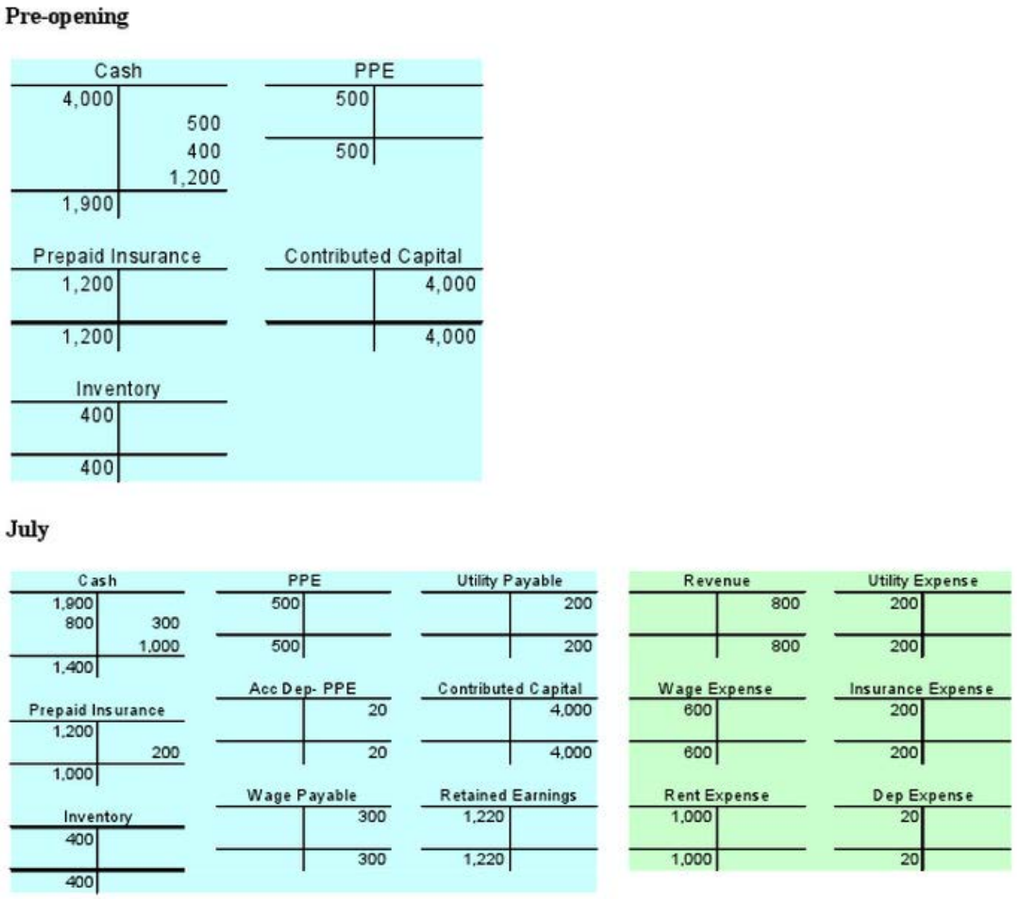


The General Ledger contains all entries from both the General Journal and the Special Journals.

Since accountants and bookkeepers often need to trace the origin of a ledger entry, they use cross-indexing. In cross-indexing a notation is made for each entry that indicates which general or special journal account the general ledger entry came from. This practice makes it easy to trace an entry back to the original transaction. The account number appears in the Posting Reference column of the General Journal.

Continuing with our yoga studio example, posting journalized entires into T-accounts, and subsequently into the General Ledger, would look something like this: (*Figure 2.13*) and (*Figure 2.14*)

Figure 2.13 Example 1



Pre-opening and July T-accounts.

Figure 2.14 Example 2

August

Cash		Wage Payable		Contributed Capital	
1,400			300		4,000
1,500	300	300	300	1,000	
225	1,000		300		3,000
2,000	15				
	1,000	Utility Payable		Retained Earnings	
	300		200	1,220	
	200	200	150	660	
2,310			150	1,880	

Prepaid Insurance		Unearned Revenue	
1,000			250
	200		
800			250

Inventory		Loan Payable	
400			2,000
	150		
250			2,000

PPE		Acc Dep- PPE	
500			20
			20
500			40

Revenue		Utility Expense	
	1,250	150	
15	225		
	1,460	150	

Cost of Goods Sold		Insurance Expense	
150		200	
150		200	

Wage Expense		Dep Expense	
600		20	
600		20	

Rent Expense	
1,000	
1,000	

August T-accounts.

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The Trial Balance

A trial balance is run during the accounting cycle to test whether the debits equal the credits.

KEY POINTS

- A trial balance is prepared after all the journal entries for the period have been recorded.
- The trial balance lists all of the ledger, both general journal and special, accounts and their debit or credit balances.
- A trial balance only checks the sum of debits against the sum of credits. If debits do not equal credits then the accountant or bookkeeper must determine why.

The Trial Balance

During the accounting cycle, a trial balance is prepared. It is usually prepared after all the journal entries for the period have been recorded.

The trial balance tests the **equality** of a company's debits and credits. It lists all of the ledger, both general journal and special, accounts and their debit or credit balances to determine that debits equal credits in the recording process (*Figure 2.15*).

Trial Balance
XYZ Trading
as at 30 June 2010

General Ledger Accounts	[Dr.-Debit]	[Cr.-Credit]
Cash at bank	10,000	
Inventory	40,000	
Vehicles	30,000	
Fixtures & Fittings	32,000	
Accounts Receivable	15,000	
Credit Cards payable		12,000
Accounts Payable		15,000
Bank Loan		50,000
Sales		175,000
Purchases	60,000	
Advertising	5,000	
Wages	65,000	
Rent	15,000	
Electricity	5,000	
Owners Capital		25,000
TOTAL	**277,000**	**277,000**

Figure 2.15 The Trial Balance

The trial balance proves a company's General Ledger is in balance.

The accounts appear in this order: assets, liabilities, stockholders' equity, dividends, revenues, and expenses. Within the assets category, the most liquid (closest to becoming cash) asset appears first and the least liquid appears last. Within the liabilities, those liabilities with the shortest maturities appear first.

If the total of the debit column does not equal the total value of the credit column then this would show that there is an error in the nominal ledger accounts. This error must be found before a profit and loss statement and balance sheet can be produced.

Preparing the Trial Balance

The trial balance is usually prepared by a bookkeeper or accountant. The bookkeeper/accountant used journals to record business transactions. The journal entries were then posted to the general ledger. The trial balance is a part of the double-entry bookkeeping system and uses the classic 'T' account format for presenting values. A trial balance only checks the sum of debits against the sum of credits. If debits do not equal credits then the accountant or bookkeeper must determine why.

In the example of Highland Yoga, the pre-opening trial balance would be calculated as follows:

1. You contribute $4,000 in cash to start the business.
   Cash 4,000, Contributed Capital 4,000; Assets(+)=Equity(+)

2. You purchase $500 worth of mats and other equipment for use during classes.
   Cash -500, PPE 500; Assets(+), Assets(-)=0

3. You purchase an additional $400 worth of mats, equipment, and clothing for sale at the studio.
   Cash -400, Inventory 400; Assets(+), Assets(-)=0

4. You purchase liability insurance at a total cost of $1,200. The policy covers July 1 through December 31.
   Cash -1,200, Prepaid Insurance 1,200; Assets(+), Assets(-)
   The trial balance for debits will be:
   4,000 (cash) + 500 (PPE) + 400 (inventory) + 1,200 (prepaid insurance) = 6,100
   The trial balance for credits will be:
   4,000 (contributed capital) + 500 (cash) + 400 (cash) + 1,200 (cash) = 6,100

The calculation will be the same for the next two periods in the example, including any necessary adjustments.

When the error is found, a correcting entry must be made. Then another trial balance is run.

Finding Errors in the Trial Balance

Some reasons why the general ledger may be out of balance:

Failing to post part of a journal entry.

Posting a debit as a credit, or vice versa.

Incorrectly determining the balance of an account.

Recording the balance of an account incorrectly in the trial balance.

Omitting an account from the trial balance.

Making a transposition or slide error in the accounts or the journal.

Adjustments

Adjusting entries are journal entries made at the end of an accounting period that allocate income and expenses to their proper period.

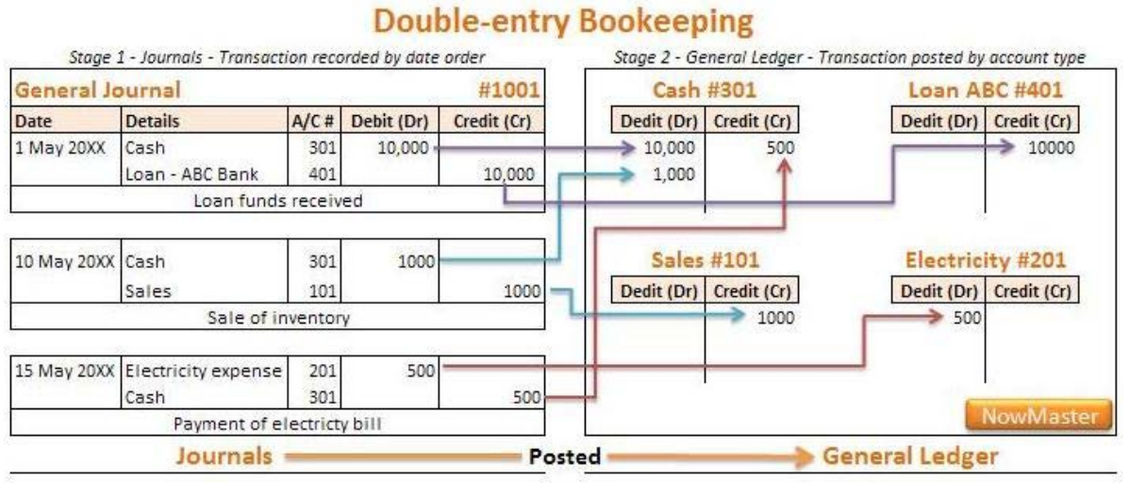
KEY POINTS

- The matching principle of accrual accounting demands that revenues and associated costs are recognized in the same accounting period.
- The types of adjusting entries are prepayments, accrual, estimates, and inventory.
- Depreciation is an example of an estimated adjusting entry.
- In a periodic inventory system, an adjusting entry is used to determine the cost of goods sold expense. However, an adjusting entry is not necessary for a company using perpetual inventory.
- Adjusting entries for expenses such as interest, taxes, rent, and salaries are the most common accrual entries.

What are Adjusting Entries

For accounting purposes, adjusting entries are journal entries made at the end of an accounting period. Adjusting entries allocate income and/or expenses to the period in which they actually occurred (*Figure 2.16*). The revenue recognition principle states that income and expenses must match. This is why adjusting entries need to be made under an accrual based accounting system. Based on this, revenues and associated costs are recognized in the same accounting period. However, the actual cash may be received or paid at a different time.

Figure 2.16 The General Ledger



Adjusting entries ensure revenue and expenses match.

The Types of Adjusting Entries

There are several different types of adjusting entries. Each one accounts for a different situation.

Prepayments - adjusting entries for prepayments are necessary to account for cash that has been paid prior to delivery of goods or completion of services. When this cash is paid, it is first recorded in a prepaid expense asset account; the account is to be expensed

either with the passage of time (e.g. rent, insurance) or through use and consumption (e.g. supplies).

Accruals - accrued revenues are revenues that have been recognized (that is, services have been performed or goods have been delivered), but their cash payment have not yet been recorded or received. When the revenue is recognized, it is recorded as a receivable. Accrued expenses have not yet been paid for, so they are recorded in a payable account. Expenses for interest, taxes, rent, and salaries are commonly accrued for reporting purposes.

Estimates - An adjusting entry for an estimate occurs when the exact amount of an expense cannot easily be determined. For example, the depreciation of fixed assets is an expense that has to be estimated. The entry for bad debt expense can also be classified as an estimate.

Inventory - in a periodic inventory system, an adjusting entry is used to determine the cost of goods sold expense. This entry is not necessary for a company using perpetual inventory.

Consider our yoga studio example. Some of our previously recognized transactions need to be adjusted in later periods:

July

a. Recognize insurance expense
Prepaid Insurance -100, Insurance Expense 100;
Assets(-)=Equity(-)

b. Depreciation @ $20/month
Accumulated Depreciation 20, Depreciation Expense 20;
Assets(-)=Equity(-)

August

a. Recognize insurance expense
Prepaid Insurance -100, Insurance Expense 100;
Assets(-)=Equity(-)

b. Depreciation @ $20/month
Accumulated Depreciation 20, Depreciation Expense 20;
Assets(-)=Equity(-)

c. Pay wages from July
Cash -300, Wage Payable -300; Assets(-), Liabilities(-)

d. Pay utilities from July
Cash -200, Utility Payable -200; Assets(-), Liabilities(-)

The journal entries to record these transactions would be as follows:

July

a. Expiration of insurance

Insurance expense.....200

-----Prepaid insurance.....200

b. Depreciation on studio equipment (500 for 25 months = 20/ month)

Depreciation expense.....20

-----Accumulated Depreciation.....20

August

a. Expiration of insurance

Insurance expense.....200

-----Prepaid insurance 200

b. Depreciation on studio equipment (500 for 25 months = 20/ month)

Depreciation expense.....20

-----Accumulated Depreciation.....20

c. Pay wage from July

Wage payable.....300

-----Cash.....300

d. Pay utility bill from July

Utility payable.....200

-----Cash.....200

Preparing Financial Statements

Preparing financial statements requires preparing an adjusted trial balance, translating that into financial reports, and having those reports audited.

KEY POINTS

- The purpose of financial statements are to provide both business insiders and outsiders a concise, clear picture of the current financial status in the business. Therefore, the people who use the statements must be confident in its accuracy.
- Closing the books is simply a matter of ensuring that transactions that take place after the business's financial period are not included in the financial statements.
- Adjusting entries are generally made in relation to prepaid expenses, prepayments, accruals, estimates and inventory.
- When an audit is completed, the auditor will issue a report regarding whether the statements are accurate. To ensure a positive reports, some companies try to participate in opinion shopping. This practice is generally prohibited..

When a business enterprise presents all the relevant financial information in a structured and easy to understand manner, it is called a financial statement. The purpose of financial statements are to provide both business insiders and outsiders a concise, clear picture of the current financial status in the business. Therefore, the people who use the statements must be confident in its accuracy.

Adjusted Trial Balance - Closing the Books

The process of preparing the financial statements begins with the adjusted trial balance. Preparing the adjusted trial balance requires "closing" the book and making the necessary adjusting entries to align the financial records with the true financial activity of the business.

Closing the books is simply a matter of ensuring that transactions that take place after the business's financial period are not included in the financial statements. For example, assume a business is preparing its financial statements with a December 31st year end. It acquires some property on January 14th. If the books are properly closed, that property will not be included on the balance sheet that is being prepared for the period on December 31st.

Figure 2.17 Example 3

Highland Yoga- Income Statement: August 31, 20xx

Revenue	1,460
Cost of Goods Sold	150
Wage Expense	600
Rent Expense	1,000
Utility Expense	150
Insurance Expense	200
Depreciation Expense	20
Total Operating Expenses	**2,120**
Net Income	**(660)**

Highland Yoga- Statement of Shareholders' Equity: August 31, 20xx

	Contributed Capital	Retained Earnings
Beginning	4,000	(1,220)
Net Income		(660)
Dividends		
Increase/Decrease to Capital	(1,000)	
Ending	3,000	(1,880)

Highland Yoga- Balance Sheet: August 31, 20xx

Current Assets		
Cash		2,310
Prepaid Insurance		800
Inventory		250
Total Current Assets		**3,360**
Long-Term Assets		
PP&E (gross)	500	
Acc. Dep- PP&E	(40)	
PP&E (net)		460
Total Long-Term Assets		**460**
Total Assets		**3,820**
Liabilities & Equity		
Current Liabilities		
Wage Payable		300
Utility Payable		150
Unearned Revenue		250
Total Current Liabilities		**700**
Long-Term Liabilities		
Loan Payable		2,000
Total Liabilities		**2,700**
Contributed Capital		3,000
Retained Earnings		(1,880)
Total Equity		**1,120**
Total Liabilities & Equity		**3,820**

August financial statements for Highland Yoga

Adjusted Trial Balance - Adjusting Entries

An adjusting entry is a journal entry made at the end of an accounting period that allocates income and expenditure to the appropriate years. Adjusting entries are generally made in relation to prepaid expenses, prepayments, accruals, estimates and inventory. Throughout the year, a business may spend funds or make assumptions that might not be accurate regarding the use of a good or service during the accounting period. Adjusting entries allow the company to go back and adjust those balances to reflect the actual financial activity during the accounting period.

For example, assume a company purchases 100 units of raw material that it expects to use up during the current accounting period. As a result, it immediately expenses the cost of the material. However, at the end of the year the company discovers it only used 50 units. The company must then make an adjusting entry to reflect that, and decrease the amount of the expense and increase the amount of inventory accordingly.

Translate the Adjusted Trial Balance to Financial Statements

Using the trial balance, the company then prepares the four financial statements. These statements are:

Figure 2.18 Example 1

Highland Yoga- Statement of Shareholders' Equity: June 30, 20xx

	Contributed Capital	Retained Earnings
Beginning	0	0
Net Income		
Dividends		
Increase/Decrease to Capital	4,000	
Ending	4,000	0

Highland Yoga- Balance Sheet: June 30, 20xx

Current Assets	
Cash	1,900
Prepaid Insurance	1,200
Inventory	400
Total Current Assets	**3,500**
Long-Term Assets	
PP&E	500
Total Assets	**4,000**
Liabilities & Equity	
Contributed Capital	4,000
Total Liabilities & Equity	**4,000**

Pre-opening financial statements for Highland Yoga.

Figure 2.19 Example 2

Highland Yoga- Income Statement: July 31, 20xx

Revenue	800
Wage Expense	600
Rent Expense	1,000
Utility Expense	200
Insurance Expense	200
Depreciation Expense	20
Total Operating Expenses	**2,020**
Net Income	**(1,220)**

Highland Yoga- Statement of Shareholders' Equity: July 31, 20xx

	Contributed Capital	Retained Earnings
Beginning	4,000	0
Net Income		(1,220)
Dividends		
Increase/Decrease to Capital		
Ending	4,000	(1,220)

Highland Yoga- Balance Sheet: July 31, 20xx

Current Assets		
Cash		1,400
Prepaid Insurance		1,000
Inventory		400
Total Current Assets		**2,800**
Long-Term Assets		
PP&E (gross)	500	
Acc. Dep- PP&E	(20)	
PP&E (net)		480
Total Long-Term Assets		**480**
Total Assets		**3,280**
Liabilities & Equity		
Wage Payable		300
Utility Payable		200
Total Liabilities		**500**
Contributed Capital		4,000
Retained Earnings		(1,220)
Total Equity		**2,780**
Total Liabilities & Equity		**3,280**

July financial statements for Highland Yoga

The Balance Sheet: A summary of the company's assets, liabilities and equity;

The Income Statement: A summary of the business's income, expenses, and profits

The Statement of Cash Flows: A report on a company's cash flow activities, particularly its operating, investing and financing activities; and

The Statement of Changes in Equity: A report that explains the changes of the company's equity throughout the reporting period

The company may also provide Notes to the Financial Statements, which are disclosures regarding key details about the company's operations that may not be evident from the financial statements.

Financial statements for Highland Yoga for each period would appear as follows (*Figure 2.18*), (*Figure 2.19*), and (*Figure 2.17*).

Audit the Financial Statements

Once the company prepares its financial statements, it will contract an outside third party to audit it. An audit is an independent review and examination of records and activities to asses the adequacy of system controls, to ensure compliance with established policies and operational procedures, and to recommend necessary changes in controls, policies, or procedures. It is the audit that assures outside investors and interested parties that the content of the statements are correct.

When an audit is completed, the auditor will issue a report with the findings. The findings can state anything from the statements are accurate to statements are misleading. To ensure a positive reports, some companies try to participate in opinion shopping. This is the process that businesses use to ensure it gets a positive review. Since Enron and the accounting scandals of the early 2000s, this practice has been prohibited.

Closing the Cycle

Transferring information from temporary accounts to permanent accounts is referred to as closing the books.

KEY POINTS

- Closing may be performed monthly or annually.
- There are four basic steps to closing the books.
- Closing the revenue accounts—transferring the balances in the revenue accounts to a clearing account called Income Summary.
- Closing the expense accounts—transferring the balances in the expense accounts to a clearing accountcalled Income Summary.
- Closing the Income Summary account—transferring the balance of the Income Summary account tothe Retained Earnings account.
- Closing the Dividends account—transferring the balance of the Dividends account to the Retained Earnings Account.

Closing the Accounting Cycle

The process of closing is often referred to as closing the books. Accountants may perform the closing process monthly or annually. Only revenue, expense, and dividend accounts are closed—not asset, liability, Capital Stock, or Retained Earnings accounts. If the accounts are not closed correctly the beginning balances for the next month may be incorrect.

The Steps to Close the Accounts

There are four basic steps in the closing process:

Closing the revenue accounts—transferring the balances in the revenue accounts to a clearing account called Income Summary.

Closing the expense accounts—transferring the balances in the expense accounts to a clearing account called Income Summary.

Closing the Income Summary account—transferring the balance of the Income Summary account to the Retained Earnings account.

Closing the Dividends account—transferring the balance of the Dividends account to the Retained Earnings Account

The Income Summary account is a clearing account only used at the end of an accounting period to summarize revenues and expenses for the period. After transferring all revenue and expense account balances to Income Summary, the balance in the Income Summary account represents the net income or net loss for the period. Closing or transferring the balance in the Income Summary account to the Retained Earnings account results in a zero balance in the Income Summary. The Dividends account is also closed at the end of the accounting period. It contains the dividends declared by the board

of directors to the stockholders. The dividends account is closed directly to the Retained Earnings account. It is not closed to the Income Summary because dividends have no effect on income or loss for the period.

Closing entries for our yoga studio example would be (*Figure 2.20*) and (*Figure 2.21*):

July

Closing journal entry:

Revenue	800	
Retained Earnings	1,220	
Wage Expense		600
Rent Expense		1,000
Utility Expense		200
Insurance Expense		200
Depreciation Expense		20

Figure 2.20
Example 1
July closing journal entries.

August

Closing journal entry:

Revenue	1,460	
Retained Earnings	660	
Cost of Goods Sold		150
Wage Expense		600
Rent Expense		1,000
Utility Expense		150
Insurance Expense		200
Depreciation Expense		20

Figure 2.21
Example 2
August closing journal entries.

The Post-Closing Trial Balance

A post-closing trial balance is a trial balance taken after the closing entries have been posted.

KEY POINTS

- A post-closing trial balance checks the accuracy of the closing process.
- A post-closing trial balance proves that the books are in balance at the start of the new accounting period.
- The post-closing trial balance differs from the adjusted trial balance.

The Post-closing Trial Balance

The post-closing **trial balance** is the last step in the accounting cycle. It is prepared after all of that period's business transactions have been posted to the General Ledger via journal entries. The **post-closing trial balance** can only be prepared after the closing entries have been posted to the General Ledger. The purpose of **closing** entries is to transfer the balances of the temporary accounts (expenses, revenues, gains, etc.) to the retained earnings account. After the closing entries are posted, these temporary accounts will have a zero balance. The permanent balance sheet accounts will appear on the post-closing trial balance with their balances. When the post-closing trial balance is run, the zero balance temporary accounts will not appear. However, all the other accounts having non-negative balances are listed, including the retained earnings account. As with the trial balance, the purpose of the post-closing trial balance is to ensure that debits equal credits (*Figure 2.22*).

Trial Balance
XYZ Trading
as at 30 June 2010

General Ledger Accounts	[Dr.-Debit]	[Cr.-Credit]
Cash at bank	10,000	
Inventory	40,000	
Vehicles	30,000	
Fixtures & Fittings	32,000	
Accounts Receivable	15,000	
Credit Cards payable		12,000
Accounts Payable		15,000
Bank Loan		50,000
Sales		175,000
Purchases	60,000	
Advertising	5,000	
Wages	65,000	
Rent	15,000	
Electricity	5,000	
Owners Capital		25,000
TOTAL	**277,000**	**277,000**

Figure 2.22 The Trial Balance
The post-closing trial balance proves debits still equal credits after the closing entries have been made.

Why the Post-Closing Trial Balance Is Necessary

While each accounting period has a beginning and an end, the periods do use information from the previous period. That is why it is necessary to run a post-closing trial balance. The preparation of a post-closing trial balance serves as a check on the accuracy of the closing process and ensures that the books are in balance at the start of the new accounting period. The post-closing trial balance differs from the **adjusted trial balance** in only two important respects: It excludes all temporary accounts since they have been closed, and it updates the retained earnings account to its proper ending balance.

Calculating Post-Closing Trial Balance

Using our Highland Yoga example, we can see a situation in which the post-closing trial balance resolves debits and credits (*Figure 2.23*):

Figure 2.23 Example 1

July

Closing journal entry:

Revenue	800	
Retained Earnings	1,220	
Wage Expense		600
Rent Expense		1,000
Utility Expense		200
Insurance Expense		200
Depreciation Expense		20

Closing entries for Highland Yoga in July.

By adding the debits together, as well as the credits together, we see that each reconcile to $2,020 in July.

The August closing entries are as follows (*Figure 2.24*):

Figure 2.24 Example 2

August

Closing journal entry:

Revenue	1,460	
Retained Earnings	660	
Cost of Goods Sold		150
Wage Expense		600
Rent Expense		1,000
Utility Expense		150
Insurance Expense		200
Depreciation Expense		20

Closing entries for Highland Yoga in August.

By summing the debits together, and the credits together, we see that each reconcile to $2,120 in August.

Source:https://www.boundless.com/accounting/accounting-information-and-the-accounting-cycle/the-accounting-cycle/the-post-closing-trial-balance/
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Reversing Entries

Adjusting entries often disrupts routine transactions, so they are simply reversed on the first day of the new period.

KEY POINTS

- Reversing entries are optional, and some firms do not perform them.
- A reversing entry reverses an adjusting entry exactly.
- Reversing entries are performed because they reduce errors and save time.

Reversing Entries

Reversing entries are journal entries made at the beginning of each accounting period. The sole purpose of a reversing entry is to cancel out a specific adjusting entry made at the end of the prior period, but they are optional and not every company uses them. Most often, the entries reverse accrued revenues or expenses for the previous period. Some examples of reversing entries are salary or wages payable and interest payable.

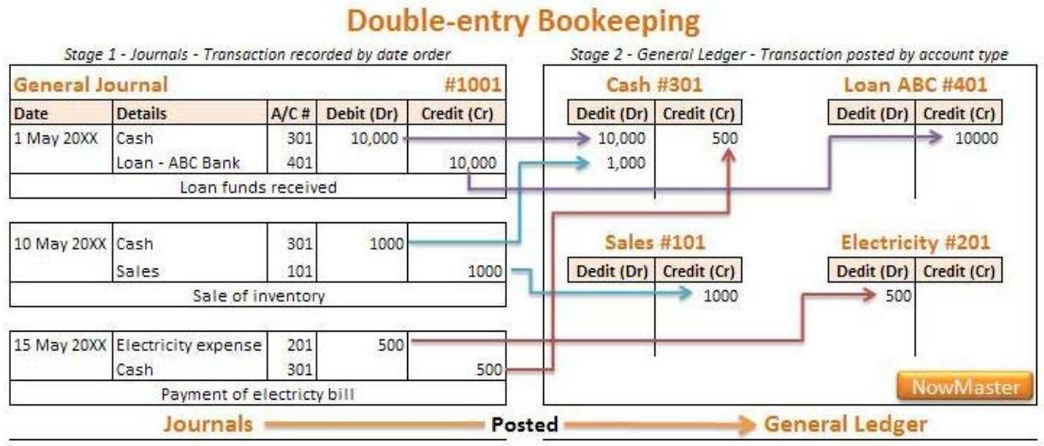
How Reversing Entries Are Used

Reversing entries help prevent accountants and bookkeepers from double recording revenues or expenses. Reversing entries are most often used with accrual-type adjusting entries.

How a Reversing Entry Works

The goal of the reversing entry is to ensure that an expense or revenue is recorded in the proper period. For example, when a company takes out a loan. If the loan is issued on the sixteenth of month A with interest payable on the fifteenth of the next month (month B), each month should reflect only a portion of the interest expense (*Figure 2.25*). To get the expense correct in the general ledger, an adjusting entry is made at the end of the month A for half

Figure 2.25 The General Ledger



Reversing entries prevent double recording expenses or revenues.

of the interest expense. This adjusting entry records months A's portion of the interest expense with a journal entry that debits interest expense and credits interest payable. At the beginning of the month B that expense is reversed via a reversing entry. The entry credits interest expense and debits interest payable. When the full amount of the interest is paid in month B, each month's books will show the proper allocation of the interest expense.

In the example of Highland Yoga, adjusting entries are made at the end of July and August. One such entry, at the end of July, is as follows:

Expiration of insurance

--Insurance expense.....200

--Prepaid insurance.....200

At the beginning of August, if Highland Yoga chooses to adopt reversing entries, such an entry would be as follows:

--Reversing of insurance.....200

--Prepaid insurance.....200

Chapter 3

Financial Statements Overview

https://www.boundless.com/accounting/financial-statements-overview/

Section 1

The Income Statement

What is an Income Statement

Elements of the Income Statement

Noncash Items

Uses of the Income Statement

Limitations of the Income Statement

GAAP Implications on the Income Statement

https://www.boundless.com/accounting/financial-statements-overview/the-income-statement--2/

What is an Income Statement

Income statement is a company's financial statement that indicates how the revenue is transformed into the net income.

KEY POINTS

- Income statement displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs and taxes.
- The income statement can be prepared in two methods. The Single Step income statement takes a simpler approach, totaling revenues and subtracting expenses to find the bottom line. The Multi-Step income statement takes several steps to find the bottom line, starting with the gross profit.
- Income statements should help investors and creditors determine the past financial performance of the enterprise, predict future performance, and assess the capability of generating future cash flows through report of the income and expenses.

Income statement, also referred to as profit and loss statement (P&L), revenue statement, statement of financial performance, earnings statement, operating statement or statement of operations, is a company's financial statement that indicates how the revenue (cash or credit sales of products and services before expenses are taken out) is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as Net Profit or "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs (e.g., depreciation and amortization of various assets) and taxes (*Figure 3.1*).

Figure 3.1 Example Income Statement

- INCOME STATEMENT GREENHARBOR LLC -
For the year ended DECEMBER 31 2010

	€ Debit	€ Credit
Revenues		
GROSS REVENUES (including INTEREST income)		296,397
Expenses:		
ADVERTISING	6,300	
BANK & CREDIT CARD FEES	144	
BOOKKEEPING	2,350	
SUBCONTRACTORS	88,000	
ENTERTAINMENT	5,550	
INSURANCE	750	
LEGAL & PROFESSIONAL SERVICES	1,575	
LICENSES	632	
PRINTING, POSTAGE & STATIONERY	320	
RENT	13,000	
MATERIALS	74,400	
TELEPHONE	1,000	
UTILITIES	1,491	
TOTAL EXPENSES		(195,512)
NET INCOME		100,885

Income statement Green Harbor LLC

The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported. The important thing to remember about an income statement is that it represents a period of time. This contrasts with the balance sheet, which represents a single moment in time.

The income statement can be prepared in one of two methods. The Single Step income statement takes a simpler approach, totaling revenues and subtracting expenses to find the bottom line. The more complex Multi-Step income statement (as the name implies) takes several steps to find the bottom line, starting with the gross profit. It then calculates operating expenses and, when deducted from the gross profit, yields income from operations. Adding to income from operations is the difference of other revenues and other expenses. When combined with income from operations, this yields income before taxes. The final step is to deduct taxes, which finally produces the net income for the period measured.

In addition to the Single and Multi-step methods, the income statement can be reported on a cash or accrual basis. An income statement reported on a cash basis is typically used by smaller businesses that record transactions based on the exchange of cash; the revenues and expenses reported reflects cash received on sales and cash paid for expenses for the accounting period. Larger entities use the accrual basis, which is also the recommended method by the FASB. An income statement under accrual accounting reflects revenues "earned", where an exchange in value among the parties has taken place, regardless of whether cash was received. Expenses on the statement have been "incurred", where the business has received a benefit and has paid for it or has recorded a liability to pay it at a future date. As with revenues, the exchange of cash does not dictate the amount reported for the expense.

Income statements should help investors and creditors determine the past financial performance of the enterprise, predict future performance, and assess the capability of the business to generate future revenue streams through the reporting of income and expenses.

However, information of an income statement has several limitations: items that might be relevant but cannot be reliably measured are not reported (e.g. brand recognition and loyalty). Some numbers vary based on the accounting methods used (e.g. using **FIFO** or LIFO accounting to measure inventory level). Some numbers depend on judgments and estimates (e.g. depreciation expense depends on estimated useful life and salvage value).

Guidelines for statements of comprehensive income and income statements of business entities are formulated by the International Accounting Standards Board and numerous country-specific organizations, for example the FASB in the U.S.

Elements of the Income Statement

The income statement, or profit and loss statement (P&L), reports a company's revenue, expenses, and net income over a period of time.

KEY POINTS

- The income statement consists of revenues and expenses along with the resulting net income or loss over a period of time due to earning activities. The income statement shows investors and management if the firm made money during the period reported.
- The operating section of an income statement includes revenue and expenses. Revenue consists of cash inflows or other enhancements of assets of an entity, and expenses consist of cash outflows or other using-up of assets or incurring of liabilities.
- The non-operating section includes revenues and gains from non-primary business activities, items that are either unusual or infrequent, finance costs like interest expense, and income tax expense.

Elements of the Income Statement

The **income statement** is a financial statement that is used to help determine the past financial performance of the enterprise, predict future performance, and assess the capability of generating future cash flows (*Figure 3.2*). It is also known as the profit and loss statement (P&L), statement of operations, or statement of earnings.

The income statement consists of revenues (money received from the sale of products and services, before expenses are taken out, also known as the "top line") and expenses, along with the resulting net income or loss over a period of time due to earning activities. **Net income** (the "bottom line") is the result after all revenues and expenses have been accounted for. The income statement reflects a company's performance over a period of time. This is in contrast to the balance sheet, which represents a single moment in time.

Methods for Constructing the Income Statement

The income statement can be prepared in one of two methods: single or multi-step.

The Single Step income statement totals revenues, then subtracts all expenses to find the bottom line.

The more complex Multi-Step income statement (as the name implies) takes several steps to find the bottom line. First, operating

Figure 3.2 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Here are the key components of an income statement.

expenses are subtracted from **gross profit**. This yields income from operations. Then other revenues are added and other expenses are subtracted. This yields income before taxes. The final step is to deduct taxes, which finally produces the net income for the period measured.

Operating Revenues and Expenses

The operating section includes revenue and expenses. Revenue consists of cash inflows or other enhancements of the assets of an entity. It is often referred to as gross revenue or sales revenue. Expenses consist of cash outflows or other using-up of assets or incurrence of liabilities.

Elements of expenses include:

Cost of Goods Sold (COGS): the direct costs attributable to goods produced and sold by a business. It includes items such as material costs and direct labor.

Selling, General and Administrative Expenses (SG&A): combined payroll costs, except for what has been included as direct labor.

Depreciation and amortization: charges with respect to fixed assets (depreciation) and intangible assets (amortization) that have been capitalized on the balance sheet for a specific accounting period.

Research & Development (R&D): expenses included in research and development of products.

Non-operating Revenues and Expenses

The non-operating section includes revenues and gains from non-primary business activities (such as rent or patent income); expenses or losses not related to primary business operations (such as foreign exchange losses); gains that are either unusual or infrequent, but not both; finance costs (costs of borrowing, such as interest expense); and income tax expense.

In essence, if an activity is not a part of making or selling the products or services, but still affects the income of the business, it is a non-operating revenue or expense.

Reading the Income Statement

Certain items must be disclosed separately in the notes if it is material (significant). This could include items such as restructurings, discontinued operations, and disposals of investments or of property, plant and equipment. Irregular items are reported separately so that users can better predict future cash flows.

The "bottom line" of an income statement—often, literally the last line of the statement—is the net income that is calculated after subtracting the expenses from revenue. It is important to investors as it represents the profit for the year attributable to the shareholders. For companies with shareholders, earnings per share (EPS) are also an important **metric** and are required to be disclosed on the income statement.

Noncash Items

Noncash items, such as depreciation and amortization, will affect differences between the income statement and cash flow statement.

KEY POINTS

- Noncash items should be added back in when analyzing income statements to determine cash flow because they do not contribute to the inflow or outflow of cash like other gains and expenses eventually do.
- Depreciation refers to the decrease in value of assets and the allocation of the cost of assets to periods in which the assets are used--for tangible assets, such as machinery.
- Amortization is a similar process to deprecation when applied to intangible assets, such as patents and trademarks.

Noncash Items

Noncash items that are reported on an income statement will cause differences between the income statement and cash flow statement. Common noncash items are related to the investing and financing of assets and liabilities, and **depreciation** and **amortization**. When analyzing income statements to determine the true cash flow of a business, these items should be added back in because they do not contribute to inflow or outflow of cash like other gains and expenses.

Fixed assets, also known as a non-current asset or as property, plant, and equipment (PP&E), is an accounting term for assets and property. Unlike current assets such as cash accounts receivable, PP&E are not very liquid. PP&E are often considered fixed assets: they are expected to have relatively long life, and are not easily changed into another asset (*Figure 3.3*). These often receive a more favorable tax treatment than short-term assets in the form of depreciation allowances.

Figure 3.3 Machinery

Machinery is an example of a noncash asset.

Broadly speaking, depreciation is a way of accounting for the decreasing value of long-term assets over time. A machine bought in 2012, for example, will not be worth the same amount in 2022 because of things like wear-and-tear and **obsolescence**.

On a more detailed level, depreciation refers to two very different but related concepts: the decrease in the value of tangible assets (fair value depreciation) and the allocation of the cost of tangible assets to periods in which they are used (depreciation with the

matching principle). The former affects values of businesses and entities. The latter affects net income.

In each period, long-term noncash assets accrue a depreciation expense that appears on the income statement. Depreciation expense does not require a current outlay of cash, but the cost of acquiring assets does. For example, an asset worth $100,000 in year 1 may have a depreciation expense of $10,000, so it appears as an asset worth $90,000 in year 2.

Amortization is a similar process to deprecation but is the term used when applied to intangible assets. Examples of intangible assets include copyrights, patents, and trademarks.

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Uses of the Income Statement

The purpose of the income statement is to show managers and investors whether the company was profitable during the period being reported.

KEY POINTS

- An income statement reflects the revenues and expenses of a company for a specific period of time.
- Business use these reports to understand the financial position of their business and where to make changes for future years.
- Income statement information provides the basis for a variety of decisions.

Income statements, balance sheets, statements of retained earnings, and statements of cash flows are generally accepted financial statements. The income statement, sometimes referred to as a profit & loss statement, reflects the revenues and expenses for a specific period of time. Revenues minus expenses equals the net income or (loss) for that particular period (*Figure 3.4*).

The primary purpose of the income statement is to show managers and investors whether the company was profitable during the period being reported. Income statements help investors and creditors determine the past financial performance of the enterprise, predict future performance, and assess the capability of generating future revenue streams through the reporting of income and expenses. In addition to tracking revenue, the income statement can compare expenses from year to year, indicating a firm's success in controlling costs. The income statement also reflects the periodic decline in the value of fixed and intangible assets when depreciation and amortization expenses are reported. The intangible asset goodwill is not subject to amortization but must be tested for impairment once a year; any reductions in value are reported as an impairment loss on the income statement.

Income statement information provides the basis for a variety of decisions. Companies use these reports to understand the financial position of their business and where to make changes for future years. Investors use these reports to make decisions about whether they want to invest the business, because earnings underlie a firm's ability to generate cash flows for dividends and growth. Accountants use these reports to prepare tax returns for both individuals and businesses. Lenders use the income statement to decide whether to provide the company with a loan, because a firm's ability to repay a loan in a timely manner ultimately depends on its profitability.

The income statement also has several limitations:

Items that might be relevant but cannot be reliably measured are not reported (e.g., brand recognition and loyalty)

Figure 3.4 Income statement

- INCOME STATEMENT GREENHARBOR LLC -
For the year ended DECEMBER 31 2010

	€ Debit	€ Credit
Revenues		
GROSS REVENUES (including INTEREST income)		296,397
Expenses:		
ADVERTISING	6,300	
BANK & CREDIT CARD FEES	144	
BOOKKEEPING	2,350	
SUBCONTRACTORS	88,000	
ENTERTAINMENT	5,550	
INSURANCE	750	
LEGAL & PROFESSIONAL SERVICES	1,575	
LICENSES	632	
PRINTING, POSTAGE & STATIONERY	320	
RENT	13,000	
MATERIALS	74,400	
TELEPHONE	1,000	
UTILITIES	1,491	
TOTAL EXPENSES		(195,512)
NET INCOME		100,885

Example income statement

Some numbers depend on accounting methods used (e.g., using FIFO or **LIFO** accounting to measure inventory level)

Some numbers depend on judgments and estimates (e.g., depreciation expense depends on estimated useful life and salvage value)

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Limitations of the Income Statement

Income statements have several limitations stemming from estimation difficulties, reporting error, and fraud.

KEY POINTS

- Income statements include judgments and estimates, which mean that items that might be relevant but cannot be reliably measured are not reported and that some reported figures have a subjective component.
- With respect to accounting methods, one of the limitations of the income statement is that income is reported based on accounting rules and often does not reflect cash changing hands.
- Income statements can also be limited by fraud, such as earnings management, which occurs when managers use judgment in financial reporting to intentionally alter financial reports to show an artificial increase (or decrease) of revenues, profits, or earnings per share figures.

Income statements are a key component to valuation but have several limitations: items that might be relevant but cannot be reliably measured are not reported (such as brand loyalty); some figures depend on accounting methods used (for example, use of

FIFO or LIFO accounting); and some numbers depend on judgments and estimates. In addition to these limitations, there are limitations stemming from the intentional manipulation of finances.

One of the limitations of the income statement is that income is reported based on accounting rules and often does not reflect cash changing hands. This could be due to the **matching principle**, which is the accounting principle that requires expenses to be matched to revenues and reported at the same time. Expenses incurred to produce a product are not reported in the income statement until that product is sold. Another common difference across income statements is the method used to calculate inventory, either FIFO or LIFO (*Figure 3.5*).

In addition to good faith differences in interpretations and reporting of financial data in income statements, these financial statements can be limited by intentional misrepresentation. One example of this is earnings management, which occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports in a way that usually involves the artificial increase (or decrease) of revenues, profits, or earnings per share figures.

The goal with earnings management is to influence views about the finances of the firm. Aggressive earnings management is a form of fraud and differs from reporting error. Managers could seek to manage earnings for a number of reasons. For example, if a manager earns his or her bonus based on revenue levels at the end of December, there is an incentive to try to represent more revenues in December so as to increase the size of the bonus.

While it is relatively easy for an auditor to detect error, part of the difficulty in determining whether an error was intentional or accidental lies in the accepted recognition that calculations are estimates. It is therefore possible for legitimate business practices to develop into unacceptable financial reporting.

Figure 3.5 Income statement

XYZ Retailers
Income Statement
For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Accounting for inventory can be done in different ways, leading to differences in statements.

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GAAP Implications on the Income Statement

GAAP's assumptions, principles, and constraints can affect income statements through temporary (timing) and permanent differences.

KEY POINTS

- Items that create temporary differences due to the recording requirements of GAAP include rent or other revenue collected in advance, estimated expenses, and deferred tax liabilities and assets.
- Also there are events, usually one-time events, which create "permanent differences," such as GAAP recognizing as an expense an item that the IRS will not allow to be deducted.
- The four basic principles of GAAP can affect items on the income statement. These principles include the historical cost principle, revenue recognition principle, matching principle, and full disclosure principle.

Although most of the information on a company's income tax return comes from the income statement, there often is a difference between pretax income and taxable income. These differences are due to the recording requirements of GAAP for financial accounting (usually following the matching principle and allowing for accruals of revenue and expenses) and the requirements of the IRS's tax regulations for tax accounting (which are more oriented to cash) (*Figure 3.6*).

Such timing differences between financial accounting and tax accounting create temporary differences. For example, rent or other revenue collected in advance, estimated expenses, and **deferred** tax liabilities and assets may create timing differences. Also, there are events, usually one time, which create "permanent differences," such as GAAP, which recognizes as an expense an item that the IRS will not allow to be deducted.

To achieve basic objectives and implement fundamental qualities, GAAP has four basic principles:

The historical **cost principle**: It requires companies to account and report based on acquisition costs rather than **fair market value** for most assets and liabilities.

The revenue recognition principle. It requires companies to record when revenue is (1) realized or realizable and (2) earned, not when cash is received.

The matching principle. This governs the matching of expenses and revenues, where expenses are recognized, not when the work is performed or when a product is produced, but when the work or the product actually makes its contribution to revenue.

Figure 3.6 Income statement

XYZ Retailers
Income Statement
For the year ended 30 June 2011

	$	$
REVENUE		
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

GAAP and IRS accounting can differ.

The full disclosure principle. This suggests that the amount and kinds of information disclosed should be decided based on a trade-off analysis, since a larger amount of information costs more to prepare and use. GAAP reporting also suggests that income statements should present financial figures that are objective, material, consistent, and conservative.

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Section 2

The Balance Sheet

What is a Balance Sheet

Components of the Balance Sheet

Uses of the Balance Sheet

Preparation of the Balance Sheet

Temporal Classification

Assets

Liabilities and Equity

Liquidity

Working Capital

Debt to Equity

Market vs. Book Value

Limitations of the Balance Sheet

https://www.boundless.com/accounting/financial-statements-overview/the-balance-sheet--2/

What is a Balance Sheet

A balance sheet reports a company’s financial position on a particular date.

KEY POINTS

- The balance sheet summarizes a business's assets, liabilities, and shareholders’ equity..
- A balance sheet is like a photograph; it captures the financial position of a company at a particular point in time.
- The balance sheet is sometimes called the statement of financial position.

Balance Sheet

The balance sheet, sometimes called the statement of financial position, lists the company’s assets, liabilities,and stockholders’ equity (including dollar amounts) as of a specific moment in time. That specific moment is the close of business on the date of the balance sheet. A balance sheet is like a photograph; it captures the financial position of a company at a particular point in time. The other two statements are for a period of time. As you study about the assets, liabilities, and stockholders’ equity contained in a balance sheet, you will understand why this financial statement provides information about the solvency of the business (*Figure 3.7*).

The balance sheet is a formal document that follows a standard accounting format showing the same categories of assets and

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 3.7 The Balance Sheet

Most balance sheets are divided into three main sections that report a company's assets, liabilities, and owner's equity.

liabilities regardless of the size or nature of the business. Accounting is considered the language of business because its concepts are time-tested and standardized. Even if you do not utilize the services of a certified public accountant, you or your bookkeeper can adopt certain generally accepted accounting principles (GAAP) to develop financial statements. The strength of GAAP is the reliability of company data from one accounting period to another and the ability to compare the financial statements of different companies.

Balance Sheet Formats

Standard accounting conventions present the balance sheet in one of two formats: the account form (horizontal presentation) and the report form (vertical presentation). Most companies favor the vertical report form, which doesn't conform to the typical explanation in investment literature of the balance sheet as having "two sides" that balance out.

Whether the format is up-down or side-by-side, all balance sheets conform to a presentation that positions the various account entries into five sections:

Assets = Liabilities + Equity

- Current assets (short-term): items that are convertible into cash within one year
- Non-current assets (long-term): items of a more permanent nature
- Current liabilities (short-term): obligations due within one year
- Non-current liabilities (long-term): obligations due beyond one year
- Shareholders' equity (permanent): shareholders' investment and retained earnings

Account Presentation

In the **asset** sections mentioned above, the accounts are listed in the descending order of their liquidity (how quickly and easily they can be converted to cash). Similarly, liabilities are listed in the order of their priority for payment. In financial reporting, the terms "current" and "non-current" are synonymous with the terms "short-term" and "long-term," respectively, so they are used interchangeably.

Each of the three segments on the balance sheet will have many accounts within it that document the value of each. Accounts such as cash, inventory, and property are on the asset side of the balance sheet, while on the **liability** side there are accounts such as accounts payable or long-term debt. The exact accounts on a balance sheet will differ by company and by industry.

Components of the Balance Sheet

The balance sheet relationship is expressed as; Assets = Liabilities + Equity.

KEY POINTS

- Assets have value because a business can use or exchange them to produce the services or products of the business.
- Liabilities are the debts owed by a business, often incurred to fund its operation.
- A company's equity represents retained earnings and funds contributed by its shareholders.

Components of the Balance Sheet

The balance sheet contains statements of assets, liabilities, and shareholders' equity.

Assets represent things of value that a company owns and has in its possession, or something that will be received and can be measured objectively. They are also called the resources of the business. Assets have value because a business can use or exchange them to produce the services or products of the business.

Liabilities are the debts owed by a business to others–creditors, suppliers, tax authorities, employees, etc. They are obligations that must be paid under certain conditions and time frames. A business incurs many of its liabilities by purchasing items on credit to fund the business operations.

A company's equity represents retained earnings and funds contributed by its shareholders, who accept the uncertainty that comes with ownership risk in exchange for what they hope will be a good return on their investment (*Figure 3.8*).

Figure 3.8 Balance Sheet Components
The Equation...

Fundamental Relationship

The relationship of these items is expressed in the fundamental balance sheet equation:

Assets = Liabilities + Equity

The meaning of this equation is important. Generally, sales growth, whether rapid or slow, dictates a larger asset base - higher levels of inventory, receivables, and fixed assets (plant, property, and equipment). As a company's assets grow, its liabilities and/or equity also tends to grow in order for its financial position to stay in balance. How assets are supported, or financed, by a corresponding growth in payables, debt liabilities, and equity reveals a lot about a company's financial health.

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Uses of the Balance Sheet

The balance sheet of a business provides a snapshot of its financial status at a particular point in time.

KEY POINTS

- The Balance Sheet is used for financial reporting and analysis as part of the suite of financial statements.
- Financial statement analysis consists of applying analytical tools and techniques to financial statements and other relevant data to obtain useful information.
- Investors, creditors, and regulatory agencies generally focus their analysis of financial statements on the company as a whole. Since they cannot request special-purpose reports, external users must rely on the general purpose financial statements that companies publish.

Uses Of the Balance Sheet

The Balance Sheet is used for financial reporting and analysis as part of the suite of financial statements (*Figure 3.9*).

Management's analysis of financial statements primarily relates to parts of the company. Using this approach, management can plan, evaluate, and control operations within the company. Management obtains any information it wants about the company's operations by requesting special-purpose reports. It uses this information to make difficult decisions, such as which employees to lay off and when to expand operations.

Figure 3.9 Using the Balance Sheet
The balance sheet is one of the financial reports included in a company's annual report.

Investors, creditors, and regulatory agencies generally focus their analysis of financial statements on the company as a whole. Since they cannot request special-purpose reports, external users must rely on the general purpose financial statements that companies publish. These statements include the balance sheet, an income statement, a statement of stockholders' equity, a statement of cash flows, and the explanatory notes that accompany the financial statements.

Users of financial statements need to pay particular attention to the explanatory notes, or the financial review, provided by management in annual reports. This integral part of the annual report provides insight into the scope of the business, the results of operations, **liquidity** and capital resources, new accounting standards, and geographic area data.

Financial statement analysis consists of applying analytical tools and techniques to financial statements and other relevant data to

obtain useful information. This information reveals significant relationships between data and trends in those data that assess the company's past performance and current financial position. The information shows the results or consequences of prior management decisions. In addition, analysts use the information to make predictions that may have a direct effect on decisions made by users of financial statements.

Preparation of the Balance Sheet

Balance sheets are prepared with either one or two columns, with assets first, followed by liabilities and net worth.

KEY POINTS

- Balance sheets are usually prepared at the close of an accounting period, such as month-end, quarter-end, or year-end.
- Current assets most commonly used by small businesses are cash, accounts receivable, inventory and prepaid expenses.
- There are two types of liabilities: current liabilities and long-term liabilities. Liabilities are arranged on the balance sheet in order of how soon they must be repaid.

How to Prepare a Balance Sheet

All balance sheets follow the same format: when two columns are used, assets are on the left, liabilities are on the right, and net worth is beneath liabilities. When one column is used, assets are listed first, followed by liabilities and net worth. Balance sheets are usually prepared at the close of an accounting period.

Current Assets

To start, focus on the current assets most commonly used by small businesses: cash, accounts receivable, inventory and prepaid expenses. Cash includes cash on hand, in the bank, and in petty cash. Accounts receivable is what you are owed by customers. To make this number more realistic, an amount should be deducted from accounts receivable as an allowance for bad debts.

Figure 3.10
Balance Sheet Preparation
How to prepare a balance sheet.

Inventory may be the largest current asset. On a balance sheet, the value of inventory is the cost required to replace it if the inventory were destroyed, lost, or damaged. **Inventory** includes goods ready for sale, as well as raw material and partially completed products that will be for sale when they are completed.

Prepaid expenses are listed as a current asset because they represent an item or service that has been paid for but has not been used or consumed. An example of a prepaid expense is the last month of rent on a lease that may have been prepaid as a security deposit. The prepaid expense will be carried as an asset until it is used. Prepaid insurance premiums are another example of prepaid expenses. Sometimes, prepaid expenses are also referred to as unexpired expenses. On a balance sheet, current assets are totaled and this total is shown as the line item called "total current assets."

Fixed Assets

Fixed assets are the assets that produce revenues. They are distinguished from current assets by their longevity. They are not for resale. Many small businesses may not own a large amount of fixed assets, because most small businesses are started with a minimum of capital. Of course, fixed assets will vary considerably and depend on the business type (such as service or manufacturing), size, and market.

Fixed assets include furniture and fixtures, motor vehicles, buildings, land, building improvements (or leasehold improvements), production machinery, equipment and any other items with an expected business life that can be measured in years. All fixed assets (except land) are shown on the balance sheet at original (or historic) cost, minus any depreciation. Subtracting depreciation is a conservative accounting practice to reduce the possibility of over valuation. Depreciation subtracts a specified amount from the original purchase price for the wear and tear on the asset.

It is important to remember that original cost may be more than the asset's invoice price. It can include shipping, installation, and any

associated expenses necessary for readying the asset for service. Assets are arranged in order of how quickly they can be turned into cash. Like the other fixed assets on the balance sheet, machineryand equipment will be valued at the original cost minus depreciation. "Other assets" is a category of fixed assets. Other assets are generally intangible assets such as patents, royalty arrangements, and copyrights.

Liabilities

Liabilities are claims of creditors against the assets of the business. These are debts owed by the business.There are two types of liabilities: current liabilities and long-term liabilities. Liabilities are arranged on the balance sheet in order of how soon they must be repaid. For example, accounts payable will appear first as they are generally paid within 30 days. Notes payable are generally due within 90 days and are the second liability to appear on the balance sheet.

Current liabilities include the following:

Accounts payable

Accrued expenses (such as wages and salaries)

Taxes payable

The current amount due within a one year portion of long-term debt

Any other obligations to creditors due within one year of the date of the balance sheet

The current liabilities of most small businesses include accounts payable, notes payable to banks, and accrued payroll taxes. Accounts payable is the amount you may owe any suppliers or other creditors for services or goods that you have received but not yet paid for. Notes payable refers to any money due on a loan during the next 12 months. Accrued payroll taxes would be any compensation to employees who have worked, but have not been paid at the time the balance sheet is created.

Liabilities are arranged on the balance sheet in order of how soon they must be repaid.

Long-term liabilities are any debts that must be repaid by your business more than one year from the date of the balance sheet. This may include start up financing from relatives, banks, finance companies, or others.

Temporal Classification

Cash, receivables, and liabilities on the Balance Sheet are re-measured into U.S. dollars using the current exchange rate.

KEY POINTS

- Inventory, property, equipment, patents, and contributed capital accounts are re-measured at historical rates resulting in differences in total assets and liabilities plus equity which must be reconciled resulting in a re-measurement gain or loss.
- If a company's functional currency is the U.S. dollar, then any balances denominated in the local or foreign currency, must be re-measured.
- The re-measurement gain or loss appears on the income statement.

A Classified Balance Sheet

"Classified" means that the balance sheet accounts are presented in distinct groupings, categories, or classifications. Most accounting balance sheets classify a company's assets and liabilities into distinct groups such as current assets property, plant, equipment, current liabilities, etc. These classifications make the balance sheet more useful

The Temporal Method

Cash, receivables, and liabilities are re-measured into U.S. dollars using the current exchange rate. Inventory, property, equipment, patents, and contributed capital accounts are re-measured at historical rates resulting in differences in total assets and liabilities plus equity which must be reconciled resulting in a re-measurement gain or loss.

If a company's functional currency is the U.S. dollars, then any balances denominated in the local or foreign currency, must be re-measured. Re-measurement requires the application of the **temporal method**. The re-measurement gain or loss appears on the income statement (*Figure 3.11*).

Translation

A method of foreign currency **translation** that uses exchange rates based on the time assetsand liabilities are acquired or incurred, is required. The exchange rate used also depends on the method of valuation that is used. Assets and liabilities valued at current costs use the current exchange rate and those that use historical exchange rates are valued at historical costs.

Figure 3.11
Temporal Classification
Re-measurement to U.S. dollars.

By using the temporal method, any income-generating assets like inventory, property, plant, and equipment are regularly updated to reflect their market values. The gains and losses that result from translation are placed directly into the current consolidated income. This causes the consolidated earnings to be volatile.

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Assets

Assets on a balance sheet are classified into current assets and non-current assets. Assets are on the left side of a balance sheet.

KEY POINTS

- The main categories of assets are usually listed first, and normally, in order of liquidity. On a balance sheet, assets will typically be classified into current assets and non-current (long-term) assets.
- Current assets are those assets which can either be converted to cash or used to pay current liabilities within 12 months. Current assets include cash and cash equivalents, short-term investments, accounts receivable, inventories and the portion of prepaid liabilities paid within a year.
- A non-current asset cannot easily be converted into cash. Non-current assets include property, plant and equipment (PPE), investment property, intangible assets, long-term financial assets, investments accounted for using the equity method, and biological assets.

The Balance Sheet

A standard company balance sheet has three parts: assets, liabilities and ownership equity. The main categories of assets are usually listed first, and normally, in order of liquidity. On the left side of a

balance sheet, assets will typically be classified into current assets and non-current (long-term) assets (*Figure 3.12*)

Current Assets

A **current asset** on the balance sheet is an asset which can either be converted to cash or used to pay current liabilities within 12 months. Typical current assets include cash and cash equivalents, short-term investments, accounts receivable, inventories and the portion of prepaid liabilities which will be paid within a year.

Cash and cash equivalents are the most liquid assets found within the asset portion of a company's balance sheet. Cash equivalents are assets that are readily convertible into cash, such as money market holdings, short-term government bonds or treasury bills, marketable securities and commercial papers. Cash equivalents are distinguished from other investments through their short-term existence; they mature within 3 months whereas short-term investments are 12 months or less, and long-term investments are any investments that mature in excess of 12 months.

Accounts receivable represents money owed by entities to the firm on the sale of products or services on credit. In most business entities, accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer, who, in turn, must pay it within an established

Figure 3.12 Balance sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

ASSETS:	£	5 April £	£		5 April 2004 £
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
Itemised (audio visual, appliances)		2,400			2,700
Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
			446,200		425,100
INVESTMENT ASSETS (LONG TERM)					
Bonds:					
Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
Total Banks			78,000		36,000
TOTAL ASSETS			637,300		589,700
LIABILITIES:					
CURRENT LIABILITIES					
Credit Cards		(3,100)			(1,400)
TOTAL ASSETS, LESS CURRENT LIABILITIES			634,200		588,300
LONG TERM LIABILITIES					
mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
		(120,000)			(100,000)
TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
TOTAL ASSETS, LESS TOTAL LIABILITIES			514,200		488,300
plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car deprciated from £9,000 to £7,000
   c. Car purchased for £15,000
2. Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

Sample Domestic Balance Sheet (DBS) to be referenced by Domestic Well-Being Accounting (DWBA)

timeframe, called credit terms or payment terms.

Most manufacturing organizations usually divide their inventory into:

raw materials - materials and components scheduled for use in making a product,

work in process (WIP) - materials and components that have began their transformation to finished goods,

finished goods - goods ready for sale to customers, and

goods for resale - returned goods that are salable.

A deferred expense or prepayment, prepaid expense (plural often prepaids), is an asset representing cash paid out to a counterpart for goods or services to be received in a later accounting period. For example, if a service contract is paid quarterly in advance, at the end of the first month of the period two months remain as a deferred expense. In the deferred expense, the early payment is accompanied by a related, recognized expense in the subsequent accounting period, and the same amount is deducted from the prepayment.

Non-current Assets

A non-current asset is a term used in accounting for assets and property which cannot easily be converted into cash. This can be compared with current assets such as cash or bank accounts, which are described as liquid assets. Non-current assets include property, plant and equipment (PPE), investment property (such as real estate held for investment purposes), intangible assets, long-term financial assets, investments accounted for by using the equity method, and biological assets, which are living plants or animals.

Property, plant, and equipment normally include items such as land and buildings, motor vehicles, furniture, office equipment, computers, fixtures and fittings, and plant and machinery. These often receive favorable tax treatment (depreciation allowance) over short-term assets.

Intangible assets are defined as identifiable, non-monetary assets that cannot be seen, touched or physically measured. They are created through time and effort, and are identifiable as a separate asset. There are two primary forms of intangibles - legal intangibles (such as trade secrets (e. g., customer lists), copyrights, patents, and trademarks) and competitive intangibles (such as knowledge activities (know-how, knowledge), collaboration activities, leverage activities, and structural activities). The intangible asset "goodwill" reflects the difference between the firm's **net assets** and its market

value; the amount is first recorded at time of acquisition. The additional value of the firm in excess of its net assets usually reflects the company's reputation, talent pool, and other attributes that separate it from the competition. Goodwill must be tested for impairment on an annual basis and adjusted if the firm's market value has changed.

Investments accounted for by using the equity method are 20-50% stake investments in other companies. The investor keeps such equities as an asset on the balance sheet. The investor's proportional share of the associate company's net income increases the investment (and a net loss decreases the investment), and proportional payment of dividends decreases it. In the investor's income statement, the proportional share of the investee's net income or net loss is reported as a single-line item.

Liabilities and Equity

The balance sheet contains details on company liabilities and owner's equity.

KEY POINTS

- In financial accounting, a liability is defined as an obligation of an entity arising from past transactions or events, the settlement of which may result in the transfer or use of assets, provision of services or other yielding of economic benefits in the future.
- Equity is the residual claim or interest of the most junior class of investors in assets, after all liabilities are paid.
- The types of accounts and their description that comprise the owner's equity depend on the nature of the entity and may include: Common stock, preferred stock, capital surplus, retained earnings, treasury stock, stock options and reserve.

In financial accounting, a liability is defined as an obligation of an entity arising from past transactions or events, the settlement of which may result in the transfer or use of assets, provision of services or other yielding of economic benefits in the future. A liability is defined by the following characteristics:

Any type of borrowing from persons or banks for improving a business or personal income that is payable during short or long time;

A duty or responsibility to others that entails settlement by future transfer or use of assets, provision of services, or other transaction yielding an economic benefit, at a specified or determinable date, on occurrence of a specified event, or on demand;

A duty or responsibility that obligates the entity to another, leaving it little or no discretion to avoid settlement; and,

A transaction or event obligating the entity that has already occurred.

The accounting equation relates assets, liabilities, and owner's equity: "(*Figure 3.13*)" The accounting equation is the mathematical structure of the balance sheet.

Figure 3.13 Accounting equation

$$Assets = Liabilities + Owner's Equity$$

Assets = Liabilities + Owner's Equity

In accounting and finance, equity is the residual claim or interest of the most junior class of investors in assets, after all liabilities are paid. If liability exceeds assets, negative equity exists. In an accounting context, shareholders' equity (or stockholders' equity, shareholders' funds, shareholders' capital, or similar terms) represents the remaining interest in assets of a company, spread among individual shareholders of common or preferred stock.

At the start of a business, owners put some funding into the business to finance operations. This creates a liability on the business in the shape of capital, as the business is a separate entity from its owners. Businesses can be considered, for accounting purposes, sums of liabilities and assets: this is the accounting equation. After liabilities have been accounted for, the positive remainder is deemed the owner's interest in the business.

In financial accounting, owner's equity consists of the net assets of an entity. Net assets is the difference between the total assets of the entity and all its liabilities. Equity appears on the balance sheet, one of the four primary financial statements.

The assets of an entity includes both tangible and intangible items, such as brand names and reputation or goodwill. The types of accounts and their description that comprise the owner's equity depend on the nature of the entity and may include: Common stock, preferred stock, capital surplus, retained earnings, treasury stock, stock options and reserve.

The total changes to equity is calculated as follows:

Equity (end of year balance) = Equity (beginning of year balance) +/- changes to common or preferred stock and capital surplus +/- net income/loss (net profit/loss earned during the period) – dividends. Dividends are typically cash distributions of earnings to stockholders on hand and they are recorded as a reduction to the retained earnings account reported in the equity section.

Liquidity

Liquidity, a business's ability to pay obligations, can be assessed using various ratios: current ratio, quick ratio, etc.

KEY POINTS

- Liquidity refers to a business's ability to meet its payment obligations, in terms of possessing sufficient liquid assets, and to such assets themselves. For assets, liquidity is an asset's ability to be sold without causing a significant movement in the price and with minimum loss of value.
- A standard company balance sheet has three parts: assets, liabilities and ownership equity. The main categories of assets are usually listed first, typically in order of liquidity.
- For a corporation with a published balance sheet there are various ratios used to calculate a measure of liquidity, namely the current ratio, the quick ratio, the operating cash flow ratio, and the liquidity ratio (acid test).

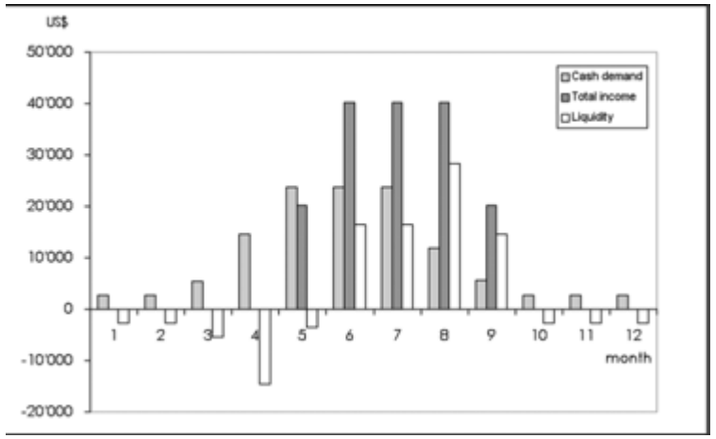
In accounting, liquidity (or accounting liquidity) is a measure of the ability of a debtor to pay his debts when they fall due. A standard company balance sheet has three parts: assets, liabilities and ownership equity. The main categories of assets are usually listed first, and typically in order of liquidity. Money, or cash, is the most

liquid asset, and can be used immediately to perform economic actions like buying, selling, or paying debt, meeting immediate wants and needs. Next are **cash equivalents**, short-term investments, inventories, and prepaid expenses.

Liquidity also refers both to a business's ability to meet its payment obligations, in terms of possessing sufficient liquid assets, and to such assets themselves. For assets themselves, liquidity is an asset's ability to be sold without causing a significant movement in the price and with minimum loss of value (*Figure 3.14*).

Figure 3.14 Liquidity

For a corporation with a published balance sheet, there are various ratios used to calculate a measure of liquidity. These include the following:



Monthly liquidity of an organic vegetable business

The current ratio, which is the simplest measure and is calculated by dividing the total current assets by the total current liabilities. A value of over 100% is normal in a non-banking corporation. However, some current assets are more difficult to sell at full value in a hurry.

The quick ratio, which is calculated by deducting inventories and prepayments from current assets and then dividing by current liabilities--this gives a measure of the ability to meet current liabilities from assets that can be readily sold.

The operating cash flow ratio can be calculated by dividing the operating cash flow by current liabilities. This indicates the ability to service current debt from current income, rather than through asset sales.

The **liquidity ratio** (acid test) is a ratio used to determine the liquidity of a business entity. Liquidity ratio expresses a company's ability to repay short-term creditors out of its total cash. The liquidity ratio is the result of dividing the total cash by short-term borrowings. It shows the number of times short-term liabilities are covered by cash. If the value is greater than 1.00, it means fully covered. The formula is the following: LR = liquid assets / short-term liabilities.

Working Capital

Working capital is a financial metric which represents operating liquidity available to a business, organization and other entity.

KEY POINTS

- Net working capital is calculated as current assets minus current liabilities.
- Current assets and current liabilities include three accounts which are of special importance: accounts receivable, accounts payable and inventories.
- The goal of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow. The management of working capital involves managing inventories, accounts receivable and payable, and cash.

Working capital (abbreviated WC) is a financial metric which represents **operating liquidity** available to a business, organization or other entity, including a governmental entity. Along with fixed assets, such as plant and equipment, working capital is considered a part of operating capital.

Net working capital is calculated as current assets minus current liabilities. It is a derivation of working capital, that is commonly used in valuation techniques such as discounted cash flows (DCFs). If current assets are less than current liabilities, an entity has a working capital deficiency, also called a working capital **deficit**. An increase in working capital indicates that the business has either increased current assets (that it has increased its receivables, or other current assets) or has decreased current liabilities - for example has paid off some short-term creditors.

Current assets and current liabilities include three accounts which are of special importance. These accounts represent the areas of the business where managers have the most direct impact: accounts receivable (current asset), inventories (current assets), and accounts payable (current liability). The current portion of debt (payable within 12 months) is critical, because it represents a short-term claim to current assets and is often secured by long-term assets. Common types of short-term debt are bank loans and lines of credit.

A company can be endowed with assets and profitability but short of liquidity if its assets cannot readily be converted into cash. Decisions relating to working capital and short-term financing are referred to as working capital management. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital management is

Figure 3.15 Statement of cash flows

MUNICIPALITY OF SAN NARCISO
Province of Zambales

STATEMENT OF CASH FLOWS
SPECIAL EDUCATION FUND
For the period ended January to March, 2011

Cash Flows from Operating Activities:		
Cash Inflows:		
Collection from Taxes	886,791.90	
Interest Income		
Other Receipts		
Total Cash Inflows	**886,791.90**	
Cash Outflows:		
Payments-		
To Suppliers/Creditors	290,689.30	
To Employees		
Total Cash Outflows	**290,689.30**	
Net Cash from Operating Activities		596,102.60
Cash at the Beginning of the Period		1,302,959.68
Cash at the End of the Period		**1,899,062.28**

CERTIFIED CORRECT:

RICARDO C. REYES, JR
Municipal Accountant

The management of working capital involves managing inventories, accounts receivable and payable, and cash.

to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses. The management of working capital involves managing inventories, accounts receivable and payable, and cash.

Inventory management is to identify the level of inventory which allows for uninterrupted production but reduces the investment in raw materials - and minimizes reordering costs - and hence, increases cash flow.

Debtors' management involves identifying the appropriate credit policies, i.e. credit terms which will attract customers, such that any impact on cash flows and the cash conversion cycle will be offset by increased revenue and hence, return on capital.

Short-term financing requires identifying the appropriate source of financing, given the cash conversion cycle: the inventory is ideally financed by credit granted by the supplier; however, it may be necessary to utilize a bank loan (or overdraft).

Cash management involves identifying the cash balance which allows for the business to meet day-to-day expenses, but reduces cash holding costs (*Figure 3.15*).

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Debt to Equity

The debt-to-equity ratio (D/E) indicates the relative proportion of shareholder's equity and debt used to finance a company's assets.

KEY POINTS

- The debt-to-equity ratio (D/E) is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. Closely related to leveraging, the ratio is also known as risk, gearing or leverage.
- Preferred stocks can be considered part of debt or equity. Attributing preferred shares to one or the other is partially a subjective decision.
- The formula of debt/ equity ratio: D/E = Debt (liabilities) / equity = Debt / (Assets – Debt) = (Assets – Equity) / Equity.

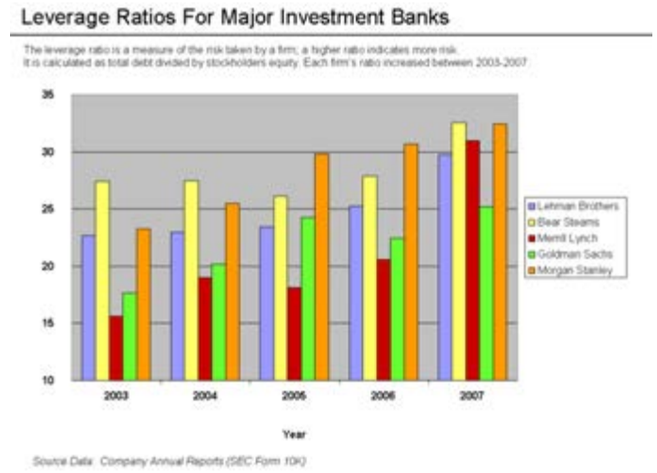
Debt to Equity

The debt-to-equity ratio (D/E) is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. Closely related to leveraging, the ratio is also known as risk, gearing or leverage. The two components are often taken from the firm's balance sheet or statement of financial position. However, the ratio may also be calculated using market values for both if the company's debt and equity are publicly traded, or using a combination of book value for debt and market value for equity financially (*Figure 3.16*).

Preferred stocks can be considered part of debt or equity. Attributing preferred shares to one or the other is partially a subjective decision, but will also take into account the specific features of the preferred shares. When used to calculate a company's financial **leverage**, the debt usually includes only the long term debt (LTD). Quoted ratios can even exclude the current portion of the LTD.

Financial analysts and stock market quotes will generally not include other types of liabilities, such as accounts payable, although some will make adjustments to include or exclude certain items from the formal financial statements. Adjustments are sometimes also made,

Figure 3.16 Leverage Ratios of Investment Banks



Each of the five largest investment banks took on greater risk leading up to the subprime crisis. This is summarized by their leverage ratio, which is the ratio of total debt to total equity. A higher ratio indicates more risk.

for example, to exclude intangible assets, and this will affect the formal equity; debt to equity (dequity) will therefore also be affected.

The formula of debt/equity ratio: D/E = Debt (liabilities) / equity. Sometimes only interest-bearing long-term debt is used instead of total liabilities in the calculation.

A similar ratio is the ratio of debt-to-capital (D/C), where capital is the sum of debt and equity:D/C = total liabilities / total capital = debt / (debt + equity)

The relationship between D/E and D/C is: D/C = D/(D+E) = D/E / (1 + D/E)

The debt-to-total assets (D/A) is defined asD/A = total liabilities / total assets = debt / (debt + equity + non-financial liabilities)

On a balance sheet, the formal definition is that debt (liabilities) plus equity equals assets, or any equivalent reformulation. Both the formulas below are therefore identical: A = D + EE = A – D or D = A – E

Debt to equity can also be reformulated in terms of assets or debt: D/E = D /(A – D) = (A – E) / E

Market vs. Book Value

Book value is the price paid for a particular asset, while market value is the price at which you could presently sell the same asset.

KEY POINTS

- Market value is the price at which an asset would trade in a competitive auction setting.
- Book value or carrying value is the value of an asset according to its balance sheet account balance. For assets, the value is based on the original cost of the asset less any depreciation, amortization or impairment costs made against the asset.
- In many cases, the carrying value of an asset and its market value will differ greatly. However, they are interrelated.

Market value is the price at which an asset would trade in a competitive auction setting. Market value is often used interchangeably with open market value, fair value, or fair market value. International Valuation Standards defines market value as "the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion."

In accounting, book value or carrying value is the value of an asset according to its balance sheet account balance. For assets, the value is based on the original cost of the asset less any depreciation, amortization, or impairment costs made against the asset (*Figure 3.17*). An asset's initial book value is its its acquisition cost or the sum of allowable costs expended to put it into use. Assets such as buildings, land, and equipment are valued based on their acquisition cost, which includes the actual cash price of the asset plus certain costs tied to the purchase of the asset, such as broker fees. The book value is different from market value, as it can be higher or lower depending on the asset in question and the accounting practices that affect book value, such as depreciation, amortization and impairment. In many cases, the carrying value

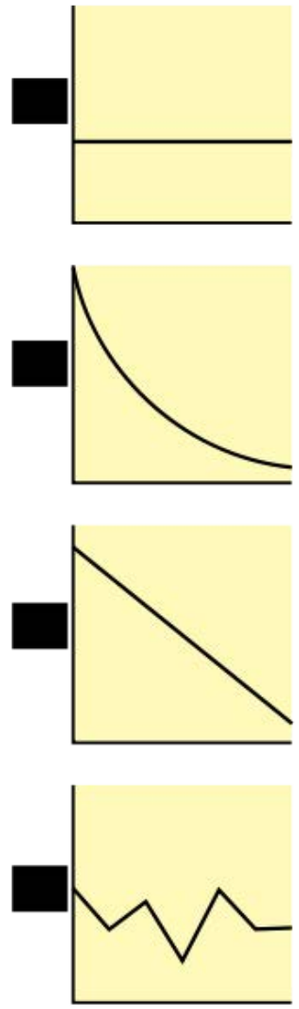


Figure 3.17 Depreciation methods which are essential in calculating book value

4 Depreciation methods (1. Straight-Line method, (2. Double-Declining Balance method, (3. Sum-of-the-Years' Digits method, (4.Productive output method)

of an asset and its market value will differ greatly. If the asset is valued on the balance at market value, then its book value is equal to the market value.

Ways of measuring the value of assets on the balance sheet include: historical cost, market value or lower of cost or market. Historical cost is typically the purchase price of the asset or the sum of certain costs expended to put the asset into use. Market value is the asset's worth if it were to be exchanged in the open market in an arm's length transaction; it can also be derived based on the asset's present value of the expected cash flows it will generate. Certain assets are disclosed at lower of cost or market in order to conform to accounting's conservatism principle, which stresses that assets should never be overstated.

Limitations of the Balance Sheet

The three limitations to balance sheets are assets being recorded at historical cost, use of estimates, and the omission of valuable non-monetary assets.

KEY POINTS

- Balance sheets do not show true value of assets. Historical cost is criticized for its inaccuracy since it may not reflect current market valuation.
- Some of the current assets are valued on an estimated basis, so the balance sheet is not in a position to reflect the true financial position of the business.
- The balance sheet can not reflect those assets which cannot be expressed in monetary terms, such as skill, intelligence, honesty, and loyalty of workers.

Limitations of the Balance Sheet

In financial accounting, a balance sheet or statement of financial position is a summary of the financial balances of a sole proprietorship, business partnership, corporation, or other business organization, such as an LLC or an LLP. Assets, liabilities and ownership equity are listed as of a specific date, such as the end of

its financial year. A balance sheet is often described as a "snapshot of a company's financial condition." Of the four basic financial statements, the balance sheet is the only statement which applies to a single point in time of a business' calendar year. There are three primary limitations to balance sheets, including the fact that they are recorded at historical cost, the use of estimates, and the omission of valuable things, such as intelligence.

Fixed assets are shown in the balance sheet at historical cost less depreciation up to date. Depreciation affects the **carrying value** of an asset on the balance sheet. The historical cost will equal the carrying value only if there has been no change recorded in the value of the asset since acquisition. Therefore, the balance sheet does not show true value of assets. Historical cost is criticized for its inaccuracy since it may not reflect current market valuation (*Figure 3.18*).

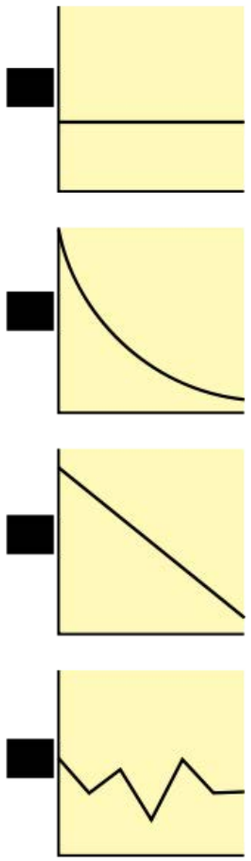


Figure 3.18 Four depreciation methods

Different methods of depreciation affect the carrying value of an asset on balance sheets.

Some of the current assets are valued on estimated basis, so the balance sheet is not in a position to reflect the true financial position of the business. Intangible assets like goodwill are shown in the balance sheet at imaginary figures, which may bear no relationship to the market value. The International Accounting Standards Board (IASB) offers some guidance (IAS 38) as to how intangible assets should be accounted for in financial statements. In general, legal intangibles that are developed internally are not recognized, and legal intangibles that are purchased from third parties are recognized. Therefore, there is a disconnect–goodwill from acquisitions can be booked, since it is derived from a market or purchase valuation. However, similar internal spending cannot be booked, although it will be recognized by investors who compare a company's market value with its book value.

Finally, the balance sheet can not reflect those assets which cannot be expressed in monetary terms, such as skill, intelligence, honesty, and loyalty of workers.

Source:https://www.boundless.com/finance/financial-statements-taxes-and-cash-flow/the-balance-sheet/limitations-of-the-balance-sheet/

Section 3

The Statement of Cash Flows

What is a Statement of Cash Flows

Components of the Statement of Cash Flows

Cash Flow from Financing

Cash Flow from Investing

Cash Flow from Operations

Interpreting Overall Cash Flow

Limits of the Statement of Cash Flows

https://www.boundless.com/accounting/financial-statements-overview/the-statement-of-cash-flows--2/

What is a Statement of Cash Flows

A statement of cash flows is a financial statement showing how changes in balance sheet accounts and income affect cash & cash equivalents.

KEY POINTS

- In financial accounting, a cash flow statement is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents and breaks the analysis down to operating, investing, and financing activities.
- People and groups interested in cash flow statements include: (1) Accounting personne, (2) potential lenders or creditors, (3) potential investors, (4) potential employees or contractors, and (5) shareholders of the business.
- The cash flow statement is intended to provide information on a firm's liquidity and solvency, improve the comparability of different firms' operating performance, and to indicate the amount, timing, and probability of future cash flows.

In financial accounting, a cash flow statement, also known as statement of cash flows or funds flow statement, is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents, and breaks the analysis down to operating, investing, and financing activities. Essentially, the cash flow statement is concerned with the flow of cash in and out of the business (*Figure 3.19*).

Figure 3.19 Statement of cash flows

Cash flows from (used in) operating activities		
Cash receipts from customers	9,500	
Cash paid to suppliers and employees	(2,000)	
Cash generated from operations (**sum**)	**7,500**	
Interest paid	(2,000)	
Income taxes paid	(3,000)	
Net cash flows from operating activities		2,500
Cash flows from (used in) investing activities		
Proceeds from the sale of equipment	7,500	
Dividends received	3,000	
Net cash flows from investing activities		10,500
Cash flows from (used in) financing activities		
Dividends paid	(2,500)	
Net cash flows used in financing activities		(2,500)
.		
Net increase in cash and cash equivalents		10,500
Cash and cash equivalents, beginning of year		1,000
Cash and cash equivalents, end of year		$11,500

Sample statement of cash flows.

The statement captures both the current operating results and the accompanying changes in the balance sheet. As an analytical tool, the statement of cash flows is useful in determining the short-term viability of a company, particularly its ability to pay bills. International Accounting Standard 7 (IAS 7), is the International Accounting Standard that deals with cash flow statements.

People and groups interested in cash flow statements include: (1) Accounting personnel who need to know whether the organization will be able to cover payroll and other immediate expenses, (2) potential lenders or creditors who want a clear picture of a company's ability to repay, (3) potential investors who need to judge whether the company is financially sound, (4) potential employees or contractors who need to know whether the company will be able to afford compensation, and (5) shareholders of the business.

The cash flow statement is intended to:

Provide information on a firm's liquidity and solvency and its ability to change cash flows in future circumstances provide additional information for evaluating changes in assets, liabilities, and equity;

Improve the comparability of different firms' operating performance by eliminating the effects of different accounting methods; and

Indicate the amount, timing, and probability of future cash flows.

The cash flow statement has been adopted as a standard financial statement, because it eliminates allocations, which might be derived from different accounting methods, such as various timeframes for depreciating fixed assets.

Components of the Statement of Cash Flows

The cash flow statement has 3 parts: operating, investing, and financing activities. There can also be a disclosure of non-cash activities.

KEY POINTS

- Operating activities include the production, sales, and delivery of the company's product as well as collecting payments from its customers.
- Investing activities are purchases or sales of assets (land, building, equipment, marketable securities, etc.), loans made to suppliers or received from customers, and payments related to mergers and acquisitions.
- Financing activities include the inflow of cash from investors, such as banks and shareholders, and the outflow of cash to shareholders as dividends as the company generates income.
- Non-cash investing and financing activities are disclosed in footnotes in the financial statements.

Components of the Cash Flow Statement

In financial accounting, a cash flow statement, also known as statement of cash flows or funds flow statement, is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents, and breaks the analysis down to operating, investing, and financing activities. Essentially, the cash flow statement is concerned with the flow of cash in and out of the business. The statement captures both the current operating results and the accompanying changes in the balance sheet and income statement. For businesses that use cash basis accounting, the cash flow statement and income statement provide the same information, since cash inflows are considered income and cash outflows consist of expense payments or other types of payments (i.e. asset purchases).

The cash flow statement is partitioned into three segments, namely (*Figure 3.20*):

1. Cash flow resulting from operating activities
2. Cash flow resulting from investing activities
3. Cash flow resulting from financing activities.
4. It also may include a disclosure of **non-cash financing activities**.

Operating activities include the production, sales, and delivery of the company's product as well as collecting payments from its

Cash flows from (used in) operating activities		
Cash receipts from customers	9,500	
Cash paid to suppliers and employees	(2,000)	
Cash generated from operations (**sum**)	**7,500**	
Interest paid	(2,000)	
Income taxes paid	(3,000)	
Net cash flows from operating activities		2,500
Cash flows from (used in) investing activities		
Proceeds from the sale of equipment	7,500	
Dividends received	3,000	
Net cash flows from investing activities		10,500
Cash flows from (used in) financing activities		
Dividends paid	(2,500)	
Net cash flows used in financing activities		(2,500)
.		
Net increase in cash and cash equivalents		10,500
Cash and cash equivalents, beginning of year		1,000
Cash and cash equivalents, end of year		$11,500

Figure 3.20
Statement of cash flows

Statement of cash flows includes cash flows from operating, financing and investing activities.

customers. This could include purchasing raw materials, building inventory, advertising, and shipping the product.

Investing activities are purchases or sales of assets (land, building, equipment, marketable securities, etc.), loans made to suppliers or received from customers, and payments related to mergers and acquisitions.

Financing activities include the inflow of cash from investors, such as banks and shareholders and the outflow of cash to shareholders as dividends as the company generates income. Other activities that impact the long-term liabilities and equity of the company are also listed in the financing activities section of the cash flow statement.

Non-cash investing and financing activities are disclosed in footnotes to the financial statements. Under the U.S. General Accepted Accounting Principles (GAAP), non-cash activities may be disclosed in a footnote or within the cash flow statement itself. Non-cash financing activities may include leasing to purchase an asset, converting debt to equity, exchanging non-cash assets or liabilities for other non-cash assets or liabilities, and issuing shares in exchange for assets.

Cash Flow from Financing

Cash flows from financing activities arise from the borrowing, repaying, or raising of money.

KEY POINTS

- Financing activities can be seen in changes in non-current liabilities and in changes in equity in the change-in-equity statement.
- A positive financing cash flow could be really great for a company (it just went issued stock at a great price) or could be due to the company having to take out loans to stay out of bankruptcy.
- Issuing credit is not a financing activity though taking on credit is. Like all cash flows, such activities only appear on the cash flow statement when the exchange of money actually takes place.

Financing Activities

One of the three main components of the cash flow statement is cash flow from **financing**. In this context, financing concerns the borrowing, repaying, or raising of money. This could be from the issuance of shares (*Figure 3.21*), buying back shares, paying dividends, or borrowing cash. **Financing activities** can be seen in changes in non-current liabilities and in changes in equity in the change-in-equity statement.

Figure 3.21 NYSE
The cash from issuing stocks in a market such as the New York Stock Exchange is positive financing cash flow.

On the liability side, a company may take out a loan. Everything concerning the loan is a financing activity. Receiving the money is a positive cash flow because cash is flowing into the company, while each individual payment is a negative cash flow.

However, when a company makes a loan (by extending credit to a customer, for example), it is not partaking in a financing activity. Extending credit is an investing activity, so all cash flows related to that loan fall under cash flows from investing activities, not financing activities.

As is the case with operating and investing activities, not all financing activities impact the cash flow statement -- only those that involve the exchange of cash do. For example, a company may issue a discount which is a financing expense. However, because no cash changes hands, the discount does not appear on the cash flow statement.

Overall, positive cash flow could mean a company has just raised cash via a stock issuance or the company borrowed money to pay its obligations, therefore avoiding late payments or even bankruptcy. Regardless, the cash flow statement is an important part of analyzing a company's financial health, but is not the whole story.

Cash Flow from Investing

Cash flow from investing results from activities related to the purchase or sale of assets or investments made by the company.

KEY POINTS

- Assets included in investment activity include land, buildings, and equipment.
- Receiving dividends from another company's stock is an investing activity, although paying dividends on a company's own stock is not.
- An investing activity only appears on the cash flow statement if there is an immediate exchange of cash.

One of the components of the cash flow statement is the cash flow from investing (*Figure 3.22*). An **investing activity** is anything that has to do with changes in non-current assets -- including property and equipment, and investment of cash into shares of stock, foreign currency, or government bonds -- and return on investment -- including dividends from investment in other entities and gains from sale of non-current assets. These activities are represented in the investing income part of the income statement.

Figure 3.22 Example of Cash Flow Statement (indirect method)

XYZ co. Ltd. Cash Flow Statement (all numbers in millions of Rs.)			
Period ending	*03/31/2010*	*03/31/2009*	*03/31/2008*
Net income	**21,538**	**24,589**	**17,046**
Operating activities, cash flows provided by or used in:			
Depreciation and amortization	2,790	2,592	2,747
Adjustments to net income	4,617	621	2,910
Decrease (increase) in accounts receivable	12,503	17,236	--
Increase (decrease) in liabilities (A/P, taxes payable)	131,622	19,822	37,856
Decrease (increase) in inventories	--	--	--
Increase (decrease) in other operating activities	(173,057)	(33,061)	(62,963)
Net cash flow from operating activities	13	31,799	(2,404)
Investing activities, cash flows provided by or used in:			
Capital expenditures	(4,035)	(3,724)	(3,011)
Investments	(201,777)	(71,710)	(75,649)
Other cash flows from investing activities	1,606	17,009	(571)
Net cash flows from investing activities	(204,206)	(58,425)	(79,231)
Financing activities, cash flows provided by or used in:			
Dividends paid	(9,826)	(9,188)	(8,375)
Sale (repurchase) of stock	(5,327)	(12,090)	133
Increase (decrease) in debt	101,122	26,651	21,204
Other cash flows from financing activities	120,461	27,910	70,349
Net cash flows from financing activities	206,430	33,283	83,311
Effect of exchange rate changes	645	(1,840)	731
Net increase (decrease) in cash and cash equivalents	2,882	4,817	2,407

The cash flow from investments is broken into broad sub-categories which reflect different types of investing activities.

It is important to note that investing activity does not concern cash from outside investors, such as bondholders or shareholders. For example, a company may decide to pay out a dividend. A dividend is often thought of as a payment to those who invested in the company by buying its stock. However, this cash flow is not representative of an investing activity on the part of the company. The investing activity was undertaken by the shareholder. Therefore, paying out a dividend is a financing activity.

Some examples of investment activity from the company's perspective would include:

Cash outflow from the purchase of an asset (land, building, equipment, etc.).

Cash inflow from the sale of an asset.

Cash outflow from the acquisition of another company.

Cash inflow resulting from a **merger**.

Cash inflow resulting dividends paid on stock owned in another company.

It is important to remember that, as with all cash flows, an investing activity only appears on the cash flow statement if there is an immediate exchange of cash. Therefore, extending credit to a customer (accounts receivable) is an investing activity, but it only appears on the cash flow statement when the customer pays off their debt.

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Cash Flow from Operations

The operating cash flows refers to all cash flows that have to do with the actual operations of the business, such as selling products.

KEY POINTS

- Operating cash flows refers to the cash a company generates from the revenues it brings in, excluding costs associated with long-term investment on capital items or investment in securities (these are investing or financing activities).
- GAAP and IFRS vary in their categorization of many cash flows, such as paying dividends. Some activities that are operating cash flows under one system are financing or investing in another.
- Major operating activities such as manufacturing products or selling a product may appear on the income statement but not on the cash flow statement, because cash has not yet changed hands.

The operating cash flows component of the cash flow statement refers to all cash flows that have to do with the actual operations of the business. It refers to the amount of cash a company generates from the revenues it brings in, excluding costs associated with long-term investment on capital items or investment in securities (these are investing or financing activities). Essentially, it is the difference

between the cash generated from customers and the cash paid to suppliers.

Cash flows from operating activities can be calculated and disclosed on the cash flow statement using the direct or indirect method. The **direct method** shows the cash inflows and outflows affecting all current asset and liability accounts, which largely make up most of the current operations of the entity. Those preparers that use the direct method must also provide operating cash flows under the indirect method. The indirect method is a reconciliation of the period's net income to arrive at cash flows from operations; changes in current asset and liability accounts are added or subtracted from net income based on whether the change increased or decreased cash. The indirect method must be disclosed in the cash flow statement to comply with U.S. accounting standards, or **GAAP** (*Figure 3.23*).

Figure 3.23 US GAAP vs. IFRS Cash Flow Classification

Transaction US GAAP	Classification	IFRS Classification
Interest Received	Operating	Operating or Investing
Dividends Received	Operating	Operating or Investing
Interest Paid	Operating	Financing or Operating
Dividends Paid	Financing	Financing or Operating
Income Taxes	Operating	Operating unless specifically associated with financing or investing activity

Some transactions may be classified as different types of cash flows under GAAP and IFRS accounting standards.

One major difference between GAAP and **IFRS** is how interest paid is categorized. Under GAAP, a loan payment would have to be broken down into two parts: the payment on principal (financing) and the payment of interest (operating). Under IFRS, it is possible to categorize both as financing cash flows.

All of the major operating cash flows, however, are classified the same way under GAAP and IFRS. The most noticeable cash inflow is cash paid by customers. Cash from customers is not necessarily the same as revenue, though. For example, if a company makes all of its sales by extending credit to customers, it will have generated revenues but not cash flows from customers. It is only when the company collects cash from customers that it has a cash flow.

Significant cash outflows are salaries paid to employees and purchases of supplies. Just as with sales, salaries, and the purchase of supplies may appear on the income statement before appearing on the cash flow statement. Operating cash flows, like financing and investing cash flows, are only accrued when cash actually changes hands, not when the deal is made.

Interpreting Overall Cash Flow

Having positive and large cash flow is a good sign for any business, though does not by itself mean the business will be successful.

KEY POINTS

- The three types of cash flow are cash from from operations, investing, and financing.
- Having positive cash flows is important because it means that the company has at least some liquidity and may be solvent.
- A positive cash flow does not guarantee that the company can pay all of its bills, just as a negative cash flow does not mean that it will miss its payments.

What is a Cash Flow Statement?

In financial accounting, a **cash flow** statement (also known as statement of cash flows or funds flow statement) is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents. The cash flow statement, as the name suggests, provides a picture of how much cash is flowing in and out of the business during the fiscal year.

The cash flow is widely believed to be the most important of the three financial statements because it is useful in determining whether a company will be able to pay its bills and make the necessary investments. A company may look really great based on the balance sheet and income statement, but if it doesn't have enough cash to pay its suppliers, creditors, and employees, it will go out of business. A positive cash flow means that more cash is coming into the company than going out, and a negative cash flow means the opposite.

Components of the Cash Flow Statement

The cash flow statement is made up of three different types of cash flows, which will be addressed in further detail in the coming sections:

1. Cash flow from operations: Cash received or expended as a result of the company's internal business activities, such as sales and purchasing supplies.
2. Cash flow from investing: Cash received from the sale of long-life assets or spent on capital expenditures.
3. Cash flow from financing: Cash received from the issue of debt and equity, paid out as dividends, share repurchases, or debt repayments.

The net cash flow for a company is the sum of the net cash flows of these three components.

Some transactions may be placed in different categories under different accounting systems (*Figure 3.24*), which makes it hard to do an apples-to-apples cash flow statement comparison between companies that operate under different standards.

Figure 3.24 GAAP vs. IFRS Cash Flow Classification

Transaction US GAAP	Classification	IFRS Classification
Interest Received	Operating	Operating or Investing
Dividends Received	Operating	Operating or Investing
Interest Paid	Operating	Financing or Operating
Dividends Paid	Financing	Financing or Operating
Income Taxes	Operating	Operating unless specifically associated with financing or investing activity

Some cash flows are characterized differently under GAAP and IFRS accounting standards.

Interpretation

An analyst looking at the cash flow statement will first care about whether the company has a net positive cash flow. Having a positive cash flow is important because it means that the company has at least some liquidity and may be solvent.

Regardless of whether the net cash flow is positive or negative, an analyst will want to know where the cash is coming from or going to (*Figure 3.25*). The three types of cash flows (operating, investing, and financing) will all be broken down into their various components and then summed. The company may have a positive cash flow from operations, but a negative cash flow from investing and financing. This sheds important insight into how the company is making or losing money.

Figure 3.25 Cash Flow Comparison

	Company A			Company B		
	Year 1	Year 2	year 3	Year 1	Year 2	year 3
Cash flow from operations	+20M	+21M	+22M	+10M	+11M	+12M
Cash flow from financing	+5M	+5M	+5M	+5M	+5M	+5M
Cash flow from investment	-15M	-15M	-15M	0M	0M	0M
Net cash flow	+10M	+11M	+12M	+15M	+16M	+17M

Company B has a higher yearly cash flow. However, Company A is actually earning more cash by its core activities and has already spent 45 million dollars in long-term investments, of which revenues will show up after three years.

The analyst will continue breaking down the cash flow statement in this manner, diving deeper and deeper into the specific factors that affect the cash flow.

Limits of the Statement of Cash Flows

Although the cash flow statement is a very useful tool, it has its own limitations which must be kept in mind at the time of its use.

KEY POINTS

- Cash flow statements, just like Income Statements and Balance Sheets, are prepared using past information. It therefore does not provide complete information to assess the future cash flows of an entity.
- As a cash flow statement is based on a cash basis of accounting, it ignores the basic accounting concept of accrual.
- Cash flow statements are not suitable for judging the profitability of a firm, as non-cash charges are ignored while calculating cash flows from operating activities.

The cash flow statement has been adopted as a standard financial statement because it eliminates allocations, which might be derived from different accounting methods, such as various timeframes for depreciating fixed assets. Although the cashflow statement is a very useful tool of financial analysis, it has its own limitations which must be kept in mind at the time of its use (*Figure 3.26*).

Cash flow statements, just like Income Statements and Balance Sheets, are prepared using past information. It therefore does not

Figure 3.26 Statement of cash flows

XYZ co. Ltd. Cash Flow Statement (all numbers in millions of Rs.)			
Period ending	*03/31/2010*	*03/31/2009*	*03/31/2008*
Net income	**21,538**	**24,589**	**17,046**
Operating activities, cash flows provided by or used in:			
Depreciation and amortization	2,790	2,592	2,747
Adjustments to net income	4,617	621	2,910
Decrease (increase) in accounts receivable	12,503	17,236	--
Increase (decrease) in liabilities (A/P, taxes payable)	131,622	19,822	37,856
Decrease (increase) in inventories	--	--	--
Increase (decrease) in other operating activities	(173,057)	(33,061)	(62,963)
Net cash flow from operating activities	13	31,799	(2,404)
Investing activities, cash flows provided by or used in:			
Capital expenditures	(4,035)	(3,724)	(3,011)
Investments	(201,777)	(71,710)	(75,649)
Other cash flows from investing activities	1,606	17,009	(571)
Net cash flows from investing activities	(204,206)	(58,425)	(79,231)
Financing activities, cash flows provided by or used in:			
Dividends paid	(9,826)	(9,188)	(8,375)
Sale (repurchase) of stock	(5,327)	(12,090)	133
Increase (decrease) in debt	101,122	26,651	21,204
Other cash flows from financing activities	120,461	27,910	70,349
Net cash flows from financing activities	206,430	33,283	83,311
Effect of exchange rate changes	645	(1,840)	731
Net increase (decrease) in cash and cash equivalents	2,882	4,817	2,407

The statement of cash flows includes cash flows from operating, investing and financing activities.

provide complete information to assess the future cash flows of an

entity. On its own, the statement of cash flows cannot be used to determine the financial position of a company.

The balance sheet is a snapshot of a firm's financial resources and obligations at a single point in time, and the income statement summarizes a firm's financial transactions over an interval of time. These two financial statements reflect the **accrual basis accounting** used by firms to match revenues to the expenses associated with generating those revenues. The cash flow statement includes only inflows and outflows of cash and cash equivalents; it excludes transactions that do not directly affect cash receipts and payments. These non-cash transactions include depreciation or write-offs on bad debts or credit losses. As a cash flow statement is based on the cash basis of accounting, it ignores the basic accounting concept of accrual.

Cash flow statements are not suitable for judging the profitability of a firm, as non-cash charges are ignored while calculating cash flows from operating activities.

Section 4

Special Considerations for Merchandising Companies

Overview of Merchandising Operations

Recording Purchases

Recording Sales

https://www.boundless.com/accounting/financial-statements-overview/special-considerations-for-merchandising-companies/

Overview of Merchandising Operations

Merchandising is any practice which contributes to the sale of products to a retail consumer.

KEY POINTS

- In Retail commerce, visual display merchandising means maximizing merchandise sales using product design, selection, packaging, pricing, and display that stimulates consumers to spend more.
- In the supply chain, merchandising is the practice of making products in retail outlets available to consumers, primarily by stocking shelves and displays.
- Merchandising has its own specific income statement other than general income statements in other industries.

In the broadest sense, merchandising is any practice which contributes to the sale of products to a retail consumer. At a retail in-store level, merchandising refers to the variety of products available for sale and how the products are displayed to stimulate interest and entice customers to make a purchase (*Figure 3.27*).

Promotional merchandising

In Retail commerce, visual display merchandising refers to the process of maximizing merchandise sales using product design, selection, packaging, pricing, and display that stimulates consumers to spend more. This includes disciplines and discounting, physical presentation of products and displays, and decisions about which products should be presented to which customers at what time.This annual cycle of merchandising differs between countries and some times within them. The cycles may relate to cultural customs like holidays, and seasonal issues like climate and local sporting and recreation. In the United States for example, the basic retail cycle begins in early January - with merchandise for Valentine's Day - and ends around mid-February. Presidents' Day sales are held shortly thereafter.

Figure 3.27 Retail store

Merchandising is any practice which contributes to the sale of products to a retail consumer.

Retail supply chain

In the **supply chain**, merchandising is the practice of making products in retail outlets available to consumers, primarily by

stocking shelves and displays. While this used to be done exclusively by the stores' employees, many retailers have made substantial savings by requiring it to be done by the manufacturer, vendor, or wholesaler that provides the products to the retail store. In the United Kingdom, for example, there are a number of organizations that supply merchandising services to support retail outlets with general stock replenishment and merchandising support for new stores. Through this approach, retail stores have been able to substantially reduce the number of employees needed to run the store.

Specific income statement of merchandising operations:

Sales

- Sales Return & Allowances

- Sales Distcount

= Net sales

- Cost of goods sold

= Gross margin

- Operating expenses

= Income before taxes

- tax

= Net income

Recording Purchases

In merchandising accounting, purchases are the amount of goods a company buys in the course of a year, including the kind, quality, quantity, and cost.

KEY POINTS

- Purchases are offset by Purchase Discounts, and also by Purchase Returns and Allowances.
- Purchase discounts are an offer, from the supplier to the purchaser, to reduce the selling price if the payment is made within a certain period of time.
- FOB specifies which party (buyer or seller) pays for which shipment and loading costs, and where responsibility for the goods is transferred, with the last distinction important for determining liability for goods lost or damaged in transit.

Purchases

In accounting, purchases are the amount of goods a company buys over the course of the year. It also refers to information that should be recorded about the kind, quality, quantity, and cost of goods that are purchased and added to inventory. Purchases are offset by Purchase Discounts, and also Purchase Returns and Allowances. When purchases should be added to inventory depends on the Free On Board (FOB) policy of the trade. For the purchaser, this new inventory is added on shipment (and the seller removes the item from inventory when it is shipped by the seller) if the policy was **FOB shipping point**. On the other hand, the purchaser adds the inventory on receipt (and the seller removes the item from inventory when it arrives with the purchaser) if the policy was **FOB destination**.

Purchase Discount

A **purchase discount** is an offer, from the supplier to the purchaser, to reduce the selling price if payment is made within a certain period of time. For example, a purchaser buying a 100 dollar item with a purchase discount term of 3/10, net 30, will only need to pay 97 dollars if they pay within ten days. Under the gross method, the total cost of purchases are credited to accounts payable first, and discounts realized later if the payments were made in time. Under the net method, purchase discounts are realized right away. And if the payments are not made in time, an anti-revenue account named Purchase Discounts Lost is debited to record the loss.

FOB

FOB is an abbreviation which pertains to the shipping of goods. Depending on the specific usage, it may stand for Free On Board or

Figure 3.28 Shipping

The initials FOB represent ownership and responsibilities involving the shipping and receiving of goods.

Freight On Board. FOB specifies which party (buyer or seller) pays for which shipment and loading costs and where responsibility for the goods is transferred. The last distinction is important for determining liability for goods lost or damaged in transit from the seller to the buyer. Precise meaning and usage of "FOB" can vary significantly. International shipments typically use "FOB" as defined by the **Incoterm** standards, where it always stands for "Free On Board." Domestic shipments within the U. S. or Canada often use a different meaning, specific to North America, which is inconsistent with the Incoterm standards.

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Recording Sales

Net sales are gross sales minus sales returns, sales allowances, and sales discounts.

KEY POINTS

- Sales returns, allowances and discounts are contra-revenue accounts.
- In bookkeeping, accounting, and finance, net sales are operating revenues earned by a company for selling its products or rendering its services. Also referred to as revenue, they are reported directly on the income statement as sales or net sales.
- In financial ratios that use income statement sales values, "sales" refers to net sales, not gross sales.

In bookkeeping, accounting, and finance, net sales are operating revenues earned by a company for selling its products or rendering its services. Also referred to as revenue, they are reported directly on the income statement as sales or net sales.

In financial ratios that use income statement sales values, "sales" refers to net sales, not **gross sales**. Sales are the unique transactions that occur in professional selling or during marketing

initiatives. The sales portion of an income statement for merchandising companies is figured as noted below:

Sales - Sales Return & Allowances - Sales Discount = Net sales

Revenue is earned when goods are delivered or services are rendered. In a marketing, advertising, or a general business context, the term "sales" often refers to a contract in which a buyer has agreed to purchase products at a set time in the future. From an accounting standpoint, sales do not occur until the product is delivered. "Outstanding orders" refers to sales orders that have not been filled.

Figure 3.29 Sales

Net sales are operating revenues earned by a company for selling its products or rendering its services.

A sale is a transfer of property for money or credit. In double-entry bookkeeping, a sale of merchandise is recorded in the general journal as a debit to cash or accounts receivable and a credit to the sales account. The amount recorded is the actual monetary value of the transaction, not the list price of the merchandise. A discount from list price might be noted if it applies to the sale.

Fees for services are recorded separately from sales of merchandise, but the bookkeeping transactions for recording sales of services are similar to those for recording sales of tangible goods.

Gross sales and net sales

Gross sales are the sum of all sales during a time period. **Net sales** are gross sales minus sales returns, sales allowances, and **sales discounts**. Gross sales do not normally appear on an income statement. The sales figures reported on an income statement are net sales.

Source:https://www.boundless.com/accounting/financial-statements-overview/special-considerations-for-merchandising-companies/recording-sales/

Chapter 4

Controlling and Reporting of Cash and Receivables

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/

Section 1

Overview of Cash

What is Cash

Types of Cash

Reporting Cash

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/overview-of-cash/

What is Cash

Cash and cash equivalents are the most liquid type of company assets used by businesses to settle debts and purchase goods.

KEY POINTS

- Cash is generally any currency a business owns, whether it is at the place of business or in its bank accounts.
- Cash equivalents are securities that can easily and quickly be converted into cash. These securities mature within three months of being reported on a financial statement. There is a minimal risk that these securities could lose value.
- Cash can also be used as a reserve against unforeseen business problems, such as momentary decrease in revenues or a downturn in financial markets.

Cash is the most liquid of all company assets. It is what a business generally uses to settle debts and acquire goods. Cash is generally any currency a business owns. Any currency the business has at its headquarters, branches, or in its bank accounts is included as part of its cash account on its financial statements (*Figure 4.1*).

Cash equivalents are also generally included with cash on a business's financial statements. They are securities that can easily and quickly be converted into cash. For an investment to be considered a "cash equivalent," it must **mature** within three months. A financial instrument's maturity occurs on a specific date. At that time, the person who owns the instrument receives whatever amount of money the instrument promised to pay in addition to any remaining interest payments.

Figure 4.1 Cash

A business's cash account is how much currency it has on hand at a given time.

For an instrument to be considered a **cash equivalent**, the risk of the investment losing its value must also be insignificant. While publicly traded stock could be easily sold and converted into **cash**, it would not be considered a cash equivalent because there is a risk that its value could decrease.

Cash can also be used as a reserve against unforeseen business problems, such as a momentary decrease in revenues or a downturn in financial markets. Many transactions involve cash, so it is arguably one of the most important factors in business. Since cash can also easily be stolen or mishandled, it is important to maintain a strict series of internal controls to ensure that these assets are not lost.

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Types of Cash

Types of cash include currency, funds in bank accounts, and non-risky financial instruments that are readily convertible to cash.

KEY POINTS

- A financial instrument is only a cash equivalent if it has a low risk of losing its value and will mature within three months from when the financial statements are prepared.
- Cash equivalents include all undeposited negotiable instruments (such as checks), bank drafts, money orders and certain certificates of deposit.
- IOUs and notes receivable are not included in cash.

Cash

Cash and cash equivalents are not just the amount of currency that a business has in its cash registers and bank accounts; they also include several different types of financial instruments. Cash equivalents include all undeposited negotiable instruments (such as checks), **bank drafts**, money orders and certain certificates of deposit.

A certificate of deposit, or CD, is a financial product offered by banks to their customers. CDs are similar to savings accounts in that both types of accounts are insured by the FDIC up to a value of $250,000. However, unlike with a savings account, whatever funds a consumer puts into a CD generally cannot be withdrawn prior to a certain date without incurring significant penalties. Demand CDs allow a customer to withdraw funds from the CD whenever the customer wants without incurring a penalty. As a result, demand CDs generally have lower interest rates than CDs that allow the bank to hold onto the money for an agreed upon term. Generally only demand CDs or CDs that will mature within three months of when the financial statements are prepared are cash equivalents (*Figure 4.2*).

Cash equivalents can also include government and corporate bonds, marketable securities and commercial paper. However, these types of instruments are only included in cash if they mature within three months from when the the financial statements are prepared and there is a minimal risk of these investments losing their value. So if a corporate bond matures within three months, but the company that issued it may not be able to settle the debt, one would not be able to include that as a cash equivalent.

Other investments and securities that are not cash equivalents include postage stamps, IOUs, and notes receivable because these are not readily converted to cash.

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Figure 4.2 Certificate of Deposit

An example of an early Certificate of Deposit. A CD may be a "cash equivalent" if it meets certain criteria.

Reporting Cash

Cash and cash equivalents are reported in the current asset section of a business's balance sheet.

KEY POINTS

- A financial instrument is only a cash equivalent if it has a low risk of losing its value and will mature within three months from when the financial statements are prepared.
- Cash equivalents include all undeposited negotiable instruments (such as checks), bank drafts, money orders and certain certificates of deposit.
- IOUs and notes receivable are not included in cash.

Cash is an asset, which means it is included in a business's balance sheet (*Figure 4.3*). Since cash is highly liquid and can be used immediately to settle a business's debts, it is included in the current asset section of the balance sheet. Cash is reported on the balance sheet at its current monetary, or fair, value to accurately reflect the entity's value on the statement.

General Ledger

A company's general ledger may have several accounts detailing how much cash it has. For example, it might have one account for

Figure 4.3 Balance Sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

ASSETS:	£	5 April £	£		5 April 2004 £
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
Itemised (audio visual, appliances)		2,400			2,700
Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
			446,200		425,100
INVESTMENT ASSETS (LONG TERM)					
Bonds:					
Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
Total Banks			78,000		36,000
TOTAL ASSETS			637,300		589,700
LIABILITIES:					
CURRENT LIABILITIES					
Credit Cards		(3,100)			(1,400)
TOTAL ASSETS, LESS CURRENT LIABILITIES			634,200		588,300
LONG TERM LIABILITIES					
mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
		(120,000)			(100,000)
TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
TOTAL ASSETS, LESS TOTAL LIABILITIES			514,200		488,300
plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car deprciated from £9,000 to £7,000
   c. Car purchased for £15,000
2 Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

Cash is reported on a company's balance sheet.

petty cash, another for how much cash it has in one bank account, and another detailing how much money it has invested in a CD that will mature in less than three months. When the company's cash balance is reported on its balance sheet, all of those accounts are combined into one "cash" line item.

Footnotes in Financial Statements

While the balance sheet may combine all cash and cash equivalents into one number, a business can provide further detail about its cash balance in the footnotes to the financial statements. These disclosures come after the financial reports are presented and can be used to explain specific items of financial activity. With regards to cash, the footnotes can explain how much of the cash balance was composed of actual currency and how much was cash equivalents.

Balance Sheet

A balance sheet is different from other financial statements because it describes a specific moment in time while the other statements describe activity over a period of time. As a result, the cash value on the balance sheet will only be accurate as of the end of the business on the date listed on the statement. When you receive a balance sheet, the current balance of cash might be very different from what is reported on the statement.

Managing Cash

Cash Controls

Using a Bank for Control

Reconciling Cash Accounts and Bank Statements

Basics of Cash Management

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/managing-cash/

Cash Controls

Cash internal controls is a system used to promote accuracy, prevent theft, and ensure a business has enough cash to pay its debts.

KEY POINTS

- Five elements of internal controls include the control environment, risk assessment, control activities, information and communication, and monitoring.
- Businesses will generally be required to perform an audit at least once a year on all of its financial reports and internal controls, including those controls associated with cash.
- Three common types of internal controls for cash include bank reconciliations, voucher systems, and electronic funds transfers (EFT).

Every business should have internal controls regarding its financial activities. If designed well, internal controls can prevent theft and fraud. They also ensure that a business's financial statements are accurate (*Figure 4.4*).

While **internal control** should be designed for every aspect of a business's operation, the controls for cash are arguably among the most important. Since cash is the most liquid asset and the easiest

for

Figure 4.4 Balance Sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

		5 April			5 April 2004
ASSETS:	£	£	£		£
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
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Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
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INVESTMENT ASSETS (LONG TERM)					
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Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
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mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
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TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
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plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car depreciated from £9,000 to £7,000
   c. Car purchased for £15,000
2 Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

Internal controls are vital to ensure that financial statements, such as balance sheets, are accurate.

people to convert for their own needs, it is often the easiest thing to steal or misreport. Therefore, the internal controls associated with cash must be more stringent.

Goals for Internal Cash Controls

Check that the business's actual cash balances equal what is recorded in its financial records.

Ensure that there is enough cash available to pay all bills as they come due.

Prevent the business from having too much idle cash. Idle cash can be invested to generate a higher return.

Prevent theft or fraud.

Five Elements of Internal Controls

The Control Environment. Every business is different. A business comprised of five people will demand different controls than a company with 500 people. Prior to establishing any set of internal controls, you should consider the business's management philosophy, the integrity of the employees, and the legal requirements established by the state and federal government.

Risk Assessment. Next, you should consider how a business's cash is at risk. Are large amounts of cash kept where employees have access to it? Who is responsible for receiving and depositing cash? Who is responsible for giving cash to settle debts? These are the types of questions that address what possible risks a business may face when it comes to cash.

Control activities. Control activities are steps that a business takes to minimize risks. Examples of control activities include having different employees being responsible for different parts of the transaction. An example of a control activity would be having one person selling the product, another person receiving the money from the sale, and a third person checking to make sure that the agreed sales price equals what was deposited.

Information and communication. Control activities must be designed and then executed by relying on information to be communicated between the people who control different aspects of the transaction. To minimize errors and fraud, the correct information must flow to the right people in a timely manner.

Monitoring. The entire process must be reviewed by upper level management to ensure that every person is complying with their responsibilities. It is also generally required that the business audits its books and review its internal controls at least annually.

Common Cash Controls

Bank Reconciliations: A process where the cash accounts on a business's books are regularly checked against bank statements.

Voucher System: A system focused on documenting every aspect of every transaction to ensure that all required payments are made and are only made once.

Electronic Funds Transfer (EFT): By using services that transfer funds automatically, such as through PayPal, a business can minimize the number of people who have access to its funds. These types of transfers also tend to generate documentation showing when the transaction was made and with whom.

Using a Bank for Control

A bank is a good cash control because it limits employees' access to company assets and provides documentation on withdrawals and deposits.

KEY POINTS

- Internal controls are meant to ensure that a business's assets are protected, that its financial data is accurate, and to ensure efficiency.
- Most banks keep "signature cards" on hand for business accounts so its tellers are aware of who can sign checks to withdraw funds. All other individuals are prevented from withdrawing cash from the business's account.
- The bank generally sends the business a monthly statement summarizing the activity related to cash. The statement will generally also include the documentation related to each transaction.

Money Control through a Bank

Using a bank is one of the best internal controls on a business's cash. Internal controls are meant to ensure that a business's assets are protected, that its financial data is accurate, and to ensure efficiency (*Figure 4.5*). For cash, this generally requires that the people with the ability to obtain a business's cash are limited to a

few select individuals and that each transaction is recorded in detail. The documents regarding each transaction should list when each deposit or withdrawal took place, who initiated the transaction, and how much cash was involved.

As an independent third party, a bank is less susceptible to schemes by a business's employees to steal funds. Since a bank holds a business's funds, it provides a physical barrier preventing employees from accessing the cash. Most banks keep "signature cards" on hand for business accounts so its tellers are aware who can sign checks to withdraw funds. All other individuals are prevented from withdrawing cash from the business's account.

Banks generally require that every deposit is accompanied by a signed and dated deposit slip. Every withdrawal must be paired with a signed and dated check. These documents are kept by the bank to resolve any disputes that may arise regarding a transaction.

The bank generally also sends the business a monthly statement that summarizes the activity associated with the account. This statement will list all deposits and withdrawals. It will also include a copy of each transaction's documentation. Generally, the person in charge of the business's books will receive this documentation and compare it to the business's own records. If there are any differences between the business records and the bank's, the company can use the documentation enclosed with the statement to determine where the discrepancy is and contact the peopled involved with the questionable transactions.

Figure 4.5
Deutsche Bank
Keeping money in a financial institution, such as Deutsche Bank, can provide a critical control over a business's cash.

Reconciling Cash Accounts and Bank Statements

A bank reconciliation is an internal control that ensures that the cash in its accounts equals what it has recorded in its books.

KEY POINTS

- Bank reconciliations are necessary because legitimate transactions that a business has recorded in its books might not be listed on its bank statements and vice versa.
- A bank reconciliation consists of a book balance column and a bank balance column. One column is adjusted by adding all of the legitimate transactions that either the bank statement or books do not show. The reconciliation is complete when the two columns equal each other.
- When a legitimate transaction that was not recorded in the books is discovered, it must be added by recording a journal entry.

A **bank statement** only reflects a specific period of time, such as one month (*Figure 4.6*). However, it takes the banks time to prepare the statement and send it out. Therefore, while a bank may prepare a statement for the month of October, a business might not receive it until a week later.

As a result, a bank statement will generally not reflect the amounts that a company has on its own books. This can be due to a few reasons. The company could have issued several checks prior to the end of the period, but the check holders had not cashed the check. The business could have also received some cash amounts prior to the end of the period covered by the statement, but was unable to deposit those amounts until after the period ended. The differences could also be due to mistakes, either by the bank or in the company's books. The differences could also be due to something more troublesome, such as theft.

Figure 4.6 Cash
Due to the amount of time between when a bank statement is prepared and when it is received by a business, the document may not accurately reveal what the business actually has in terms of cash. This is why reconciling the bank statement is necessary.

A **bank reconciliation** is a process that explains the difference between the bank statement on the amount shown in the organization's own financial records. This process is important because it ensures that any differences are due to the timing of payments and not because of a mistake or theft.

Reconciliation Process

A bank reconciliation consists of two columns; one for the book balance, the other for the bank balance. The person reconciling the accounts then adjusts one column by adding deposits that had not yet been recorded and subtracting checks and other outlays that had not yet been cashed when the statement had been prepared. The reconciliation is not complete until the adjusted column equals the unadjusted column.

There may be some cases where the process reveals a legitimate transaction that was not recorded in the books. When that occurs, the person responsible for the business's books must record the transaction using a journal entry.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/managing-cash/reconciling-cash-accounts-and-bank-statements/

Basics of Cash Management

A company manages its cash primarily through the use of a voucher system and bank reconciliations.

KEY POINTS

- A voucher system is used for monitoring cash payments.
- A voucher system consists of vouchers, an unpaid voucher file, a paid voucher file, a voucher register, and a check register.
- Before marking a voucher as paid, the person in charge of the system should check the transaction's corresponding documentation, which generally includes a purchase order, invoice, and receiving report.
- Deposits are generally monitored through bank reconciliations.

Managing cash is about monitoring how it comes in and goes out (*Figure 4.7*). To meet this goal, a business must come up with a system that not only documents all of these transactions, but organizes those documents in such a way so that any issues are immediately noticed by management.

Voucher System

A **voucher** system is used primarily for monitoring and documenting payments made by a company to a third party. A voucher is composed of five parts.

Individual vouchers: A voucher is a document that proves a payment was authorized and eventually made. Each voucher should be assigned a number to identify it. A voucher should be prepared for every transaction.

Voucher register: Is a book or spreadsheet that lists every voucher.

Unpaid voucher file: Where all vouchers that have been authorized, but not yet been paid are kept.

Paid voucher file: Where all paid vouchers are kept. The paid vouchers should be filed in numerical order.

Check register: A book or spreadsheet that records when all vouchers were paid and how it was paid. If the voucher was paid using a check, the check register will pair the voucher identification numbers with the check identification numbers.

Figure 4.7 A current liability, such as a purchase with credit, can be documented with an invoice.

Invoices are often used as supporting documentation for internal controls related to cash payments.

When an obligation is about to be settled, the person in charge of the vouchers should review the other documents associated with the transaction prior to transferring the related voucher from the unpaid to paid file. The related documents generally include purchase orders, receiving reports, and invoices. These documents demonstrate that the payment was authorized, all goods and services that the business was supposed to get were received, and that the amount paid equaled the amount due.Bank Reconciliations

Bank reconciliations, or the process of checking to make sure that a business's financial records on cash equals how much is in the business's bank accounts, are especially useful as a control over deposits. This type of control will be discussed in a later section.

Section 3

Overview of Receivables

What is a Receivable

Types of Receivables

Recognizing Accounts Receivable

Valuing Accounts Receivable

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/overview-of-receivables/

What is a Receivable

A receivable is money owed to a business by its clients and shown on its balance sheet as an asset.

KEY POINTS

- Accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer.
- A receivable represents money owed to the firm on the sale of products or services on credit.
- Receivables must be paid within an established time frame, called credit terms or payment terms.

What is a Receivable?

A receivable is money owed to a business by its clients and shown on its balance sheet as an asset. It is one of a series of accounting transactions dealing with the billing of a customer for goods and services that the customer has ordered. Accounts receivable is an asset which is the result of accrual accounting. In this case, the firm has delivered products or rendered services (hence, revenue has been recognized), but no cash has been received, as the firm is allowing the customer to pay at a later point in time.

Sales on Credit

Receivables represent money owed by entities to the firm on the sale of products or services on credit. In most business entities, accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer; who, in turn, must pay it within an established time frame. This is called credit terms or payment terms.

Use of Ledger

The accounts receivable departments use the sales ledger. This is because a sales ledger normally records:

The sales a business has made.

The amount of money received for goods or services.-

The amount of money owed at the end of each month varies (debtors).

Accounts Receivable Department

The accounts receivable team is in charge of receiving funds on behalf of a company and applying it towards their

Figure 4.8 Money
Accounts receivable represents money that is owed to a business

current pending balances. Collections and cashiering teams are part of the accounts receivable department. While the collection's department seeks the debtor, the cashiering team applies the monies received (*Figure 4.8*).

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Types of Receivables

Receivables can generally be classified as accounts receivables or notes receivable, though there are other types of receivables as well.

KEY POINTS

- Accounts receivable are amounts that customers owe the company for normal credit purchases.
- Notes receivable are amounts owed to the company by customers or others who have signed formal promissory notes in acknowledgment of their debts.
- Accounts receivable and notes receivable that result from company sales are called trade receivables, but there are other types of receivables as well.

Receivables can be classified as accounts receivables, notes receivable and other receivables (loans, settlement amounts due for non-current asset sales, rent receivable, term deposits). Other receivables can be divided according to whether they are expected to be received within the current accounting period or 12 months (current receivables), or received greater than 12 months (non-current receivables).

Accounts Receivable

Accounts receivable are amounts that customers owe the company for normal credit purchases (*Figure 4.9*). Since accounts receivable are generally collected within two months of the sale, they are considered a current asset. Accounts receivable usually appear on balance sheets below short-term investments and above inventory.

Notes Receivable

Figure 4.9 Types of Receivables
Classifying receivables...

Notes receivable are amounts owed to the company by customers or others who have signed formal promissory notes in acknowledgment of their debts. Promissory notes strengthen a company's legal claim against those who fail to pay as promised. The maturity date of a note determines whether it is placed with current assets or long-term assets on the balance sheet. Notes that are due in one year or less are considered current assets, while notes that are due in more than one year are considered long-term assets.

Other Receivables

Accounts receivable and notes receivable that result from company sales are called trade receivables, but there are other types of receivables as well. For example, interest revenue from notes or other interest-bearing assets is accrued at the end of each accounting period and placed in an account named interest receivable. Wage advances, formal loans to employees, or loans to other companies create other types of receivables. If significant, these nontrade receivables are usually listed in separate categories on the balance sheet because each type of nontrade receivable has distinct risk factors and liquidity characteristics.

Source: https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/overview-of-receivables/types-of-receivables/

Recognizing Accounts Receivable

If you are operating under the accrual basis, you record account receivable transactions irrespective of any changes in cash.

KEY POINTS

- Since not all customer debts will be collected, businesses typically estimate the amount of debts to be paid and then record an allowance for doubtful accounts.
- An example of a common payment term is Net 30, which means that payment is due at the end of 30 days from the date of invoice.
- Account receivables are classified as current assets assuming that they are due within one year.

Recognition of Accounts Receivables

If you are operating under the accrual basis, you record transactions irrespective of any changes in cash. This is the system under which you record an account receivable. In addition, there is a risk that the customer will not pay you. If so, you can either charge these losses to expense when they occur, known as the direct write-off method, or you can anticipate the amount of such losses and charge an estimated amount to expense, known as the allowance method (*Figure 4.10*).

Figure 4.10 Recognition of Accounts Receivable
Booking receivables.

Booking a receivable is accomplished by a simple accounting transaction. However, the process of maintaining and collecting payments on the accounts receivable is more complex. Depending on the industry in practice, accounts receivable payments can be received up to 10 – 15 days after the due date has been reached. These types of payment practices are sometimes developed by industry standards, corporate policy, or because of the financial condition of the client.

Account receivables are classified as current assets assuming that they are due within one year. To record a journal entry for a sale on account, one must debit a receivable and credit a revenue account. When the customer pays off their accounts, one debits cash and credits the receivable in the journal entry. The ending balance on the trial balance sheet for accounts receivable is always debit.

Payment Terms

An example of a common payment term is Net 30, which means that payment is due at the end of 30 days from the date of invoice.

The debtor is free to pay before the due date; businesses can offer a discount for early payment. Other common **payment terms** include Net 45, Net 60, and 30 days end of month.

Allowance for Doubtful Accounts

Since not all customer debts will be collected, businesses typically estimate the amount of and then record an **allowance for doubtful accounts** which appears on the balance sheet as a contra account that offsets total accounts receivable. Two methods are available to calculate the amount of bad debt expense and allowance of doubtful accounts at the end of an accounting period -- percentage of accounts receivable or percentage of sales. When accounts receivables are not paid, some companies turn them over to third party collection agencies or collection attorneys who will attempt to recover the debt via negotiating payment plans, settlement offers or pursuing other legal action.

Examples of Allowance Calculation

An example of how to calculate the allowance for doubtful accounts using the percentage of receivables method -- Assume Furniture Palace has an ending accounts receivable balance of USD 10,000 and estimates that 5% of receivables are doubtful. To adjust the allowance account for the new estimate, debit Bad Debt Expense for USD 500 (10,000 * .05) and credit Allowance for Doubtful Accounts for USD 500.

To calculate the allowance for doubtful accounts using the percentage of total sales, estimate the percentage of sales that will be uncollectible. Furniture Palace estimates that 10% of the period's USD 20,000 total sales may not be collected. To adjust the allowance account for the new period's estimate, debit Bad Debt Expense for USD 2,000 (20,000 * .10) and credit Allowance for Doubtful Accounts for USD 2,000.

Valuing Accounts Receivable

Receivables of all types are normally reported at their net realizable value, which is the amount the company expects to receive in cash.

KEY POINTS

- Uncollectible accounts are called bad debts.
- Companies use two methods to account for bad debts: the direct write-off method and the allowance method.
- Business owners know that some customers who receive credit will never pay their account balances.

Valuation

Receivables of all types are normally reported on the balance sheet at their net realizable value, which is the amount the company expects to receive in cash (*Figure 4.11*).

Business owners know that some customers who receive credit will never pay their account balances. These uncollectible accounts are called bad debts. Companies use two methods to account for bad debts: the **direct write-off** method and the **allowance method**.

Direct Write-Off Method

For tax purposes, companies must use the **direct write-off method**, under which bad debts are recognized only after the company is certain the debt will not be paid. Before determining that an account balance is not collectible, a company generally makes several attempts to collect the debt from the customer.

Figure 4.11 Valuing Receivables
Receivables are recorded at net realizable value.

Recognizing the bad debt requires a journal entry that increases a bad debts expense account and decreases accounts receivable. If a customer named J. Smith fails to pay a $100 balance, for example, the company records the write-off by debiting bad debts expense and crediting accounts receivable from J. Smith.

Allowance Method

Under the allowance method, an adjustment is made at the end of each accounting period to estimate bad debts based on the business activity from that accounting period. Established companies rely on past experience to estimate unrealized bad debts, but new companies must rely on published industry averages until they have sufficient experience to make their own estimates.

The adjusting entry to estimate the expected value of bad debts does not reduce accounts receivable directly. Accounts receivable is a control account that must have the same balance as the combined balance of every individual account in the accounts receivable subsidiary ledger.

Since the specific customer accounts that will become uncollectible are not yet known when the adjusting entry is made, a contra-asset account named allowance for bad debts, which is sometimes called allowance for doubtful accounts, is subtracted from accounts receivable to show the net realizable value of accounts receivable on the balance sheet.

Section 4

Notes Receivable Detail

Components of a Note

Recognizing Notes Receivable

Valuing Notes Receivable

Write-offs

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/notes-receivable-detail/

Components of a Note

Notes Receivable represents claims for which formal instruments of credit are issued as evidence of debt, such as a promissory note.

KEY POINTS

- A notes receivable normally requires the debtor to pay interest and extends for time periods of 30 days or longer.
- Often a business will allow a customer to convert their overdue accounts into a notes receivable. Doing so gives the debtor more time to pay.
- The principle is the face value of the note. The principle equals the initial amount of credit provided.
- The maker of a note is the party who receives the credit and promises to pay the note's holder.
- Notes generally specify an interest rate, which is used to determine how much interest the maker of the note must pay in addition to the principal.

Notes Receivable

Notes Receivable represents claims for which formal instruments of credit are issued as evidence of debt, such as a **promissory note**. Often a business will allow a customer to convert their overdue accounts into a notes receivable. Doing so gives the **debtor** more time to pay. Occasionally, the notes receivable will include a personal guarantee by the owner of the debtor.

Figure 4.12 Confederate Note Receivable

A One Hundred Dollar Confederate States of America banknote dated December 22, 1862. Issued during the American Civil War (1861–1865).

A notes receivable normally requires the debtor to pay interest and extends for time periods of 30 days or longer. Notes receivable are considered current assets if they are to be paid within 1 year and non-current if they are expected to be paid after one year (*Figure 4.12*)

Components of a Note Receivable

Principle-the principle is the face value of the note. The principle equals the initial amount of credit provided.

Maker-the maker of a note is the party who receives the credit and promises to pay the note's holder. The maker classifies the note as a note payable.

Payee-the payee is the party that holds the note and receives payment from the maker when the note is due. The payee classifies the note as a note receivable.

Interest-notes generally specify an interest rate, which is used to determine how much interest the maker of the note must pay in addition to the principal.

Calculating interest-interest on short-term notes is calculated according to the following formula:

principle x annual interest rate x time period in years = interest

Example: interest on a four-month, 9%, $1,000 note equals $30

Recognizing Notes Receivable

In accounting, notes receivables are accounts to keep track of accrued assets that have been earned but not yet received.

KEY POINTS

- To record a journal entry for a sale on account, one must debit a receivable and credit a revenue account.
- When the receivable is payed off, debit the cash account and credit the receivable account.
- To estimate the net value of accounts receivable, subtract the balance of an allowance account from the accounts receivable account.
- Account for bad debts by either the allowance method or the direct write-off method.

In accounting, notes receivables are accounts to keep track of accrued assets that have been earned but not yet received.

Accrued Assets

Accrued assets are assets, such as interest receivable or accounts receivable, that have not been recorded by the end of an accounting

period. These assets represent rights to receive future payments that are not due at the balance sheet date. To present an accurate picture of the affairs of the business on the balance sheet, firms recognize these rights at the end of an accounting period by preparing an adjusting entry to correct the account balances. To indicate the dual nature of these adjustments, they record a related revenue in addition to the asset. We also call these adjustments 'accrued revenues' because the revenues must be recorded.

Recognizing and Reporting Notes Receivable

To record a journal entry for a sale on account, one must debit a receivable and credit a revenue account. When the customer pays off their accounts, one debits cash and credits the receivable in the journal entry. For example, a sale on account would be recorded similarly to the following interest receivable journal entry:

Figure 4.13 Notes Receivable Example

Adjustment 6—Interest revenue accrued	2010 Dec.	31	Interest Receivable		600	
			Interest Revenue			600
			To record one month's interest revenue.			

Recording an interest receivable journal entry

The ending balance on the trial balance sheet for accounts receivable is usually a debit. Business organizations which have become too large to perform such tasks by hand (or small ones that could but prefer not to) will generally use accounting software on a computer to perform this task. Companies have two methods available to them for measuring the net value of accounts receivable, which is generally computed by subtracting the balance of an allowance account from the accounts receivable account.

Allowance method

The first method is the allowance method, which establishes a contra-asset account, allowance for doubtful accounts, or **bad debt** provision, that has the effect of reducing the balance for accounts receivable.

The amount of the bad debt provision can be computed in two ways, either (1) by reviewing each individual debt and deciding whether it is doubtful (a specific provision); or (2) by providing for a fixed percentage (e.g. 2%) of total debtors (a general provision). The change in the bad debt provision from year to year is posted to the bad debt expense account in the income statement.

Direct write-off method

This second method is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net

realizable value. The entry would consist of debiting a bad debt expense account and crediting the respective accounts receivable in the sales ledger.

The two methods are not mutually exclusive, and some businesses will have a provision for doubtful debts, writing off specific debts that they know to be bad (for example, if the debtor has gone into liquidation.)

Valuing Notes Receivable

Companies have two methods available to them for measuring the net value of accounts receivable: the allowance method and the direct write-off method.

KEY POINTS

- Notes Receivable represents claims for which formal instruments of credit are issued as evidence of debt, such as a promissory note.
- The direct write-off method is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net realizable value.
- The allowance method, which establishes a contra-asset account, allowance for doubtful accounts, or bad debt provision, that has the effect of reducing the balance for accounts receivable.
- The two methods are not mutually exclusive, and some businesses will have a provision for doubtful debts, writing off specific debts that they know to be bad.

Notes Receivable

Notes Receivable represents claims for which formal instruments of credit are issued as evidence of debt, such as a promissory note. The credit instrument normally requires the debtor to pay interest and

extends for time periods of 30 days or longer. Notes receivable are considered current assets if they are to be paid within 1 year and non-current if they are expected to be paid after one year (*Figure 4.14*).

Figure 4.14 Compound Interest Treasury Note

Notes are short-term investment vehicles.

Reporting of Cash and Receivables

Accrued revenue (or accrued assets) is an asset such as proceeds from a delivery of goods or services, at which such income item is earned and the related revenue item is recognized, while cash for them is to be received in a latter accounting period. At that point its amount is deducted from accrued revenues.

Valuing Notes/Accounts Receivable

Companies have two methods available to them for measuring the net value of accounts receivable--the allowance method and the direct write-off method.

The Allowance Method

The first method is the allowance method, which establishes a contra-asset account, allowance for doubtful accounts, or bad debt provision, that has the effect of reducing the balance for accounts receivable. The amount of the bad debt provision can be computed in two ways:

1. by reviewing each individual debt and deciding whether it is doubtful (a specific provision)
2. by providing for a fixed percentage (e.g. 2%) of total debtors (a general provision)

The Direct Write Off Method

The second method is the direct **write off** method. It is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net realizable value. The entry would consist of debiting a bad debt expense account and crediting the respective accounts receivable in the sales ledger.

Write-offs

The allowance method provides in advance, while the direct write-off method recognizes bad accounts as an expense at the point when judged uncollectible.

KEY POINTS

- Companies use two methods for handling uncollectible accounts: the allowance method and the direct write-off method. The latter is the required method for federal income tax purposes.
- As time passes and a firm considers a specific customer's account to be uncollectible, it writes that account off.
- A write-off does not affect the net realizable value of accounts receivable.

Write-offs

Because customers do not always keep their promises to pay, companies must provide for these **uncollectible** accounts in their records.

Companies use two methods for handling uncollectible accounts: the allowance method and the direct write-off method. The allowance method provides in advance for uncollectible accounts. The direct write-off method recognizes bad accounts as an expense at the point when judged to be uncollectible and is the required method for federal income tax purposes (*Figure 4.15*).

Figure 4.15 Uncollectibles

An accounting perspective:

Business insight

According to the Fair Debt Collection Practices Act, collection agencies can call persons only between 8 am and 9 pm, and cannot use foul language. Agencies can call employers only if the employers allow such calls. And, they can threaten to sue only if they really intend to do so.

Interesting Facts About Collection Agencies.

Even though companies carefully screen customers, they cannot eliminate the possibility of uncollectible accounts. In fact, companies expect some of their accounts to become uncollectible, but they cannot predict which ones.

The matching principle requires debiting expenses incurred in producing revenues from those revenues during the accounting period. The allowance method of recording uncollectible accounts adheres to this principle by recognizing the uncollectible accounts expense, in advance of identifying specific accounts, as being uncollectible because it debits an expense and credits an allowance (contra asset). The purpose of the entry is to make the income statement fairly present the proper expense and the balance sheet fairly present the asset. Uncollectible accounts expense (also called

doubtful accounts expense or bad debts expense) is an operating expense that a business incurs when it sells on credit.

We classify uncollectible accounts expense as a selling expense because it results from credit sales. Other accountants might classify it as an administrative expense because the credit department has an important role in setting credit terms.

Write-off of receivables

As time passes and a firm considers a specific customer's account to be uncollectible, it writes that account off. It debits the Allowance for Uncollectible Accounts. The credit is to the Accounts Receivable control account in the general ledger and to the customer's account in the accounts receivable subsidiary ledger. For example, assume Smith's USD 750 account has been determined to be uncollectible. The entry to write off this account is:

Allowance for Uncollectible Accounts (-SE) 750

Accounts Receivable—Smith (-A) 750

The credit balance in Allowance for Uncollectible Accounts before making this entry represented potential uncollectible accounts not yet specifically identified. Debiting the allowance account and crediting Accounts Receivable shows that the firm has identified Smith's account as uncollectible. Notice that the debit in the entry to write off an account receivable does not involve recording an expense. The company recognized the uncollectible accounts expense in the same accounting period as the sale. If Smith's USD 750 uncollectible account were recorded in Uncollectible Accounts Expense again, it would be counted as an expense twice.

A write-off does not affect the net realizable value of accounts receivable. For example, suppose that Amos Company has total accounts receivable of USD 50,000 and an allowance of USD 3,000 before the previous entry; the net realizable value of the accounts receivable is USD 47,000. After posting that entry, accounts receivable are USD 49,250, and the allowance is USD 2,250; net realizable value is still USD 47,000, as shown here:

Before Write-Off // Entry for After Write-Off // Write-Off

Accounts receivable 50,000 Dr. // 750 Cr. // $ 49,250 Dr.

Allowance for uncollectible accounts 3,000 Cr. // 750 Dr. // 2,250 Cr.

Net realizable value 47,000 Dr. // $47,000

You might wonder how the allowance account can develop a debit balance before adjustment. To explain this, assume that Jenkins Company began business on January 1, 2009, and decided to use the allowance method and make the adjusting entry for

uncollectible accounts only at year-end. Thus, the allowance account would not have any balance at the beginning of 2009. If the company wrote off any uncollectible accounts during 2009, it would debit Allowance for Uncollectible Accounts and cause a debit balance in that account. At the end of 2009, the company would debit Uncollectible Accounts Expense and credit Allowance for Uncollectible Accounts. This adjusting entry would cause the allowance account to have a credit balance.

During 2010, the company would again begin debiting the allowance account for any write-offs of uncollectible accounts. Even if the adjustment at the end of 2009 was adequate to cover all accounts receivable existing at that time that would later become uncollectible, some accounts receivable from 2010 sales may be written off before the end of 2010. If so, the allowance account would again develop a debit balance before the end-of-year 2010 adjustment.

Section 5

Basics of Receivables Management

Activities to Manage Receivables

Managing to Prevent Fraud

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/basics-of-receivables-management/

Activities to Manage Receivables

Accounts receivable represents money owed by entities to the firm on the sale of products or services on credit.

KEY POINTS

- Collections and cashiering teams are part of the accounts receivable department. While the collection's department seeks the debtor, the cashiering team applies the monies received.
- An example of a common payment term is Net 30, which means that payment is due at the end of 30 days from the date of invoice.
- The first method of bookkeeping is the allowance method. It establishes a contra-asset account, allowance for doubtful accounts, or bad debt provision, that has the effect of reducing the balance for accounts receivable.
- The second method of bookkeeping is the direct write-off method. It is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net realizable value (debiting a bad debt expense account and crediting the respective accounts receivable).

Basics of Accounts Receivables

Accounts receivable (or debtors) represent money owed to a business by its clients (customers). It is shown on its balance sheet as an asset. It is one of a series of accounts dealing with the billing of a customer for goods and services that the customer has ordered.

Accounts **receivable** represents money owed by entities to the firm on the sale of products or services on credit. In most business entities, accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer, who, in turn, must pay it within an established time-frame, called credit terms or payment terms.

The accounts receivable departments use the sales ledger. This is because a sales ledger normally records:

The sales a business has made.

The amount of money received for goods or services.

The amount of money owed at the end of each month varies (debtors).

The accounts receivable team is in charge of receiving funds on behalf of a company and applying it towards their current pending balances.

Collections and cashiering teams are part of the accounts receivable department. While the collection's department seeks the debtor, the cashiering team applies the monies received.

Payment Terms

An example of a common payment term is Net 30, which means that payment is due at the end of 30 days from the date of invoice. The debtor is free to pay before the due date. Businesses can offer a discount for early payment. Other common payment terms include Net 45, Net 60, and 30 days end of month.

Bookkeeping

Account receivables are classified as current assets assuming that they are due within one year. To record a journal entry for a sale on account, one must debit a receivable and credit a revenue account. When the customer pays off their accounts, one debits cash and credits the receivable in the journal entry. The ending balance on the trial balance sheet for accounts receivable is usually a debit (*Figure 4.16*).

Two Methods

The first method is the allowance method, which establishes a contra-asset account, allowance for doubtful accounts, or bad debt provision, that has the effect of reducing the balance for accounts receivable. The amount of the bad debt provision can be computed in two ways, either (1) by reviewing each individual debt and deciding whether it is doubtful (a specific provision) or (2) by providing for a fixed percentage (e.g. 2%) of total debtors (a general provision). The change in the bad debt provision from year to year is posted to the bad debt expense account in the income statement.

Figure 4.16 General Accounting Cycle

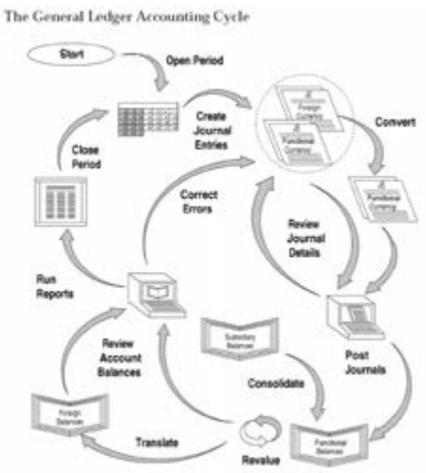

Figure shows the accounting cycle.

The second method is the direct write-off method. It is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net realizable value. The entry would consist of debiting a bad debt expense account and crediting the respective accounts receivable in the sales ledger.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/basics-of-receivables-management/activities-to-manage-receivables/

Managing to Prevent Fraud

To help prevent fraudulent activities, management must implement internal controls/structure and know what situations to look for.

KEY POINTS

- Employees are more likely to commit fraud when under situational or financial pressure, and when the opportunity to commit fraud is present.
- One of the main factors of an effective internal control system is segregation of duties. To segregate duties, a company can involve more than one person in the financial statement preparation process. For fraud to occur in this situation, two employees must collude to perpetrate the crime.
- A strong control environment (top management control) involves enlisting management to demonstrate ethical behavior.
- Outside parties performing annual examinations of financial statements can prevent management from committing fraud.

Failure to Prevent Fraud

Failure to implement adequate internal controls can result in financial statement fraud (purposely misstated financial statements) or embezzlement (theft). This is when the services of a forensic accountant may be necessary. Forensic accounting is the application of accounting methodology to legal issues. It is frequently associated with the investigation of civil or criminal white-collar crime such as fraud, embezzlement, and general abuse of funds issues. Typical tools used in forensic accounting are bank records, personal financial statements, interviews, and credit reports. The forensic accountant's responsibility is to gather and analyze the evidence and deliver clear, accurate, and unbiased reports reflecting the results of the investigation.

Figure 4.17
Occupy Wall Street - Fraud
Occupy Wall Street protester with a sign defining fraud.

Educate Management

Financial statement fraud involves the intentional publishing of false information in any portion of a financial statement.

To help prevent fraudulent activities, management must implement internal controls/structure, and know what situations to look for. Employees are more likely to commit fraud when under situational or financial pressure, and when the opportunity to commit fraud is present (*Figure 4.17*)

Separate Accounting Functions

One of the main factors of an effective internal control system is segregation of duties. Management helps to prevent fraud by reducing the incentives of fraud.

One incentive, the opportunity to commit fraud, can be reduced when accounting functions are separated. The act of segregating duties separates the record-keeping, authorization, and review functions in the **accounting** process. To segregate duties, a company can involve more than one person in the financial statement preparation process. For fraud to occur in this situation, two employees must collude to perpetrate the crime.

Control Environment

A strong **control** environment (top management control) involves enlisting management to demonstrate ethical behavior. Whatever tone management sets will have a trickle-down effect to the employees. A strong tone is developed by establishing and complying with a written set of policies which are concise and include consequences when procedures are disobeyed. In addition, one of the easiest ways to establish a strong moral tone for an organization is to hire employees with strong ethics/morals.

External Controls

Outside parties performing annual examinations of financial statements can prevent management from committing **fraud**. To meet financial goals for the company managers may be tempted to "cook the books." To help prevent management from adjusting financial statements, an independent auditor should examine financial statements on an annual basis.

EXAMPLE

To meet financial goals for the company managers may be tempted to "cook the books." To help prevent management from adjusting financial statements, an independent auditor should examine financial statements on an annual basis (*Figure 4.17*).

Reporting and Analyzing Receivables

Receivables Classification

Dealing with Foreign Currency and Bad Debts

Reporting Receivables

Using the Receivables Turnover Ratio

https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/reporting-and-analyzing-receivables/

Receivables Classification

Receivables can be classified as accounts receivables, trade debtors, bills receivable, and other receivables.

KEY POINTS

- Accounts receivable is the money owed to that company by entities outside of the company. Trade debtors are the receivables owed by the company's customers.
- Other receivables can be divided according to whether they are expected to be received within the current accounting period or 12 months (current receivables), or received greater than 12 months (non-current receivables).
- Not all accounts receivables will be paid, and an allowance has to be made for bad debts. The allowance for bad debts can be calculated either as the percentage of net credit sales or by the ageing method of estimating bad debts.

Accounts receivable represents money owed by entities to the firm on the sale of products or services on credit. In most business entities, accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer. In turn, the customer must pay it within an established time frame, which is called the credit terms or payment terms.

An example of a common payment term is Net 30, which means that payment is due at the end of 30 days from the date of invoice. The debtor is free to pay before the due date. To encourage this, businesses can offer a discount for early payment. Other common payment terms include Net 45, Net 60, and 30 days end of month.

On a company's balance sheet, receivables can be classified as accounts receivables or trade debtors, bills receivable, and other receivables (loans, settlement amounts due for non-current asset sales, rent receivables, term deposits). Accounts receivable is the money owed to that company by entities outside of the company. Trade receivables are the receivables owed by the company's customers. Other receivables can be divided according to whether they are expected to be received within the current accounting period or 12 months (current receivables), or received greater than 12 months (non-current receivables) (*Figure 4.18*).

Sample Small Business Balance Sheet[10]

Assets		**Liabilities and Owners' Equity**	
Cash	$6,600	**Liabilities**	
Accounts Receivable	$6,200	Notes Payable	$5,000
Tools and equipment	$25,000	Accounts Payable	$25,000
		Total liabilities	$30,000
		Owners' equity	
		Capital Stock	$7,000
		Retained Earnings	$800
		Total owners' equity	$7,800
Total	$37,800	*Total*	$37,800

Figure 4.18 Balance sheet

Sample balance sheet

Not all accounts receivables will be paid, and an allowance has to be made for bad debts. The **allowance for bad debts** can be calculated either as the percentage of net credit sales or by the ageing method of estimating bad debts. These are determined by historical accounting information. Accounts receivable therefore can be classified according to their age. The Accounts Receivable Age Analysis Printout, also known as the Debtors Book is divided in categories for current, 30 days, 60 days, 90 days, 120 days, 150 days,180 days, and overdue.

Dealing with Foreign Currency and Bad Debts

To deal with foreign currency and bad debts, we have a "gain or loss" account and methods to measure the net value of accounts receivable.

KEY POINTS

- On a company's balance sheet, accounts receivable is the money owed to that company by entities outside of the company.
- To deal with foreign currency, companies have a “foreign currency transaction gain or loss” that typically is included in arriving at earnings in the income statement for the period in which the exchange rate is changed.
- To deal with bad debts, companies have two methods available to them for measuring the net value of accounts receivable, which is generally computed by subtracting the balance of an allowance account from the accounts receivable account, namely the allowance method and the write-off method.

On a company's balance sheet, accounts receivable is the money owed to that company by entities outside of the company. The receivables owed by the company's customers are called trade

receivables. Account receivables are classified as current assets, assuming that they are due within one calendar year or fiscal year.

A foreign currency transaction requires settlement in a currency other than the **functional currency**. A change in exchange rates between the functional currency and the currency in which a transaction is denominated increases or decreases the expected amount of functional currency cash flows upon settlement of the transaction. This change in expected functional currency cash flows is a "foreign currency transaction gain or loss" that typically is included in arriving at earnings in the income statement for the period in which the exchange rate is changed.

To deal with bad debts, companies have two methods available to them for measuring the net value of accounts receivable, which is generally computed by subtracting the balance of an allowance account from the accounts receivable account.

The first method is the allowance method, which establishes a contra-asset account, allowance for doubtful accounts, or bad debt provision, that has the effect of reducing the balance for accounts receivable. The amount of the bad debt provision can be computed in two ways: either by reviewing each individual debt and deciding whether it is doubtful (a specific provision), or by providing for a fixed percentage (e.g. 2%) of total debtors (a general provision). The change in the bad debt provision from year to year is posted to the bad debt expense account in the income statement (*Figure 4.19*).

Figure 4.19 Allowance for Doubtful Accounts

```
Balance Sheet of XYZ, Ltd.
 As of 31 December 2009

ASSETS
Current Assets
Cash and Cash Equivalents
Accounts Receivable (Debtors)
Less : Allowances for Doubtful Accounts
Inventories
Prepaid Expenses
Investment Securities (Held for trading)
Other Current Assets
Non-Current Assets (Fixed Assets)
Property, Plant and Equipment (PPE)
  Less : Accumulated Depreciation
Investment Securities (Available for sale/Held-to-maturity)
Investments in Associates
Intangible Assets (Patent, Copyright, Trademark, etc.)
  Less : Accumulated Amortization
Goodwill
Other Non-Current Assets, e.g. Deferred Tax Assets, Lease Receivable
```

Allowance for Doubtful Accounts (the allowance method)

The second method is the direct write-off method. It is simpler than the allowance method in that it allows for one simple entry to reduce accounts receivable to its net realizable value. The entry would consist of debiting a bad debt expense account and crediting the respective accounts receivable in the sales ledger.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/reporting-and-analyzing-receivables/dealing-with-foreign-currency-and-bad-debts/
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Reporting Receivables

Accounts receivable are reported as a line item on the balance sheet and in a more detailed again report.

KEY POINTS

- An accounts receivable aging report summarizes receivables based on their age—that is, how long they have been outstanding.
- The accounts receivable age analysis, also known as the Debtors Book, is divided in categories—current, 30 days, 60 days, 90 days, 120 days, 150 days, 180 days, and overdue—that are produced in modern accounting systems.
- The aging schedule is a useful tool for analyzing the makeup of the accounts receivable balance. Analyzing the schedule allows auditors to spot any problems in accounts receivable early enough to protect the business from major cash flow problems.
- Auditors perform a variety of critical procedures with this report. The accounts receivable aging report is needed by auditors to verify that the balances on the subsidiary ledger agree with the General Ledger at a given point in time.

Accounts receivable are reported as a line item on the balance sheet. Supplementary reports, such as the accounts receivable aging report, provide further detail. The aging report shows how long

invoices from each customer have been outstanding. It is an analysis of accounts receivables broken down into categories by length of time outstanding.

An accounts receivable aging report summarizes receivables based on their age—how long they have been outstanding. The accounts receivable age analysis, also known as the Debtors Book, is divided into categories for current, 30 days, 60 days, 90 days, 120 days, 150 days, 180 days, and overdue that are produced in modern accounting systems. For example, all the unpaid invoices posted in the past month are current, all the unpaid invoices from the prior month are over 30 days, the unpaid invoices from two months ago are over 60 days, etc. The aging schedule is a useful tool for analyzing the makeup of accounts receivable balance. Analyzing the schedule allows businesses to spot any problems in accounts receivable early enough to predict major cash flow problems (*Figure 4.20*).

Auditors perform a variety of critical procedures with this report. The accounts receivable aging report is needed by auditors to verify that the balances on the subsidiary ledger agree with the **General Ledger** at a given point in time. Auditors are required to confirm a selection of customer account balances directly with the customers. It is also used to assess the adequacy of the company's provision for bad debts. Toward the end of the audit, auditors may attempt to verify that certain accounts receivable have been collected, or, if not collected, the auditor may perform other procedures for assurance that the accounts are collectible. Auditors verify that any accounts receivable from related parties are identified and properly disclosed. Auditors will also perform an array of analytical procedures on the report and may perform additional procedures based on the results of that testing.

Assets		**Liabilities and Owners' Equity**	
Cash	$6,600	**Liabilities**	
Accounts Receivable	$6,200	Notes Payable	$5,000
Tools and equipment	$25,000	Accounts Payable	$25,000
		Total liabilities	$30,000
		Owners' equity	
		Capital Stock	$7,000
		Retained Earnings	$800
		Total owners' equity	$7,800
Total	$37,800	*Total*	$37,800

Figure 4.20 Balance sheet

Accounts receivable in a balance sheet

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/reporting-and-analyzing-receivables/reporting-receivables/

Using the Receivables Turnover Ratio

The accounts receivable turnover ratio shows how quickly your credit customers are paying you.

KEY POINTS

- The receivable turnover ratio measures the number of times, on average, receivables are collected during the period. The greater the number of times receivables turn over during the year, the shorter the time between the sale and collecting the cash for that sale.
- The formula for calculating the receivables turnover ratio are as follows: Receivables Turnover Ratio = Net receivable sales/Average net receivables.
- An investment in accounts receivable is a necessity for most companies to do business. However, too much or too little receivables can be unhealthy.
- A reasonable accounts receivable turnover ratio depends on the industry. For grocery stores, it can be as high as 80. For firms in the manufacturing a number around 5-7 is more common. Accounts receivable turnover for firms in the service industry would be somewhat higher, 7-10.

Receivables Turnover Ratio

Receivable Turnover Ratio, a financial ratio, is one of the accounting activity ratios. This ratio measures the number of times, on average, receivables (i.e., Accounts Receivable) are collected during the period. The accounts receivable turnover ratio shows how quickly your credit customers are paying you. The greater the number of times receivables turn over during the year, the shorter the time between the sale and collecting the cash for that sale. A good receivables turnover ratio implies that the company is able to efficiently collect its receivables. (*Figure 4.21*)

The Formula

The formula for calculating the receivables turnover ratio are as follows: Receivables Turnover Ratio = Net receivable sales/Average net receivables.

A popular variant of the receivables turnover ratio is to convert it into an **Average Collection Period** in terms of days. Average Collection Period = 365 / Receivables Turnover Ratio.

It is notable that the Receivable turnover ratio is figured as "turnover times" and the Average collection period is in "days".

Importance of Receivables

By maintaining accounts receivable, firms indirectly extend interest-free loans to their clients. An investment in accounts receivable is a necessity for most companies to do business. However, an excessively high receivables or unnecessarily low receivables turnover ratio can be unhealthy.

XYZ Company		
Balance Sheet		
As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 4.21
Balance sheet
Debtors (accounts receivable) are current assets.

A Reasonable Ratio

A reasonable accounts receivable turnover ratio depends on the industry. For grocery stores, it can be as high as 80. For firms in the manufacturing a number around 5-7 is more common. Accounts receivable turnover for firms in the service industry would be somewhat higher, 7-10.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-cash-and-receivables/reporting-and-analyzing-receivables/using-the-receivables-turnover-ratio/
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Implication of a Low Ratio

An abnormally low ratio can be the result of over ambitious collection efforts or a credit policy that is too tight. These conditions can result in lost sales.

Implication of a High Ratio

An excessively high receivables level can be the result of a credit policy that is too loose or inadequate collection efforts. These situations can result in increased bad debt and higher costs.

Chapter 5

Controlling and Reporting of Inventories

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/

Understanding Inventory

Nature of Inventory

Categories of Goods Included in Inventory

Components of Inventory Cost

Flow of Inventory Costs

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/understanding-inventory/

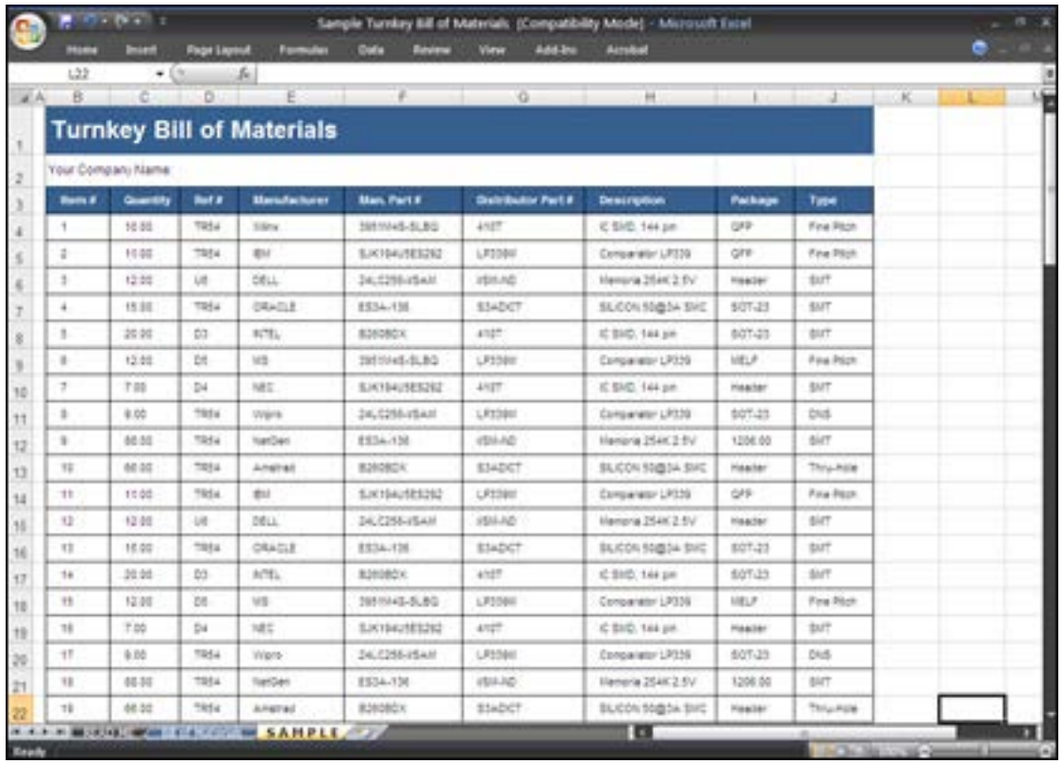
Nature of Inventory

Inventory represents finished and unfinished goods which have not yet been sold by a company.

KEY POINTS

- Inventories are maintained because time lags in moving goods to customers could put sales at risk.
- Inventories are maintained as buffers to meet uncertainties in demand, supply and movements of goods.
- There are four stages of inventory: raw material, work in progress, finished goods, and goods for resale.

Figure 5.1 Inventory Template



A Bill of Materials, also known as a BOM, is used to list the parts used to build a product, whether it is a software application, infrastructure equipment or a physical building.In other words, the Bill of Materials lists all the subassemblies, intermediates, parts, and raw materials that are part of a parent assembly, showing the quantity of each required to make an assembly.

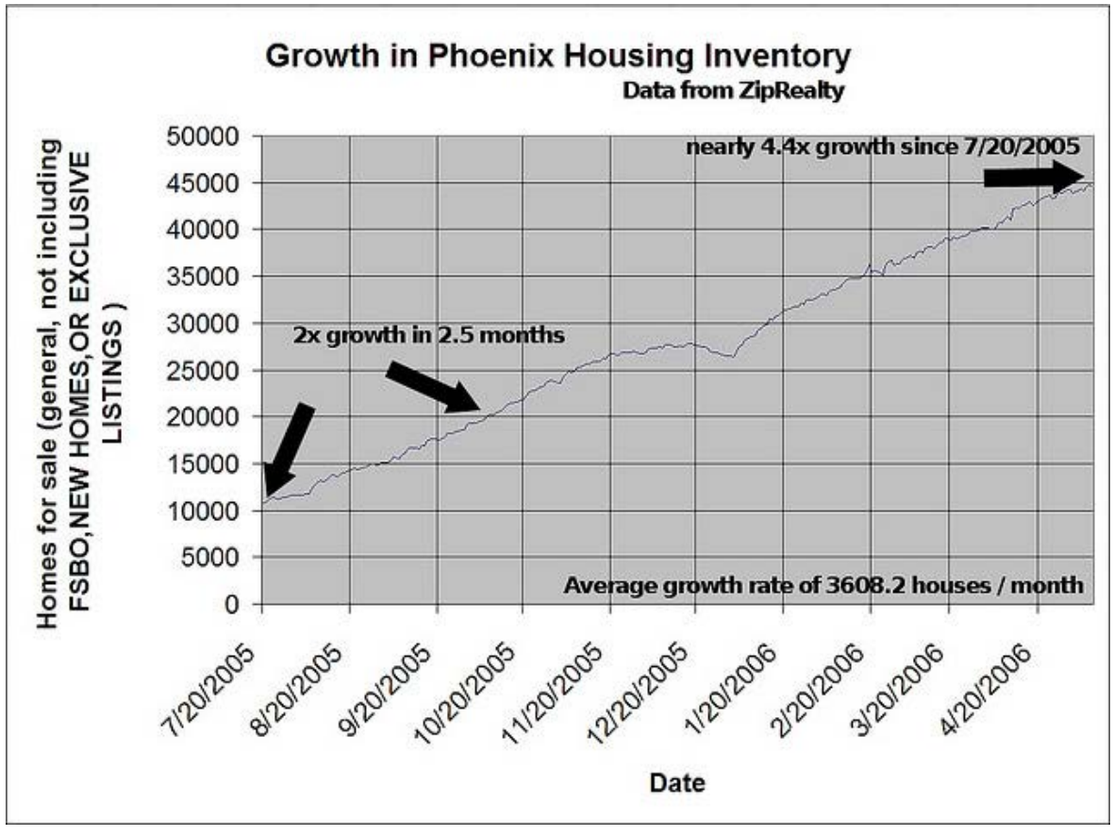
Definition of Inventory

Inventory represents finished and unfinished goods which have not yet been sold by a company (*Figure 5.1*). Inventories are maintained as buffers to meet uncertainties in demand, supply, and movements of goods. These holdings are recorded in an accounting system (*Figure 5.2*).

Basic Inventory Accounting

An organization's inventory counts as a current asset on an organization's balance sheet because the organization can, in principle, turn it into cash by selling it. However, it ties up money that could serve for other purposes and requires additional expense for its protection. Inventory may also cause significant tax expenses, depending on particular countries' laws regarding depreciation of inventory, as in the case of Thor Power Tool Company v. Commissioner.

Figure 5.2 Housing inventory growth in Phoenix



There was an interesting comment on the housing bubble blog listing "available inventory", otherwise known as the number of houses currently for sale, in Phoenix. It listed the available inventory on a daily basis from 7/20/2006 to 5/9/2006 (up to the day it was posted!)Phoenix is one of the "hot" markets of the housing bubble, but certainly isn't the top of the list. Inventory run ups like this are being seen nation wide, and are leading to price reductions (if the seller is smart) and long waits to sell as bubble flippers all try to cash out at once.

Inventory Systems

There are two principal systems for determining inventory quantities on hand: periodic and perpetual system.

The Periodic System

This system requires a physical count of goods on hand at the end of a period. A cost basis (i.e., FIFO, LIFO) is then applied to derive an inventory value. Because it is simple and requires records and adjustments mostly at the end of a period, it is widely used. It does lack some of the planning and control benefits of the perpetual system.

The Perpetual System

The perpetual system requires continuous recording of receipt and disbursement for every item of inventory. Most large manufacturing and merchandising companies use this system to ensure adequate supplies are on hand for production or sale, and to minimize costly machine shut-downs and customer complaints.

Inventory Costing

Inventory cost includes all expenditures relating to inventory acquisition, preparation, and readiness for sale, minus purchase discounts.

Rationale for Keeping Inventory:

1. Time - The time lags present in the supply chain, from supplier to user at every stage, requires that you maintain certain amounts of inventory to use in this lead time.

However, in practice, inventory is to be maintained for consumption during 'variations in lead time'. Lead time itself can be addressed by ordering that many days in advance.

2. Uncertainty - Inventories are maintained as buffers to meet uncertainties in demand, supply and movements of goods.

3. Economies of scale - Ideal condition of "one unit at a time at a place where a user needs it, when he needs it" principle tends to incur lots of costs in terms of logistics. So bulk buying, movement and storing brings in economies of scale, thus inventory.

Stages of Inventory:

1. **Raw materials** - materials and components scheduled for use in making a product.

2. Work in process, WIP - materials and components that have began their transformation to finished goods.

3. Finished goods - goods ready for sale to customers.

4. Goods for resale - returned goods that are salable.

Categories of Goods Included in Inventory

Most manufacturing organizations usually divide their "goods for sale" inventory into raw materials, work in process, and finished goods.

KEY POINTS

- Raw materials - Materials and components scheduled for use in making a product.
- Work in process/progress (WIP) - Materials and components that have began their transformation to finished goods.
- Finished goods - Goods ready for sale to customers (*Figure 5.3*).
- Goods for resale - Returned goods that are salable.
- Distressed inventory is inventory for which the potential to be sold at a normal cost has passed or will soon pass.
- Inventory credit refers to the use of stock, or inventory, as collateral to raise finance.

Categories of Goods

Figure 5.3 Inventory Control

Workers pack a wholesale order and prepare it for shipping. Ho Chi Minh City (Saigon), Vietnam, SE Asia.

While the reasons for holding stock were covered earlier, most manufacturing organizations usually divide their "goods for sale" inventory into several categories:

Raw materials - Materials and components scheduled for use in making a product.

Work in process or **work in progress** (WIP) - Materials and components that have began their transformation to finished goods.

Finished goods - Goods ready for sale to customers.

Goods for resale - Returned goods that are salable (*Figure 5.3*).

Raw Materials

A raw material is the basic material from which a product is manufactured or made. For example, the term is used to denote material that came from nature and is in an unprocessed or minimally processed state. Latex, iron ore, logs, crude oil, and salt water are examples of raw materials.

Work in Process (WIP)

WIP, or in-process inventory, includes unfinished items for products in a production process. These items are not yet completed, and are just being fabricated, waiting in a queue for further processing, or in a buffer storage. The term is used in production and supply chain management.

Optimal production management aims to minimize **work in process**. Work in process requires storage space, represents bound capital not available for investment, and carries an inherent risk of earlier expiration of the shelf life of the products. A queue leading to a production step shows that the step is well buffered for **shortage** in supplies from preceding steps, but may also indicate insufficient capacity to process the output from these preceding steps.

Finished Goods

Goods that are completed (manufactured) but not yet sold or distributed to the end-user.

Goods for resale

Returned goods that are salable. This is not always included in the "goods for sale" inventory; that depends on the preference of the company.

Example

A canned food manufacturer's materials inventory includes the ingredients needed to form the foods to be canned, empty cans and their lids (or coils of steel or aluminum for constructing those components), labels, and anything else (solder, glue, etc.) that will form part of a finished can. The firm's work in process includes those materials from the time of release to the work floor until they become complete and ready for sale to wholesale or retail customers. This may be vats of prepared food, filled cans not yet labeled, or sub-assemblies of food components. It may also include finished cans that are not yet packaged into cartons or pallets. The manufacturer's finished good inventory consists of all the filled and labeled cans of food in its warehouse that it has manufactured and wishes to sell to food distributors (wholesalers), to grocery stores (retailers), and even perhaps to consumers through arrangements like factory stores and outlet centers.

Components of Inventory Cost

The cost of goods produced in the business should include all costs of production: parts, labor, and overhead.

KEY POINTS

- Labor costs include direct labor and indirect labor. Direct labor costs are the wages paid to those employees who spend all their time working directly on the product being manufactured. Indirect labor costs are the wages paid to other factory employees involved in production.
- Overhead costs (costs incurred at the plant or organization level) are often allocated to sets of produced goods based on the ratio of labor hours or costs or the ratio of materials used for producing the set of goods.
- Most businesses make more than one of a particular item. Thus, costs are incurred for multiple items rather than a particular item sold. Parts and raw materials are often tracked to particular sets (e.g., batches or production runs) of goods, then allocated to each item.

Cost of Goods

The cost of goods produced in the business should include all costs of production. The key components of cost generally include:

Parts, raw materials and supplies used,

Labor, including associated costs such as payroll taxes and benefits, and

Overhead of the business allocable to production.

Most businesses make more than one of a particular item. Thus, costs are incurred for multiple items rather than a particular item sold. Determining how much of each of these components to allocate to particular goods requires either tracking the particular costs or making some allocations of costs.

Parts and Raw Materials

Parts and raw materials are often tracked to particular sets (e.g., batches or production runs) of goods, then allocated to each item.

Labor

Labor costs include direct labor and indirect labor. Direct labor costs are the wages paid to those employees who spend all their time working directly on the product being manufactured. Indirect

labor costs are the wages paid to other factory employees involved in production. Costs of payroll taxes and fringe benefits are generally included in labor costs, but may be treated as overhead costs. Labor costs may be allocated to an item or set of items based on timekeeping records.

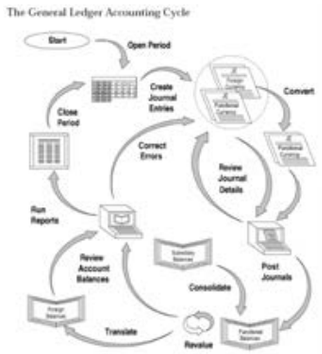


Figure 5.4
Accounting cycle
Image of the accounting cycle

Overhead Costs

Determining overhead costs often involves making assumptions about what costs should be associated with production activities and what costs should be associated with other activities (*Figure 5.4*). Traditional cost accounting methods attempt to make these assumptions based on past experience and management judgment as to factual relationships. Activity based costing attempts to allocate costs based on those factors that drive the business to incur the costs.

Overhead costs are often allocated to sets of produced goods based on the ratio of labor hours or costs or the ratio of materials used for producing the set of goods. Overhead costs may be referred to as factory overhead or factory burden for those costs incurred at the plant level or overall burden for those costs incurred at the organization level. Where labor hours are used, a burden rate or overhead cost per hour of labor may be added along with labor costs. Other methods may be used to associate overhead costs with particular goods produced. Overhead rates may be standard rates, in which case there may be variances, or may be adjusted for each set of goods produced.

Variable Production Overheads

Variable production overheads are allocated to units produced based on actual use of production facilities. Fixed production overheads are often allocated based on normal capacities or expected production. More or fewer goods may be produced than expected when developing cost assumptions (like burden rates). These differences in production levels often result in too much or too little cost being assigned to the goods produced. This also gives rise to variances.

Example

Jane owns a business that resells machines. At the start of 2009, she has no machines or parts on hand. She buys machines A and B for 10 each, and later buys machines C and D for 12 each. All the machines are the same, but they have serial numbers. Jane sells machines A and C for 20 each. Her cost of goods sold depends on her inventory method. Under specific identification, the cost of goods sold is 10 + 12, the particular costs of machines A and C. If she uses FIFO, her costs are 20 (10+10). If she uses average cost, her costs are 22 ((10+10+12+12)/4 x 2). If she uses LIFO, her costs are 24 (12+12). Thus, her profit for accounting and tax purposes may be 20, 18, or 16, depending on her inventory method.

Flow of Inventory Costs

Accounting techniques are used to manage assumptions of cost flows related to inventory and stock repurchases.

KEY POINTS

- Accounting techniques are used to manage inventory and financial matters - how much money a company has tied up within inventory of produced goods, raw materials, parts, components, etc. These techniques manage assumptions of cost flows related to inventory and stock repurchases (*Figure 5.5*).
- FIFO stands for first-in, first-out, meaning that the oldest inventory items are recorded as sold first, but do not necessarily mean that the exact oldest physical object has been tracked and sold.
- LIFO stands for last-in first-out. The most recently produced items are recorded as sold first. Since the 1970's, companies shifted towards the use of LIFO, which reduces their income taxes. The International Financial Reporting Standards banned using LIFO, so companies returned to FIFO.

FIFO and LIFO methods are accounting techniques used in managing inventory and financial matters involving the amount of money a company has tied up within inventory of produced goods,

raw materials, parts, components, or feed stocks. These methods are used to manage assumptions of cost flows related to inventory, stock repurchases (if purchased at different prices), and various other accounting purposes (*Figure 5.5*).

FIFO stands for first-in, first-out, meaning that the oldest inventory items recorded first are sold first, but does not necessarily mean that the exact oldest physical object has been tracked and sold.

An example of how to calculate the ending inventory balance of the period using FIFO -- assume the following inventory is on hand and purchased on the following dates:

Inventory of Product X -

Purchase date: 10/1/12 -- 10 units at a cost of USD 5

Purchase date: 10/5/12 -- 5 units at a cost of USD 6

On 12/30/12, a sale of Product X is made for 11 units

When the sale is made, it is assumed that the 10 units purchased on 10/1/12 (the sale eliminates this inventory layer) and 1 unit purchased on 10/5/12 were sold

The ending inventory balance on 12/31/12, is 4 units at a cost of USD 6

LIFO stands for last-in, first-out, meaning that the most recently produced items are recorded as sold first. Since the 1970's, some U.S. companies shifted towards the use of LIFO, which reduces their income taxes in times of inflation. However, with International Financial Reporting Standards banning the use of LIFO, more companies have gone back to FIFO. LIFO is only used in Japan and the United States.

An example of how to calculate the ending inventory balance of the period using LIFO -- assume the following inventory is on hand and purchased on the following dates:

Inventory of Product X -

Purchase date: 10/1/12 -- 10 units at a cost of USD 5

Purchase date: 10/5/12 -- 5 units at a cost of USD 6

On 12/30/12, a sale of Product X is made for 11 units

When the sale is made, it is assumed that the 5 units purchased on 10/5/12 (the sale eliminates this inventory layer) and 6 units purchased on

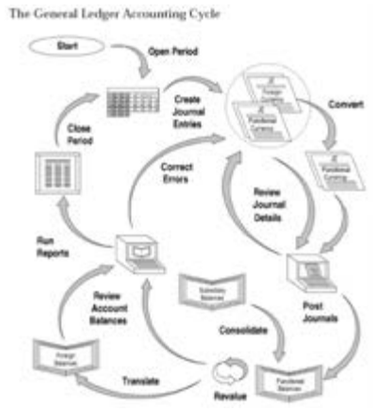


Figure 5.5
Accounting Cycle
The accounting cycle (flows).

10/1/12 were sold

The ending inventory balance on 12/31/12, is 4 units at a cost of USD 5

Differences between Inventory Costing Methods

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve. This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.

Differences in Periods of Rising Prices (Inflation)

FIFO (+) Higher value of inventory (-) Lower cost of goods sold

LIFO (-) Lower value of inventory (+) Higher cost of goods sold

Differences in Periods of Falling Prices (Deflation)

FIFO (-) Lower value of inventory (+) Higher cost of goods sold

LIFO (+) Higher value on inventory (-) Lower cost on goods sold

Methods of Preparing Cash Flow Statements

The direct method of preparing a cash flow statement results in report that is easier to understand. It creates a cash flow statement report using major classes of gross cash receipts and payments.

The indirect method is almost universally used because FAS 95 requires a supplementary report similar to the indirect method if a company chooses to use the direct method. It uses net-income as a starting point, makes adjustments for all transactions for non-cash items, then adjusts from all cash-based transactions. An increase in an asset account is subtracted from net income. An increase in a liability account is added back to net income. This method converts accrual-basis net income (or loss) into cash flow by using a series of additions and deductions.

Controlling Inventory

Internal Controls

Perpetual versus Periodic Counting

Conducting a Physical Inventory

Impact of Measurement Error

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/controlling-inventory/

Internal Controls

Inventory internal controls ensure that a company has sufficient resources to meet its customers' needs without having too much goods.

KEY POINTS

- Companies should store inventory in secure spacious warehouses so that inventory is not stolen or damaged. Goods and resources of the same or similar type should be kept in the same general area of the warehouse to minimize confusion and to ensure accurate counts.
- An inventory management system is a series of procedures, often aided by computer software, that tracks assets progression through inventory. A properly used and maintained inventory management system allows management to be able to know how much inventory it has at any given time.
- Detailed physical inventory counts are a way of ensuring that a company's inventory management system is accurate and as a check to make sure goods are not being lost or stolen. A physical count of a company's entire inventory is generally taken prior to the issuance of a company's balance sheet.

KEY POINTS (cont.)

- To conduct a cycle count, an auditor will select a small subset of inventory, in a specific location, and count it on a specified day. The auditor will then compare the count to the related the information in the system is correct. information in the inventory management system to ensure

Internal controls over a company's inventory are meant to ensure that management has an accurate count of what materials and goods it has available for sale and to protect those goods from being spoiled, stolen or otherwise made unavailable for sale. In short, inventory internal controls are meant to ensure that a company always has sufficient resources to produce and sell goods to meet its customers' needs without having oversupply.

This process is affected by the company's structure, its employees, and its informational systems. Since a company's inventory is directly tied to the business's ability to generate profit, the internal controls must be comprehensive and require significant thought when being designed.

Storage

Companies should store inventory in secure, spacious warehouses so that inventory is not stolen or damaged. Goods and resources of

the same or similar type should be kept in the same general area of the warehouse to minimize confusion and to ensure accurate counts.

Inventory Management Systems

An inventory management system is a series of procedures, often aided by computer software, that tracks assets progression through inventory. For example, assume a set amount of raw material is acquired by the company. When the company receives that material, the amount should be noted in the inventory management system. As the material is processed into the goods for resale, the amount of raw material used should be deducted from the "raw material inventory" and the amount of goods that result from the process should be added to the "finished goods inventory." As each finished item is sold, the "finished goods inventory" should be decreased by that amount.

The benefit of a properly used and maintained inventory management system is that it allows management to be able to know how much inventory it has at any given time.

Physical Inventory Count

Physical inventory counts are a way of ensuring that a company's inventory management system is accurate and as a check to make sure goods are not being lost or stolen. A detailed physical count of a company's entire inventory is generally taken prior to the issuance of a company's balance sheet, to ensure that the company accurately report its inventory levels (*Figure 5.6*).

Cycle Counts

Companies usually conduct **cycle counts** periodically throughout an accounting period as a means to ensure that the information in its inventory management system is correct. To conduct a cycle count, an auditor will select a small subset of inventory, in a specific location, and count it on a specified day. The auditor will then compare the count to the related information in the inventory management system. If the counts match, no further action is taken. If the numbers differ, the auditor will take additional steps to determine why the counts do not match.

Cycle counts contrast with traditional physical inventory in that a full physical inventory may stop operation at a facility while all items are counted at one time. Cycle counts are less disruptive to daily operations, provide an ongoing measure of inventory accuracy and procedure execution, and can be tailored to focus on

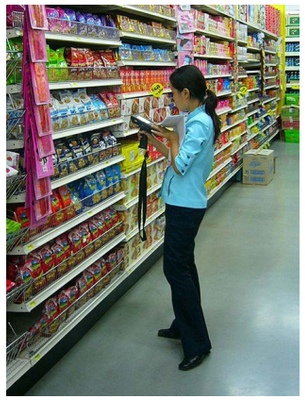


Figure 5.6 Keeping track of Inventory
Clerk conducting physical inventory count using a handheld computer in a Tesco Lotus supermarket in Sakon Nakhon, Thailand

items with higher value, higher movement volume, or that are critical to business processes. Cycle counting should only be performed in facilities with a high degree of inventory accuracy.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/controlling-inventory/internal-controls/

Perpetual versus Periodic Counting

Perpetual inventory updates the quantities continuously and periodic inventory updates the amount only at specific times, such as year end.

KEY POINTS

- Perpetual inventory or continuous inventory describes systems of inventory where information on inventory quantity and availability is updated on a continuous basis, usualyl via a computerized system.
- Periodic inventory is a system of inventory in which updates are made on a periodic basis.
- Theft, breakage, or untracked movement can cause the perpetual inventory to be inaccurate.

Perpetual Inventory

Perpetual inventory, also known as continuous inventory, is a style of inventory where information on inventory quantity and availability is updated on a continuous basis. Generally, this is accomplished by connecting the inventory system either with the order entry system or for a retail establishment the point of sale system.

A company using the **perpetual inventory system** would have a book inventory that is exactly (within a small margin of error) the same as the physical (real) inventory.

Periodic Inventory

Periodic inventory is updated on a periodic basis. No effort is made to keep up to date inventory records or cost of goods sold. Both cost of goods sold and the inventory are adjusted at the time of the physical inventory. Most companies who use periodic inventory perform this at year-end.

The physical count determines the amount of inventory appearing in the balance sheet and the cost of goods sold for the entire year is determined by a short computation.

Periodic vs. Perpetual

In earlier periods, non-continuous or **periodic inventory systems** were more prevalent. Many small businesses still only have a periodic system of inventory.

Perpetual inventory systems can still be vulnerable to errors due to overstatements (phantom inventory) or understatements (missing inventory) that occurs as a result of theft, **breakage**, scanning errors, or untracked inventory movements. These errors lead to systematic errors in replenishment (*Figure 5.7*).

While the perpetual inventory method provides a close picture of the true inventory information, it is a good idea for companies using a perpetual inventory system to do a physical inventory periodically.

Figure 5.7 Periodic inventory is performed once a year.

Physically counting inventory ensures that book value and physical value are the same.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/controlling-inventory/perpetual-versus-periodic-counting/

Conducting a Physical Inventory

There are three phases of a physical inventory: planning and preparation, execution, and analysis of results.

KEY POINTS

- Physical inventory is a process where a business physically counts its entire inventory.
- In the planning and preparation period, a list of stocks which is supposed to be counted are set up. Different teams are then assigned to count the stock.
- Each team counts a specific inventory. The results are recorded on the inventory listing sheet.
- The physicial count is compared to the computer count. The company must note any discrepancies between the actual number and the computer system, recount these inventory items to determine the correct quantity, and adjust the computer inventory quantity if needed.
- Any discrepancies between the actual number and the computer system must be fixed.

Conducting a Physical Inventory

Physical inventory is a process where a business physically counts its entire inventory. Companies perform a physical inventory for several reasons including to satisfy financial accounting rules or tax regulations, or to compile a list of items for restocking.

Most companies choose to do a physical inventory at year-end.

Businesses may use several different tactics to minimize the disruption caused by physical inventory. For instance, inventory services provide labor and automation to quickly count inventory and minimize shutdown time.

In addition, inventory control system software can speed the physical inventory process (*Figure 5.8*). A perpetual inventory system tracks the receipt and use of inventory, and calculates the quantity on hand. **Cycle counting**, an alternative to physical inventory, may be less disruptive.

The Phases Of Physical Inventory

There are three phases of a physical inventory:

Planning and preparation

Execution

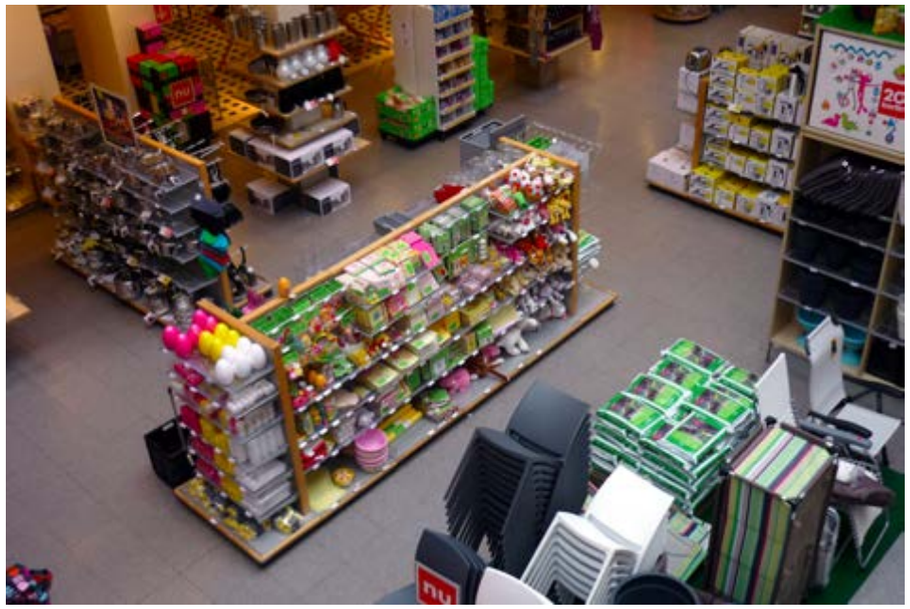


Figure 5.8 A company's inventory is a valuable asset.

An inventory control system ensures that the company's books reflect the actual inventory on hand.

Analysis of results

Planning and Preparation

In the planning and preparation period, a list of stocks that need to be counted is set up. Teams are then assigned and sent to count the stock.

Execution

The teams count the inventory items and record the results on an inventory-listing sheet.

Analysis Of Results

When analyzing the results, a company must compare the inventory counts submitted by each team with the inventory count from the computer system. If any discrepancies occur between the actual number and the computer system, it may be necessary to recount the disputed inventory items to determine the correct quantity. After the final amounts are determined, the company must make an adjusting entry to the computer inventory.

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Impact of Measurement Error

Measurement error leads to systematic errors in replenishment and inaccurate financial statements.

KEY POINTS

- In inventory controlling, measurement error is the difference between the actual number of stocks and the value obtained by measurement.
- Inventory systems can be vulnerable to errors due to overstatements (phantom inventory) or understatements (missing inventory). Overstatements and understatements can occur as a result of theft, breakage, scanning errors or untracked inventory movements.
- Based on inaccurate measurement data, the company will make either excessive orders or late orders which then may cause production disruption. In sum, systematic measurement error can lead to errors in replenishment.
- An incorrect inventory balance causes an error in the calculation of cost of goods sold and, therefore, an error in the calculation of gross profit and net income.

Measurement Error Impacts

Measurement error is the difference between the true value of a quantity and the value obtained by measurement. The two main types of error are random errors and systematic errors. In inventory controlling, measurement error is the difference between the actual number of stocks and the value obtained by measurement.

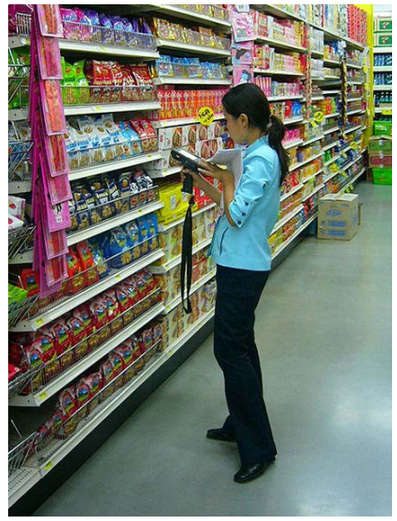

Figure 5.9 Physical inventory

Female clerk doing inventory work using a handheld computer in a Tesco Lotus supermarket in Sakon Nakhon, Thailand

Inventory systems can be vulnerable to errors due to overstatements (**phantom inventory**) when the actual inventory is lower than the measurement or understatements (missing inventory) when the actual stocks are higher than the measurement. Overstatements and understatements can occur as a result of theft, breakage, scanning errors or untracked inventory movements. It is quite easy to overlook goods on hand, count goods twice, or simply make mathematical mistakes (*Figure 5.9*).

Based on inaccurate measurement data, the company will make either excessive orders or late orders which then may cause production disruption. In sum, systematic measurement error can lead to errors in replenishment.

Inventory controlling helps revenue and expenses be recognized. As a result, an incorrect inventory balance causes an error in the calculation of cost of goods sold and, therefore, an error in the calculation of gross profit and net income. A general rule is that overstatements of ending inventory cause overstatements of income, while understatements of ending inventory cause understatements of income. Since financial statement users depend upon accurate statements, care must be taken to ensure that the inventory balance at the end of each accounting period is correct. It is also vital that accountants and business owners fully understand the effects of inventory errors and grasp the need to be careful to get these numbers as correct as possible.

Section 3

Valuing Inventory

Costing Methods Overview

Specific Identification Method

Cost Flow Assumptions

Average Cost Method

FIFO Method

LIFO Method

Gross Profit Method

Selecting an Inventory Method

Impacts of Costing Methods on Financial Statements

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/valuing-inventory/

Costing Methods Overview

There are four accepted methods of costing items: specific identification; first-in, first-out; last-in, first-out; and weighted-average.

KEY POINTS

- Cost accounting is regarded as the process of collecting, analyzing, summarizing, and evaluating various alternative courses of action involving costs and advising the management on the most appropriate course of action based on the cost efficiency and capability of the management.
- The specific identification method of inventory costing attaches the actual cost to an identifiable unit of product. Firms find this method easy to apply when purchasing and selling large inventory items such as cars.
- The FIFO (first-in, first-out) method of inventory costing assumes that the costs of the first goods purchased are those charged to cost of goods sold when the company actually sells goods.
- The LIFO (last-in, first-out) method of inventory costing assumes that the costs of the most recent purchases are the first costs charged to cost of goods sold when the company actually sells the goods.

KEY POINTS (cont.)

- The weighted-average method of inventory costing is a means of costing ending inventory using a weighted-average unit cost. Companies most often use the weighted-average method to determine a cost for units that are basically the same.

Costing Methods Overview

Cost accounting information is designed for managers. Since managers are making decisions only for their own organization, there is no need for the information to be comparable to similar information from other organizations. Instead, the important criterion is that the information must be relevant for decisions that managers, operating in a particular environment of business including strategy, make. Cost accounting information is commonly used in financial accounting information, but first we are concentrating on its use by managers to take decisions. The accountants who handle the cost accounting information add value by providing good information to managers who are making decisions. Among the better decisions, is the better performance of one's organization, regardless if it is a manufacturing company, a bank, a non-profit organization, a government agency, a school club or even a business school. The cost-accounting system is the result of decisions made by managers of an organization and the environment in which they make them (*Figure 5.10*).

Figure 5.10 Efficient use of inventory is critical for businesses.

Picture of inventory at a business.

Cost accounting is regarded as the process of collecting, analyzing, summarizing, and evaluating various alternative courses of action involving costs and advising the management on the most appropriate course of action based on the cost efficiency and capability of the management.

The following are different cost accounting approaches:

standardized or standard cost accounting

lean accounting

activity-based costing

resource consumption accounting

throughput accounting

marginal costing/cost-volume-profit analysis

Classical cost elements for a manufacturing business are:

Raw materials

Labor

Indirect expenses/overhead

Accepted Financial Costing Methods

There are four accepted methods of costing inventory items:

1. specific identification;
2. first-in, first-out (FIFO);
3. last-in, first-out (LIFO); and
4. weighted-average.

Each method has advantages and disadvantages. Note that a manufacturing business's inventory will consist of work in process, or unfinished goods, and finished inventory; the costs of unfinished

and finished inventory contain a combination of costs related to raw materials, labor, and overhead. On the other hand, a retailer's inventory consists of all finished products purchased from a wholesaler or manufacturer; the costs of their units are based on their acquisition cost rather than the costs associated with manufacturing units.

Specific Identification

The specific identification method of inventory **costing** attaches the actual cost to an identifiable unit of product. Firms find this method easy to apply when purchasing and selling large inventory items such as cars. Under the specific identification method, the firm must identify each unit in inventory, unless it is unique, with a serial number or identification tag.

FIFO (first-in, first-out)

The FIFO (first-in, first-out) method of inventory costing assumes that the costs of the first goods purchased are those charged to cost of goods sold when the company actually sells goods. This method assumes the first goods purchased are the first goods sold. In some companies, the first units in (bought) must be the first units out (sold) to avoid large losses from spoilage. Such items as fresh dairy products, fruits, and vegetables should be sold on a FIFO basis. In these cases, an assumed first-in, first-out flow corresponds with the actual physical flow of goods.

LIFO (last-in, first-out)

The LIFO (last-in, first-out) method of inventory costing assumes that the costs of the most recent purchases are the first costs charged to cost of goods sold when the company actually sells the goods.

Weighted-average

The weighted-average method of inventory costing is a means of costing ending inventory using a weighted-average unit cost. Companies most often use the weighted-average method to determine a cost for units that are basically the same, such as identical games in a toy store or identical electrical tools in a hardware store. Since the units are alike, firms can assign the same unit cost to them.

Specific Identification Method

Specific identification is a method of finding out ending inventory cost that requires a detailed physical count.

KEY POINTS

- Specific identification is a method of finding out ending inventory cost. It requires a detailed physical count, so that the company knows exactly how many of each goods brought on specific dates remained at year end inventory.
- In theory, this method is the best method, since it relates the ending inventory goods directly to the specific price they were bought for. However, management can easily manipulate ending inventory cost, since they can choose to report that cheaper goods were sold first, ultimately raising income.
- Alternatively, management can choose to report lower income, to reduce the taxes they needed to pay.

Types of Accounting Methods

The merchandise inventory figure used by accountants depends on the quantity of inventory items and the cost of the items. There are four accepted methods of costing the items: (1) specific identification; (2) first-in, first-out (FIFO); (3) last-in, first-out (LIFO); and (4) weighted-average. Each method has advantages and disadvantages.

General Information

Specific identification is a method of finding out ending inventory cost. It requires a detailed physical count, so that the company knows exactly how many of each goods brought on specific dates remained at year-end inventory. When this information is found, the amount of goods is multiplied by their purchase cost at their purchase date, to get a number for the ending inventory cost.

In theory, this method is the best method because it relates the ending inventory goods directly to the specific price they were bought for. However, this method allows management to easily manipulate ending inventory cost, since they can choose to report that the cheaper goods were sold first, therefore increasing ending inventory cost and lowering cost of goods sold. This will increase the income.

Alternatively, management can choose to report lower income, to reduce the taxes they needed to pay. This method is also a very hard to use on interchangeable goods. For example, it is hard to relate shipping and storage costs to a specific inventory item. These numbers will need to be estimated and reducing the specific identification's benefit of being extremely specific.

Using Specific Identification

The specific identification method of inventory costing attaches the actual cost to an identifiable unit of product. Firms find this method easy to apply when purchasing and selling large inventory items such as cars. Under the specific identification method, the firm must identify each unit in inventory, unless it is unique, with a **serial number** or identification tag.

To illustrate, assume that the company in (*Figure 5.11*)can identify the 20 units on hand at year-end as 10 units from the August 12 purchase and 10 units from the December 21 purchase. The company computes the ending inventory as shown in (*Figure 5.11*); it subtracts the USD 181 ending inventory cost from the USD 690 cost of goods available for sale to obtain the USD 509 cost of goods sold. Note that you can also determine the cost of goods sold for the year by recording the cost of each unit sold. The USD 509 cost of goods sold is an expense on the income statement, and the USD 181 ending inventory is a current asset on the balance sheet. The specific identification costing method attaches cost to an identifiable unit of inventory. The method does not involve any assumptions about the flow of the costs as in the other inventory costing methods. Conceptually, the method matches the cost to the physical flow of the inventory and eliminates the emphasis on the timing of the cost determination. Therefore, periodic and perpetual inventory procedures produce the same results for the **specific identification method**.

Figure 5.11 Specific Identification

	Units	Unit Cost	Total Cost
Ending inventory composed of purchases made on:			
August 12	10	$ 9.00	$ 90
December 21	10	9.10	91
Ending inventory	20		$181
Cost of goods sold composed of:			
Beginning inventory	10	8.00	$ 80
Purchases made on:			
March 2	10	8.50	85
May 28	20	8.40	168
October 12	20	8.80	176
			$509
Cost of goods available for sale			$690
Ending inventory			181
Cost of goods sold			$509

Determining ending inventory under specific identification

Cost Flow Assumptions

Inventory cost flow assumptions (e.g., FIFO) are necessary to determine the cost of goods sold and ending inventory.

KEY POINTS

- Companies make certain assumptions about which goods are sold and which goods remain in inventory (resulting in different accounting methodologies).
- The only requirement, regardless of method is that: The total cost of goods sold plus the cost of the goods remaining in ending inventory for financial and tax purposes is equal to the actual cost of goods available.
- Cost flow assumptions are for financial reporting and tax purposes only and do not have to agree with the actual movement of goods.

Cost Flow Assumptions

Inventory cost flow assumptions are necessary to determine the cost of goods sold and ending inventory. Companies make certain assumptions about which goods are sold and which goods remain in inventory (resulting in different accounting methodologies). This is for financial reporting and tax purposes only and does not have to agree with the actual movement of goods (companies typically choose a method because of its particular benefits, such as lower taxes) (*Figure 5.12*).

Figure 5.12 Efficient use of inventory is critical for businesses.

This is inventory in a storage unit.

The only requirement, regardless of method is that: The total cost of goods sold plus the cost of the goods remaining in the ending inventory for financial and tax purposes is equal to the actual cost of goods available.

Specific Identification

Characteristics of the specific identification method include:

Keeps track of the cost of each, specific good sold

Perfect matching of costs of goods to goods sold

Often impossible or too costly and allows manipulation by management

FIFO

Characteristics of the FIFO method include:

Assigns first costs incurred to **COGS** (cost of goods sold) on the income statement

Disallows manipulation by management and cost flow agrees with ideal, physical flow of goods, though the agreement of cost flow and ideal, physical flow of goods is arguably not important

Uses the least relevant cost for the income statement and underestimates or overestimates the cost of goods sold if prices are rising or falling, respectively

LIFO

Characteristics of the LIFO method include:

Assigns last costs incurred to COGS on the income statement

Disallows manipulation by management and uses the most relevant cost for the income statement

Underestimates or overestimates cost of goods sold if prices are falling or rising, respectively and cost flow disagrees with ideal, physical flow of goods, though the agreement of cost flow and ideal, physical flow of goods is arguably not important

Weighted Average

Characteristics of the weighted average method include:

Assigns average cost incurred to COGS on the income statement

Disallows manipulation by management and better estimation of the cost of goods sold than FIFO or LIFO if prices are rising or falling

Tends to ignore extreme costs of inventory and there is no theoretical reasoning for using this method

Additional Notes

LIFO and weighted average cost flow **assumptions** may yield different end inventories and COGS in a perpetual inventory system than in a periodic inventory system due to the timing of the calculations. In the perpetual system, some of the oldest units calculated in the periodic units-on-hand ending inventory may get

expended during a near inventory exhausting individual sale. In the LIFO system, the weighted average system, and the perpetual system, each sale moves the weighted average, so it is a moving weighted average for each sale. In contrast, in the periodic system, it is only the weighted average of the cost of the beginning inventory, the sum cost of all the purchases, less than the cost of the inventory, divided by the sum of the beginning units and the total units purchased.

Average Cost Method

Under the Average Cost Method, It is assumed that the cost of inventory is based on the average cost of the goods available for sale during the period.

KEY POINTS

- Under the average cost method, it is assumed that the cost of inventory is based on the average cost of the goods available for sale during the period.The average cost is computed by dividing the total cost of goods available for sale by the total units available for sale.
- The weighted-average method of inventory costing is a means of costing ending inventory using a weighted-average unit cost. Companies most often use the weighted-average method to determine a cost for units that are basically the same, such as identical games in a toy store.
- Moving-Average (Unit) Cost is a method of calculating Ending Inventory cost. Assume that both Beginning Inventory and beginning inventory cost are known. From them the Cost per Unit of Beginning Inventory can be calculated.

Average Cost Method

Under the average cost method, it is assumed that the cost of inventory is based on the average cost of the goods available for sale

during the period. The average cost is computed by dividing the total cost of goods available for sale by the total units available for sale. This gives a weighted-average unit cost that is applied to the units in the ending inventory. There are two commonly used average cost methods: Simple Weighted Average Cost method and Moving-Average Cost method.

The following is an example of the weighted average cost method:

On 12/31/12, Furniture Palace has cost of goods available for sale (beginning inventory and purchases) of USD 5,000; 200 units available for sale; sales of 50 units; and an ending inventory of 150 units.

The per unit cost of inventory is USD 25 (5,000 / 200 units). The value of the ending inventory on the balance sheet is USD 3,750 (150 units * USD 25). The cost of goods sold on the income statement is USD 1,250 (50 units * USD 25).

Moving Average Cost

Moving-Average (Unit) Cost is a method of calculating Ending Inventory cost. Assume that both Beginning Inventory and Beginning Inventory Cost are known. From them, the Cost per Unit of Beginning Inventory can be calculated. During the year, multiple purchases are made. Each time, purchase costs are added to Beginning Inventory Cost to get Cost of Current Inventory. Similarly, the number of units bought is added to Beginning Inventory to get Current Goods Available for Sale. After each purchase, Cost of Current Inventory is divided by Current Goods Available for Sale to get Current Cost per Unit on Goods.

Also during the year, multiple sales happen. The Current Goods Available for Sale is deducted by the amount of goods sold (COGS), and the Cost of Current Inventory is deducted by the amount of goods sold times the latest (before this sale) Current Cost per Unit on Goods. This deducted amount is added to Cost of Goods Sold. At the end of the year, the last Cost per Unit on Goods, along with a physical count, is used to determine ending inventory cost.

The following is an example of the moving-average cost method:

On 12/29/12, Furniture Palace has beginning inventory of USD 5,000 and 200 units available for sale. The current cost per unit is USD 25 (5,000 * 200 units).

On 12/30/12, a purchase of 50 units is made for USD 250. The new cost per unit after the purchase is USD 21 (5,000 + 250 / 200 + 50).

On 12/31/12, sales for the period were 50 units and ending inventory is 150 units. The value of the ending inventory on the balance sheet is USD 3,150 (150 units * USD 21). The cost of goods sold on the income statement is USD 1,050 (50 units * USD 21).

Weighted-Average under Periodic Inventory Procedure

The Weighted-Average Method of inventory costing is a means of costing ending inventory using a weighted-average unit cost. Companies most often use the Weighted-Average Method to determine a cost for units that are basically the same, such as identical games in a toy store or identical electrical tools in a hardware store. Since the units are alike, firms can assign the same unit cost to them. Under periodic inventory procedure, a company determines the average cost at the end of the accounting period by dividing the total units purchased plus those in beginning inventory into total cost of goods available for sale. The ending inventory is carried at this per unit cost.

Advantages and Disadvantages of Weighted-Average Method

When a company uses the Weighted-Average Method and prices are rising, its cost of goods sold is less than that obtained under LIFO, but more than that obtained under FIFO. Inventory is also not as badly understated as under LIFO, but it is not as up-to-date as under FIFO. Weighted-average costing takes a middle-of-the-road approach. A company can manipulate income under the weighted-average costing method by buying or failing to buy goods near year-end. However, the averaging process reduces the effects of buying or not buying.

FIFO Method

FIFO stands for "first-in, first-out," and assumes that the costs of the first goods purchased are charged to cost of goods sold.

KEY POINTS

- This method assumes the first goods purchased are the first goods sold. In some companies, the first units in (bought) must be the first units out (sold) to avoid large losses from spoilage.
- In periods of rising prices (Inflation) FIFO has higher value of inventory and lower cost of goods sold; in periods of falling prices (deflation) it has lower value of inventory and higher cost of goods sold.
- Because a company using FIFO assumes the older units are sold first and the newer units are still on hand, the ending inventory consists of the most recent purchases.

What Is FIFO

FIFO stands for "first-in, first-out", and is a method of inventory costing which assumes that the costs of the first goods purchased are those charged to cost of goods sold when the company actually sells goods.

FIFO and LIFO methods are accounting techniques used in managing inventory and financial matters involving the amount of money a company has tied up within inventory of produced goods, raw materials, parts, components, or feed stocks. These methods

Figure 5.13 Inventory

This shows inventory in a warehouse.

are used to manage assumptions of cost flows related to inventory, stock repurchases (if purchased at different prices), and various other accounting purposes (*Figure 5.13*).

Assumptions of FIFO

This method assumes the first goods purchased are the first goods sold. In some companies, the first units in (bought) must be the first units out (sold) to avoid large losses from spoilage. Such items as fresh dairy products, fruits, and vegetables should be sold on a FIFO basis. In these cases, an assumed first-in, first-out flow corresponds with the actual physical flow of goods.

Because a company using FIFO assumes the older units are sold first and the newer units are still on hand, the ending inventory consists of the most recent purchases. When using periodic inventory procedure to determine the cost of the ending inventory at the end of the period under FIFO, you would begin by listing the cost of the most recent purchase. If the ending inventory contains more units than acquired in the most recent purchase, it also includes units from the next-to-the-latest purchase at the unit cost incurred, and so on. You would list these units from the latest purchases until that number agrees with the units in the ending inventory.

How is it different?

Different accounting methods produce different results, because their flow of costs are based upon different assumptions. The FIFO method bases its cost flow on the chronological order purchases are made, while the LIFO method bases it cost flow in a reverse chronological order. The average cost method produces a cost flow based on a weighted average of unit costs.

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the "LIFO reserve." This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.

How to Calculate Ending Inventory Using FIFO

Ending inventory = beginning inventory + net purchases - cost of goods sold

Keep in mind the FIFO assumption: Costs of the first goods purchased are those charged to cost of goods sold when the company actually sells goods.

When Using FIFO

Periods of Rising Prices (**Inflation**)FIFO (+) Higher value of inventory (-) Lower cost of goods sold

Periods of Falling Prices (Deflation)FIFO (-) Lower value of inventory (+) Higher cost of goods sold

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/valuing-inventory/fifo-method/
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LIFO Method

LIFO stands for last-in, first-out, meaning that the most recently produced items are recorded as sold first.

KEY POINTS

- FIFO and LIFO Methods are accounting techniques used in managing inventory and financial matters involving the amount of money a company has tied up within inventory of produced goods, raw materials, parts, components, or feed stocks.
- LIFO stands for last-in, first-out, meaning that the most recently produced items are recorded as sold first.
- The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the "LIFO reserve." This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.

Accounting Methods

A merchandising company can prepare an accurate income statement, statements of retained earnings, and balance sheets only if its inventory is correctly valued. On the income statement, a company using periodic inventory procedure takes a physical inventory to determine the cost of goods sold. Since the cost of

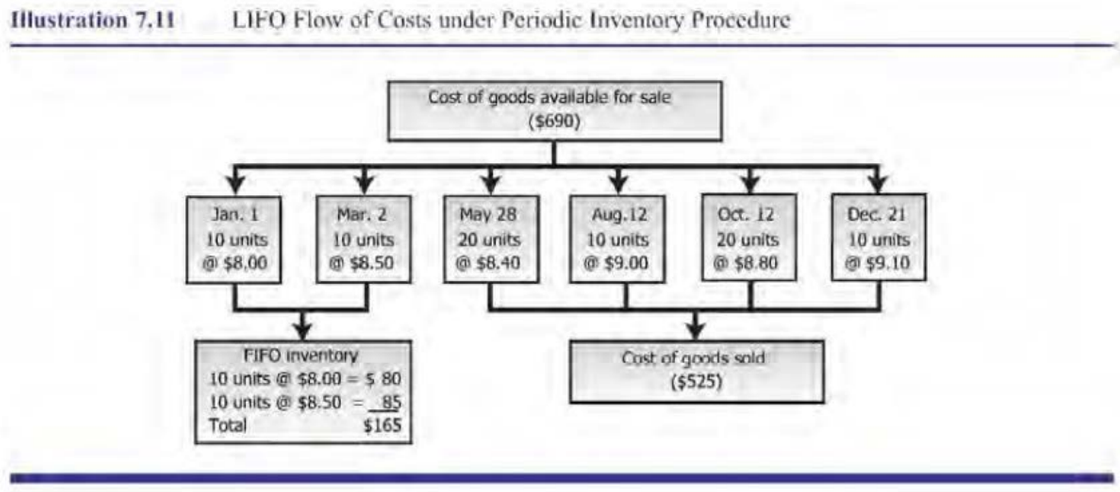
goods sold figure affects the company's net income, it also affects the balance of retained earnings on the statement of retained earnings. On the balance sheet, incorrect inventory amounts affect both the reported ending inventory and retained earnings. Inventories appear on the balance sheet under the heading "Current Assets," which reports current assets in a descending order of liquidity. Because inventories are consumed or converted into cash within a year or one operating cycle, whichever is longer, inventories usually follow cash and receivables on the balance sheet.

FIFO and LIFO methods are accounting techniques used in managing inventory and financial matters involving the amount of money a company has tied up within inventory of produced goods, raw materials, parts, components, or feed stocks. These methods are used to manage assumptions of cost flows related to inventory, stock repurchases (if purchased at different prices), and various other accounting purposes.

LIFO

LIFO stands for last-in, first-out, meaning that the most recently produced items are recorded as sold first. Since the 1970s, some U.S. companies shifted towards the use of LIFO, which reduces their income taxes in times of inflation, but with International Financial Reporting Standards banning the use of LIFO, more companies have gone back to FIFO. LIFO is only used in Japan and the United States. The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the "LIFO reserve." This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method (*Figure 5.14*), (*Figure 5.15*).

Figure 5.14 LIFO Flowchart



LIFO flow of costs under periodic inventory procedure

The following is an example of the LIFO inventory costing method -- assume the following inventory is on hand and purchased on the following dates:

Inventory of Product X -

Purchase date: 10/1/12 -- 10 units at a cost of USD 5

Purchase date: 10/5/12 -- 5 units at a cost of USD 6

Figure 5.15 LIFO inventory method

	Units	Unit Cost	Total Cost
Ending inventory composed of:			
Beginning inventory	10	$8.00	$ 80
March 2 purchase	10	8.50	85
Ending inventory	20		$165
Cost of goods sold composed of purchases made on:			
December 21	10	9.10	$ 91
October 12	20	8.80	176
August 12	10	9.00	90
May 28	20	8.40	168
			$525
Cost of goods available for sale			$690
Ending inventory			165
Cost of goods sold			$525

Determining LIFO cost of ending inventory under periodic inventory procedure.

On 12/30/12, a sale of Product X is made for 11 units

When the sale is made, it is assumed that the 5 units purchased on 10/5/12 (the sale eliminates this inventory layer) and 6 units purchased on 10/1/12 were sold

The ending inventory balance on 12/31/12 balance sheet is 4 units at a cost of USD 5, or USD 20, and the cost of goods sold on the income statement is USD 60 (5 units * USD 6 + 6 units * USD 5).

LIFO Under Perpetual Inventory Procedure

Under this procedure, the inventory composition and balance are updated with each purchase and sale. Each time a sale occurs, the items sold are assumed to be the most recent ones acquired. Despite numerous purchases and sales during the year, the ending inventory still includes the units from beginning inventory.

Applying LIFO on a perpetual basis during the accounting period, results in different ending inventory and cost of goods sold figures than applying LIFO only at year-end using periodic inventory procedure. For this reason, if LIFO is applied on a perpetual basis during the period, special inventory adjustments are sometimes necessary at year-end to take full advantage of using LIFO for tax purposes.

Gross Profit Method

The gross profit method uses the previous year's average gross profit margin to calculate the value of the inventory.

KEY POINTS

- There a two methods to estimate inventory cost the retail inventory method and the gross profit method.
- If taking a physical inventory is impossible or impractical, it is necessary to estimate the inventory cost.
- Keep in mind the gross profit method assumes that gross profit ratio remains stable during the period.

Valuing Inventory

An inventory valuation allows a company to provide a **monetary** value for items that make up their inventory. Inventories are usually the largest current asset of a business, and proper measurement of them is necessary to assure accurate financial statements. If inventory is not properly measured, expenses and revenues cannot be properly matched and a company could make poor business decisions.

A company will chose an inventory accounting system, either perpetual or periodic. In perpetual inventory the accounting records must show the amount of inventory on hand at all times. Periodic inventory is not updated on a regular basis.

Methods Used to Estimate Inventory Cost

While the best way to value inventory is to perform a physical inventory, in certain business operations, taking a physical inventory is impossible or impractical. In such a situation, it is necessary to estimate the inventory cost. There are two methods to estimate inventory cost, the retail inventory method and the gross profit method.

Both methods can be used to calculate the inventory amount for the monthly financial statements, or estimate the amount of missing inventory due to theft, fire or other disaster. Either of these methods should never be used as a substitute for performing an annual physical inventory.

Gross Profit Method

The gross profit (or gross margin) method uses the previous year's average gross profit margin (i.e. sales minus cost of goods sold divided by sales) to calculate the value of the inventory. Keep in mind the gross profit method assumes that gross profit ratio remains stable during the period (*Figure 5.16*).

Figure 5.16 Inventory.

The gross profit (or gross margin) method uses the previous year's average gross profit margin (i.e. sales minus cost of goods sold divided by sales) to calculate the value of the inventory.

To prepare the inventory value via the gross profit method:

Calculate the cost of goods available for sale as the sum of the cost of beginning inventory and cost of net purchases.

Determine the gross profit ratio. Gross profit ratio equals gross profit divided by sales. Use projected gross profit ratio or historical gross profit ratio whichever is more accurate and reliable.

Multiply sales made during the period by gross profit ratio to obtain estimated cost of goods sold.

Calculate the cost of ending inventory as the difference of cost of goods available for sale and estimated cost of goods sold.

The following is an example on how to calculate ending inventory using the gross profit method --

Furniture Palace has cost of goods available for sale of USD 5,000. Sales were USD 1.000.

The company has projected a gross profit ratio of 25%.

The estimated cost of goods sold on the income statement for the period is USD 250 (1,000 * .25)

The ending inventory on the balance sheet is USD 4,750 (5,000 - 250).

Selecting an Inventory Method

When selecting an inventory method, managers should look at the advantages and disadvantages of each.

KEY POINTS

- Specific identification provides the most precise matching of costs and revenues and is, therefore, the most theoretically sound method.
- The FIFO method has four major advantages: (1) it is easy to apply, (2) the assumed flow of costs corresponds with the normal physical flow of goods, (3) no manipulation of income is possible, and (4) the balance sheet amount for inventory is likely to approximate the current market value.
- During periods of inflation, LIFO shows the largest cost of goods sold (COGS) of any of the costing methods because the newest costs charged to cost of goods sold are also the highest costs.
- When a company uses the weighted-average method and prices are rising, its cost of goods sold is less than that obtained under LIFO, but more than that obtained under FIFO.

Advantages and Disadvantages of Specific Identification

Companies that use the specific identification method of 'inventory costing' state their cost of goods sold and ending inventory as the actual cost of specific units sold and on hand. Some accountants argue that this method provides the most precise matching of costs and revenues and is therefore the most theoretically sound method. This statement is true for some one-of-a-kind items, such as autos or real estate. For these items, use of any other method would seem illogical. However, one disadvantage of the specific identification method is that it permits the manipulation of income.

Advantages and Disadvantages of FIFO

The FIFO method has four major advantages:

1. It is easy to apply.
2. The assumed flow of costs corresponds with the normal physical flow of goods.
3. No manipulation of income is possible.
4. The balance sheet amount for inventory is likely to approximate the current market value.

All the advantages of FIFO occur because when a company sells goods, the first cost it removes from inventory are the oldest unit

costs. The cost attached to the unit sold is always the oldest cost. Under FIFO, purchases at the end of the period have no effect on cost of goods sold or net income (*Figure 5.17*). The disadvantages of FIFO include the recognition of paper profits and a heavier tax burden if used for tax purposes in periods of inflation.

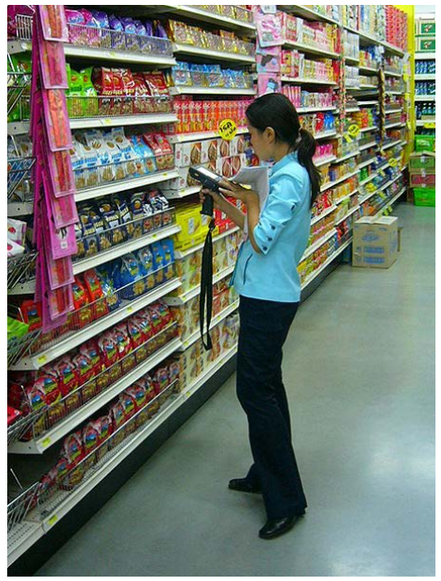
An example of how to calculate the ending inventory balance of the period using FIFO -- assume the following inventory is on hand and purchased on the following dates:

Inventory of Product X -

Purchase date: 10/1/12 -- 10 units at a cost of USD 5

Purchase date: 10/5/12 -- 5 units at a cost of USD 6

Figure 5.17 Businesses need to manage their inventories.



Worker managing inventory.

On 12/30/12, a sale of Product X is made for 11 units

When the sale is made, it is assumed that the 10 units purchased on 10/1/12 and 1 unit purchased on 10/5/12 were sold

The ending inventory balance on 12/31/12 balance sheet is 4 units at a cost of USD 6, or USD 24. The cost of goods sold on the income statement is USD 56 (10 units * USD 5 + 1 unit * USD 6).

Advantages and disadvantages of LIFO

During periods of inflation, LIFO shows the largest cost of goods sold of any of the costing methods because the newest costs charged to cost of goods sold are also the highest costs. The larger the cost of goods sold, the smaller the net income. Those who favor LIFO argue that its use leads to a better matching of costs and revenues than the other methods. When a company uses LIFO, the income statement reports both sales revenue and cost of goods sold in current dollars. The resulting gross margin is a better indicator of management's ability to generate income than gross margin computed using FIFO, which may include substantial inventory (paper) profits.

An example of how to calculate the ending inventory balance of the period using LIFO -- assume the following inventory is on hand and purchases are made on the following dates:

Inventory of Product X -

Purchase date: 10/1/12 -- 10 units at a cost of USD 5

Purchase date: 10/5/12 -- 5 units at a cost of USD 6

On 12/30/12, a sale of Product X is made for 11 units. When the sale is made, it is assumed that the 5 units purchased on 10/5/12 and 6 units purchased on 10/1/12 were sold.

The ending inventory balance on 12/31/12, is 4 units at a cost of USD 5, or USD 20. The cost of good sold on the income statement is USD 60 (5 units * USD 6 + 6 units * USD 5).

Advantages and Disadvantages of Weighted-Average

When a company uses the weighted-average method and prices are rising, its cost of goods sold is less than that obtained under LIFO, but more than that obtained under FIFO. Inventory is not as understated as under LIFO, but it is not as up-to-date as under FIFO. A company can manipulate income under the weighted-average costing method by buying or failing to buy goods near year-end. However, the averaging process reduces the effects of buying or not buying.

The following is an example of the weighted average cost method:

On 12/31/12, Furniture Palace has cost of goods available for sale of USD 5,000; 200 units available for sale; sales of 50 units; and an ending inventory of 150 units.

The per unit cost of inventory is USD 25 (5,000 / 200 units). The value of the ending inventory on the balance sheet is USD 3,750 (150 units * USD 25). The cost of goods sold on the income statement is USD 1,250 (50 units * USD 25).

Impacts of Costing Methods on Financial Statements

The method a company uses to determine it cost of inventory (inventory valuation) directly impacts the financial statements.

KEY POINTS

- Without inflation all three inventory valuation methods would produce the same results. However, prices do tend to rise over the years, and the company's method costing method affects the valuation ratios.
- The FIFO method assumes that the first unit in inventory is the first until sold. FIFO gives a more accurate value for ending inventory on the balance sheet. On the other hand, FIFO increases net income and increased net income can increase taxes owed.
- The LIFO method assumes the last item entering inventory is the first sold. During periods of inflation LIFO shows ending inventory on the balance sheet much lower than what the inventory is truly worth at current prices, this means lower net income due to a higher cost of goods sold.
- The average cost method takes a weighted average of all units available for sale during the accounting period and then uses that average cost to determine the value of COGS and ending inventory.

Inventory Valuation

The method a company uses to determine it cost of inventory (inventory valuation) directly impacts the financial statements. The three main methods for inventory costing are First-in, First-Out (FIFO), Last-in, Last-Out (LIFO) and Average cost (*Figure 5.18*).

Figure 5.18 Inventory valuation method.

The inventory valuation method a company chooses directly effects its financial statements.

First-in, First-Out

The FIFO method assumes that the first unit in inventory is the first until sold. For example, during the week a factory produces items. On Monday the items cost is $5 per unit to make, on Tuesday it is a $5.50 per unit. When the item is sold on Wednesday FIFO records the cost of goods sold for those items as $5. So, the balance sheet has the cost of goods sold at $1 and the balance sheet retains the remaining inventory at $5.50

Last-in, First-out

The LIFO method assumes the opposite, that the last item entering inventory is the first sold. That means the factory would record the Wednesday cost of goods sold as $5.50 and the remaining inventory at $5.

Average Cost

This method is the most easy to calculate; it takes a weighted average of all units available for sale during the accounting period and then uses that average cost to determine the value of COGS and **ending inventory**. Assuming the factory made a total of 100 units the price per unit would be 5.25 ((5.00 x 50) + (5.50 x 50)) /100.

Impact on the Financial Statements

Without inflation, all three inventory valuation methods would produce the same results. Unfortunately, prices do tend to rise over the years, and the company's method costing method affects the valuation ratios.

During periods of inflation, the FIFO gives a more accurate value for ending inventory on the balance sheet. On the other hand, FIFO increases net income (due to the age of the inventory being used in cost of goods sold) and Increased net income can increase taxes owed.

Using LIFO during periods of inflation tend to show and ending inventory amount on the balance sheet that is much lower than what the inventory is truly worth at current prices, this means lower net income due to a higher cost of goods sold.

With average cost, the results fall in between FIFO and LIFO. Keep in mind deflation (falling prices) have an opposite effect on each method.

Detail on Using LIFO

The LIFO Reserve

Comparability

Liquidation

Dollar-Value

Advantages of LIFO

Disadvantages of LIFO

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/detail-on-using-lifo/

The LIFO Reserve

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve.

KEY POINTS

- The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve. This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.
- During times of increasing costs, the balance in the LIFO reserve account will have a credit balance, meaning that less cost reported in inventory. Remember, under LIFO the latest (higher) costs are expensed to the cost of goods sold, while the older (lower) costs remain in inventory.
- The credit balance in the LIFO reserve reports the difference in the inventory costs under LIFO versus FIFO since the time that LIFO was adopted. The change in the balance during the current year represents the current year's inflation in costs.
- LIFO reserve = FIFO inventory - LIFO inventory.

The LIFO Reserve

Last-In First-Out (LIFO) is the opposite of First-In First-Out (FIFO). Some systems permit determining the costs of goods at the time acquired or made, but assigning costs to goods sold under the assumption that the goods made or acquired last are sold first. Costs of specific goods acquired or made are added to a pool of costs for the type of goods. Under this system, the business may maintain costs under FIFO but track an offset in the form of a LIFO reserve. Such a reserve (an asset or a contra-asset) represents the difference in cost of inventory under the FIFO and LIFO assumptions (*Figure 5.19*).

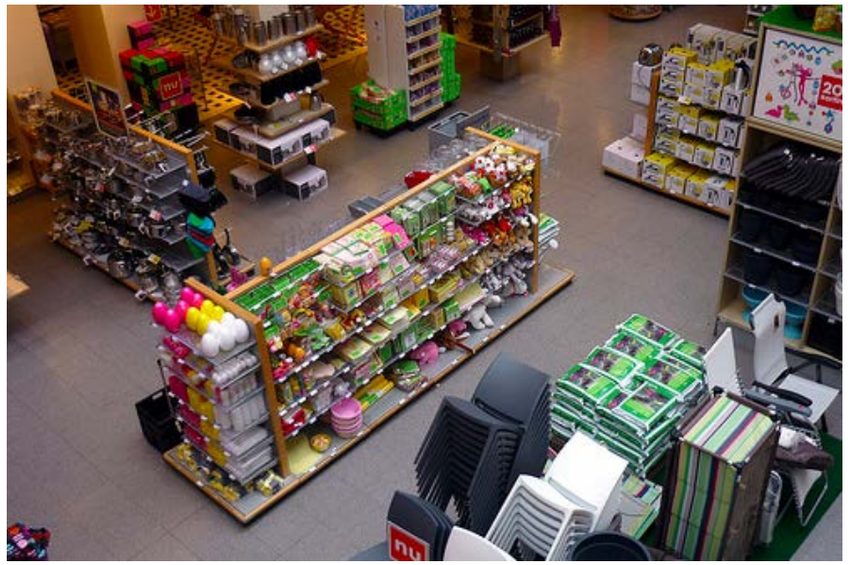


Figure 5.19
Seasonal Inventory
Valuing inventory using the LIFO method.

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve. This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.

LIFO Reserve in Action

Suppose a company uses FIFO for its internal accounting system, but wants to use LIFO for financial and income tax reporting (due to continuous inflation of its costs). In this instance, the LIFO reserve is a contra inventory account that will reflect the difference between the FIFO cost and LIFO cost of its inventory.

During times of increasing costs, the balance in the LIFO reserve account will have a credit balance, meaning that less cost is reported in inventory. Remember, under LIFO the latest (higher) costs are expensed to the cost of goods sold, while the older (lower) costs remain in inventory.

The credit balance in the LIFO reserve reports the difference in the inventory costs under LIFO versus FIFO since the time that LIFO was adopted. The change in the balance during the current year represents the current year's inflation in costs.

Benefits

The change in the balance in the LIFO reserve will also increase the current year's cost of goods sold. This in turn reduces the company's profits and therefore, taxable income.

The change in the balance of the LIFO reserve during the current year times the income tax rate results in the difference in the income tax for the year. Changing this formula slightly, one can find the difference in income tax since LIFO was adopted (the balance in the LIFO reserve times the income tax rate).

The disclosure of the LIFO reserve is better for comparing the profits and ratios of a company using LIFO with the profits and ratios of a company using FIFO.

Additional Information

The accounting profession has discouraged the use of the word reserve in financial reporting, so LIFO reserve may sometimes be called: Revaluation to LIFO, Excess of FIFO over LIFO cost, or LIFO allowance.

LIFO reserve = FIFO inventory - LIFO inventory

FIFO inventory = LIFO inventory + LIFO reserve

Comparability

If a company uses LIFO, the recorded amount of inventory is not an accurate reflection of cost, reducing comparability to companies using FIFO.

KEY POINTS

- The LIFO method results in lower ending (and beginning) inventory on a company's balance sheet because the oldest (and therefore usually less expensive due to inflation) items remain in the inventory.
- If a company uses LIFO, recorded inventory is not an accurate reflection of cost of the current period. This low valuation affects the computation and evaluation of current assets and any financial ratios that include inventory, reducing comparability between companies using different methods.
- The most common normalization adjustments fall into the following four categories: Comparability Adjustments, Non-operating Adjustments, Non-recurring Adjustments, and Discretionary Adjustments.

Why Comparability is Important

Business valuation is a process and a set of procedures used to estimate the economic value of an owner’s interest in a business.

Valuation is used by financial market participants to determine the price they are willing to pay or receive to perfect a sale of a business. In addition to estimating the selling price of a business, the same valuation tools are often used by business appraisers to resolve disputes related to:

estate and gift taxation,

divorce litigation,

allocating business purchase price among business assets,

establishing a formula for estimating the value of partners' ownership interest for buy-sell agreements,

and many other business and legal purposes (*Figure 5.20*).

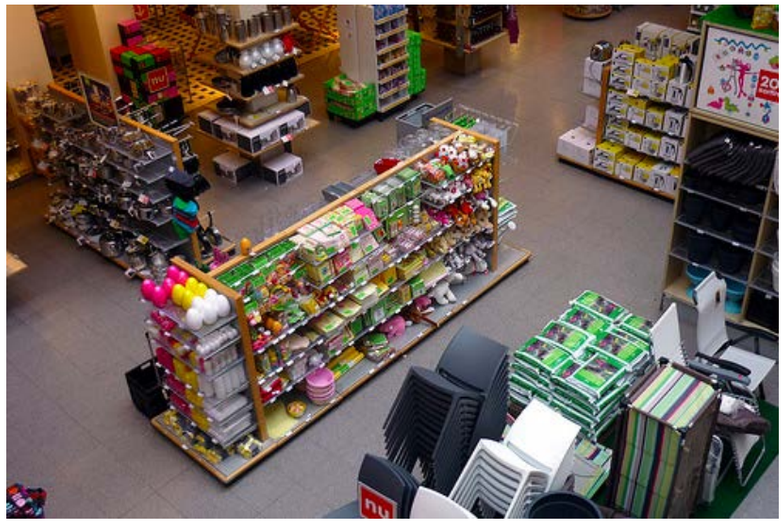


Figure 5.20
Seasonal Inventory
Valuing inventory using the LIFO method of valuation.

Inventory Valuation with LIFO

The LIFO method results in lower ending (and beginning) inventory on a company's balance sheet because the oldest (and therefore usually less expensive due to inflation) items remain in the inventory. Based off of this information, one can assume that if a company uses LIFO, the recorded amount of inventory is not an accurate reflection of cost of the current period. This low valuation affects the computation and evaluation of current assets and any financial ratios that include inventory, resulting in reduced comparability between companies using LIFO and others using FIFO.

Comparability Adjustments

The valuer may adjust the subject company's financial statements to facilitate a comparison between the subject company and other businesses in the same industry or geographic location. These **adjustments** are intended to eliminate differences between the way that published industry data is presented and the way that the subject company's data is presented in its financial statements.

Non-operating Adjustments

It is reasonable to assume that if a business were sold in a hypothetical sales transaction (which is the underlying premise of the fair market value standard), the seller would retain any assets which were not related to the production of earnings or price those non-operating assets separately. For this reason, non-operating assets (such as excess cash) are usually eliminated from the balance sheet.

Non-recurring Adjustments

The subject company's financial statements may be affected by events that are not expected to recur, such as the purchase or sale of assets, a lawsuit, or an unusually large revenue or expense. These non-recurring items are adjusted so that the financial statements will better reflect the management's expectations of future performance.

Discretionary Adjustments

The owners of private companies may be paid at variance from the market level of compensation that similar executives in the industry might command. In order to determine fair market value, the owner's compensation, benefits, perquisites and distributions must be adjusted to industry standards. Similarly, the rent paid by the subject business for the use of property owned by the company's owners individually may be scrutinized.

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Liquidation

In law, liquidation is the process by which a company is brought to an end, and the assets and property of the company redistributed.

KEY POINTS

- Liquidation may either be compulsory (sometimes referred to as a creditors' liquidation) or voluntary (sometimes referred to as a shareholders' liquidation, although some voluntary liquidations are controlled by the creditors) (*Figure 5.21*).
- After the removal of all assets which are subject to retention of title arrangements, fixed security, or are otherwise subject to proprietary claims of others, the liquidator will pay the claims against the company's assets.
- LIFO liquidation refers to when a company using LIFO accounting methods liquidates their older LIFO inventory. This occurs if current sales are higher than current purchases, and consequently inventory not sold in previous periods must be liquidated.
- Due to inflation, the amount of money companies pay for inventory will usually increase over time. If a company decides to undergo LIFO liquidation, the old costs of inventory will be matched with the current, higher sales prices resulting in a higher tax liability.

What is Liquidation?

In law, liquidation is the process by which a company (or part of a company) is brought to an end, and the assets and property of the company are redistributed. Liquidation is sometimes referred to as 'winding-up' or 'dissolution', although dissolution technically refers to the last stage of liquidation. The process of liquidation arises when customs, or an authority or agency in a country responsible for collecting and safeguarding customs duties, determines the final computation, ascertainment of the duties, or drawback accruing on an entry.

Liquidation may either be compulsory (sometimes referred to as a 'creditors' liquidation') or voluntary (sometimes referred to as a 'shareholders' liquidation', although some voluntary liquidations are controlled by the creditors) (*Figure 5.21*).

Figure 5.21 Plane liquidation

Alitalia — Compagnia Aerea Italiana S.p.A. (Italian for Alitalia - Italian Air Company), is an Italian airline, which bought some assets from the liquidation process of the old Alitalia-Linee Aeree Italiane and the entire Air One.

Parties Entitled to Liquidation

The parties who are entitled by law to petition for the compulsory liquidation of a company vary from jurisdiction to jurisdiction, but generally, a petition may be lodged with the court for the compulsory liquidation of a company by:

The company itself

Any **creditor** who establishes a prima facie case

Contributories

The Secretary of State

The Official Receiver

Priority of Claims

After the removal of all assets which are subject to retention of title arrangements, fixed security, or are otherwise subject to proprietary

claims of others, the liquidator will pay the claims against the company's assets. Generally, the priority of claims on the company's assets will be determined in the following order:

1. Liquidators costs
2. Creditors with fixed charge over assets
3. Costs incurred by an administrator
4. Amounts owing to employees for wages/superannuation (director limit: $2000)
5. Payments owing in respect of workers's injuries
6. Amounts owing to employees for leave (director limit: $1500)
7. Retrenchment payments owing to employees
8. Creditors with floating charge over assets
9. Creditors without security over assets
10. Shareholders

Grounds for Liquidation

The grounds upon which one can apply for a compulsory liquidation also vary between jurisdictions, but the normal grounds to enable an application to the court for an order to compulsorily wind-up the company are:

The company has so resolved

The company was incorporated as a corporation, and has not been issued with a trading certificate (or equivalent) within 12 months of registration

It is an "old public company" (i.e. one that has not re-registered as a public company or become a private company under more recent companies legislation requiring this)

It has not commenced business within the statutorily prescribed time (normally one year) of its incorporation, or has not carried on business for a statutorily prescribed amount of time

The number of members has fallen below the minimum prescribed by statute

The company is unable to pay its debts as they fall due

It is just and equitable to wind up the company

LIFO Liquidation

LIFO liquidation refers to when a company using LIFO accounting methods liquidates their older LIFO inventory. This occurs if

current sales are higher than current purchases, and consequently inventory not sold in previous periods must be liquidated.

Due to inflation and general price increases, the amount of money companies pay for inventory will usually increase over time. If a company decides to undergo LIFO liquidation, the old costs of inventory will be matched with the current, higher sales prices. As a result, this cost has a higher tax liability if prices have risen since the LIFO method was adopted.

Dollar-Value

Dollar value LIFO (last-in, first-out) is calculated with all figures in dollar amounts, rather than inventory units.

KEY POINTS

- Dollar value LIFO uses this approach with all figures in dollar amounts, rather than inventory units. As a result, companies have a different view of their balance sheets than under other methods (such as FIFO).
- If inflation did not affect the statements of companies, dollar-value and non-dollar-value accounting methods would have the same results.
- However, because inflation does occur and thus, costs change over time, the dollar-value method presents data that show an increased cost of goods sold (COGS) when prices are rising, and a lower net income.
- This can, in turn, reduce a company's taxes but make shareholders unhappy due to a lower net income on reports.

Dollar-value LIFO

This inventory method follows LIFO (last-in, first-out). Dollar value LIFO uses this approach with all figures in dollar amounts, rather than inventory units. As a result, companies have a different view of

their balance sheets than under other methods, such as FIFO (first-in, first-out) (*Figure 5.22*).

Figure 5.22 Businesses need to manage their inventories.

Employee scanning merchandise.

If inflation did not affect the statements of companies, dollar-value and non-dollar-value accounting methods would have the same results. However, because it does occur and thus costs change over time, the dollar-value method presents data that show an increased cost of goods sold (COGS) when prices are rising, and a lower net income. This can, in turn, reduce a company's taxes, but can make shareholders unhappy due to a lower net income on reports (*Figure 5.23*).

Figure 5.23 Determining ending inventory

	Units	Unit Cost	Total Cost
Beginning inventory	10	$8.00	$ 80.00
Purchases			
March 2	10	8.50	85.00
May 28	20	8.40	168.00
August 12	10	9.00	90.00
October 12	20	8.80	176.00
December 21	10	9.10	91.00
Total	80		$690.00
Weighted-average unit cost is $690 / 80, or $8.625			
Ending inventory then is $8.625 x 20			172.50
Cost of goods sold: $8.625 x 60			$517.50

An example how this is done.

Dollar-value in the Decision-making Process

Managers apply the concepts of interest, future value, and present value in making business decisions. Therefore, accountants need to understand these concepts to properly record certain business transactions.

The time value of money

The concept of the time value of money stems from the logical reference for a dollar today rather than a dollar at any future date.

Most individuals prefer having a dollar today rather than at some future date because:

1. the risk exists that the future dollar will never be received; and
2. if the dollar is on hand now, it can be invested, resulting in an increase in total dollars possessed at that future date.

Most business decisions involve a comparison of cash flows in and out of the company. To be useful in decision making, such comparisons must be in dollars of the same point in time. That is, the dollars held now must be accumulated or rolled forward, or future dollars must be discounted or brought back to the present dollar value, before comparisons are valid. Such comparisons involve future value and present value concepts.

Future value

The future value or worth of any investment is the amount to which a sum of money invested today grows during a stated period of time at a specified interest rate. The interest involved may be simple or compound.

Simple interest is interest on principal only. For example, USD 1,000 invested today for two years at 12 per cent simple interest grows to USD 1,240 since interest is USD 120 per year. The principal of USD 1,000, plus 2X USD 120, is equal to USD 1,240.

Compound interest is interest on principal and on interest of prior periods. For example, USD 1,000 invested for two years at 12 per cent compounded annually grows to USD 1,254.40 as follows: Principal or present value 1,000 x 0.12 = 120.00; Value at end of year 1: 1,120 x 0.12 = 134.40; Value at end of year 2 (future value) $1,254.40.

Advantages of LIFO

Using LIFO accounting for inventory, a company generally pays lower taxes in periods of inflation.

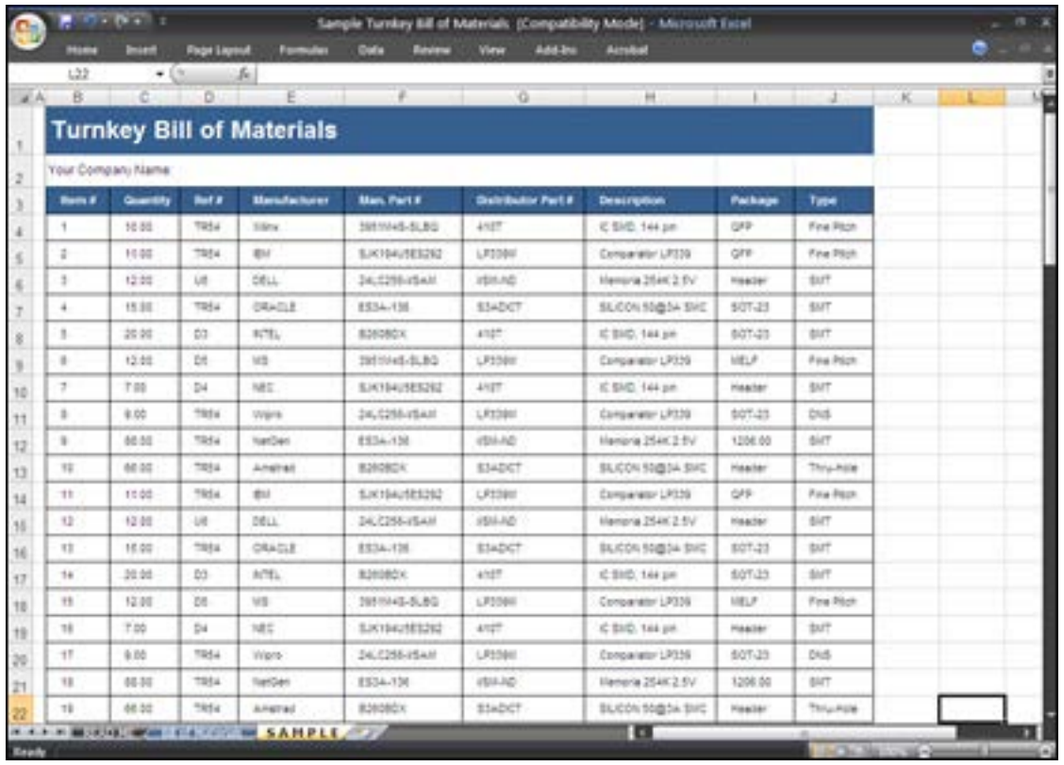
KEY POINTS

- LIFO recovers cost from production because actual cost of material is charged to production.
- Production is charged at the recent prices because materials are issued from the latest consignment. Therefore, the effect of current market prices of materials is reflected in the cost of sales if the materials are recently purchased.
- In times of rising prices (inflation), LIFO is suitable because materials are issued at current market prices (which are high). This method helps in showing a lower profit because of increased charge to production during periods of rising prices and reduces income tax.
- LIFO is simple to operate and is useful when there are not too many transactions with fairly steady prices.

Accounting Methods

FIFO and LIFO Methods are accounting techniques used in managing inventory and financial matters involving the amount of money a company has tied up within inventory of produced goods, raw materials, parts, components, or feed stocks. These methods are used to manage assumptions of cost flows related to inventory (*Figure 5.24*), stock repurchases (if purchased at different prices), and various other accounting purposes.

Figure 5.24 Inventory Template



Example of inventory template.

1. FIFO stands for first-in, first-out, meaning that the oldest inventory items are recorded as sold first but do not necessarily mean that the exact oldest physical object has been tracked and sold.
2. LIFO stands for last-in, first-out, meaning that the most recently produced items are recorded as sold first. Since the

1970s, some U.S. companies shifted towards the use of LIFO, which reduces their income taxes in times of inflation, but with International Financial Reporting Standards banning the use of LIFO, more companies have gone back to FIFO. LIFO is only used in Japan and the U.S.

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/detail-on-using-lifo/advantages-of-lifo/

In Periods of Rising Prices (Inflation)

FIFO: (+) Higher value of inventory (-) Lower cost of goods sold

LIFO: (-) Lower value of inventory (+) Higher cost of goods sold

In Periods of Falling Prices (Deflation)

FIFO: (-) Lower value of inventory (+) Higher cost of goods sold

LIFO: (+) Higher value on inventory (-) Lower cost on goods sold

Benefits of LIFO

LIFO considers the last unit arriving in inventory as the first one sold. Which method an accountant selects can have a significant effect on net income and book value and, in turn, on taxation. Using LIFO accounting for inventory, a company generally reports lower net income and lower book value, due to the effects of inflation. This generally results in lower taxation. Due to LIFO's potential to skew inventory value, UK GAAP and IAS have effectively banned LIFO inventory accounting.

Disadvantages of LIFO

In LIFO, comparison between one job and another becomes difficult: if they are the same type, the charge for materials consumed may differ.

KEY POINTS

- Like FIFO, this method may lead to clerical errors as every time an issue is made, the store ledger clerk will have to go through the record to ascertain the price to be charged.
- Like FIFO, comparison between one job and another job becomes difficult because one started a few minutes after another of the same type may bear a different charge for materials consumed (because the earlier job exhausted the supply of the lower priced or higher priced materials in stock).
- For pricing a single requisition, more than one price has often to be adopted.
- The stock in hand is valued at price which does not reflect current market price. Consequently, closing stock will be understated or overstated in the Balance Sheet.

Key Points: Disadvantages of LIFO

Stock in hand is valued at a price that does not reflect current market value. Consequently, closing stock will be understated or overstated in the **Balance Sheet**.

Like FIFO, LIFO may lead to clerical errors as every time an issue is made, the store ledger clerk will have to go through records to ascertain the price to be charged.

Like FIFO, comparison between one job and another job is difficult: one started a few minutes after another of the same type may bear a different charge for materials consumed (because the earlier job exhausted the supply of the lower priced or higher priced materials in stock) (*Figure 5.25*).

For pricing a single requisition, more than one price often has to be adopted.

How LIFO is Different from FIFO

LIFO considers the last unit arriving in inventory as the first one sold. FIFO regards the first unit that arrived in inventory as the first one sold. The method an accountant selects can have a significant effect on net income and book value and, in turn, taxation.

Using LIFO accounting for inventory, a company generally reports lower net income and book value, due to the effects of inflation;

Figure 5.25 Inventory

Inventory in a warehouse.

typically resulting in lower taxation. Due to LIFO's potential to skew inventory value, UK GAAP and IAS have effectively banned LIFO inventory accounting.

During periods of rising prices, the FIFO method generally produces a larger ending inventory, a smaller cost of goods sold and a higher profit. During periods of rising prices, the LIFO method produces a smaller ending inventory, a larger cost of goods sold and a smaller profit. During periods of declining prices the effects of the two methods are reversed. The average cost method produces results that are in between the LIFO and FIFO methods.

Summary

1. Computation/record-keeping trivial, but implications not: LIFO and FIFO produce temporary differences in accounting numbers.

2. Like FIFO, comparison between one job and another job becomes difficult because one started a few minutes after another of the same type may bear a different charge for materials consumed (because the earlier job exhausted the supply of the lower priced or higher priced materials in stock).

3. No accounting method is innately superior: choice depends upon business environment, incentives of users, possibility of manipulation, etc.

Section 5

Additional Topics in Inventory Valuation

Lower-of-Cost-or-Market

Methods in Retail Inventory

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/additional-topics-in-inventory-valuation/

Lower-of-Cost-or-Market

In lower of cost or market (LCM), inventory items are written down to market value when the market value is less than the cost of the items.

KEY POINTS

- The basic assumption of the LCM method is that if the purchase price of an item has fallen, its selling price also has fallen or will fall.
- Ending inventory is normally stated at historical cost (what was paid to obtain it), but there are times when the original cost of the ending inventory is greater than the cost of replacement. Thus, the inventory has lost value.
- Any loss resulting from the decline in the value of inventory is charged to cost of goods sold (COGS) if non-material, or loss on the reduction of inventory to LCM if material.

Lower Of Cost or Market

Lower of cost or market (LCM) is an approach to valuing and reporting inventory. Ending inventory is normally stated at historical cost (what was paid to obtain it), but there are times when the original cost of the ending inventory is greater than the cost of replacement. Thus, the inventory has lost value. If the inventory has decreased in value below historical cost, then its carrying value is reduced and reported on the balance sheet. The criterion for reporting this is the current market value. Any loss resulting from the decline in the value of inventory is charged to cost of goods sold (COGS) if non-material, or loss on the reduction of inventory to LCM if material.

The basic assumption of the LCM method is that if the purchase price of an item has fallen, its selling price also has fallen or will fall.

LCM In Practice

Under LCM, inventory items are written down to market value when the market value is less than the cost of the items. For example, assume that the market value of the inventory is USD 39,600 and its cost is USD 40,000. The company would then record a USD 400 loss because the inventory has lost some of its revenue-generating ability. Employees should check the stock of certain items to maintain an accurate record for dollars of inventory in stock (*Figure 5.26*).

The company must recognize the loss in the period the loss occurred. On the other hand, if ending inventory has a market value of USD 45,000 and a cost of USD 40,000, the company would not recognize this increase in value. To do so would recognize revenue before the time of sale. A company may apply LCM to each

Figure 5.26
Businesses need to manage their inventories.
Here a woman is checking stock of certain items to maintain an accurate record for dollars of inventory in stock.

inventory item (such as Monopoly), each inventory class (such as games), or total inventory.

Under the class method, a company applies LCM to the total cost and total market for each class of items compared. One class might be games, while another might be toys. The company then values each class at lower its cost or market amount.

Business Insight

Procter & Gamble markets a broad range of laundry, cleaning, paper, beauty care, health care, food, and beverage products around the world. Procter & Gamble's footnote in its Notes to Consolidated Financial Statements in its annual report illustrates that companies often disclose LCM in their notes to financial statements.

Inventories are valued at cost, which is not in excess of current market price. Cost is primarily determined by either the average cost or the first-in, first-out method. The replacement cost of last-in, first-out inventories exceeds carrying value by approximately USD 169 million.

Methods in Retail Inventory

For some companies, taking a physical inventory is impossible or impractical so the Retail Inventory Method is used to estimate.

KEY POINTS

- In certain business operations, taking a physical inventory is impossible or impractical. In such a situation, it is necessary to estimate the inventory cost through methods such as RMA.
- The advantage of the RMA method is that companies can estimate ending inventory (at cost) without taking a physical inventory. Thus, the use of this estimate permits the preparation of interim financial statements (monthly or quarterly) without taking a physical inventory.
- Because RIM/RMA only provides an approximation of inventory value, physical inventory must also be performed periodically to ensure the accuracy of inventory estimates due to issues such as shoplifting.

Retail Inventory Method (RIM or RMA)

In certain business operations, taking a physical inventory is impossible or impractical. In such a situation, it is necessary to estimate the inventory cost (*Figure 5.27*). Two very popular methods are:

Figure 5.27 Businesses need to manage their inventories. This employee is physically counting the number of certain products in stock. This is not an example of RMA, but of a potential quarterly inventory that is taken in conjunction with RMA to ensure accuracy.

1. Retail inventory method, and
2. Gross profit (or gross margin) method.

The retail inventory method uses a cost to retail price ratio. The physical inventory is valued at retail, and it is multiplied by the cost ratio (or percentage) to determine the estimated cost of the ending inventory. Note that both the gross margin and the retail inventory methods can help you detect inventory shortages.

Advantages

The advantage of this method is that companies can estimate ending inventory (at cost) without taking a physical inventory. Thus, the use of this estimate permits the preparation of interim financial statements (monthly or quarterly) without taking a physical inventory.

Disadvantages

Because RIM only provides an approximation of inventory value, physical inventory must also be performed periodically to ensure the accuracy of inventory estimates due to issues such as shoplifting.

How to find the ending inventory with RMA

The steps for finding the ending inventory by the retail inventory method are:

1. Total the beginning inventory and the net amount of goods purchased during the period at both cost and retail prices.
2. Divide the cost of goods available for sale by the retail price of the goods available for sale to find the cost/retail price ratio.
3. Deduct the retail sales from the retail price of the goods available for sale to determine ending inventory at retail.
4. Multiply the cost/retail price ratio or percentage by the ending inventory at retail prices to reduce it to the ending inventory at cost.

Section 6

Assessing Inventory Management

Efficiency Metrics

Impact of Inventory Method on Financial Statement Analysis

https://www.boundless.com/accounting/controlling-and-reporting-of-inventories/assessing-inventory-management/

Efficiency Metrics

Efficiency ratios for inventory measure how effectively a business uses its inventory resources.

KEY POINTS

- An efficiency metric or ratio, sometimes referred to as an activity ratio, is a type of financial ratio. The inventory turnover rate is a type of efficiency metric.
- Financial ratios evaluate the overall financial condition of a corporation or other organization in comparison to its industry and competitors.
- A low inventory turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort.
- A high turnover rate may indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low.

Efficiency Metrics (Ratios)

An efficiency metric or ratio, sometimes referred to as an activity ratio, is a type of financial ratio. Management, financial analysts, and the investment community evaluate financial ratios when trying to evaluate the overall financial condition of a corporation or other organization. Ratios can be expressed as a decimal value, such as 0.10, or given as an equivalent percent value, such as 10%. Some ratios are usually quoted as percentages, especially ratios that are usually or always less than 1, while others are usually quoted as decimal numbers, especially ratios that are usually more than 1. Efficiency ratios for inventory are used to measure how effectively a business uses its inventory resources in comparison to its industry or competitors (*Figure 5.28*).

Figure 5.28 Efficient use of inventory is critical for businesses.

The rate at which inventory is converted to cash determines a company's inventory efficiency in comparison to industry and competitors.

Inventory Efficiency

It's important for organizations to strike the right balance on their inventory levels. If inventory levels are too low, the company runs the risk of losing out on sales and not meeting customer demand. This can lead customers to give their business to the company's competitors. When there is excess inventory, a company can have higher operating costs due to greater inventory storage requirements, which will decrease profits. In addition, excess inventory increases the risk of losses due to price declines or inventory obsolescence.

Types of Efficiency Metrics (Ratios)

Inventory Turnover Ratio = **Cost of Goods Sold** / Average Inventory (to calculate average inventory, add the balances of beginning and ending inventory and divide by 2)

The inventory turnover ratio is a measure of the number of times inventory is sold or used in a time period, such as a year. A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort. A high turnover rate may indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low.

Inventory Conversion Ratio = 365 Days / Inventory Turnover Ratio

The inventory conversion ratio is a measure of the number of days in a year it takes to sell inventory or convert it into cash.

Impact of Inventory Method on Financial Statement Analysis

The inventory method chosen will affect the amount of current assets and gross profit income statement, especially when prices are changing.

KEY POINTS

- There are five types of inventory methods -- FIFO, LIFO, Dollar Value LIFO, Retail Inventory, and Average Cost.
- The choice of inventory method should reflect a company's economic circumstances in order to create accurate financial statements.
- When prices are falling, FIFO will result in lower current assets and lower gross profit. LIFO will result in higher current assets and higher gross profit.
- When prices are rising, FIFO will result in higher current assets and higher gross profit. LIFO will result in lower current assets and lower gross profit.

Types of Inventory Methods

Inventories are valued in the "Current Assets" section of the balance sheet using one of the following five methods. It's important to note that these methods will be affected by the system used to update inventory – "perpetual" or "periodic". A perpetual system updates inventory every time a change in inventory occurs, and a periodic system updates inventory at the end of the accounting period (*Figure 5.29*).

Figure 5.29
Businesses need to manage their inventories.
An effective inventory method can improve a company's bottom line.

First-In First-Out (FIFO) assumes that the items purchased or produced first are sold first. Costs of inventory per unit or item are determined at the time made or acquired. The oldest cost (i.e., the first in) is then matched against revenue and assigned to cost of goods sold. The ending inventory balance reflects recent inventory costs.

Last-In First-Out (LIFO) is the reverse of FIFO; the latest cost (i.e., the last in) is assigned to cost of goods sold and matched against revenue. Some systems permit determining the costs of goods at the time acquired or made but assigning costs to goods sold under the assumption that the goods made or acquired last are sold first. Costs of specific goods acquired or made are added to a pool of costs for the type of goods. Under this system, the business may maintain costs under FIFO but track an offset in the form of a LIFO reserve. The LIFO reserve (an asset or contra-asset) represents the difference in cost of inventory under the FIFO and LIFO assumptions. Such amount may be different for financial reporting and tax purposes in the United States.

Dollar Value LIFO is a variation of LIFO. Any increases or decreases in the LIFO reserve are determined based on dollar values rather than quantities.

The Retail Inventory method is typically used by resellers of goods to simplify record keeping. The calculated cost of goods on hand at the end of a period is the ratio of cost of goods acquired to the retail value of the goods times the retail value of goods on hand. Cost of goods acquired includes beginning inventory as previously valued plus purchases. Cost of goods sold is then beginning inventory plus purchases less the calculated cost of goods on hand at the end of the period.

The Average Cost method relies on average unit cost to calculate cost of goods sold and ending inventory. Several variations on the calculation may be used, including weighted average and moving average.

Impact on Financial Statements

The choice of inventory method should reflect a company's economic circumstances in order to create accurate financial statements. In addition to the inventory method chosen, use of a perpetual or periodic inventory system will affect the amount of current assets in the balance sheet and gross profit in the income statement, especially when prices are changing.

Period of Rising Prices

Under FIFO: Ending Inventory is higher, and Total Current Assets are higher; cost of goods sold is lower, and gross profit is higher.

Under LIFO: Ending Inventory is lower, and total current assets are lower; cost of goods sold is higher, and gross profit is lower.

Period of Falling Prices

Under FIFO: Ending Inventory is lower, and total current assets are lower; cost of goods sold is higher, and gross profit is lower.

Under LIFO: Ending Inventory is higher, and total current assets are higher; cost of goods sold is lower, and gross profit is higher.

Reporting and Analyzing Inventories

Reporting Inventories

Inventory Turnover Ratio

Adjusting for LIFO Reserve

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Reporting Inventories

Inventory is an asset and its ending balance should be reported as a current asset on the balance sheet.

KEY POINTS

- In a business accounting context, the word inventory is used to describe the goods and materials that a business holds for the ultimate purpose of resale.
- Companies must choose a method to track inventory.
- The change in inventory is a component of in the calculation of cost of goods sold, which is reported on the income statement.

Inventory

In a business accounting context, the word inventory is used to describe the goods and materials that a business holds for the ultimate purpose of resale.

Inventory Accounting Systems

Companies must choose a method to track inventory. There are ways to account for inventory, periodic and perpetual. The perpetual inventory system requires accounting records to show the amount of inventory on hand at all times. It maintains a separate account in the subsidiary ledger for each good in stock, and the account is updated each time a quantity is added or taken out.

In the periodic inventory system, sales are recorded as they occur but the inventory is not updated. A physical inventory must be taken at the end of the year to determine the cost of goods.

Regardless of what inventory accounting system is used, it is good practice to perform a physical inventory at least once a year.

Reporting Inventory

Inventory itself is not an income statement account. Inventory is an asset and its ending balance should be reported as a current asset on the balance sheet. However, the change in inventory is a component of in the calculation of cost of goods sold, which is reported on the income statement (*Figure 5.30*).

Depending on the format of the income statement it may show the calculation of Cost of Goods Sold as Beginning Inventory + Net Purchases = Goods Available – Ending Inventory. In that situation the beginning and ending inventory does appear on the income statement.

Figure 5.30
Inventory
Inventory appears as an asset on the balance sheet.

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Inventory Turnover Ratio

Inventory turnover is the measure of the number of times inventory is sold or used in a time period such as a year.

KEY POINTS

- The equation for inventory turnover is the cost of goods sold (COGS) divided by the average inventory.
- A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort.
- A high turnover rate may indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low.

Inventory Turnover Defined

In accounting, the inventory turnover is a measure of the number of times inventory is sold or used in a time period such as a year. This ratio tests whether a company is generating a sufficient volume of business based on its inventory. The equation forinventory **turnover** is the cost of goods sold (COGS) divided by the average inventory. Inventory turnover is also known as inventory turns, stockturn, stock turns, turns, and stock turnover (*Figure 5.31*).

Figure 5.31
Businesses need to manage their inventories.
It is important for a company to keep accurate records of what is in stock and what has been sold in order to calculate inventory turnover.

Significance Of Turnover Rates

The turnover rate has several significant implications:

Inventory turnover measures the efficiency of the firm in managing and selling inventory: thus, it gauges the liquidity of the firm's inventory.

A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort. However, in some instances a low rate may be appropriate, such as where higher inventory levels occur in anticipation of rapidly rising prices or expected market shortages.

A high turnover rate may conversely indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low. This often can result in stock shortages.

In assessing inventory turnover, analysts also consider the type of industry. When making comparisons among firms, they check the cost-flow assumption used to value inventory and the cost of products sold.

Differences In Calculations

Some compilers of industry data (e.g., Dun & Bradstreet) use sales as the numerator instead of the cost of sales. The cost of sales yields a more realistic turnover ratio, but it is often necessary to use sales for purposes of comparative analysis. The cost of sales is considered to be more realistic because of the difference in which sales and the cost of sales are recorded.

Sales are generally recorded at market value, which is the value at which the marketplace paid for the good or service provided by the firm. In the event that the firm had an exceptional year and the

market paid a premium for the firm's goods and services, the numerator may be an inaccurate measure. However, the cost of sales is recorded by the firm at what the firm actually paid for the materials available for sale. Additionally, firms may reduce prices to generate sales in an effort to cycle inventory. In this article, the terms "cost of sales" and "cost of goods sold" are synonymous.

Example Of Calculating Inventory Turnover

Abercrombie & Fitch reported the following financial data for 2000 (in thousands):

Cost of goods sold.....$728,229

Beginning inventory.....75,262

Ending inventory.....120,997

Their inventory turnover is: USD 728,229 / [(USD 75,262 + USD 120,997)/2] = 7.4 times

Adjusting for LIFO Reserve

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve.

KEY POINTS

- The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the LIFO reserve. This reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.
- When dealing with valuing a company using ratios, one must also convert all numbers to FIFO method for easy comparison. This means that, for example, when calculating the current ratio, the LIFO reserve should be added back into the numerator of the equation, resulting in a FIFO inventory.
- The SEC requires that all registered companies that use LIFO report their LIFO reserves for the start and end of the year. A company can always convert from LIFO to FIFO, which is important if you are trying to compare companies when they use different accounting methods.

What is the LIFO Reserve?

The difference between the cost of an inventory calculated under the FIFO and LIFO methods is called the **LIFO reserve**. This

reserve is essentially the amount by which an entity's taxable income has been deferred by using the LIFO method.

LIFO Reserve = FIFO Valuation - LIFO Valuation

SEC Requirements

The SEC requires that all registered companies that use LIFO report their LIFO reserves for the start and end of the year. A company can always convert from LIFO to FIFO, which is important if you are trying to compare companies when they use different accounting methods (*Figure 5.32*).

Making Adjustments

When dealing with valuing a company using ratios, one must also convert all numbers to FIFO method for easy comparison. This means that, for example, when calculating the current ratio, the LIFO reserve should be added back into the numerator of the equation.

Example

Beginning inventory $ 10,960

Ending inventory 11,717

LIFO reserve 1,442

Figure 5.32 Businesses need to manage their inventories. Regardless of if you use LIFO or FIFO, adjustments can be made to convert back and forth between the two in order to properly compare companies. What is most important is accurate recordings of inventory numbers, as you can see an employee doing here.

Current assets 55,515

Current liabilities 74,892

Cost of goods sold 150,053

Sales $161,545

Current Ratio = Current Assets/Current Liabilities

Using the LIFO reserve adjustment, the current ratio = (current assets + lifo reserve)/ current liabilities

Current ratio = (55,515+1,442)/74,892= 0.76052181808

Adjusting for LIFO in the Balance Sheet

1. Add the LIFO reserve to LIFO inventories
2. Add (LIFO reserve) x (Tax rate) to deferred tax liability
3. Add (LIFO reserve) x (1 - Tax rate) to retained earnings

Adjusting for LIFO in the Income Statement

1. Add the change in LIFO reserves to LIFO COGS
2. Add (change in LIFO reserves) x Tax rate to Tax expense
3. The resulting net income will change by (change in LIFO reserves) x (1 - Tax rate).

Chapter 6

Controlling and Reporting of Real Assets: Property, Plant, Equipment, and Natural Resources

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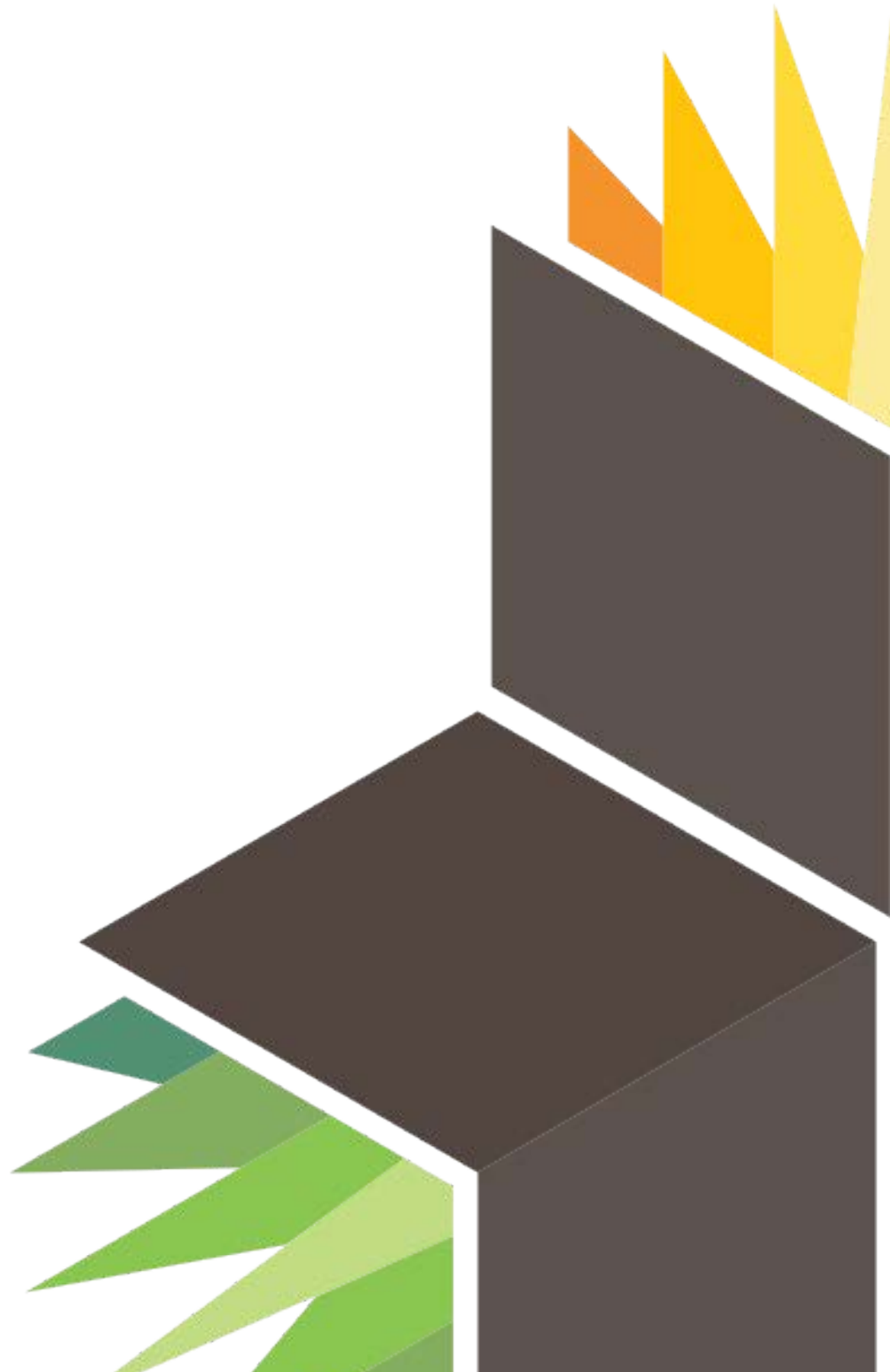

Section 1

Introduction to Long-Lived Assets

Defining a Long-Lived Asset

Types of Long-Lived Assets

Accounting Perspectives on Long-Lived Assets

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Defining a Long-Lived Asset

Long-lived assets are those that provide a company with a future economic benefit beyond the current year or operating period.

KEY POINTS

- Long term assets are used over multiple operating cycles.
- Assets are economic resources. Anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value is considered an asset.
- Since non-current, or long-lived, assets are expected to last for longer than one year, accounting treats long-lived assets differently according to their useful life.

Assets

Assets are economic resources. It is anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value is considered an asset. Simply stated, assets represent value of ownership that can be converted into cash.

Asset Characteristics

Assets represent probable present benefit, involving a capacity, solely, or in combination with other assets, to contribute directly or indirectly to future net cash flows, and, in the case of not-for-profit organizations, to provide services;

The entity can control access to the benefit;

The transaction or event giving rise to the entity's right to, or control of, the benefit has already occurred (*Figure 6.1*).

Figure 6.1 Asset Characteristics
Assets represent probable benefit.

Interestingly enough, employees are not considered to be assets, like machinery is, even though they are capable of generating future economic benefits. This is because an entity does not have sufficient control over its employees to satisfy the definition of an asset.

Long-Lived Assets

Long-lived assets provide a company with a future economic benefit beyond the current year or operating period. It may be helpful to remember that most, but not all, long-lived assets start as some sort of purchase by the company. Since non-current, or long-lived, assets are expected to last for longer than one year, accounting treats long-lived assets differently according to their useful life.

All assets are resources controlled by the enterprise as a result of past events and from which future economic benefits are expected to flow to the enterprise. When assets are expected to contribute to earnings for multiple years, such assets are referred to as long-lived, non-current or long-term assets. In general terms, it is "long-lived" because it is going to be around for some time and not quickly consumed.

Types of Long-Lived Assets

The two major asset classes are tangible assets (e.g., buildings and equipment) and intangible assets (e.g. copy rights).

KEY POINTS

- Accounting principles determine which assets can be recognized and which cannot; regulation is most restrictive on capitalizing intangible assets that are self-developed (such as brand names).
- Capital expenditures are incurred when a business spends money either to buy fixed assets or to add to the value of an existing fixed asset with a useful life extending beyond the taxable year.
- If an asset can be recognized, the items that are spent to get the asset "up and running" are allowed to be capitalized (*Figure 6.2*).

Asset Classes

There are two major types of long-term assets: tangible and non-tangible. Tangible assets include fixed assets, such as buildings and equipment. Intangible assets includes non-physical resources and rights that a firm deems useful in securing an advantage in the marketplace. Examples of intangible assets are copyrights,

Figure 6.2 Asset Classes

Capital expenditures are incurred to get the asset "up and running".

trademarks, patents and computer programs, financial assets-- including such items as accounts receivable, bonds and stocks-- and goodwill.

Long-term Investments

Long-term investments are often referred to simply as "investments." Long-term investments are meant to be held for many years and are not intended to be disposed of in the near future. They usually consist of three possible types of investments: investments in securities (such as bonds), common stock, or long-term notes. Other types of investments include investments in special funds-- e.g. sinking funds or pension funds-- and different forms of insurance.

Fixed Assets

Fixed assets-- also referred to as property, plant, and equipment-- are purchased for continued and long-term use in generating profit for a business. Fixed assets include asset land, buildings, machinery, furniture, tools, IT equipment-- e.g. laptops-- and certain limited resources-- e.g. timberland and minerals. Most of these, with the exception of land assets, are written off against profits over their anticipated life by accumulating depreciation expenses.

Property, Plant and Equipment

Property, plant, and equipment are tangible, long-lived assets used in the operations of the business. Land, natural resources, buildings, furniture, equipment, and machinery are included in this category. They are listed under the asset portion of the balance sheet.

Accounting Perspectives on Long-Lived Assets

All money that is spent to get the asset up and running is capitalized as part as the cost of the asset.

KEY POINTS

- Figuring the cost of an item takes into consideration more than just the purchase price.
- Examples that are excluded from the asset are expense, rather than capital costs.
- If accounting principles allow recognition of an asset, the next issue is which items can be included, and which items need to be expensed.

Asset Recognition

If accounting principles allow recognition of an asset, the next issue concerns which items can be included and which items need to be expensed. The basic rule here is that—when recognizing the asset is allowed—all money that is spent to get the asset up and running is capitalized as part as the cost of the asset (*Figure 6.3*).

Figure 6.3 Asset Recognition
Items spent to get the asset up and running is capitalized...

Capital Costs

Items that can be capitalized when the firm purchases a machine include the machine itself, transportation, getting the machine in place, fees paid for having the machine installed and tested, the cost of a trial run, and alike. If the firm's own personnel are involved with installing the machine, their wage expenses can be allocated to the machine as well.

Examples that are excluded from the asset, and consequently are expense rather than **capital costs**, include the training of personnel to learn how to use the machine, unexpected damages while installing the machine, or the drinks and snacks to celebrate the machine's successful launch.

Figuring the cost of an item takes into consideration more than just the purchase price. Added to that would be any taxes paid, less any discounts received, cost of transportation that a company pays to

bring the item to where it needs to go, and the cost of getting it ready for use.

So, for example, the cost of land would include any attorney fees, real estate fees, title fees, back taxes that need to be paid, and the cost of preparation for the lands intended use.

Buildings also have additional costs such as legal fees and remodeling fees to prepare it for use. The same goes for natural resources. Basically any costs that are necessary to get an item or land ready to use for business is included in the cost of the item.

Capitalized vs. Expensed Costs

Assets costs that are capitalized and reported on the balance sheet include expenses that will provide a benefit beyond the current accounting period. For example, costs expended to purchase a delivery truck or to expand the space on a warehouse would be capitalized because the value they provide will extend into future accounting periods. Costs that are expensed and reported on the income statement as a reduction to current revenues provide a benefit in the current accounting period and should be matched with the revenues earned during this period. Examples of expensed costs include payment of regular service maintenance on equipment and machinery or payment of current wages to employees.

Components of Asset Cost

Cost of Land

Cost of Buildings

Cost of Equipment

Cost of Improvements

Cost of Interest During Construction

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Cost of Land

Land is recognized at its historical cost or purchase price, and can include any other related initial costs spent to put the land into use.

KEY POINTS

- Land is defined as the ground the company uses for business operations; it includes ground on which the company locates its headquarters or land used for outside storage space or as a parking lot.
- Unlike a majority of fixed assets, land is not subject to depreciation.
- Land is listed on the balance sheet under the section for non-current assets. Increases in market value are disregarded on the balance sheet.
- At time of sale, the difference between a land's market value and historical cost is recognized as a gain or loss on the income statement.

Land and Historical Cost

Land is defined as the ground occupied by a business' operations. This can include a company's headquarters, outside storage space or the company's parking lot.

Land is recognized at its historical cost, or the cost paid to purchase the land, along with any other related initial costs spent to put the land into use.

Land is a type of fixed asset, but unlike a majority of fixed assets, it is not subject to depreciation (*Figure 6.4*).

Figure 6.4 The cost of land is based on its acquisition price.

All costs associated with acquiring land and putting it to use are included in the cost of land.

Land on the Balance Sheet

Land is listed on the balance sheet under the section for long-term or non-current assets. If the land's market value increases over time, its value on the balance sheet remains at historical cost.

For example, land purchased in 1988 for $90,000, would still appear on the December 31, 2010 balance sheet at $90,000, even though its market value is now $300,000. This is based on the assumption that land is acquired for business use and not as an asset held for sale.

Sale of Land

If at a future date the land is sold due to a business relocation or other reason, the difference between the land's market value and its historical cost will result in a gain or loss disclosed on the income statement. If the sale of land results in a gain, the additional cash or value received in excess of historical cost will increase net income for the period. If the sale results in a loss and the business receives less than the land's historical cost, the loss will reduce net income for the period.

Cost of Buildings

The cost of a building is its original purchase price or historical cost and includes any other related initial costs.

KEY POINTS

- Buildings are listed at historical cost on the balance sheet as a long-term or non-current asset.
- Buildings are subject to depreciation or the periodic reduction of value in the asset that is expensed on the income statement and reduces net income.
- Since buildings are subject to depreciation, their cost is adjusted by accumulated depreciation to arrive at their net carrying value on the balance sheet.
- If at a future date a building is sold, any gain or loss on the sale is based on the difference between the building's net carrying value and the market sales price.

Buildings and Historical Cost

A building is an asset used for commercial purposes and includes office buildings, warehouses, or retail establishments (i.e., convenience stores, "big box" stores, shopping malls, etc.). The cost of a building is its original purchase price or historical cost and includes any other related initial costs spent to put it into use.

Similar to land, buildings are also a type of fixed asset purchased for continued and long-term use in earning profit for a business. Unlike land, buildings are subject to depreciation or the periodic reduction of value in the asset that is expensed on the income statement and reduces income. They also can incur substantial maintenance costs, which are expensed on the income statement and reduce an accounting period's income (*Figure 6.5*).

Figure 6.5 The cost of a building can include construction costs and other costs incurred to put the building into use. Delays in construction can effect the total cost of a building.

Buildings on the Balance Sheet

Buildings are listed at historical cost on the balance sheet as a long-term or non-current asset, since this type of asset is held for business use and is not easily converted into cash. Since buildings are subject to depreciation, their cost is adjusted by **accumulated depreciation** to arrive at their net carrying value on the balance

sheet. For example, on Acme Company's balance sheet, their office building is reported at a cost of $150,000, with accumulated depreciation of $40,000. The building's net carrying value or net book value, on the balance sheet is $110,000.

Sale of Buildings

If at a future date a building is sold due to a business relocation or other reason, any gain or loss on the sale is based on the difference between the building's net book value and the market sales price. If the sale results in a gain, the excess received over the building's net book value is disclosed on the income statement as an increase to the accounting period's income. If the sale results in a loss and the business receives less than book value, the loss is also disclosed on the income statement as a decrease to income.

Cost of Equipment

The cost of equipment is the item's purchase price, or historical cost, plus other initial costs related to acquisition and asset use.

KEY POINTS

- Fixed assets are long term items such as property plant or equipment.
- Equipment is listed on the balance sheet at its historical cost amount, which is reduced by accumulated depreciation to arrive at a net carrying value or net book value.
- Selling equipment triggers a gain or a loss, depending on the difference between the equipment's net book value and its sale price.

Equipment and Historical Cost

Fixed assets, also known as non-current or tangible assets, include **property, plant, and equipment**. Fixed assets, according to **International Accounting Standard** (IAS) 16, are long range assets whose cost can be measured reliably.

The equipment's cost is calculated by adding the item's purchase price, or historical cost, to the other costs related to acquiring the

asset. These additional costs can include import duties and deductible trade discounts and rebates.

Historical cost also includes delivery and installation of the asset, as well as the dismantling and removal of the asset when it is no longer in service. Equipment is subject to depreciation. Depreciation is a periodic reduction in an asset's value. It is disclosed on the income statement and appears as a contra-asset account on the balance sheet (*Figure 6.6*).

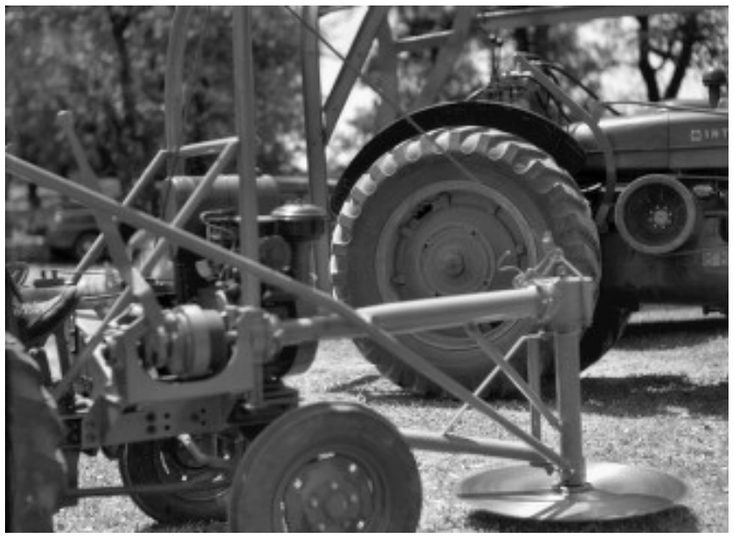


Figure 6.6 The cost of equipment includes all costs paid to put the asset into use.

Equipment is listed in a separate section within the balance sheet.

Equipment and the Balance Sheet

Since accounting standards state that an asset should be carried at the net **book value**, equipment is listed on the balance sheet at its historical cost amount. The cost is then reduced by accumulated depreciation to arrive at a net carrying value or net book value. A company is free to decide what depreciation method to use on the equipment.

Sale of Equipment

When an equipment is sold, the sale of the asset can trigger a gain or a loss, depending on the difference between the equipment's net book value and its sale price. As with other assets, gain or losses on sales of equipment are disclosed on the income statement as a reduction or addition to income for the period.

Cost of Improvements

The cost of an asset improvement is capitalized and added to the asset's historical cost on the balance sheet.

KEY POINTS

- Asset improvements are undertaken to enhance or improve a business asset that is in use.
- Since the cost of the improvement is capitalized, the asset's periodic depreciation expense will be affected (increased).
- If the asset improvement is financed, the interest cost associated with the improvement should not be capitalized as an addition to the asset's historical cost.
- Depending on the nature of the improvement, it also is possible that the asset's useful life and salvage value may change as a result of the enhancements.
- Note the difference between an improvement (capitalized) and a maintenance charge (expensed) from a reporting perspective.

Capitalization of Asset Improvements

Asset or capital improvements are undertaken to enhance or improve a business asset that is in use. The cost of the improvement is capitalized and added to the asset's historical cost on the balance sheet. Since the cost of the improvement is capitalized, the asset's periodic depreciation expense will be affected, along with other factors used in calculating depreciation. **Capital improvements** should not be confused with regular maintenance expenses to maintain an asset's functionality, which are regarded as period costs that are expensed on the income statement and reduce income for the period (*Figure 6.7*).

Figure 6.7 An example of an asset improvement can be the addition of a logo to a delivery truck. The cost of the improvement adds value to the asset.

Financing Improvements

If the capital improvement is financed, the interest cost associated with the improvement should not be capitalized as an addition to the asset's **historical cost**. Interest costs are not capitalized for assets that are not under construction. For example, Acme Company decides to add the company's logo to their delivery trucks and takes out a $5,000 loan. In 201X, the interest expense is $50; the interest expense is a period cost and reported on the income statement for 201X and not added to the asset's historical cost.

Asset Improvements and Depreciation

When the cost of a capital improvement is capitalized, the asset's historical cost increases and periodic depreciation expense will increase. Depending on the nature of the improvement, it is also possible that the asset's useful life and salvage value may change as a result. The change in periodic depreciation expense also can be impacted by the method used to calculate depreciation and may also have federal income tax consequences.

Asset Improvement vs. Maintenance

Asset improvements are capitalized and reported on the balance sheet because they are for expenses that will provide a benefit beyond the current accounting period. For example, costs expended to place the company logo on a delivery truck or to expand the space on a warehouse would be capitalized because the value they provide will extend into future accounting periods. Maintenance costs are expensed and reported on the income statement as a reduction to current revenues because they provide a benefit in the current accounting period and should be matched with the revenues earned during this period. Examples of expensed costs include payment of regular service maintenance on equipment and machinery.

Cost of Interest During Construction

The amount of interest cost incurred and/or paid during an asset's construction phase is part of an asset's cost on the balance sheet.

KEY POINTS

- The cost of interest incurred and/or paid is included as part of the historical cost of the asset under construction. No separate line item is needed on the balance sheet.
- The asset under construction should be intended for the generation of company earnings and should not be retail inventory or inventory held for sale.
- Do not capitalize interest costs during delays in the construction phase.
- When the asset's construction is complete and the asset is ready for use, any additional interest expense incurred is no longer capitalized as part of the asset's cost.

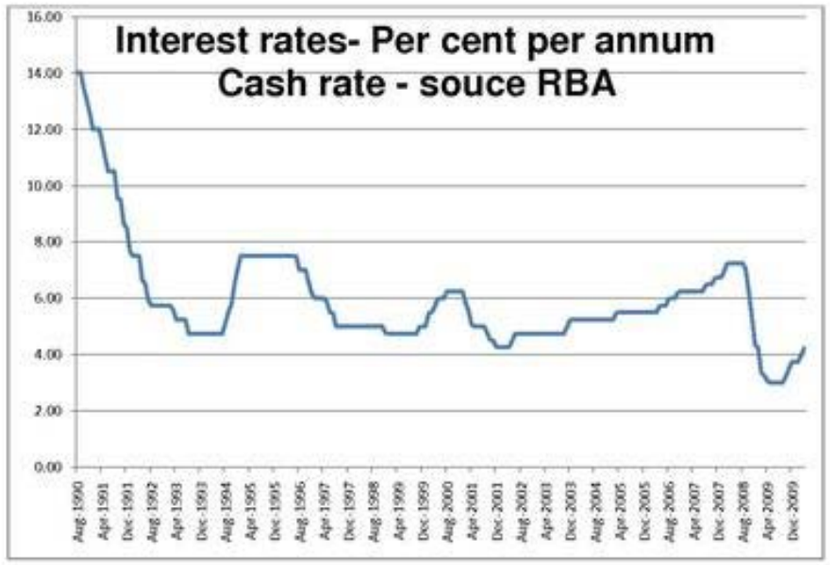
Capitalizing Interest Costs

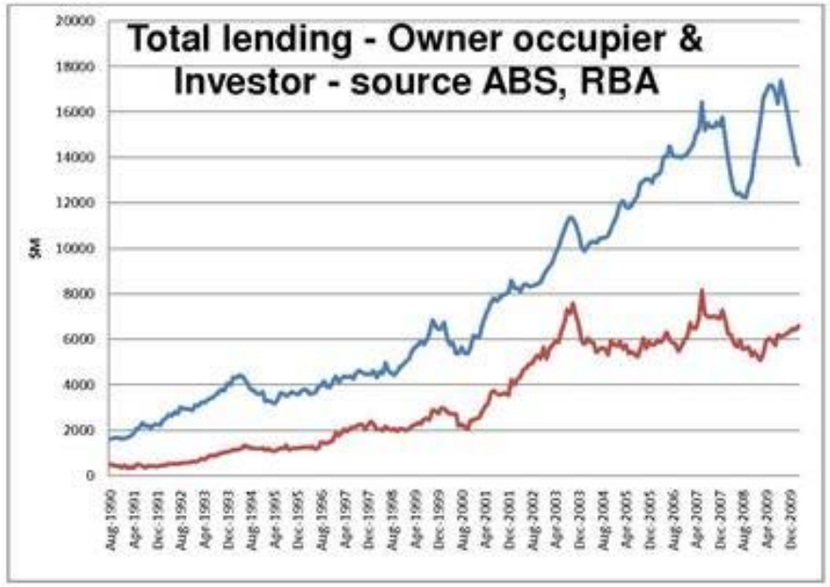
Interest is defined as a fee paid by a borrower of assets to the owner as a form of compensation for the use of the assets. It is most commonly the price paid for the use of borrowed money, or money earned by deposited funds. When an asset is constructed, a company typically borrows funds to finance the costs associated with the construction. The amount of cash borrowed will incur interest expense to the borrower; the interest paid by the borrower serves as interest income to the lender. The **capitalization** of interest costs involves adding the amount of interest expense incurred and/or paid during the asset's construction phase to the asset's cost recorded on the balance sheet. The asset's intended use should be for the generation of company earnings. Interest cost capitalization does not apply to retail inventory constructed or held for sale purposes (*Figure 6.8*).

Interest Costs on the Balance Sheet

The cost of interest incurred and/or paid is included as part of the historical cost of the asset under construction. No separate line item is needed on the balance sheet to disclose the interest costs associated with the asset. If any delays occur during the construction phase, the interest costs incurred during the delay are not capitalized. This interest cost is recorded as interest expense and reported as a period cost on the income statement rather than the balance sheet.

Figure 6.8 Most of the interest paid during construction is part of an asset's cost.





CENTRAL BANK INTEREST RATES AND TOTAL LENDING FOR PROPERTY 1990 - 2009

Interest paid during delays in construction is excluded from the asset's cost.

Interest Costs After Construction

When the asset's construction is complete and the asset is ready for use, any additional interest expense incurred is no longer capitalized as part of the asset's cost. This interest is expensed on the income statement and reduces income for the accounting period.

Source: https://www.boundless.com/accounting/controlling-and-reporting-of-real-assets-property-plant-equipment-and-natural-resources/components-of-asset-cost/cost-of-interest-during-construction/
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Section 3

Valuing Assets

Basic Components of Asset Valuation

Additional Factors to Consider

Valuing Repairs, Maintenance, and Additions

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Basic Components of Asset Valuation

Assets are valued using absolute value, relative value, or option pricing models, which require different inputs.

KEY POINTS

- Absolute value models that determine the present value of an asset's expected future cash flows. These kinds of models take two general forms: multi-period models (discounted cash flow models) or single-period models. These models rely on mathematics rather than price observation.
- Relative value models determine value based on the observation of market prices of similar assets.
- Option pricing models are used for certain types of financial assets (e.g., warrants, put options, call options, employee stock options, investments with embedded options such as a callable bond) and are a complex present value model.
- The book value of an asset is its recorded cost less accumulated depreciation. An old asset's book value is usually not a valid indication of the new asset's fair market value. However, if a better basis is not available, a firm could use the book value of the old asset.

KEY POINTS (cont.)

- An appraised value is an expert's opinion of an item's fair market price if the item were sold. Appraisals are used often to value works of art, rare books, and antiques.

Basic Asset Valuation

In finance, valuation is the process of estimating what something is worth. Items that are usually valued are a financial asset or liability. Valuations can be done on assets (for example, investments in marketable securities such as stocks, options, business enterprises, or intangible assets such as patents and trademarks) or on liabilities (e.g., bonds issued by a company). Valuations are needed for many reasons such as investment analysis, capital budgeting, merger and acquisition transactions, financial reporting, taxable events to determine the proper tax liability, and in litigation.

Overview

Valuation of financial assets is done using one or more of these types of models:

Absolute value models that determine the present value of an asset's expected future cash flows. These kinds of models take two general forms: multi-period models such as discounted cash flow models or

single-period models such as the Gordon model. These models rely on mathematics rather than price observation.

Relative value models determine value based on the observation of market prices of similar assets.

Option pricing models are used for certain types of financial assets (e.g., warrants, put/call options, employee stock options, investments with embedded options such as a **callable bond**) and are a complex present value model. The most common option pricing models are the Black–Scholes-Merton models and lattice models.

Fair value is used in accordance with US GAAP (FAS 157), where fair value is the amount at which the asset could be bought or sold in a current transaction between willing parties, or transferred to an equivalent party, other than in a liquidation sale. This is used for assets whose carrying value is based on mark-to-market valuations; for fixed assets carried at historical cost (less accumulated depreciation), the fair value of the asset is not used.

Common terms for the value of an asset or liability are fair market value, fair value, and intrinsic value. The meanings of these terms differ. For instance, when an analyst believes a stock's intrinsic value is greater (less) than its market price, an analyst makes a "buy" ("sell") recommendation. Moreover, an asset's intrinsic value may be subject to personal opinion and vary among analysts.

When a plant asset is purchased for cash, its acquisition cost is simply the agreed on cash price (*Figure 6.9*). However, when a business acquires plant assets in exchange for other non-cash assets (shares of stock, a customer's note, or a tract of land) or as gifts, it is more difficult to establish a cash price. This section discusses three possible asset valuation bases.

Figure 6.9
Emerging Values: Environmentalism and Green Energy
Image of an energy plant.

The general rule on non-cash exchanges is to value the non-cash asset received at its fair market value or the fair market value of what was given up, whichever is more clearly evident. The reason for not using the book value of the old asset to value the new asset is that the asset being given up is often carried in the accounting records at historical cost. In the case of a fixed asset, its value on the balance sheet is historical cost less accumulated depreciation, or book value. Neither amount may adequately represent the actual fair market value of either asset. Therefore, if the fair market value of one asset is clearly evident, a firm should record this amount for the new asset at the time of the exchange.

Appraised Value

Sometimes, neither of the items exchanged has a clearly determinable fair market value. Then, accountants record exchanges of items at their appraised values as determined by a professional appraiser. An appraised value is an expert's opinion of an item's fair market price if the item were sold. Appraisals are used often to value works of art, rare books, antiques, and real estate.

Book Value

The book value of a fixed asset asset is its recorded cost less accumulated depreciation. An old asset's book value is usually not a valid indication of the new asset's fair market value. However, if a better basis is not available, a firm could use the book value of the old asset.

Occasionally, a company receives an asset without giving up anything for it. For example, to attract industry to an area and provide jobs for local residents, a city may give a company a tract of land on which to build a factory. Although such a gift costs the recipient company nothing, it usually records the asset (land) at its fair market value. Accountants record gifts of plant assets at fair market value to provide information on all assets owned by the company. Omitting some assets may make information provided misleading. They would credit assets received as gifts to a stockholders' equity account titled Paid-in Capital—Donations.

Additional Factors to Consider

There are additional factors to consider when valuing a business including competition, management stability, etc.

KEY POINTS

- An important aspect of company valuation is determined when examining it in comparison to competitors. The company's relative size compared with other businesses in its industry, relative product or service quality, etc. are important.
- When looking at management stability as a part of business valuation, one must consider if the management is skilled and experienced enough to maintain the company's position and, potentially, improve it in the future.
- Consideration of financial strength entails a number of ratios, including a company's total debt to assets, long-term debt to equity, current and quick ratios, interest coverage, and operating cycle.

Competition

An important aspect of company valuation is determined when examining it in comparison to competitors. The company's relative size compared with other businesses in its industry, relative product or service quality, product or service differentiation from others in the industry, market strengths, market size and share, competitiveness within its industry in terms of price and reputation, and copyright or patent protection of its products are all important in this examination.

- The most narrow form is direct competition (also called "category competition" or "brand competition"), where products which perform the same function compete against each other. For example, one brand of pick-up trucks competes with several other brands of pick-up trucks. Sometimes, two companies are rivals, and one adds new products to their line, which leads to the other company distributing the same new things, and in this manner they compete.
- The next form is substitute or indirect competition, where products which are close substitutes for one another compete. For example, butter competes with margarine, mayonnaise, and other various sauces and spreads.
- The broadest form of competition is typically called "budget competition." Included in this category is anything on which the consumer might want to spend their available money. For example, a family which has $20,000 available may choose to spend it on many different items, which can all be

seen as competing with each other for the family's expenditure. This form of competition is also sometimes described as a competition of "share of wallet."

Management Ability

When examining this factor as a part of business valuation, one must consider if the management is skilled and experienced enough to maintain the company's position, and potentially improve it in the future. Several factors can indicate management ability: accounts receivable, inventory, fixed assets, and total asset turnover; employee turnover; condition of the facilities; family involvement, if any; quality of books and records; and sales, as well as gross and operating profit.

Financial Strength

Consideration of financial strength entails a number of ratios, including a company's total debt to assets, long-term debt to equity, current and quick ratios, interest coverage, and operating cycle.

1. Total debt to assets: total debt/total assets or total liability/ total assets
2. Long term debt to equity: long term debt(liabilities)/equity
3. Current ratio: current assets/current liabilities

Profitability and Stability of Earnings

In accounting, profit is the difference between the purchase and the component costs of delivered goods and/or services and any operating or other expenses. This can help determine the financial stability of a company when viewing its profitability during its operating history, including the number of years the company has been in business, its sales and earnings trends, the life cycle of the industry as a whole, and returns on sales, assets and equity.

Other Factors

Along with the aforementioned considerations, a valuator must also keep in mind the economic conditions in which the company is operating, including the broad industry outlook and the impact of various IRS rulings and court cases that may affect the company's value.

In addition, the valuator must analyze the values of comparable companies to determine their relationship to the company's value. Intangible factors such as goodwill and non-compete agreements are important as well (*Figure 6.10*).

Finally, the valuator needs to consider the discount or capitalization rate of the company, specify what percentage of the company is being valued, and take into account any marketability or minority interest discounts.

Figure 6.10 Apple is a successful company with considerable goodwill.

This is an example of an additional factor beyond book value that contributes to the overall valuation of a company.

Perhaps the most difficult part of the entire process is knowing how to combine all of these factors in a meaningful way to reach a value that will withstand any challenges by potential buyers, the IRS, dissatisfied partners or others.

Fair value should also be a consideration when valuing certain assets. Under US GAAP (FAS 157), fair value is the amount at which the asset could be bought or sold in a current transaction between willing parties, or transferred to an equivalent party, other than in a liquidation sale. This is used for assets whose carrying value is based on mark-to-market valuations; for fixed assets carried at historical cost (less accumulated depreciation), the fair value of the asset is not used.

EXAMPLE

An important aspect of company valuation is determined when examining it in comparison to competitors. For example: the company's relative size compared with other businesses in its industry, relative product or service quality, product or service differentiation from others in the industry, market strengths, market size and share, competitiveness within its industry in terms of price and reputation, and copyright or patent

Source:https://www.boundless.com/accounting/controlling-and-reporting-of-real-assets-property-plant-equipment-and-natural-resources/valuing-assets/additional-factors-to-consider/

Valuing Repairs, Maintenance, and Additions

Improvements to existing plant assets are capital expenditures because they increase the quality of services obtained from the asset.

KEY POINTS

- Because betterments or improvements add to the service-rendering ability of assets, firms charge them to the asset accounts.
- Occasionally, expenditures made on plant assets extend the quantity of services beyond the original estimate but do not improve the quality of the services. Since these expenditures benefit an increased number of future periods, accountants capitalize rather than expense them.
- Deferred maintenance is the practice of postponing maintenance activities such as repairs on both real property (i.e. infrastructure) and personal property (i.e. machinery) in order to save costs, meet budget funding levels, or realign available budget monies.

Valuing Repairs, Maintenance, and Additions

Betterments or improvements to existing plant assets are **capital expenditures** because they increase the quality of services obtained from the asset. Because these add to the service-rendering ability of assets, firms charge them to the asset accounts.

For example, installing an air conditioner in an automobile that did not previously have one is a betterment. The debit for such an expenditure is to the asset account, Automobiles (*Figure 6.11*).

Figure 6.11 Car Repairs
Installing an air conditioner in an automobile that did not previously have one is a betterment. The debit for such an expenditure is to the asset account, Automobiles.

Occasionally, expenditures made on plant assets extend the quantity of services beyond the original estimate but do not improve the quality of the services. Since these expenditures benefit an increased number of future periods, accountants capitalize rather than expense them. However, since there is no visible, tangible addition to, or improvement in, the quality of services, they charge the expenditures to the accumulated depreciation account, thus reducing the credit balance in that account. Such expenditures

cancel a part of the existing accumulated depreciation; firms often call them extraordinary repairs.

If an expenditure that should be expensed is capitalized, the effects are more significant. Assume now that USD 6,000 in repairs expense is incurred for a plant asset that originally cost USD 40,000 and had a useful life of four years and no estimated salvage value. This asset had been depreciated using the straight-line method for one year and had a book value of USD 30,000 (USD 40,000 cost—USD 10,000 first-year depreciation) at the beginning of 2010. The company capitalized the USD 6,000 that should have been charged to repairs expense in 2010. The charge for depreciation should have remained at USD 10,000 for each of the next three years. With the incorrect entry, however, depreciation increases.

Deferred maintenance is the practice of postponing maintenance activities such as repairs on both real property (i.e. infrastructure) and personal property (i.e. machinery) in order to save costs, meet budget-funding levels, or realign available budget monies. The failure to perform needed repairs could lead to asset deterioration and, ultimately, asset impairment. Generally, a policy of continued deferred maintenance may result in higher costs, asset failure, and in some cases, health and safety implications.

Valuing Asset-Related Costs

Under US GAAP (FAS 157), fair value is the amount at which an asset and its related costs could be bought or sold in a current market transaction between willing parties or transferred to an equivalent party other than in a liquidation sale. Therefore, asset repairs and maintenance are expensed on the income statement at the market value paid for the services rendered. Asset additions/improvements are capitalized to their respective asset accounts on the balance sheet at the market value of the addition.

Section 4

Depreciation of Assets

What is Depreciation

Factors for Calculating Depreciation

Methods of Depreciation

Impact of Different Methods

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What is Depreciation

Depreciation is defined as the expensing of the cost of an asset involved in producing revenues throughout its useful life.

KEY POINTS

- Depreciation expense reduces the book value of an asset and reduces an accounting period's earnings. The expense is recognized throughout an asset's useful life.
- The calculation of depreciation expense follows the matching principle, which requires that revenues earned in an accounting period be matched with related expenses.
- Depreciation expense can be calculated in a variety of ways; the method chosen should be appropriate to the asset type, the asset's expected business use, and its estimated useful life.

Definition of Depreciation

Depreciation is defined as the expensing of an asset involved in producing revenues throughout its useful life. Depreciation for accounting purposes refers the allocation of the cost of assets to periods in which the assets are used (depreciation with the matching of revenues to expenses principle). Depreciation expense affects the values of businesses and entities because the accumulated depreciation disclosed for each asset will reduce its book value on the balance sheet. Depreciation expense also affects net income. Generally the cost is allocated as depreciation expense among the periods in which the asset is expected to be used. Such expense is recognized by businesses for financial reporting and tax purposes (*Figure 6.12*).

Figure 6.12 Depreciation reflects the wear and tear experienced by an asset in use. Cars depreciate in value throughout their useful life.

Depreciation and the Matching Principle

Depreciation expense reduces an accounting period's income even though the expense does not require a cash or credit payment. The reason for the expense is to comply with the matching principle required by **accrual accounting**. According to the principle, expenses are recognized regardless of cash payment when obligations are:

1. incurred (usually when goods are transferred (sold) or services rendered),

2. generated by expenses involved in the earning of the accounting period's revenues.

Depreciation Expense Calculation

Depreciation expense can be calculated using a variety of methods. The depreciation method chosen should be appropriate to the asset type, its expected business use, its estimated useful life, and the asset's **residual value**. The expense is recognized and reported when the asset is placed into use and is calculated for each accounting period and reported under Accumulated Depreciation on the balance sheet and Depreciation Expense on the income statement. The amount reduces both the asset's value and the accounting period's income. A depreciation method commonly used to calculate depreciation expense is the straight line method.

Factors for Calculating Depreciation

There are four main factors that affect the calculation of depreciation expense: asset cost, salvage value, useful life, and obsolescence.

KEY POINTS

- A company is free to adopt the most appropriate depreciation method for its business operations.
- Companies can choose a method that allocates asset cost to accounting periods according to benefits received from the use of the asset.
- The depreciation method used should allocate asset cost to accounting periods in a systematic and rational manner.

Factors Affecting Depreciation Expense

There are four main factors to consider when calculating depreciation expense:

1. The cost of the asset

2. The estimated salvage value of the asset. Salvage value (or residual value) is the amount of money the company expects

to recover, less disposal costs, on the date the asset is scrapped, sold, or traded in.

3. Estimated useful life of the asset. Useful life refers to the window of time that a company plans to use an asset. Useful life can be expressed in years, months, working hours, or units produced.

4. Obsolescence should be considered when determining an asset's useful life and will affect the calculation of depreciation. For example, a machine capable of producing units for 20 years may be obsolete in six years; therefore, the asset's useful life is six years (*Figure 6.13*).

Factors Affecting the Depreciation Method

A company is free to adopt the most appropriate depreciation method for its business operations. Accounting theory suggests that companies use a depreciation method that closely reflects the operations' economic circumstances. So, companies can choose a method that allocates asset cost to accounting periods according to benefits received from the use of the asset. Most companies use the straight-line method for financial reporting purposes, but they may also use different methods for different assets. The most important criteria to follow: Use a depreciation method that allocates asset cost to accounting periods in a systematic and rational manner.

Figure 6.13 Several factors are used to calculate depreciation.

A car's salvage value is an example of a factor affecting the amount of periodic depreciation.

Types of Depreciation Methods

The following four methods allocate asset cost in a systematic and rational manner: straight line, units of production, sum-of-years-digits, and double-declining balance.

Examples of Depreciation Expense Calculations

An example of how to calculate depreciation expense under the straight-line method -- assume a purchased truck is valued at USD 10,000, has a residual value of USD 5,000, and a useful life of 5 years. Its depreciation expense for year 1 is USD 1,000 (10,000 - 5,000 / 5). The journal entry for this transaction is a debit to Depreciation Expense for USD 1,000 and a credit to Accumulated Depreciation for USD 1,000. The depreciation expense is reported

on the income statement as a reduction to revenues and accumulated depreciation is reported as a contra account to its related Delivery Truck asset account (reduces the asset's cost to its book value).

An example of how to calculate depreciation expense under the units of production -- assume a piece of machinery, purchased for USD 100,000 with a residual value of 40,000, is expected to produce 10,000 units over its useful life. First, calculate the depreciation per unit -- 100,000 - 40,000 / 10,000, or USD 6 per unit. The depreciation expense for the period is the per unit amount multiplied by the period's production amount -- if 1,000 units were produced, depreciation expense equals USD 6,000 (1,000 * 6). This amount is disclosed on the income statement and is part of the asset's accumulated depreciation on the balance sheet.

An example of how to calculate depreciation expense under the sum-of-years-digits -- assume a piece of machinery is purchased for USD 100,000 with a residual value of 40,000 and a useful life of 5 years. First, calculate the depreciation rate by adding the years of useful life, or 1+2+3+4+5 (equal to 15). Second, calculate the depreciation expense for year 5 -- 100,000 - 40,000 * 5/15, or USD 20,000. For year 4, the calculation uses the asset's book value (100,000 - 20,000) subtracted by its residual value (40,000) and multiplied by the rate for year 4 (4/15).

To calculate depreciation using the double-declining method, its possible to double the amount of depreciation expense under the straight-line method. To do this, divide 100 per cent by the number of years of useful life of the asset. Then, multiply this rate by 2. Next, apply the resulting double-declining rate to the declining book value of the asset (cost subtracted by accumulated depreciation). Ignore salvage value in making the calculations. At the point where book value is equal to the salvage value, no more depreciation is taken.

Methods of Depreciation

There are various methods that can calculate depreciation expense for the period; the method used should reflect the asset's business use.

KEY POINTS

- Straight-line depreciation is the simplest and most popular method; it charges an equal amount of depreciation to each accounting period.
- The units-of-production depreciation method assigns an equal amount of expense to each unit produced or service rendered by the asset.
- The sum-of-the-years digits method determines annual depreciation by multiplying the asset's depreciable cost by a series of fractions based on the sum of the asset's useful life digits.
- The double-declining balance is a type of accelerated depreciation method that calculates a higher depreciation charge in the first year of an asset's life and gradually decreases depreciation expense in subsequent years.

Methods of Depreciation

Some of the most common methods used to calculate depreciation are straight-line, units-of-production, sum-of-years digits, and double-declining balance, an **accelerated depreciation** method. The Modified Accelerated Cost Recovery System (MACRS) is the current tax depreciation system used in the United States (*Figure 6.14*).

Figure 6.14 There are several asset depreciation methods to choose from.

The depreciation method for an automobile should reflect the asset's use throughout its life.

Straight-Line

Straight-line depreciation has been the most widely used depreciation method in the U.S. for many years due to its simplicity. To apply the straight-line method, a company charges an equal amount of the asset's cost to each accounting period. The straight-line formula used to calculate depreciation expense is: (asset's historical cost - the asset's estimated salvage value) / the asset's **useful life**.

An example of how to calculate depreciation expense under the straight-line method -- assume a purchased truck is valued at USD 10,000, has a residual value of USD 5,000, and a useful life of 5 years. Its depreciation expense for year 1 is USD 1,000 (10,000 - 5,000 / 5). The journal entry for this transaction is a debit to Depreciation Expense for USD 1,000 and a credit to Accumulated Depreciation for USD 1,000. The depreciation expense is reported on the income statement as a reduction to revenues and accumulated depreciation is reported as a contra account to its related Delivery Truck asset account (reduces the asset's cost to its book value).

Units of Production

The units-of-production depreciation method assigns an equal amount of expense to each unit produced or service rendered by the asset. This method is typically applied to assets used in the production line. The formula to calculate depreciation expense involves two steps: (1) determine depreciation per unit ((asset's historical cost - estimated **salvage value**) / estimated total units of production during the asset's useful life); (2) determine the expense for the accounting period (depreciation per unit X number of units produced in the period).

An example of how to calculate depreciation expense under the units of production -- assume a piece of machinery, purchased for USD 100,000 with a residual value of 40,000, is expected to produce 10,000 units over its useful life. First, calculate the depreciation per unit -- 100,000 - 40,000 / 10,000, or USD 6 per unit. The depreciation expense for the period is the per unit amount multiplied by the period's production amount -- if 1,000 units were produced, depreciation expense equals USD 6,000 (1,000 * 6). This amount is disclosed on the income statement and is part of the asset's accumulated depreciation on the balance sheet.

Sum-of-years-digits

Sum-of-years' digits is a depreciation method that results in a more accelerated write-off than straight line, but less accelerated than that of the double-declining balance method. Under this method, annual depreciation is determined by multiplying the depreciable cost by a series of fractions based on the sum of the asset's useful life digits. The sum of the digits can be determined by using the formula $(n^2+n)/2$, where n is equal to the useful life of the asset.

To calculate depreciation expense under the sum-of-years-digits -- assume a piece of machinery is purchased for USD 100,000 with a residual value of 40,000 and a useful life of 5 years. First, calculate the depreciation rate by adding the years of useful life, or 1+2+3+4+5 (equal to 15). Second, calculate the depreciation expense for year 5 -- 100,000 - 40,000 * 5/15, or USD 20,000. For year 4, the calculation uses the asset's book value (100,000 -

20,000) subtracted by its residual value (40,000) and multiplied by the rate for year 4 (4/15).

Double-declining Balance

The double-declining balance method is a type of accelerated depreciation method that calculates a higher depreciation charge in the first year of an asset's life and gradually decreases depreciation expense in subsequent years.

To calculate depreciation expense, use double the straight-line rate. For example, suppose a business has an asset with a cost of 1,000, 100 salvage value, and 5 years useful life. First, calculate the straight-line depreciation rate. Since the asset has 5 years useful life, the straight-line depreciation rate equals (100% / 5) or 20% per year. With double-declining-balance, double that rate to arrive at 40%. Apply the rate to the book value of the asset (cost subtracted by accumulated depreciation) and ignore salvage value. At the point where book value is equal to the salvage value, no more depreciation is taken.

MACRS

Under MACRS, the capitalized cost (basis) of tangible property is recovered by annual deductions for depreciation over a specified life. The lives are specified in the Internal Revenue Service's (IRS) Tax Co de. The IRS publishes detailed tables of asset lives by asset class. The deduction for depreciation is computed under one of two methods (declining balance switched to straight line or only straight line) at the election of the taxpayer. Certain limitations may apply.

Impact of Different Methods

The choice of depreciation method can impact revenues on the income statement and assets on the balance sheet.

KEY POINTS

- These four methods of depreciation (straight line, units of production, sum-of-years-digits, and double-declining balance) impact revenues and assets in different ways.
- The effect of the straight-line method is a stable and uniform reduction in revenues and asset values in every accounting period of the asset's useful life.
- Depreciation expense under units-of-production, based on units produced in the period, will be lower or higher and have a greater or lesser effect on revenues and assets.
- Sum-of-years digits is a depreciation method that results in a more accelerated write off of the asset than straight line but less than declining-balance method.
- For the double-declining balance method, revenues and assets will be reduced more in the early years of an asset's life, due to the higher depreciation expense, and less in the later years.

Impact of Depreciation Methods

Depreciation is a required expense for all business with fixed assets, excluding land. The choice of the depreciation method can impact revenues on the income statement and assets on the balance sheet. The four most common methods of depreciation that impact revenues and assets are: straight line, units of production, sum-of-years-digits, and double-declining balance (*Figure 6.15*).

Figure 6.15 Different depreciation methods have different effects on revenues and assets.
The depreciation method used to depreciate a car calculates an expense that reduces income.

Straight Line

When using the straight-line method, a company charges the same depreciation expense every accounting period throughout an asset's useful life, so the effect is a stable and uniform reduction in

revenues and asset values in every accounting period of the asset's useful life.

An example of how to calculate depreciation expense under the straight-line method -- assume a purchased truck is valued at USD 10,000, has a residual value of USD 5,000, and a useful life of 5 years. Its depreciation expense for year 1 is USD 1,000 (10,000 - 5,000 / 5). The journal entry for this transaction is a debit to Depreciation Expense for USD 1,000 and a credit to Accumulated Depreciation for USD 1,000. The depreciation expense is reported on the income statement as a reduction to revenues and accumulated depreciation is reported as a contra account to its related Delivery Truck asset account (reduces the asset's cost to its book value).

Units of Production

The units-of-production method is calculated based on the units produced in the accounting period. Depreciation expense will be lower or higher and have a greater or lesser effect on revenues and assets based on the units produced in the period.

An example of how to calculate depreciation expense under the units of production -- assume a piece of machinery, purchased for USD 100,000 with a residual value of 40,000, is expected to produce 10,000 units over its useful life. First, calculate the depreciation per unit -- 100,000 - 40,000 / 10,000, or USD 6 per unit. The depreciation expense for the period is the per unit amount multiplied by the period's production amount -- if 1,000 units were produced, depreciation expense equals USD 6,000 (1,000 * 6). This amount is disclosed on the income statement and is part of the asset's accumulated depreciation on the balance sheet.

Sum-Of-Years-Digits

Sum-of-years-digits depreciation is determined by multiplying the asset's depreciable cost by a series of fractions based on the sum of the asset's useful life digits. Sum-of-years digits is a depreciation method that results in a more accelerated write off of the asset than straight line but less than double-declining balance method. This method will reduce revenues and assets more rapidly than the straight-line method but not as rapidly as the double-declining method.

An example of how to calculate depreciation expense under the sum-of-years-digits -- assume a piece of machinery is purchased for USD 100,000 with a residual value of 40,000 and a useful life of 5 years. First, calculate the depreciation rate by adding the years of useful life, or 1+2+3+4+5 (equal to 15). Second, calculate the depreciation expense for year 5 -- 100,000 - 40,000 * 5/15, or USD 20,000. For year 4, the calculation uses the asset's book value

(100,000 - 20,000) subtracted by its residual value (40,000) and multiplied by the rate for year 4 (4/15).

Double-Declining Balance

Double-declining balance is a type of **accelerated depreciation method**. This method records higher amounts of depreciation during the early years of an asset's life and lower amounts during the asset's later years. Thus, in the early years, revenues and assets will be reduced more due to the higher depreciation expense. In later years, a lower depreciation expense can have a minimal impact on revenues and assets. However, revenues may be impacted by higher costs related to asset maintenance and repairs.

To calculate depreciation using the double-declining method, its possible to double the amount of depreciation expense under the straight-line method. To do this, divide 100 per cent by the number of years of useful life of the asset. Then, multiply this rate by 2. Next, apply the resulting double-declining rate to the declining book value of the asset (cost subtracted by accumulated depreciation). Ignore salvage value in making the calculations. At the point where book value is equal to the salvage value, no more depreciation is taken.

Section 5

Impairment of Assets

Impairment Recognition

Impairment Measurement

Loss Restoration

https://www.boundless.com/accounting/controlling-and-reporting-of-real-assets-property-plant-equipment-and-natural-resources/impairment-of-assets/

Impairment Recognition

An impairment loss is recognized and accrued through a journal entry to record a decrease in the asset's value.

KEY POINTS

- Business assets should be tested for impairment when a situation occurs that causes the asset to lose value. Certain intangible assets, such as goodwill, are tested for impairment on an annual basis.
- Impairment losses can occur for a variety of reasons: physical damage to the asset, a permanent reduction in market value, legal issues against the asset, and early asset disposal.
- An impairment loss is recognized through a journal entry that debits Loss on Impairment, debits the asset's Accumulated Depreciation and credits the Asset to reflect its new lower value.

Impairment Recognition

Business assets should be tested for impairment when a situation occurs that causes the asset to lose value. An impairment loss is recognized and accrued to record the asset's revaluation. Once an asset has been revalued, fluctuations in market value are calculated periodically. Certain intangible assets, such as goodwill, are tested for impairment on an annual basis. Impairment losses can occur for a variety of reasons:

when an asset is badly damaged (negative change in physical condition)

the asset's market price has been significantly reduced

legal issues have had a negative impact on the asset

the asset is set for disposal before the end of its useful life

The impairment loss is recognized through a journal entry that decreases (credits) the asset and decreases (debits) accumulated depreciation; a loss on impairment is increased (debited) by the amount of the asset's reduction in value. The loss will reduce income in the income statement and reduce total assets on the balance sheet (*Figure 6.16*).

For an example, take a retail store that is recorded on the owner's balance sheet as a non-current asset worth USD 20,000 (book value or carrying value is USD 20,000). Based on the asset's book value, assume the store has a historical cost of USD 25,000 and accumulated depreciation of USD 5,000. A hurricane sweeps through the town and damages the store's building. After assessing the amount of the damage, the owner calculates that the building's market value has fallen to USD 12,000.

Figure 6.16 The impairment of an asset reduces its value on the balance sheet.

The cost of an impaired building beyond repair is disclosed as a loss on the income statement.

The Loss on Impairment is calculated to be USD 8,000 (20,000 book value - 12,000 market value)

The journal entry to recognize the Loss on Impairment:

Debit Loss on Impairment for USD 8,000

Debit Store Building-Accumulated Depreciation for USD 5,000

Credit Store Building for USD 13,000

The Loss on Impairment for USD 8,000 is recognized on the income statement as a reduction to the period's income and the asset Store Building is recognized at its reduced value of USD 12,000 on the balance sheet (25,000 historical cost - 8,000 impairment loss - 5,000 accumulated depreciation). After the impairment, depreciation expense is calculated using the asset's new value.

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Impairment Measurement

Business assets that have suffered a loss in value are given two tests to measure and recognize the amount of the loss.

KEY POINTS

- Two tests are performed to determine the amount of an impairment loss: recoverability and measurement.
- The recoverability test evaluates if an asset's undiscounted future cash flows are less than the asset's book value. When cash flows are less, the loss is measured.
- The measurement test uses the difference between the asset's market value and book value to calculate the amount of the impairment loss.

Business assets that have suffered a loss in value are subject to impairment testing to measure and recognize the amount of the loss (*Figure 6.17*).

To measure the amount of the loss involves two steps:

Perform a **recoverability** test is to determine if an impairment loss has occurred by evaluating whether the future value of the asset's undiscounted cash flows is less than the book value of the asset. If the cash flows are less than book value, the loss is measured.

Figure 6.17 Physical damage to an asset can result in an impairment loss.

The impairment of a building is measured by determining the amount of value the asset has lost.

Measure the impairment loss by calculating the difference between the book value and the market value of the asset.

The use of undiscounted cash flows in determining impairment loss assumes that the cash flows are certain and risk-free, and the timing of the cash flows is ignored. For example, assume a new USD 20,000 sewing machine, with a useful of life of 3 years, is damaged and has a new book value of USD 10,000.

The expected undiscounted cash flows generated by the machine after the damage are:

USD 2,000 in Year1

USD 2,000 in Year2

USD 2,000 in Year3

Since the asset's future undiscounted cash flows are USD 6,000, less than the USD 10,000 book value, an impairment loss has occurred. Use the market value of the sewing machine, USD 20,000, and deduct the USD 10,000 book value to arrive at an impairment loss of USD 10,000.

Certain assets with indefinite lives require an annual test for impairment. Trademarks and Goodwill are examples of intangible assets that are tested for impairment on an annual basis.

Loss Restoration

Fixed asset values can be revised to reflect an increase or decrease in value; upward revisions can recover earlier impairment losses.

KEY POINTS

- A revaluation that increases or decreases an asset's value can be accounted for with a journal entry that will debit or credit the asset account.
- An increase in the asset's value should not be reported on the income statement; instead an equity account is credited and called a "Revaluation Surplus".
- The revaluation surplus account accounts for increases in asset value and it also offsets any downward revisions, such as an impairment loss, in asset value.
- When the credit balance in the revaluation surplus account zeros out, an impairment loss is reported on the income statement.
- Under US GAAP, once an asset is impaired, its value cannot be increased regardless of its fair market value. Once the value of an asset is decreased, it stays at that value unless its market value declines again.

Asset Revaluation and Impairment Loss

Under US GAAP, once an asset is impaired its value cannot be increased regardless of what its fair market value is; once the value of an asset is decreased, it stays at that value unless its market value declines again. US GAAP does require that a business impair its assets if its fair market value decreases.

Under **International Financial Reporting Standards**, once a fixed asset has been revalued its book value can be adjusted periodically to market value using the cost model or the revaluation model. The cost model records an asset at its historical cost. If an asset becomes impaired and an impairment loss results, the asset can fall under the revaluation model that allows periodic adjustments to the asset's book value. Future upward revisions to the value of the asset can recover losses from prior years under the revaluation model (*Figure 6.18*).

Figure 6.18 An upward revision to an asset's value can recover prior impairment losses Only assets accounted for under the revaluation model can have their book value adjusted to market value.

Revaluation Surplus

A revaluation that increases or decreases an asset's value can be accounted for with a journal entry. The asset account is debited (increased) for the increase in value or credited (decreased) for a decrease in value. An increase in the asset's value should not be reported on the income statement; instead an equity account is credited called "Revaluation Surplus." Revaluation surplus is reported in the other **comprehensive income** sub-section of the owner's equity section in the balance sheet. The revaluation surplus account accounts for increases in asset value, and it also offsets any downward revisions, such as an impairment loss, in asset value. When the credit balance in the revaluation surplus account zeros out, an impairment loss is reported on the income statement.

Revaluation and Depreciation

After an asset have been revalued, the asset's depreciation expense must change to reflect the new value. The asset's new book value can be divided by its remaining useful life to adjust the amount of depreciation expense reported on the income statement after the revaluation.

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Disposal of Assets

Sale

Involuntary Conversion

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Sale

The disposal sale of an asset is similar to a regular asset sale, where cash proceeds are received and a loss or gain may be realized.

KEY POINTS

- When an asset set for disposal is sold, depreciation expense must be computed up to the sale date to adjust the asset to its current book value.
- Compare the cash proceeds received from the sale with the asset's book value to determine if a gain or loss on disposal has been realized. The gain or loss should be reported on the income statement.
- The asset account and its accumulated depreciation account are removed off the balance sheet when the disposal sale takes place.

Disposal of an Asset via Sale

The sale of an asset for disposal purposes is similar to a regular asset sale. Unlike a regular disposal of an asset, where the asset is abandoned and written off the accounting records, an asset disposal sale involves a receipt of cash or other proceeds. When the sale takes places, a journal entry is recorded that (1) updates depreciation expense, (2) removes the asset and its accumulated depreciation account off the balance sheet, (3) increases cash or other asset with the amount of proceeds received, and (4) records a gain or loss on the sale.

Depreciation Expense at Disposal

At the time of disposal, depreciation expense should be recorded to update the asset's book value. A journal entry is recorded to increase (debit) depreciation expense and increase (credit) accumulated depreciation. Depreciation expense is reported on the income statement as a reduction to income. The increase in the accumulated depreciation account reduces the asset to its current book value (*Figure 6.19*).

Proceeds Received and Loss/Gain at Disposal

The proceeds received on the asset sale are compared to the asset's book value to determine if a gain or loss on disposal has been realized. If the proceeds are less than book value, a loss on disposal has been realized. If the proceeds are more than book value, the result is a gain. The proceeds from the sale will increase (debit) cash or other asset account. Depending on whether a loss or gain on disposal was realized, a loss on disposal is debited or a gain on disposal is credited. The loss or gain is reported on the income statement. The loss reduces income, while the gain increases it.

Figure 6.19 An Asset for Sale -- one way of disposing an asset is by selling it.

A business disposing of a building through a sale receives cash proceeds and may realize a gain or loss.

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Asset Disposal and the Balance Sheet

The entry to remove the asset and its contra account off the balance sheet involves decreasing (crediting) the asset's account by its cost and decreasing (crediting) the accumulated depreciation account by its account balance. Prior to zeroing out their account balances, these accounts should reflect the updated depreciation expense computed up to the disposal sale date.

Involuntary Conversion

Involuntary conversion of assets occurs when disposal is due to unforeseen circumstances, such as theft or casualty.

KEY POINTS

- The forced disposal of the asset may result in cash proceeds from the filing and payment of an insurance claim on the asset or the receipt of a casualty award. A gain or loss on disposal can result.
- Involuntary conversion of assets can involve an asset exchange for monetary or non-monetary assets.
- An involuntary conversion involving an exchange for monetary assets is accounted for the same way as a sales transaction, with a gain or loss reported on the income statement.
- An exchange between non-monetary assets should be analyzed to determine if the exchange has commercial substance. An asset exchange with commercial substance will cause future cash flows to materially change.
- A non-monetary asset exchange with commercial substance may result in a gain or loss reported on the income statement. An exchange without commercial substance does not recognize gains or losses.

Definition of Involuntary Conversion

The involuntary conversion of an asset occurs when an asset must be disposed of due to unforeseen circumstances, such as theft, **casualty**, or **condemnation**. The forced disposal of the asset may result in cash proceeds from the filing and payment of an insurance claim on the asset or the receipt of a casualty award. If the monetary exchange is more than the asset's book value, updated for depreciation up to the disposal date, a gain on disposal results; if the proceeds are less, the disposal realizes a loss. Unlike a voluntary sale, involuntary conversion of assets can involve an asset exchange for monetary or non-monetary assets (*Figure 6.20*).

Figure 6.20 An involuntary conversion is the forced disposal of an asset.

An airplane manufacturer's involuntary conversion of a plane can result in a loss or gain on the income statement.

Exchange for Monetary Assets

Monetary assets consist of cash or cash-equivalent assets. An involuntary conversion involving an exchange for monetary assets is accounted for the same way as a typical sales transaction, with a gain or loss reported in the income statement in the period the conversion took place. The gain or loss is the difference between the proceeds received and the book value of the asset disposed of, updated for current depreciation expense.

Exchange for Non-Monetary Assets

Non-monetary assets are not easily converted to cash, such as equipment. An exchange between non-monetary assets should be analyzed to determine if the exchange has commercial substance. An asset exchange with commercial substance will cause future cash flows to materially change. If the exchange has commercial substance, the asset received is recorded on the balance sheet at either (1) the market value (purchase price) of the asset received or (2) the market value of the asset given up plus any cash paid. If the value of the new asset exceeds the book value of the old asset, a gain is recognized. If the new asset's value is less, a loss is recognized.

For non-monetary asset exchanges without commercial substance, the expectation is that the exchange will not materially alter future cash flows. This type of exchange usually involves like-kind property, such as exchanging a truck for another truck. The asset received is recorded on the balance sheet at the book value of the asset given up plus any cash paid. Gains or losses on these transactions are not recognized.

Depletion of Assets

Depletion Base

Resource Cost Write-Off

Recoverable Reserves

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Depletion Base

The depletion base is the total cost of a natural resource and includes acquisition, exploration, development, and restoration costs.

KEY POINTS

- Two methods are used to calculate depletion: percentage and cost.
- Percentage depletion is calculated by multiplying a certain percentage, specified for each mineral, by your gross income from the property during the year.
- Cost depletion is computed by (1) estimating the total quantity of mineral or resources acquired,(2) assigning a proportionate amount of the total resource cost to the quantity extracted in the period (total cost of the property/(the quantity extracted in the period/total estimated production).
- Industries involved in mining, timber, petroleum, and the extraction or use of natural resources are the types of businesses most affected by depletion.

Definition of Depletion

Depletion is a method of recording the use of natural resources over time. It is the amount of resources used in each accounting period that is expensed for U.S. tax and financial reporting purposes. Depletion is similar to depreciation, in that it is a cost recovery system for accounting and tax reporting. Industries involved in mining, timber, petroleum, and the extraction or use of natural resources are the types of businesses most affected by depletion. The depletion base is the total cost of the natural resource. It can include costs related to the acquisition of the asset, exploration, development and preparation of the asset for use, and performance of restoration work (*Figure 6.21*).

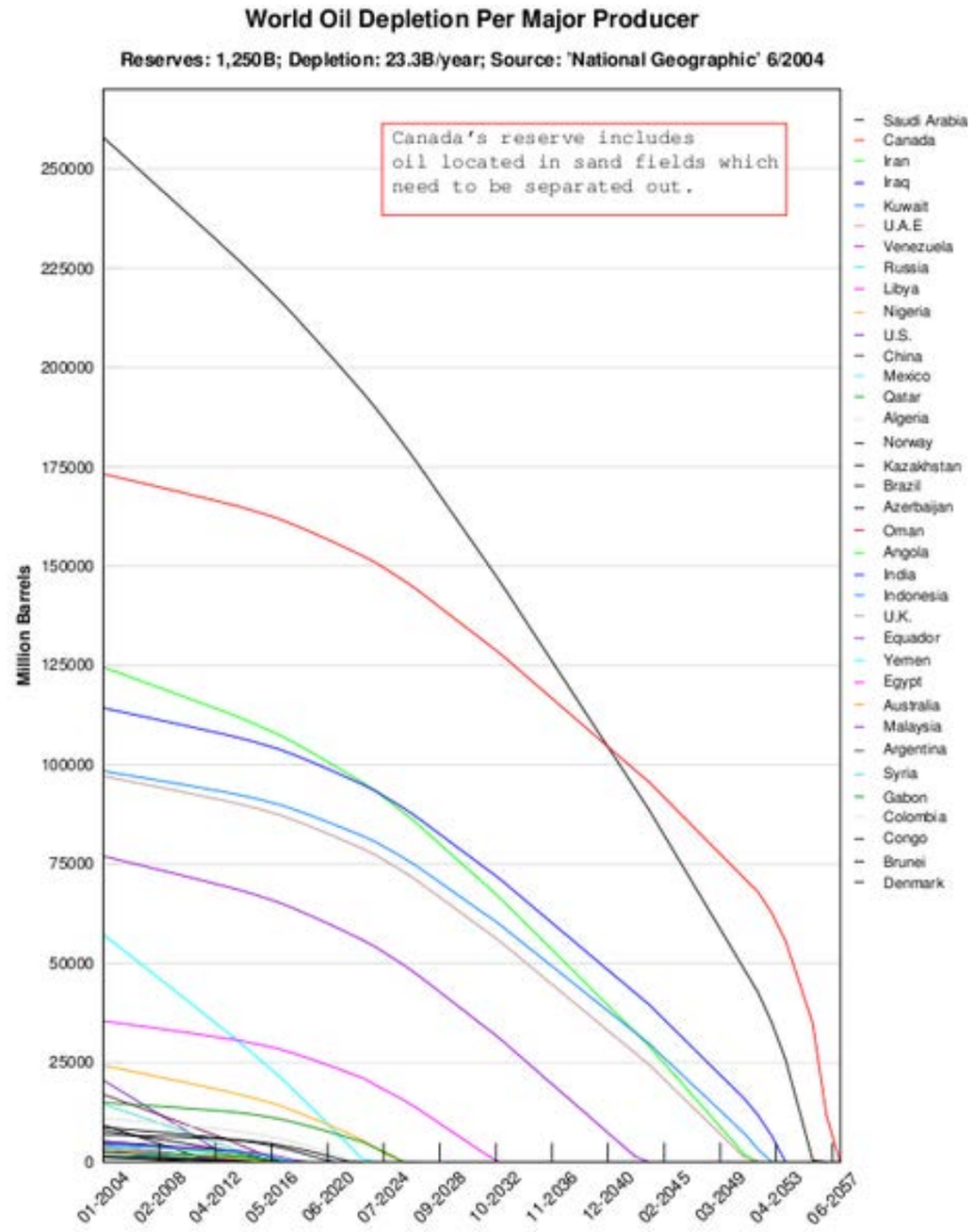
Percentage Depletion:

To calculate, multiply a certain percentage, specified for each mineral, by your gross income from the property during the tax year. For this purpose, the term “property” means each separate interest business owned in each mineral deposit in each separate tract or parcel of land. Businesses can treat two or more separate interests as one property or as separate properties.

Cost Depletion:

This is an accounting method by which costs of natural resources are allocated to depletion over the period that make up the life of the asset. Cost depletion is computed by (1) estimating the total quantity of mineral or other resources acquired and (2) assigning a proportionate amount of the total resource cost to the quantity

Figure 6.21 The depletion base for oil reserves includes all the costs incurred to put the asset into use.



Types of costs include acquisition, exploration, development, and restoration costs.

extracted in the period.Cost Depletion FormulaAccording to the IRS Newswire, over 50 percent of oil and gas extraction businesses use cost depletion to figure their depletion expense. Mineral property includes oil and gas wells, mines, and other natural deposits (including geothermal deposits). The cost depletion formula for financial reporting purposes is the total investment cost of the property / (the quantity extracted during the period / the property's total estimated production). When calculating cost depletion for tax purposes, multiply the formula by the property's **adjusted basis** or the property's historical cost subtracted by depletion expense for prior years.

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Resource Cost Write-Off

The term write-off describes removing an asset whose value is zero and is no longer in use from the balance sheet.

KEY POINTS

- When a natural resource has been depleted to a value of zero, the asset's remaining book value, as calculated by the original historical cost minus the depletion of prior years, is removed from the balance sheet through a write-off journal entry.
- The write-off journal entry will credit the asset's account balance and debit the balance in the accumulated depletion account. The asset's book value is the amount debited to an expense or loss account reported on the income statement.
- Write-offs should not be confused with impairment. A write-off journal entry removes an asset not in use and its related contra account from the balance sheet. An entry to record impairment merely reduces the asset's value.

Definition of Asset Write-offs:

The term write-off describes a reduction in recognized value. In accounting terminology, it refers to recognition of the reduced or zero value of an asset no longer in use. Assets that are natural resources, which are used throughout the course of business, are subject to periodic depletion. When the asset has been depleted to a value of zero or its value has dropped to less than its salvage value, the asset's remaining book value, as calculated by the original historical cost minus the depletion of prior years, is removed from the balance sheet through a write-off (*Figure 6.22*).

Figure 6.22 When natural resources have their value reduced to zero they are written off.

An asset write-off removes an asset's cost off the balance sheet and expenses it on the income statement.

Writing Off Assets with No Value

An asset is written off the balance sheet by recording a journal entry. The write-off journal entry moves the asset's book value to the income statement, where it is reported as an expense or loss and reduces the accounting period's income. The journal entry will credit (decrease) the asset's account balance (equal to its historical cost) and debit (decrease) the balance in the accumulated depletion account. The asset's book value (historical cost minus accumulated depletion) is the amount debited (increased) to an expense or loss account reported on the income statement for the accounting period. The decrease in the asset and accumulated depletion accounts reduces the balance to zero and removes the account from the balance sheet.

Asset Write-offs Vs. Impairment

Asset write-offs should not be confused with **impairment**. A write-off journal entry removes an asset not in use and its related contra account (accumulated depletion) from the balance sheet. If the asset has suffered a permanent reduction in value, the amount of the asset impairment is expensed on the income statement as a reduction to the accounting period's income. The asset's balance is reduced by the impairment amount to reflect the asset's new economic value and the account remains on the balance sheet.

Recoverable Reserves

Recoverable reserves are the amount of a natural resource present and their value is used to compute the resource's depletion expense.

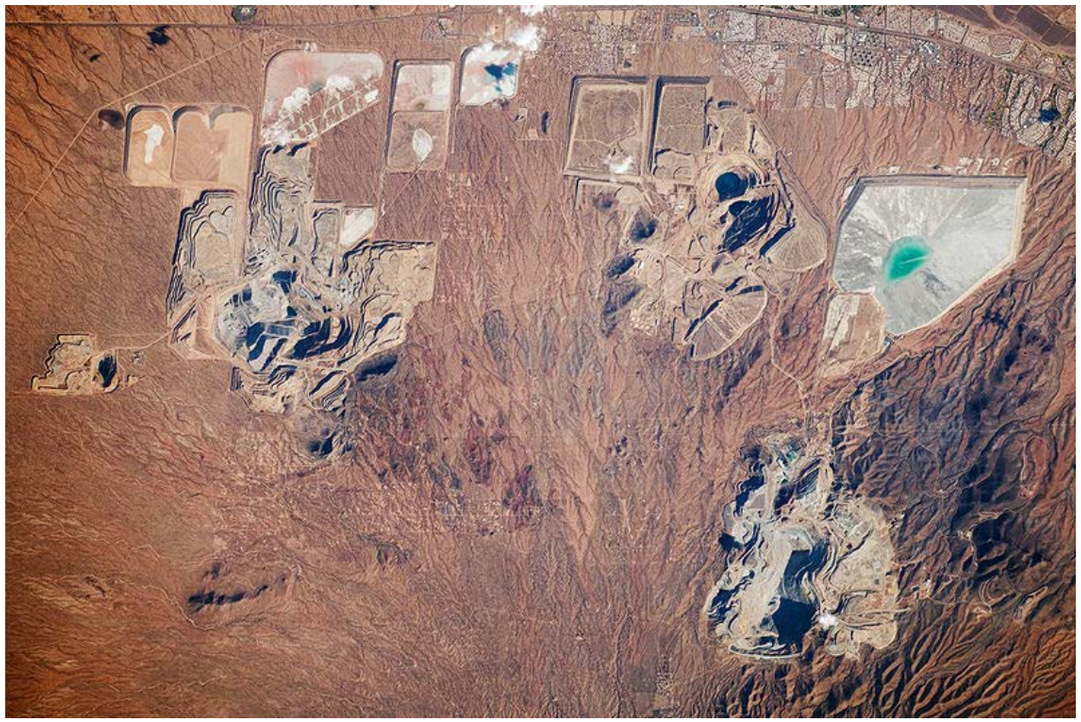
KEY POINTS

- On the balance sheet, natural resources are part of non-current assets and classified as separate groups, such as oil reserves.
- The natural reserves recovered involve several costs related to acquisition, exploration, development, and restoration of the natural resources.
- Natural reserve costs are reported on the balance sheet and assigned to the asset in question, such as "timber stands" or "oil reserves." They are reported at their total cost, less accumulated depletion.
- Depletion expense allows a business to account for the reduction in value of natural reserves. Similar to depreciation, depletion reflects the use and reduction of value of an asset over the course of time.

Accounting for Natural Reserves

Natural reserves supplied by nature, such as ore deposits, mineral deposits, oil reserves, gas deposits, and timber stands, are natural resources or wasting assets. Natural resources represent inventories of raw materials that are consumed (exhausted) through extraction or removal from their natural setting (e.g. removing oil from the ground). On the balance sheet, natural resources are part of non-current assets and classified as separate groups, such as oil reserves (*Figure 6.23*).

Figure 6.23 Recoverable copper reserves include the amount of the current copper deposits present.



The amount of recoverable reserves are used to compute an asset's depletion.

The Recovery of Natural Reserves

Businesses that are involved in the recovery of natural resources, such as mining, growing timber, and extracting petroleum will incur

costs related to the resource recovery. The natural reserves recovered involve several costs related to acquisition, exploration, development, and restoration of the natural resources. These costs are reported on the balance sheet and assigned to the asset in question, such as "timber stands" or "oil reserves." They are reported at their total cost, less accumulated depletion.

The Effect of Depletion

As these natural resources are used throughout the course of business, their value will be reduced by periodic depletion. Depletion expense allows a business to account for the reduction in value of natural reserves. Similar to depreciation, depletion reflects the use and reduction of value of an asset over the course of time. Two methods are available to calculate depletion: the cost and percentage method. Cost depletion is the most commonly used by oil and gas companies. The depletion amount can also vary when calculating it for financial reporting and tax purposes, so it can have a different effect on the accounting period's income and income tax expense.

Natural Resources

Special Considerations for Acquisition and Depletion of Natural Resources

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Special Considerations for Acquisition and Depletion of Natural Resources

Resources supplied by nature are subject to special accounting conventions to calculate cost and depletion.

KEY POINTS

- Resources supplied by nature, such as ore deposits, mineral deposits, and timberstands, are natural resources or wasting assets. Natural resources represent inventories of raw materials that can be consumed (exhausted) through extraction or removal from their natural setting.
- Typically, we record natural resources at their cost of acquisition plus exploration and development costs; on the balance sheet, we report them at total cost less accumulated depletion.
- Depletion is the exhaustion that results from the physical removal of a part of a natural resource. In each accounting period, the depletion recognized is an estimate of the cost of the natural resource that was removed from its natural setting during the period.

KEY POINTS (cont.)

- To record depletion, debit a depletion account and credit an accumulated depletion account, which is a contra account to the natural resource asset account.

Natural Resources

Resources supplied by nature, such as ore deposits, mineral deposits, oil reserves, gas deposits, and timberstands, are natural resources or wasting assets. Natural resources represent inventories of raw materials that can be consumed (exhausted) through extraction or removal from their natural setting (e.g., removing oil from the ground).

On the balance sheet, we classify natural resources as a separate group among noncurrent assets under headings such as "timber stands" and "oil reserves." Typically, we record natural resources at their cost of acquisition plus exploration and development costs; on the balance sheet, we report them at total cost less accumulated depletion. (Accumulated depletion is similar to the accumulated depreciation used for plant assets.) When analyzing the financial condition of companies owning natural resources, exercise caution because the historical costs reported for the natural resources may

Figure 6.24 Rainforest Fatu Hiva

The rainforest on Fatu Hiva, Marquesas Islands is an example of an undisturbed natural resource. Forest provides timber for humans and food and shelter for flora and fauna. The nutrient cycle between organisms form food chains and biodiversity of species.

Figure 6.25 Carson Fall, Mt. Kinabalu in Malaysia

Carson Fall in Mount Kinabalu, Malaysia is an example of an undisturbed natural resource. Waterfalls provide spring water for humans, animals, and plants for survival and also provides habitat for marine organisms. The water current can be used to turn turbines for hydroelectric generation.

be only a small fraction of their current value (*Figure 6.24*), (*Figure 6.25*).

Depletion is the exhaustion that results from the physical removal of a part of a **natural resource**. In each accounting period, the depletion recognized is an estimate of the cost of the natural resource that was removed from its natural setting during the period. To record depletion, debit a depletion account and credit an accumulated depletion account, which is a contra account to the natural resource asset account.

By crediting the accumulated depletion account instead of the asset account, the original cost of the entire natural resource is continues

to be reported on the financial statements. Thus, statement users can see the percentage of the resource that has been removed. To determine the total cost of the resource available, combine this depletion cost with other extraction, mining, or removal costs. Then assign this total cost to either the cost of natural resources sold or the inventory of the natural resource still on hand. Thus, all, some, or none of the depletion and removal costs recognized in an accounting period can be expensed, depending on the portion sold. If all of the resource is sold, expense all of the depletion and removal costs. The cost of any portion not yet sold is part of the cost of inventory.

Computing Periodic Depletion Cost

To compute depletion charges, companies usually use the units-of-production method. They divide total cost by the estimated number of units–tons, barrels, or board feet–that can be economically extracted from the property. This calculation provides a per-unit depletion cost.

For example, assume that in 2010 a company paid $650,000 for a tract of land containing ore deposits and $100,000 in exploration costs. The results indicated that approximately 900,000 tons of ore can be removed economically from the land, after which the land will be worth $50,000. The company incurred costs of $200,000 to develop the site, including the cost of running power lines and building roads. Total cost subject to depletion is the net cost assignable to the natural resource, plus the exploration and development costs. When the property is purchased, a journal entry assigns the purchase price to the two assets purchased–the natural resource and the land.

In some instances, companies buy only the right to extract the natural resource from someone else's land. When the land is not purchased, its residual value is irrelevant and should be ignored. If there is an obligation to restore the land to a usable condition, the firm adds these estimated restoration costs to the costs to develop the site. In the example where the land was purchased, the total costs of the mineral deposits equal the cost of the site ($650,000) (minus the residual value of land and $50,000) plus costs to develop the site ($300,000), or a total of $900,000. The unit (per ton) depletion charge is $1 (or $900,000/900,000 tons).

Section 9

Reporting and Analyzing Assets

Reporting Assets

Return on Assets

Asset Turnover Ratio

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Reporting Assets

A business must report an asset's acquisition cost, how it is depreciated, any subsequent expenditures tied to it, and how it is disposed.

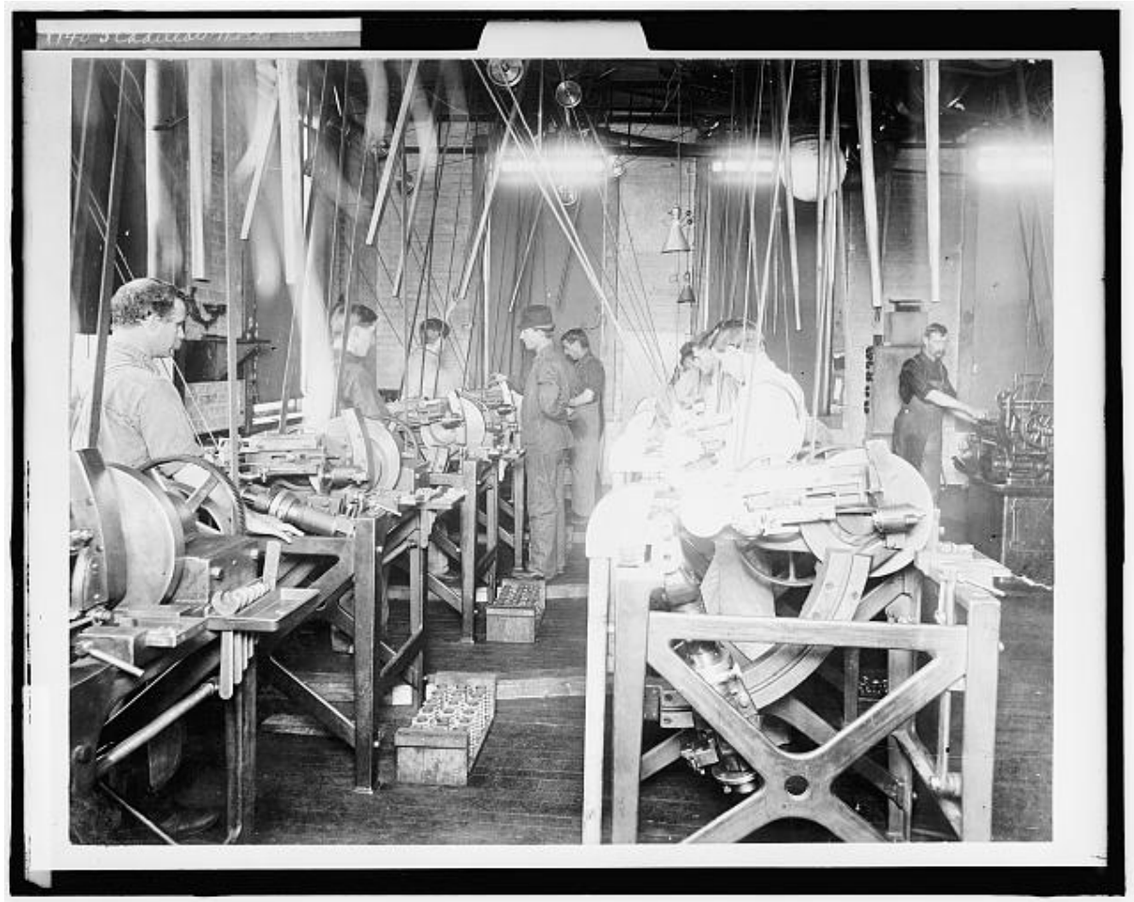
KEY POINTS

- An asset's value on a business balance sheet equals its acquisition cost, or the amount of cash and other property given up to acquire it and place it into operation.
- When determining how to depreciate an asset, a business should consider the cost of the asset, its residual value, its useful life, and what depreciation method it wants to use.
- If a business improves an asset's ability to provide a service, it increases the asset's value. If a business somehow extends a asset's useful life, the asset's value remains the same but its accumulated depreciation is decreased.
- When disposing of an asset, the business must ensure that the asset's depreciation accounts is up to date and then off the asset balance and its accumulated depreciation balance. It must also record any cash or property it received for the disposed asset and record any gain or loss it incurred.

Reporting Assets

One section of the balance sheet consists solely of the business's property, plant, and equipment (*Figure 6.26*). To be included in this section of the balance sheet, the asset must last longer than a year, be tangible, be used in business operations, and cannot be held for resale. Common examples of items that would be included are buildings, machinery, and delivery vehicles. Accounting for these types of assets involves following four steps.

Figure 6.26 Factory Workers Assembling an Engine



The equipment and plant used to product a business's product must be recorded on its balance sheet.

Record the Acquisition Cost

The acquisition cost is how the asset is valued on a business's balance sheet. The acquisition cost equals the amount of cash and other property given up to acquire it and place it into operation. All expenses that are normal, reasonable, and necessary to obtain and place the property into use are included in the acquisition cost. Costs associated with fixing used property so it can be used by the company are included in the acquisition costs. Unnecessary costs associated with initially transporting the property to where it needs to go is not included in the acquisition cost.

Record Depreciation

The act of using an asset can often cause it to lose value because it physically wears out the property. Or an asset can be inadequate for future needs or become obsolete. In all of these cases, the underlying value of the asset decreases over time. Depreciation is a measure of how property values decrease. Depreciation does not apply to assets that do not lose value over time, such as land.

Depreciation can be calculated different ways for different types of asset. However, there are four things that a business must consider when determining how it will depreciate the asset. The first is the cost of the asset. Next, how much will the company be able to sell the asset for when it is of no longer of use to the company, or its residual value? The value could be based on its scrap value or the fact that the asset may have value to others as is. The company should also determine how long it will be able to use the asset. This period is known as the asset's useful life.

Finally a business must choose a depreciation method. The most common depreciation method type is "straight-line," where the depreciation rate is calculated by subtracting the asset's residual value from its acquisition cost and dividing the result by its useful life.

To insure that the balance sheet reflects the accurate value of its assets, a business will not decrease the value of each asset as it depreciates. Instead, it will record a negative asset balance called accumulated depreciation. By adding the accumulated depreciation with the asset's value, a person reading the balance sheet will be able to determine the asset's current value.

Record Subsequent Expenditures on the Asset

A business can spend money on an asset that will increase its overall value in one of two ways. The first is if the business improves the asset in some way that makes it more valuable. A way an asset may become more valuable is if the business somehow enhances the asset's ability to provide services. For example, if a business installs GPS into one of its trucks so it can make deliveries more efficiently,

the expenditure has improved the value of the asset. In that case, the cost of acquiring the improvement is added to the value of the asset account.

A business can also spend money on an asset that does not improve its ability to provide a benefit to the business but extends the asset's useful life. For example, a business may give one of its trucks an overhaul so that it will last another five years instead of another two. In this case, the value of the asset account is not adjusted but its accumulated depreciation account is decreased.

Account for Disposal of Asset

Recording the disposal of an asset requires taking several steps. First, the business must ensure that the asset's depreciation account is up to date. Then the business must write off the asset balance as well as its accumulated depreciation balance. Then it must record any cash or property it received in exchange for the asset. Finally, it must record any gain or loss it sustained on the disposal of the property.

Return on Assets

The Return on Total Assets ratio measures how effectively a company uses its assets to generate its net income.

KEY POINTS

- $\frac{Net\ \ Income}{Average\ \ Value\ \ of\ \ Total\ \ Assets\ \ for\ \ Accounting\ \ Period}$ = Total Return on Net Assets.
- $\frac{Net\ \ Income}{Average\ \ of\ \ Fixed\ \ Assets}$ = Total Return on Net Fixed Assets.
- The greater the value of the ratio, the better a company is performing. To accurately gauge a company's performance, you need to put the value in context by comparing the ratio to the company's past performance or to a competitor's return on assets.

The Return on Total Assets ratio is similar to the Asset Turnover Ratio in that both measure how effective a business's assets are in generating returns for the business (*Figure 6.27*). But while the asset turnover ratio is focused on the business's sales, return on assets is focused on net income. Sales is a measure of how much money the company can generate while net income is a measure of

how much the business earns after its pays all of its financial obligations.

Return on Total Assets

$$\frac{Net\ \ Income}{Average\ \ Value\ \ of\ \ Total\ \ Assets\ \ for\ \ Accounting\ \ Period} = Return\ \ on\ \ Assets$$

Return on total assets equals the total net income the business earns in a given accounting period divided by the average value of the business's total assets for the same period. You calculate the average value of the total assets by adding the value of the business's total assets at the beginning of the period and the value of the business's total assets at the end of the period. You then divide the sum by two.

Return on Total Fixed Assets

$$Return\ \ on\ \ Total\ \ Fixed\ \ Assets = \frac{Net\ \ Income}{Average\ \ of\ \ Fixed\ \ Assets}$$

Return on Total Fixed Assets equals the business's net income divided by the average value of the business's total fixed assets for the accounting period. You calculate the average value of the business's fixed assets by adding the value of the business's total fixed assets at the beginning of the accounting period to the value of the total fixed assets at the end of the period. You then divide the sum by two.

Figure 6.27 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

An income statement is where you will find the business's net income, an important component for calculating a business's return on assets.

Using Return on Assets to Assess Company Performance

The greater the value of the ratio, the better a company is performing. However, merely determining a business's return on asset ratio is insufficient to get a good understanding on how a business is doing. To accurately gauge a company's performance, you need to put the value in context. This is generally done by comparing the current return on assets ratio to the company's past performance or to a competitor's ratio.

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Asset Turnover Ratio

The asset turnover ratio is a measure of how well a business is using all of its assets to generate sales.

KEY POINTS

- $Asset \quad Turnover \quad = \frac{Net \quad Sales \quad Revenue}{Average \quad Total \quad Assets}$
- $\frac{Net \quad Sales}{Average \quad Net \quad Fixed \quad Assets} = FixedAssetTurnoverRatio$
- All Asset Turnover Ratios must be judged in context. This is generally done by comparing the ratio's value to the business's ratios in prior accounting periods or to its competitors' asset turnover ratios.

It can be difficult to review a company's balance sheet and get much meaning out of it with just a glance (*Figure 6.28*). While it may be impressive that a business has millions of dollars worth of equipment, it is hard to determine what that means from a business perspective.

One way of putting those values into context is to use them to generate ratios. One ratio that analysts use to evaluate a company's strength is the asset turnover ratio.

Asset Turnover Ratio

$$Asset\ \ Turnover\ \ = \frac{Net\ \ Sales\ \ Revenue}{Average\ \ Total\ \ Assets}$$

The asset turnover ratio is a measure of how well a business is using all of its assets to generate sales. The ratio is calculated by dividing the total sales for the accounting period by the average value of the assets the business owned during the year. The average value is calculated by adding the value of assets the business owned at the beginning of the period to the value of the assets owned at the end of the period, and then dividing by two.

Fixed-Asset Turnover Ratio

$$Fixed\ \ Asset\ \ Turnover\ \ = \frac{Net\ \ Sales}{Average\ \ Net\ \ Fixed\ \ Assets}$$

The fixed-asset turnover ratio is calculated in a similar manner, except instead of focusing all of the business's assets, the ratio is calculated using the business's fixed assets. This ratio measures how well a business is using its fixed assets to generate sales. To calculate the fixed asset turnover ratio, divide the total sales for the accounting period by the average fixed asset balance for the accounting period. The average fixed asset balance equals the beginning balance of fixed assets for the period plus the ending balance of fixed assets for the period, then dividing by two.

Figure 6.28 Balance sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

ASSETS:	£	5 April £	£		5 April 2004 £
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
Itemised (audio visual, appliances)		2,400			2,700
Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
			446,200		425,100
INVESTMENT ASSETS (LONG TERM)					
Bonds:					
Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
Total Banks			78,000		36,000
TOTAL ASSETS			637,300		589,700
LIABILITIES:					
CURRENT LIABILITIES					
Credit Cards		(3,100)			(1,400)
TOTAL ASSETS, LESS CURRENT LIABILITIES			634,200		588,300
LONG TERM LIABILITIES					
mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
		(120,000)			(100,000)
TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
TOTAL ASSETS, LESS TOTAL LIABILITIES			514,200		488,300
plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car deprciated from £9,000 to £7,000
   c. Car purchased for £15,000
2 Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

The balance sheet is where you will find information regarding the value of the business's assets, which is necessary to calculate the business's asset turnover ratio.

How to Use These Ratios

The higher the ratio, the better the business is performing in terms of sales. However, these ratios generally need context to better understand them. While a ratio may appear low by itself, it may actually be doing well overall. Generally, an analyst will compare a business's asset turnover ratio to the business's ratios from prior accounting periods or to the business's competitor's asset turnover ratio for the same period.

Chapter 7

Controlling and Reporting of Intangible Assets

https://www.boundless.com/accounting/controlling-and-reporting-of-intangible-assets/

Section 1

Introduction to Intangible Assets

Characteristics of Intangible Assets

Valuation of Intangible Assets

Amortization of Intangible Assets

https://www.boundless.com/accounting/controlling-and-reporting-of-intangible-assets/introduction-to-intangible-assets/

Characteristics of Intangible Assets

Intangible assets are identifiable non-monetary assets that cannot be seen, touched, or physically measured.

KEY POINTS

- Intangible assets are either legal or competitive in nature, and can be very valuable to a company's competitive position.
- Intangible assets can have either identifiable or indefinite useful or legal lives.
- The nature of an intangible asset will determine what costs are initially capitalized and how expenses related to the intangible asset are subsequently recognized.

Intangible Assets

Intangible assets are defined as identifiable non-monetary assets that cannot be seen, touched or physically measured, and are created through time and effort. Intangible assets are identified separately on a company's financial statements, and come in two primary forms: legal intangibles and competitive intangibles.

Legal intangibles are also known as intellectual property, and include trade secrets, copyrights, patents, and trademarks. An example would be Coca-Cola's drink formula which is a closely held trade secret that only a few employees know; this is an example of an internally developed intangible asset (*Figure 7.1*).

Figure 7.1 Coca-Cola

Coca-Cola's drink formula is an example of an intangible asset.

Competitive intangibles include collaboration, leverage, structural activities, and customer loyalty. Human capital is the primary source of competitive intangibles.

Goodwill

Goodwill is technically an intangible asset, but is usually listed separately on a company's balance sheet. Goodwill is only recognized through an acquisition of a company or business combination and is calculated as the difference between the amount of money paid to acquire a company and the fair or book value of the acquired company's net assets. Goodwill is a type of intangible asset that is acquired and recorded due to a business acquisition or

combination rather unlike other intangible assets, which may be internally developed by the company.

Example: Company X is a car dealership with assets consisting of 10 cars valued at $100,000, an office valued at $150,000, and long-term debt valued at $25,000. Company X's net assets total $225,000 (100,000 + 150,000 - 25,000). Company X has a top-performing sales personnel who are loyal to the company and refuse to leave. Company Y is a larger car dealership in the area and decides to purchase Company X for 300,000 in order to capitalize on Company X's sales force. The extra $75,000 that Company Y paid above Company X's net assets ($300,000 purchase price - $225,000 Company X's net assets) are recognized by Company Y as Goodwill on their balance sheet.

Useful Lives

Intangible assets have a useful life that is either identifiable or indefinite. Intangible assets with identifiable useful lives are amortized on a straight-line basis over their economic or legal life, which ever is shorter. Intangible assets with indefinite useful lives are assessed each year for impairment. Impairment losses are determined by subtracting the asset's market value from the asset's book/carrying value. If an impairment loss is found it is recognized on the income statement and the intangible asset value is reduced.

Under US GAAP, intangible assets are classified into: Purchased vs. Internally Created Intangibles, and Limited-Life vs. Indefinite-Life Intangibles.

Financial Statement Recognition

Firms initially record intangible assets at cost, however only costs associated with the outright purchase in the acquisition of an intangible asset. Research and development costs incurred during the internal development or self-creation of an intangible asset are not costs that can be capitalized. This then means that some companies have very valuable assets that they are not allowed to recognize on their balance sheets under US GAAP.

Valuation of Intangible Assets

The valuation of intangible assets are primarily derived from transactions involving intangible assets.

KEY POINTS

- Intangible assets include items such as patents, copyrights, software, trade secrets, and goodwill. However, not all intangible assets are recognized on the financial statements of a company.
- The costs to acquire and defend intangible assets are used by accountants to establish intangible asset values.
- Valuation is an estimate that is subject to change based on market conditions and advances in technology.

Valuation of Intangible Assets

Valuation models can be used to value intangible assets such as patents, copyrights, software, trade secrets, and customer relationships. Since few sales of intangible assets are observable, benchmarking the value of intangible assets can be difficult. As a result, present value models or estimating of the cost to recreate an intangible asset are often used to is these valuations.

Although they have no physical characteristics, intangible assets have value because of the advantages or exclusive privileges they provide to a business. Intangible assets generally arise from two sources: (1) exclusive privileges granted by governmental authority or by legal contract, such as patents, copyrights, franchises, trademarks and trade names; and (2) superior entrepreneurial capacity or management know-how and customer loyalty (*Figure 7.2*), which is called goodwill.

Figure 7.2 Goodwill is an intangible asset

Strong customer relationships often generate goodwill. This is a long line of customers queued up at an Apple store.

Intangible assets are initially recorded on financial statements at their purchase price, or the cost of acquiring the asset. If an intangible asset is internally generated, its cost is immediately expensed.

The valuation of intangible assets with identifiable useful lives such as patents, trademarks, and copyrights are initially valued at acquisition costs. The value of these assets can be increased or decreased, based on the outcomes of court proceedings. If a company incurs legal costs to successfully defend an intangible asset, those costs are capitalized and increase the value of the intangible. On the other hand, if a company is unsuccessful in defending an intangible asset, the intangible is worthless and the company is required to write it off.

U.S. GAAP has very specific rules regarding the recognition of intangible assets on financial statements. With that said, a company can still have very valuable intangible assets that are not recognized on its financial statements. From an accounting perspective, intangible asset valuation is primarily derived from acquisition costs. An acquisition identifies the value one party was willing to pay for an asset while at the same time identifying the value another party was willing to accept to relinquish that asset.

Goodwill is an excellent example of how intangible assets are valued. Let's say Company A has net assets equal to 150,000 and is acquired by Company B for 200,000. Why would Company B pay a 50,000 premium? Goodwill! Company B believes that Company A has value in excess of their net identifiable assets, and was willing to pay an additional 50,000 to acquire it. The 50,000 value of Company A's goodwill was derived from a transaction.

Amortization of Intangible Assets

The costs of intangible assets with identifiable useful lives that are not internally generated are amortized over their economic/legal life.

KEY POINTS

- Intangible assets are amortized using the straight line amortization method.
- Goodwill is an intangible asset that is not amortized, but is instead tested for impairment on an annual basis.
- The economic or useful life of an intangible asset is based on an estimate made by management and is subject to change under certain market conditions.

Amortization of Intangible Assets

Under US GAAP, the cost of intangible assets are either amortized over their respective useful/legal lives, or are tested for impairment on an annual basis. Amortization is the systematic write-off of the cost of an intangible asset to an expense, which effectively allocates a portion of the intangible asset's cost to each accounting period in the economic or legal life of the asset. Only recognized intangible assets with finite useful lives are amortized.

Useful Lives

Intangible assets have a useful life that is either identifiable or indefinite. Intangible assets with identifiable useful lives are amortized on a straight-line basis over their economic or legal life, whichever is shorter. The finite useful life of an intangible asset is considered to be the length of time it is expected to contribute to the cash flows of the reporting entity. Pertinent factors that should be considered in estimating the useful lives of intangible assets include legal, regulatory, or contractual provisions that may limit the useful life.

Costs of Intangible Assets

Firms may only include the immediate purchase costs of an intangible asset, which do not include the costs associated with internal development or self-creation of the asset. If an intangible asset is internally generated in its entirety, none of the costs related to the asset are capitalized.

Straight Line Amortization vs. Testing for Impairment

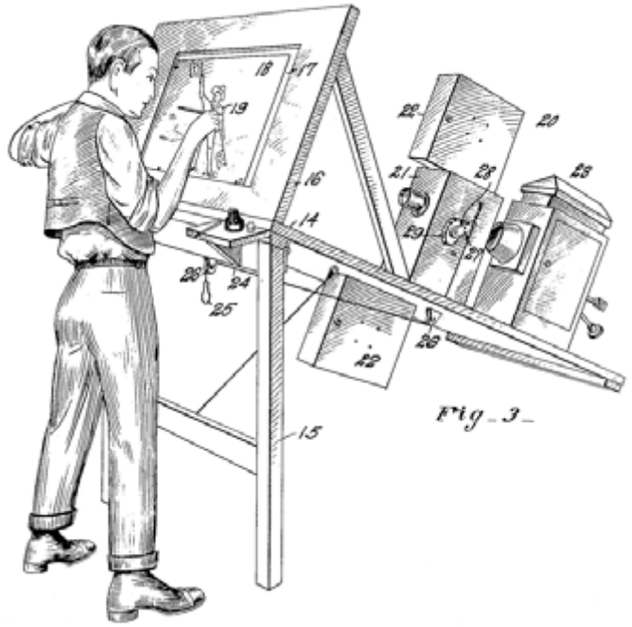
An intangible asset is amortized if the asset has an identifiable useful life. The annual expense recognized as a result of straight line

EXAMPLE

Company X purchases a patent for $17,000, which enables the owner to manufacture, sell, lease, or otherwise benefit from an invention for 17 years. Company X would recognize an intangible asset valued at $17,000 and amortize that cost over 17 years. Each year, Company X will recognize an expense of $1,000 in addition to decreasing the value of the patent reported on the balance sheet by $1,000. See the figure below for an example of a U.S. patent (*Figure 7.3*).

Scenario A: After 5 years Company X is sued for patent infringement and is required to hire a lawyer. The patent lawyer charges $10,000 and is successful in defending Company X's patent. The $10,000 spent to defend the patent is capitalized to the value of the patent on Company X's balance sheet and then amortized over the remaining 12 years of the patent's legal life.

Figure 7.3 Example Patent Drawing



An example of a U.S. Patent drawing

Scenario B: After 5 years Company X realizes that their patent is worthless due to advances in technology. As a result of the useful life of their patent being reduced from 17 years to just 5 years, the remaining unamortized value of $12,000 is expensed and the patent is written down to a value of $0.

Goodwill is an example of an intangible asset that has an indefinite useful life, and is therefore tested for impairment on an annual basis as opposed to being amortized on a straight line basis. A company cannot purchase goodwill by itself; it must buy an entire business or a part of a business to obtain the accompanying intangible asset. Under current US GAAP, firms are required to compare the fair value of reporting units to the respective reporting unit's book value, which is calculated as assets plus goodwill less liabilities. If the fair value of the reporting unit is less than its carrying value, goodwill has been impaired. An impairment loss is recognized on the income statement and the goodwill account is reduced. The impairment loss is calculated by subtracting the fair value of a reporting unit's net assets from the reporting unit's carrying value.

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Section 2

Types of Intangible Assets

Trademarks

Copyrights

Patents

Goodwill

Franchises and Licenses

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Trademarks

A trademark is an intangible asset legally preventing others from using a business's logo, name, or other branding.

KEY POINTS

- As a trademarks are used to identify a specific type of business or service, they are important for businesses that want to protect their branding.
- A trademark's value for accounting purposes equals what it cost to acquire.
- Trademarks are not amortized, but if one loses its value, it can be impaired.

Trademarks

A trademark is an image, word, phrase, logo or combination of those elements used to identify a specific type of business or service. A **trademark** allows a customer to instantly identify a product and associate the item with a response regarding its quality and price. If developed properly, a trademark will allow customers to make a positive connection with the product to which it is attached. In short, a trademark is a visual representation of a business's brand or logo (*Figure 7.4*).

To protect the work that it puts into developing its brand, a company will obtain a trademark. The legal protection of a trademark prevents other businesses from using the specific image and text associated with the brand. In some circumstances, a business may obtain a "common law" trademark. This offers the business some legal protection. Generally, American businesses will register their logo with the U.S. Patent and Trademark Office. This offers them more legal protection, but can also be more expensive to obtain.

Figure 7.4
Trademark Symbol
The following symbol is attached to images or text that have been trademarked with the federal government.

A trademark is an intangible asset, as it's a nonphysical item granting a business the legal right to exclusively use a logo or other item. This means it is reported on a business's balance sheet.

Valuing Trademarks

Trademarks have enormous value to businesses, although that may not translate to a business's financial report. A business can only value any intangible asset, including a trademark, based on what it cost to acquire. For example, if a business purchased a product line

from another company, the trademark associated with that product could have a high value on the acquiring company's books.

The value of a trademark can also be quite low. All costs associated with creating the logo or promoting its public awareness are not included in the trademark's value if the business did all these tasks internally. As a result, some trademarks could have no value on a company's books despite a significant investment by the business.

Annual Review of Trademarks

Some intangible assets are amortized over time. This means that the value decreases every year as an expense for using the item. The amount the value of the asset decreases also decreases the business's income for that year. Trademarks are not amortized since each is considered to have an indefinite life, meaning a perception exists that a trademark can retain its value forever.

However, a business must reassess the value of its trademarks annually. If a business determines that one of its trademarks is worth less than it was a year ago, the value of the intangible asset must be impaired. When an impairment occurs, the value of the asset must be decreased to its current market value. The difference between the current value of the trademark and its former value must be recorded as a financial loss.

Copyrights

A copyright is an amortizable, intangible asset that is used to secure the legal right to publish a work of authorship.

KEY POINTS

- A work of authorship can include poetry, novels, computer software, movies, plays, songs and architectural drawings.
- Most copyrights last for the duration of an author's life plus 70 years.
- The value of a copyright equals the cost it took to secure the legal copyright on a work the business created, or the price the business paid to purchase the copyright from the original owner.
- Every year, the company must amortize the value of the copyright by an amount equal to the original value of the copyright divided by the projected amount of time that the copyright will be able to generate revenue.

Copyrights

A copyright is a legal protection preventing others from publishing or reproducing works of authorship. A work of authorship can include poetry, novels, plays, computer software and architectural drawings. A person who creates a work of authorship has a copyright the moment the work is created and is fixed in a form that either a person or machine can read. As a result, an author does not have to register their work with the U.S. Copyright Office. Formally registering a work is generally recommend because it provides additional legal protection against those who would copy the work (*Figure 7.5*).

Figure 7.5
Copyright
This is the emblem attached to something that is copyrighted.

A copyright only lasts so long, but how long it lasts depends on several factors. Generally, most copyrights last for the duration of an author's life plus 70 years. If it is an anonymous work or something done for hire, the copyright lasts for 95 years after it was published or 120 years from the year it was created.

While a copyright is associated with a tangible work, since it is a legal right it is also classified as an intangible asset and can be included on a business's balance sheet.

Valuing a Copyright

The value a business attaches to a copyright depends on how it was acquired. If the business developed the work in question, the value of the copyright is equal to the cost the business incurred securing the copyright. This would include any legal or application fees it might have incurred to obtain the copyright.

If the business purchased the copyright from another company, the business will record the acquired asset at it acquisition cost.

Amortizing a Copyright

Since a copyright eventually terminates, it is amortized. This means that every year the value of the copyright on the company's books will decrease. The business will record an amortization expense to reflect the decrease in the asset's value. Generally, an intangible asset like a **copyright** is amortized via the straight-line method. This means that the book value of the copyright is divided by the useful life of the copyright to determine the amortization amount. The useful life determines how long the business expects the copyright to provide it revenue, and therefore may not equal the full term of the copyright.

Every year, the amortization amount is subtracted from the value of the copyright and is listed as an expense. This continues until the value of the copyright equals zero.

Patents

A patent is an amortizable, intangible asset that grants a business the sole right to manufacture and sell an invention.

KEY POINTS

- There are three types of patents. A utility patent is for processes, machines, and articles of manufacture. A design patent is used for any new, original ornamental design that can be affixed to an item of manufacture. A plant patent is granted to anyone that has invented or created a new plant.
- A U.S. patent lasts for 20 years.
- The value of a patent depends on how it was acquired. If developed internally, the book value of the patent could be quite low since all R&D expenditures are listed as expenses when incurred. If the business purchased the patent, its value equals the acquisition cost.
- The value of the patent must be amortized over its useful life, which can be no longer than 20 years.

Patents

A **patent** is a legal license granting its holder the exclusive right to make, use, or sell a specific invention (*Figure 7.6*). There are three types of patents. A utility patent is for processes, machines, and articles of manufacture. The light bulb and the Model T would have been utility patents. A design patent is used for any new, original ornamental design that can be affixed to an item of manufacture, such as a hood ornament for a Model T. A plant patent is granted to anyone that has invented or created a new plant, such as a unique strain of corn.

Figure 7.6 A patent is an example of an intangible asset with a limited life.

A patent is an example of an intangible asset with a limited life.

A U.S. patent currently lasts 20 years. Despite the fact that a patent is connected to a specific type of item, a patent represents a legal

right and not a tangible item. A patent is classified as an intangible asset and is listed on a company's balance sheet.

Valuing a Patent

The value of a patent that a company would record on its books depends on how it acquired the patent. If the business developed the invention internally, all the research and development costs associated with that item would have been listed as an expense as those fees were incurred. Therefore, the initial value of an internally developed patent could be quite low.

If the business purchased the patent from the original holder, the value of the patent equals the acquisition cost.

The value of the patent may be increased if a patent holding company defends its rights to the invention in a lawsuit. If the company uses an outside law firm, all fees the business pays to the firm to defend the patent will be included as part of the patent's book value.

Amortizing a Patent

Since a patent is only valid for a limited number of years, a business is required to **amortize** it. The process of amortization requires decreasing the value of the asset annually by an amount equal to the value of the asset divided by the number of years of the patent's useful life. The useful life of the patent can be no longer than how much time is left on the patent's term, but should reflect the period that the underlying invention can generate revenue for the business that owns it. Every year the business records a decrease in the patent's value, it must also record a corresponding amortization expense equal to the decrease.

For example, assume a business acquires a patent that has 15 years left on its term for 1 million dollars. However, the invention the patent secures will only generate revenue for ten years. For the next ten years, the company must decrease the value of the asset by 100,000. To ensure the books are balanced, the business must also record a $100,000 amortization expense for the next ten years.

Goodwill

Goodwill is an intangible asset that equals an acquired company's purchase price minus the value of its net assets when it was acquired.

KEY POINTS

- A company may only record goodwill on its balance sheet in connection to a business or business segment it acquired.
- Goodwill = acquisition price - net assets.
- Goodwill is not amortized, but it can be impaired if the present value of the future revenues of the related business segment are less than the net assets (including goodwill) of the business segment.

Goodwill

The value of a business is not always defined by what assets it owns and what it owes. A successful business will develop customer loyalty and an overall positive reputation in its community, which will cause its market value to be greater than its book value. A company may also generate a higher value if it proves over time that it can generate superior revenues than its competition through managerial expertise, its reputation within its business sector, and other company attributes.

The difference between the value of a company as reflected in its balance sheet and its market value is known as its goodwill. Accounting goodwill is the excess value of a firm's net assets and is recorded at time of business acquisition or combination. Goodwill is not associated with a physical object that the business owns, so it is an intangible asset and is listed on a company's balance sheet. In comparison, economic goodwill refers to company attributes that are hard to quantify, such as brand loyalty, brand recognition, company innovation, and executive talent (*Figure 7.7*).

Valuing Goodwill

Figure 7.7 Apple is a successful company with considerable goodwill.

Apple is a successful company with considerable goodwill.

A company can list goodwill on its balance sheet when it acquires another business at a higher cost than what the assets and liabilities on the acquired company's balance sheet dictate. In short, goodwill equals the acquisition price minus net assets.

Say a business was purchased for 100 million. Its assets were worth 80 million but it had 30 million in liabilities. The acquired business'

assets would be equal to 50 million, and the acquiring business would record 50 million worth of goodwill on its balance sheet.

However a business may not record goodwill that it generates for itself. Using the same example, assume the business was not acquired, but it was worth 100 million and still had 80 million of assets with 30 million in liabilities. The business would not be able to record the 50 million of goodwill on its own balance sheet. Goodwill can only be recorded when an entire business or an entire section of a business is purchased at a price greater than the value of its assets.

Annual Review of Goodwill

It used to be that goodwill was amortized. This meant that the value of goodwill was decreased annually, with the business recording a loss equal to the amount of the decrease in value. As of 2001, goodwill is no longer amortized.

Every year the value of goodwill must be evaluated by the business that owns it. The company must determine the present value of all of the future revenues of the business segment associated with the goodwill. If the present value of those revenues equal or exceed the value of the business segment's carrying value, or its total assets (including goodwill) minus assets, the business does not have to make any changes.

If the present value of the future revenues is less than the business segment's carrying value, the business must **impair**, or decrease the value, of the goodwill account. Goodwill must be decreased so that the segment's carrying value equals the present value of its revenues. If the the total value of goodwill is not enough to make up the difference, the goodwill balance must be set to zero. A business cannot have a negative goodwill balance.

Any impairment of goodwill is recognized as a loss for year of the decrease and reported on the income statement.

Franchises and Licenses

Franchises and licenses are intangible assets that legally entitle a business to sell a product or service developed by another entity.

KEY POINTS

- If a franchisee makes periodic payments to the franchisor, it does not record a franchise asset. If the contract requires that a lump sum be paid up front to secure the franchise rights for several years, the franchisee would record a franchise asset on its balance sheet.
- A business only records a license asset on its balance sheet if the term of the license ends after the date of the balance sheet.
- Amortizing only applies if the business records an asset. The amortization rate is calculated by dividing the initial value of the asset by its useful life. Every accounting period, the business decreases the value of the asset by the amortization rate and records an expense equal to the rate.

A franchise is a contract that grants a business the right to operate using the name and products of an established brand. A franchisor will develop the brand, produce goods and develop marketing campaigns for its products. A franchisee will then purchase the rights to sell the franchisor's products in a given area and benefit

Figure 7.8 McDonald's, Oldham Road, Manchester. McDonald's is one well known organization that operates using franchises.

from the franchisor's marketing efforts. The franchisor makes money by selling rights to franchisees, while the franchisee profits by selling directly to customers. A common industry that uses franchising is fast food (*Figure 7.8*).

A license is similar to a **franchise**, in that it grants someone the right to legally use someone else's intellectual property or gooda. This license will contain terms that will define how the purchaser can use the product and whether she can share it. A common example of a license a business might purchase is for software.

Valuing Franchises and Licenses

How a franchise is recorded on a balance sheet depends on the conditions of the contract. If a **franchisee** makes periodic

payments to the **franchisor** over the contract's term, the franchisee does not record a franchise asset. Instead, the franchisee records a franchise expense when she pays the franchise fee.

If the contract requires that a lump sum be paid up front to secure the franchise rights for several years, the franchisee would record a franchise asset on its balance sheet. Therefore, the value of the franchise asset equals what it cost to acquire.

The same rules apply to a license. If a business must pay licensing fees on a monthly or on an annual basis that coincides with the end of the business's fiscal year, the business does not record a license asset. The fees that the business paid for those licenses are included as an expense. If the license is for multiple years or accounting periods and is acquired by paying an initial fee, the license is recorded as an asset on the balance sheet and its value equals what it cost to acquire the license.

Amortizing Franchises and Licenses

Amortizing is a term that only applies if there is a franchise or license asset. Amortization is the process of writing off the cost of an asset over its useful life. Useful life is the amount of time that a business can generate revenues from the asset. For a franchise, the useful life is generally the length of the franchise contract. The useful life of a license is how long it grants the holder the exclusive right to use the underlying product.

The amortization rate is calculated by dividing the initial value of the asset by its useful life. Depending on when the balance sheet is issued, the useful life is presented as a number of months, quarters, or years. Every accounting period, the value of the asset is decreased by the amortization rate. The business also records an expense equal to the amortization rate every accounting period.

Intangible Asset Impairment

Limited-Life Impairment

Indefinite-Life Impairment

Goodwill Impairment

https://www.boundless.com/accounting/controlling-and-reporting-of-intangible-assets/intangible-asset-impairment/

Limited-Life Impairment

Limited-life intangibles are amortized throughout the useful life of the intangible asset using either the units of activity or the straight-line method.

KEY POINTS

- Limited-life intangibles are intangible assets with a limited useful life, such as copyrights, patents and trademarks.
- Intangible assets are non-monetary assets that cannot be seen, touched or physically measured. Intangible assets are created through time and effort, and are identifiable as separate assets.
- Non-physical or "intangible" assets are amortized to reflect the change in their value due to use, expiration or obsolescence over time.

Limited-Life Impairment

Intangible assets are non-monetary assets that cannot be seen, touched, or physically measured. Intangible assets are created through time and effort, and are identifiable as separate assets. They are classified into categories: either purchased vs. internally created **intangible** assets; and limited-life or indefinite-life intangible assets.

The two primary forms of intangibles are legal intangibles, which includes trade secrets, copyrights, patents, and trademarks (also referred to as Intellectual Property) and competitive intangibles, which includes knowledge activities, collaboration activities, leverage activities, and structural activities. Limited-life intangibles are intangible assets with a limited useful life, such as copyrights, patents and trademarks

Intangible assets are amortized to reflect their consumption, expiry, obsolescence or other decline in value as a result of use or the passage of time, process which is similar to the deprecation process for tangible assets. Intangible assets can have either a limited or an indefinite useful life. Intangible assets with a limited-life are amortized on a straight-line basis over their economic or legal life, based on whichever is shorter. Examples of intangible assets with a limited-life include copyrights and patents. Only intangible assets with an indefinite life are reassessed each year for impairment.

Limited-life intangibles are systemically amortized throughout the useful life of the intangible asset using either units of activity method or **straight-line method**. The amortization amount is equal to the difference between the intangible asset cost and the asset residual value. That calculated amount is credited to either the appropriate intangible asset account or accumulated amortization account (*Figure 7.9*).

Reversal of Impairment Loss

Figure 7.9 Amortization & depreciation in the accounting cycle

This chart shows the difference between amortization and depreciation.

When an intangible asset's impairment reverses and value is regained, the increase in value is recorded as a gain on the income statement and reduction to accumulated impairment loss on the balance sheet, up to the amount of impairment loss recorded in prior periods. Increases in value in excess of prior impairment loss are debited directly to the asset and credited to a revaluation reserve account in the equity section of the balance sheet. Asset amortization for future periods should be adjusted due to the increase in value.

Indefinite-Life Impairment

Because Indefinite-life tangibles continue to generate cash they can't be amortized; they must be evaluated for impairment yearly.

KEY POINTS

- Examples of Indefinite-life intangibles are goodwill, trademarks, and perpetual franchises.
- Instead of amortization, indefinite-life assets are evaluated for impairment yearly.
- The Impairment cost is calculated as: Carrying value - Recoverable amount.

Indefinite-Life Impairment

In accounting, intangible assets are defined as non-monetary assets that cannot be seen, touched or physically measured.

Under US GAAP, intangible assets are classified into: Purchased vs. internally created intangibles, and Limited-life vs. indefinite-life intangibles.

Since intangible assets are typically expensed according to their respective life expectancy, it is important to understand the difference between limited-life intangible assets and indefinite-life

intangible assets. Intangible assets with identifiable useful lives (limited-life) include copyrights and patents. These items are amortized on a straight-line basis over their economic or legal life, whichever is shorter.

Some examples of indefinite-life intangibles are goodwill, trademarks, and perpetual franchises. Indefinite-life tangibles are not amortized because there is no foreseeable limit to the cash flows generated by those intangible assets. Instead of amortization, indefinite-life assets are evaluated for impairment yearly (*Figure 7.10*). If an impairment has occurred, then a loss must be recognized.

Figure 7.10 The purpose of the accounting cycle

Properly reporting items is important to the accounting cycle.

An Impairment cost must be included under expenses when the carrying value of a non-current asset exceeds the recoverable amount. The Impairment cost is calculated as:

Carrying value - Recoverable amount

The carrying amount is defined as the value of the asset as displayed on the balance sheet. The recoverable amount is the higher of either the asset's future value for the company or the amount it can be sold for, minus any transaction cost.

Intangibles can also be classified as: legal intangibles or competitive intangibles. Legal intangibles are also known as Intellectual Property. They include trade secrets, copyrights, patents, and trademarks. Competitive intangibles comprise knowledge activities, know-how, collaboration activities, leverage activities, and structural activities.

Reversal of Impairment Loss

When an intangible asset's impairment reverses and value is regained, the increase in value is recorded as a gain on the income statement and reduction to accumulated impairment loss on the balance sheet, up to the amount of impairment loss recorded in prior periods. Increases in value in excess of prior impairment loss is debited directly to the asset and credited to a revaluation reserve

account in the equity section of the balance sheet. According to IAS 36, reversal of impairment losses for goodwill are not allowed.

Section 4

Research & Development Cost

What is R&D

Accounting for R&D Activity

https://www.boundless.com/accounting/controlling-and-reporting-of-intangible-assets/research-development-cost/

What is R&D

The primary function of R&D is to develop new products or discover and create new knowledge about scientific and technological topics.

KEY POINTS

- The primary function of R&D is to develop new products or discover and create new knowledge about scientific and technological topics for the purpose of uncovering and enabling development of valuable new products, processes, and services.
- New product design and development is more often than not a crucial factor in the survival of a company. In an industry that is changing fast, firms must continually revise their design and range of products.
- In the U.S., a typical ratio of research and development for an industrial company is about 3.5% of revenues. A high technology company such as a computer manufacturer might spend 7%.

What is R&D?

The term R&D or research and development refers to a specific group of activities within a business. The activities that are classified as R&D differ from company to company, but there are two primary models. In one model, the primary function of an R&D group is to develop new products; in the other model, the primary function of an R&D group is to discover and create new knowledge about scientific and technological topics for the purpose of uncovering and enabling development of valuable new products, processes, and services. Under both models, R&D differs from the vast majority of a company's activities which are intended to yield nearly immediate profits or immediate improvements in operations and involve little uncertainty as to the return on investment (**ROI**). The first model of R&D is generally staffed by engineers while the second model may be staffed with industrial scientists. R&D activities are carried out by corporate and governmental entities (*Figure 7.11*).

Figure 7.11 A worker makes final checks

This is an example of R&D in action.

R&D's Role

New product design and development is more often than not a crucial factor in the survival of a company. In an industry that is changing fast, firms must continually revise their design and range of products. This is necessary due to continuous technological change and development as well as other competitors and the changing preference of customers. Without an R&D program, a firm must rely on strategic alliances, acquisitions, and networks to tap into the innovations of others (*Figure 7.12*).

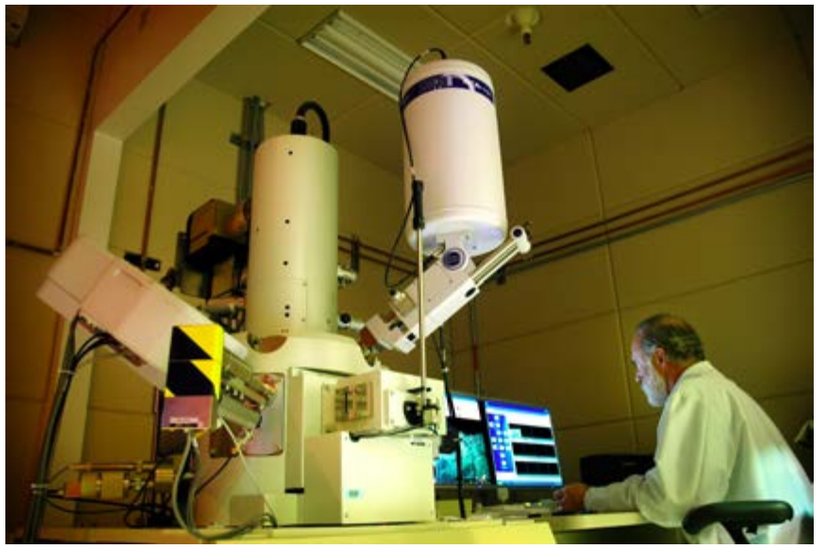

Figure 7.12
Microscopy lab
Research being carried out at the Microscopy lab of the Idaho National Laboratory.

In the U.S., a typical ratio of **research** and **development** for an industrial company is about 3.5% of revenues. A high technology company such as a computer manufacturer might spend 7%. Although Allergan (a biotech company) tops the spending table with 43.4% investment, anything over 15% is remarkable and usually gains a reputation for being a high technology company. Companies in this category include pharmaceutical companies such as Merck & Co. (14.1%) or Novartis (15.1%), and engineering companies like Ericsson (24.9%). Such companies are often seen as credit risks because their spending ratios are so unusual.

Generally such firms prosper only in markets whose customers have extreme needs, such as medicine, scientific instruments, safety-critical mechanisms (aircraft), or high technology military armaments. The extreme needs justify the high risk of failure and consequently high gross margins from 60% to 90% of revenues. Gross profits will be as much as 90% of the sales cost, with manufacturing costing only 10% of the product price, because so many individual projects yield no exploitable product. Most industrial companies get only 40% of revenues.

History of R&D

Research and development costs are costs incurred in a planned search for new knowledge and in translating such knowledge into new products or processes. Prior to 1975, businesses often capitalized research and development costs as intangible assets when future benefits were expected from their incurrence. Due to the difficulty of determining the costs applicable to future benefits, many companies expensed all such costs as incurred. Other

companies capitalized those costs that related to proven products and expensed the rest as incurred.

As a result of these varied accounting practices, in 1974 the Financial Accounting Standards Board in Statement No. 2 ruled that firms must expense all research and development costs when incurred, unless they were directly reimbursable by government agencies and others. Immediate expensing is justified on the grounds that (1) the amount of costs applicable to the future cannot be measured with any high degree of precision; (2) doubt exists as to whether any future benefits will be received; and (3) even if benefits are expected, they cannot be measured. Thus, research and development costs no longer appear as intangible assets on the balance sheet. The Board applies the same line of reasoning to other costs associated with internally generated intangible assets, such as the internal costs of developing a patent.

Accounting for R&D Activity

Research and development costs no longer appear as intangible assets on the balance sheet, but as expenses on the income statement.

KEY POINTS

- Research and development costs no longer appear as intangible assets on the balance sheet. The Board applies the same line of reasoning to other costs associated with internally generated intangible assets, such as the internal costs of developing a patent.
- Immediate expensing is justified on the following grounds: the amount of costs applicable to the future cannot be measured with any high degree of precision, doubt exists as to whether any future benefits will be received, and even if benefits are expected, they cannot be measured.
- In the U.S., a typical ratio of research and development for an industrial company is about 3.5% of revenues. A high technology company such as a computer manufacturer might spend 7%.

Accounting for Research and Development Activity

In general, research and development (R&D) activities are conducted by specialized units or centers belonging to a company,

or can be outsourced to contract research organizations, universities, or state agencies (*Figure 7.13*). In the context of commerce, research and development normally refers to future-oriented, long-term activities in science or technology, using similar techniques to scientific research but directed toward desired outcomes and with broad forecasts of commercial yield.

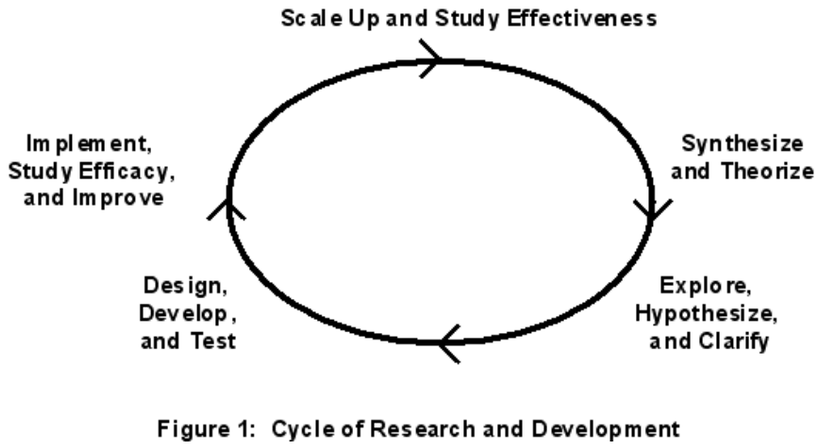

Figure 1: Cycle of Research and Development

Figure 7.13 Cycle of Research and Development

All costs associated with the R&D process are immediately expensed once incurred.

In the United States, a typical ratio of research and development for an industrial company is about 3.5% of revenues. A high technology company such as a computer manufacturer might spend 7%. Although Allergan (a biotech company) tops the spending table with 43.4% investment, anything over 15% is remarkable and usually gains a reputation for being a high technology company. Companies in this category include pharmaceutical companies such as Merck & Co. (14.1%) or Novartis (15.1%), and engineering companies like Ericsson (24.9%). Such companies are often seen as credit risks because their spending ratios are so unusual.

Research and development costs are the costs incurred in a planned search for new knowledge and in translating such knowledge into new products or processes. Prior to 1975, businesses often capitalized research and development costs as intangible assets when future benefits were expected from their incurrence. Due to the difficulty of determining the costs applicable to future benefits, many companies expensed all such costs as incurred. Other companies capitalized those costs that related to proven products and expensed the rest as incurred.

As a result of these varied accounting practices, in 1974 the Financial Accounting Standards Board in Statement No. 2 ruled that firms must expense all research and development costs when incurred, unless they were directly reimbursable by government agencies and others. Immediate expensing is justified on the following grounds:

1. The amount of costs applicable to the future cannot be measured with any high degree of precision
2. Doubt exists as to whether any future benefits will be received
3. Even if benefits are expected, they cannot be measured

Research and development costs thus no longer appear as intangible assets on the balance sheet. The Board applies the same

line of reasoning to other costs associated with internally generated intangible assets, such as the internal costs of developing a patent.

R&D As an Administrative cost

Administrative costs are non-manufacturing costs that include the costs of top administrative functions and various staff departments such as accounting, data processing, and personnel. Executive salaries, clerical salaries, office expenses, office rent, donations, research and development costs, and legal costs are also administrative costs. As with selling costs, all organizations have administrative costs.

Section 5

Reporting and Analyzing Intangibles

Reporting Intangibles

Reporting R&D Cost

Analyzing Intangible Assets

https://www.boundless.com/accounting/controlling-and-reporting-of-intangible-assets/reporting-and-analyzing-intangibles/

Reporting Intangibles

Intangible assets are either recorded at cost or expensed as they are created.

KEY POINTS

- The most common types of intangibles are patents, copyrights, franchises or licenses, trademarks or trade names, and goodwill.
- In most cases, intangible assets provide services over a period of years.
- Intangibles purchased from another party are recorded at cost.
- The cost of created intangibles is generally expensed as incurred.
- Intangible assets derive their value from the rights and privileges granted to the company using them.

Intangibles

Intangible assets lack physical existence. Unlike tangible assets such as property, plant, and equipment, intangible assets derive their value from the rights and privileges granted to the company using them.

They are not financial instruments. Assets such as bank deposits, accounts receivable, and long-term investments in bonds and stocks lack physical substance, but are not classified as intangible assets. These assets are financial instruments and derive their value from the right or claim to receive cash or cash equivalents in the future.

In most cases, intangible assets provide services over a period of years. As a result, they are normally classified as long-term assets. The most common types of **intangibles** are patents, copyrights, franchises or licenses, trademarks or trade names, and goodwill.

Valuation and Accounting

Intangibles purchased from another party are recorded at cost (*Figure 7.14*). Cost includes all costs of acquisition and expenditures necessary to make the intangible asset ready for its intended use—for example, purchase price, legal fees, and other incidental expenses.

If intangibles are acquired for stock or in exchange for other assets, the cost of the intangible is the fair value of the consideration given or the fair value of the

Figure 7.14 Reporting Intangibles

Valuation and Accounting

intangible received, whichever is more clearly evident.

The accounting treatment for purchased intangibles closely parallels that followed for purchased tangible assets. The cost of created intangibles is generally expensed as incurred. Therefore, even though a company may incur substantial research and development costs to create an intangible, these costs are expensed.

Various reasons are given for this approach. Some argue that the costs incurred internally to create intangibles bear no relationship to their real value. Therefore, expensing these costs is appropriate. Others note that with a purchased intangible, a reliable number for the cost of the intangible can be determined. With internally developed intangibles, it is difficult to associate costs with specific intangible assets. And others argue that due to the underlying subjectivity related to intangibles, a conservative approach should be followed—that is, expense as incurred.

The accounting for intangible assets depends on whether the intangible has a limited or an indefinite life. The costs of acquiring and defending a copyright may be **capitalized**, but the research and development costs involved must be expensed as incurred. Generally, the useful life of the copyright is less than its legal life. The costs of the copyright should be allocated to the years in which the benefits are expected to be received. The difficulty of determining the number of years over which benefits will be received normally encourages the company to write these costs off over a fairly short period of time.

Reporting R&D Cost

Expense R&D, unless items have alternative future uses, then allocate as consumed, or capitalize and depreciate as used.

KEY POINTS

- R&D costs may be expensed. A cost which cannot be deducted in the year in which it is paid or incurred must be capitalized.
- If the acquired property's useful life is longer than the taxable year, then the cost must be capitalized. The capital expenditure costs are then amortized or depreciated over the life of the asset.
- Choice of the appropriate accounting treatment should be guided by the degree of certainty of future benefits and the principle of matching revenues and expenses.

Research and Development Defined

Research is original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.

Development is the application of research findings to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems, or services, before the start of commercial production or use.

Reporting R&D Costs

R&D costs may be expensed. A cost which cannot be deducted in the year in which it is paid or incurred must be capitalized. The general rule is that if the acquired property's useful life is longer than the taxable year, then the cost must be capitalized. The capital expenditure costs are then amortized or depreciated over the life of the asset. Choice of the appropriate accounting treatment for such costs should be guided by the degree of certainty of future benefits and the principle of matching revenues and expenses.

Some companies conduct R&D activities for other entities under a contractual arrangement. In this case, the contract usually specifies that all direct costs, certain specific indirect costs, plus a profit element, should be reimbursed to the enterprise performing the R&D work. Because reimbursement is expected, such R&D costs should be recorded as a receivable. It is the company for whom the work has been performed that reports these costs as R&D and expenses them as incurred.

It should be emphasized that R&D activities do not include routine or periodic alternatives to existing products, production lines, manufacturing processes, and other ongoing operations even

though these alterations may represent improvements. For example, routine ongoing efforts to refine, enrich, or improve the qualities of an existing product are not considered R&D activities.

Reporting R&D Activities

The costs associated with R&D activities and the accounting treatment accorded them are as follows: expense the entire costs, unless the items have alternative future uses (in other R&D projects or otherwise), then carry as inventory and allocate as consumed, or capitalize and depreciate as used (*Figure 7.15*).

Figure 7.15
Reporting R & D
How to Report R & D...

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Analyzing Intangible Assets

Intangibles with identifiable useful lives are amortized on a straight-line basis over their economic or legal life, whichever is shorter.

KEY POINTS

- Intangible assets are typically expensed according to their respective life expectancy. Intangible assets have either an identifiable or indefinite useful life.
- Examples of intangible assets with identifiable useful lives include copyrights and patents.
- Intangible assets with indefinite useful lives are reassessed each year for impairment. If an impairment has occurred, then a loss must be recognized.
- Some costs with respect to intangible assets must be capitalized rather than treated as deductible expenses.

Analyzing Intangible Assets

Intangible assets are defined as identifiable non-monetary assets that cannot be seen, touched or physically measured. Intangible assets are created through time and effort, and are identifiable as a separate asset (*Figure 7.16*).

Intangible assets are typically expensed according to their respective life expectancy. Intangible assets have either an identifiable or indefinite useful life. Those with identifiable useful lives are amortized on a straight-line basis over their economic or legal life, whichever one is shorter. Examples of intangible assets with identifiable useful lives include copyrights and patents.

Figure 7.16
Analyzing Intangibles
How to Analyze Intangible Assets

Intangible assets with indefinite useful lives are reassessed each year for impairment. If an impairment has occurred, then a loss must be recognized. An impairment loss is determined by subtracting the asset's fair value from the asset's book or carrying value. Trademarks and goodwill are examples of intangible assets with indefinite useful lives. Goodwill has to be tested for impairment rather than **amortized**. If impaired, goodwill is reduced and loss is recognized in the Income statement.

Capitalization

Some costs with respect to intangible assets must be capitalized rather than treated as deductible expenses. Treasury regulations generally require capitalization of costs associated with acquiring, creating, or enhancing intangible assets. For example, an amount paid to obtain a trademark must be capitalized. Certain amounts paid to facilitate these transactions are also capitalized. Some types of intangible assets are categorized based on whether the asset is acquired from another party or created by the taxpayer. The regulations contain many provisions intended to make it easier to determine when capitalization is required.

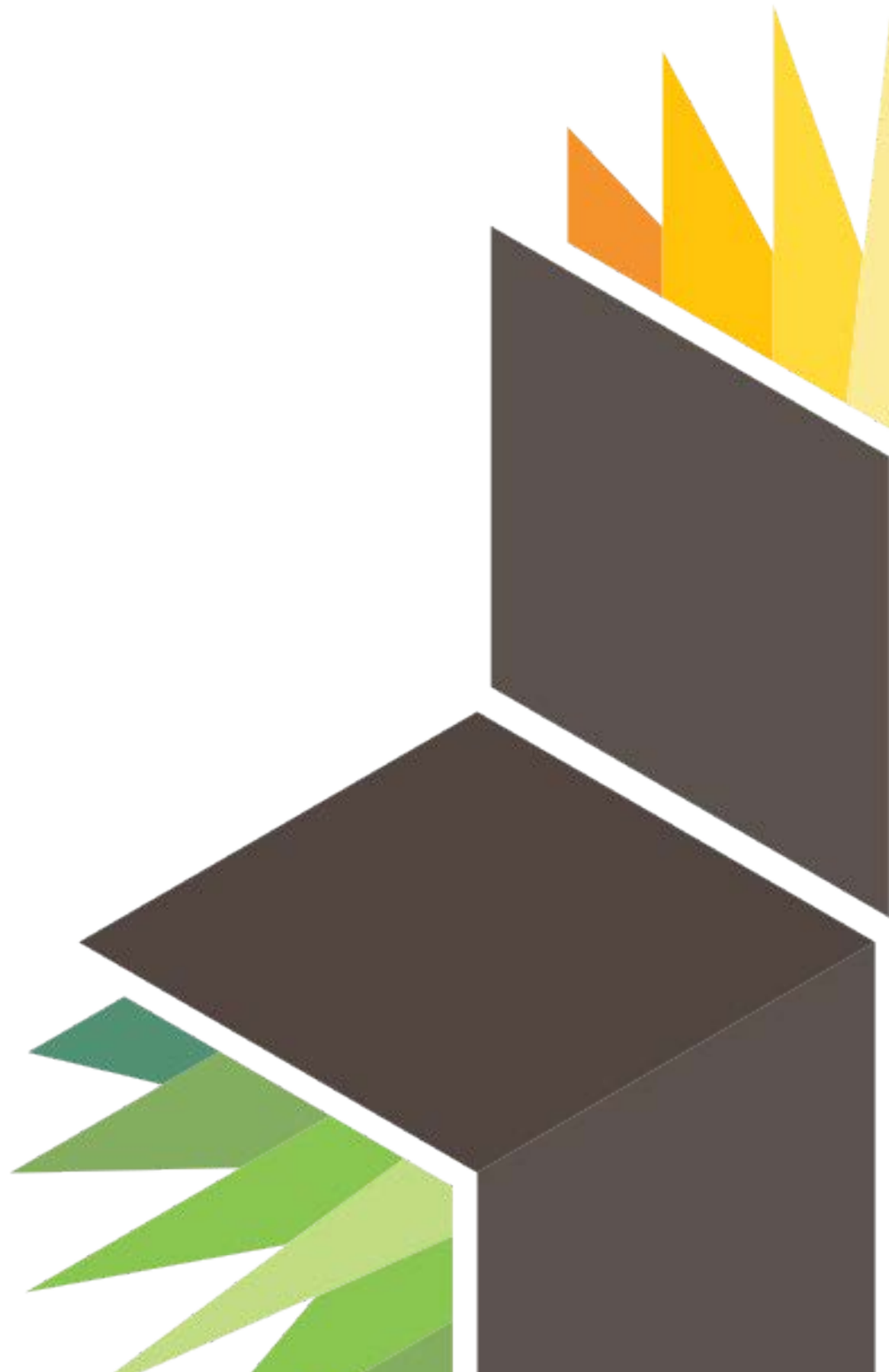
Research and Development

Research and development (R&D) costs are not in and of themselves intangible assets. R&D activities frequently result in the development of something that is patented or copyrighted (such as a new product, process, idea, formula, composition, or literary work). Many businesses spend considerable sums of money on research and development to create new products or processes, improve present products, and discover new knowledge that may be valuable.

Chapter 8

Valuation and Reporting of Investments in Other Corporations

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/



Section 1

Approaches to Investment Accounting

Types of Investments: Dependent on Ownership Share

Accounting Methodologies: Amortized Cost, Fair Value, & Equity

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/approaches-to-investment-accounting/

Types of Investments: Dependent on Ownership Share

Types of investments include: 20% to 50% (as an asset), greater than 50% (as a subsidiary), and less than 20% (as an investment position).

KEY POINTS

- A share is a single unit of ownership in a corporation, mutual fund, or any other organization.
- Equity method in accounting is the process of treating equity investments, usually 20% to 50%, in associate companies. The investor keeps such equities as an asset.
- The ownership of more than 50% of voting stock creates a subsidiary. Its financial statements consolidate into the parent's financial statements.
- The ownership of less than 20% creates an investment position carried at historic book or fair market value (if available for sale or held for trading) in the investor's balance sheet.

A share is a single unit of ownership in a corporation, mutual fund, or any other organization. A joint stock company divides its capital into issuing shares, which are offered for sale to raise capital. A share is thus an indivisible unit of capital, expressing the proprietary relationship between the company and the shareholder. The denominated value of a share is its **face value**, as calculated by dividing the total capital of a company by the total number of shares.

Shares are valued according to various principles in different markets, but a basic premise is that a share is worth the price at which a transaction would be likely to occur were the shares to be sold. The liquidity of markets is a major consideration as to whether a share is able to be sold at any given time. An actual sale transaction of shares between buyer and seller is usually considered to provide the best **prima facie** market indicator as to the "true value" of shares at that particular time.

20% to 50%

Equity method in accounting is the process of treating equity investments, usually 20% to 50%, in associate companies. The investor keeps such equities as an asset. The investor's proportional share of the associate company's net income increases the investment (and a net loss decreases the investment), and proportional payment of dividends decreases it. In the investor’s income statement, the proportional share of the investee’s net income or net loss is reported as a single-line item.

More Than 50%

The ownership of more than 50% of voting stock creates a subsidiary. Its financial statements consolidate into the parent's financial statements.

A subsidiary company, subsidiary, or daughter company is a company that is completely or partly owned and partly or wholly controlled by another company that owns more than half of the subsidiary's stock. The subsidiary can be a company, corporation, or limited liability company. In some cases, it is a government or state-owned enterprise. The controlling entity is called its parent company, parent, or holding company.

An operating subsidiary is a business term frequently used within the United States railroad industry. In the case of a railroad, it refers to a company that is a subsidiary but operates with its own identity, locomotives, and rolling stock. In contrast, a non-operating subsidiary would exist on paper only (i.e. stocks, bonds, articles of incorporation) and would use the identity and rolling stock of the parent company.

Less Than 20%

The ownership of less than 20% creates an investment position carried at historic book or fair market value (if available for sale or held for trading) in the investor's balance sheet (*Figure 8.1*).

Figure 8.1 Dow Jones Industrial Average

The DJIA depicts the volume of shares traded over a specific period of time.

Source:https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/approaches-to-investment-accounting/types-of-investments-dependent-on-ownership-share/
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Accounting Methodologies: Amortized Cost, Fair Value, & Equity

Due to different durations of holding and other factors, companies use several accounting methodologies, including amortized cost, fair value, and equity.

KEY POINTS

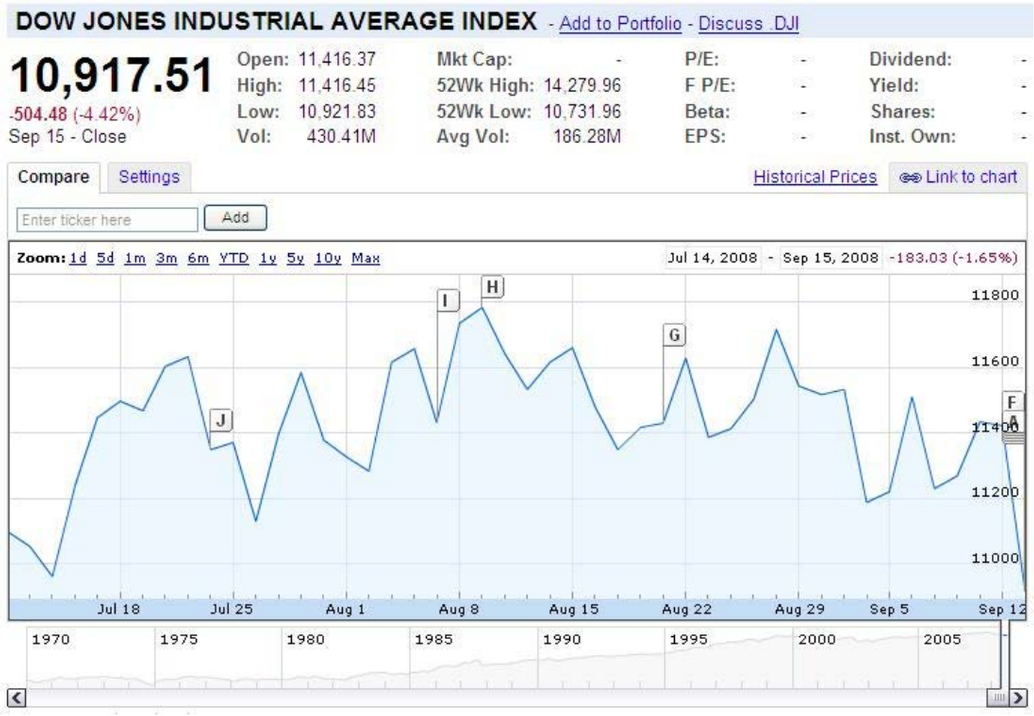
- Debt securities that the enterprise has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost less impairment.
- Debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as trading securities and reported at fair value, with unrealized gains and losses included in earnings.
- Debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of shareholders' equity.

Amortized Cost

If a business holds debt securities to maturity with the intent to sell are classified as held-to-maturity securities. Held to maturity securities are reported at amortized cost less impairment.

Fair Value

Figure 8.2 Fair value



Fair value, defined as a rational and unbiased estimate of the potential market price of a good, service, or asset.

Fair value, also called fair price, is a concept used in accounting and economics, defined as a rational and unbiased estimate of the

potential market price of goods, services, or assets, taking into account such objective factors as:

acquisition/production/distribution costs, replacement costs, or costs of close substitutes;

actual utility at a given level of development of social productive capability;

supply vs. demand;

subjective factors such as risk characteristics, cost of and return on capital and individually perceived utility.

Debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as trading securities. These securities are reported at fair value, with unrealized gains and losses included in earnings.

Debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as available-for-sale securities. These securities are reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of shareholders' equity (Other Comprehensive Income).

Equity Method

Equity method in accounting is the process of treating equity investments, usually 20–50%, in associate companies. The investor keeps such equities as an asset. The investor's proportional share of the associate company's net income increases the investment (a net loss decreases the investment), and proportional payment of dividends decreases it. In the investor’s income statement, the proportional share of the investee’s net income or net loss is reported as a single-line item.The ownership of more than 50% of voting stock creates a subsidiary. Its financial statements consolidate into the parent's.

The ownership of less than 20% creates an investment position carried at historic book or fair market value (if available for sale or held for trading) in the investor's balance sheet.

Section 2

Debt Held to Maturity

Amortized Cost Method

Accounting for Interest Earned and Principal at Maturity

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/debt-held-to-maturity/

Amortized Cost Method

Debt held to maturity is shown on the balance sheet at the amortized acquisition cost.

KEY POINTS

- To find the the amortized acquisition cost the securities are amortized like a mortgage or a bond.
- All changes in market value are ignored for debt held to maturity.
- Debt held to maturity is classified as a long-term investment and it is recorded at the market value (original cost) on the date of acquisition.

Debt Held to Maturity

The definition of a debt is held-to-maturity is a debt which the company has both the ability and intent to hold until maturity. Debt held to maturity is classified as a long-term investment and it is recorded at the market value (original cost) on the date of acquisition. All changes in market value are ignored for debt held to **maturity**.

Debt held to maturity is shown on the balance sheet at the amortized **acquisition** cost. To find the amortized acquisition cost the securities are amortized like a mortgage or a bond (*Figure 8.3*).

Figure 8.3 Amortization Schedule

MONTHLY AMORTIZATION TABLE							
Rate	Loan Amount	Loan Amortization (Principal + Interest) based on loan term (in years)					
		5	10	15	20	25	30
10.50%	800,000	17,195.12	10,794.80	8,843.19	7,987.04	7,533.45	7,317.91
	850,000	18,269.82	11,469.47	9,935.89	8,486.23	8,025.54	7,775.28
	900,000	19,344.41	12,144.15	9,948.59	8,985.42	8,497.64	8,232.65
	950,000	20,419.21	12,818.82	10,501.29	9,484.61	8,969.73	8,690.02
	1,000,000	21,493.90	13,493.50	11,053.99	9,983.80	9,441.82	9,147.39
	1,050,000	22,568.60	14,168.17	11,606.69	10,482.99	9,913.91	9,604.76
	1,100,000	23,643.29	14,842.85	12,159.39	10,982.18	10,386.00	10,062.13
	1,150,000	24,717.99	15,517.52	12,712.09	11,481.37	10,858.09	10,519.50
	1,200,000	25,792.68	16,192.20	13,264.79	11,980.56	11,330.18	10,976.87
	1,250,000	26,867.38	16,866.87	13,817.49	12,479.75	11,802.27	11,434.24
	1,300,000	27,942.07	17,541.55	14,370.19	12,978.94	12,274.36	11,891.61
	1,350,000	29,016.77	18,216.22	14,922.89	13,478.13	12,746.45	12,348.98
	1,400,000	30,091.46	18,890.90	15,475.58	13,977.32	13,218.54	12,806.35
	1,450,000	31,166.16	19,565.57	16,028.28	14,476.51	13,690.63	13,263.72
	1,500,000	32,240.85	20,240.25	16,580.98	14,975.70	14,162.73	13,721.09
	1,550,000	33,315.55	20,914.92	17,133.68	15,474.89	14,634.82	14,178.46
	1,600,000	34,390.24	21,589.60	17,686.38	15,974.08	15,106.91	14,635.83
	1,650,000	35,464.94	22,264.27	18,239.08	16,473.27	15,579.00	15,093.20
	1,700,000	36,539.63	22,938.95	18,791.78	16,972.46	16,051.09	15,550.57
	1,750,000	37,614.33	23,613.62	19,344.48	17,471.65	16,523.18	16,007.94
	1,800,000	38,689.02	24,288.30	19,897.18	17,970.84	16,995.27	16,465.31
	1,850,000	39,763.72	24,962.97	20,449.88	18,470.03	17,467.36	16,922.68
	1,900,000	40,838.41	25,637.65	21,002.58	18,969.22	17,939.45	17,380.05
	1,950,000	41,913.11	26,312.32	21,555.28	19,468.41	18,411.54	17,387.42
	2,000,000	42,987.80	26,987.00	22,107.98	19,967.60	18,883.63	18,294.79

Debt held to maturity is shown on the balance sheet at the amortized acquisition cost. To find the amortized acquisition cost the securities are amortized like a mortgage or a bond.

Example:

Z company purchases 40,000 of the 8%, 5-year bonds of Tee Company for $43,412. The bonds provide a 6% return, with

interested paid semiannually. Z Company has both the ability and intent to hold the securities until the maturity date.

The journal entry to record the purchase:

Investment in bonds debit --------- 40,000

Premium on bonds debit ---------- 3,412

Cash credit ----------43,412

The accounting records show the debt at the amortized cost (face amount plus premium/less discount) and the difference between the maturity value and the cost of the bonds is amortized to the income statement over the life of the bonds.

In order to record the interim interest revenue and report the investment on the balance sheet, it is necessary to prepare an amortization schedule for the debt.

The first interest payment is $1,600, but since the company paid a premium, the effective interest earned is $1,302 (net the amortization of the premium).

Example:

The Journal Entry:

Cash debit ----------$1,600

Premium on bonds credit ----$298

Interest revenue credit ------- 1,302

The Z Company's investment in Tee company is shown on the balance sheet as follows:

Held-to-Maturity Investments

Corporate bonds ---------- $40,000

Plus: unamortized premium ----- 2,166

Book value (amortized cost)---- $42,166

Accounting for Interest Earned and Principal at Maturity

At maturity, firms should debit cash and credit held to maturity investments the balance of the principal payment.

KEY POINTS

- When money is borrowed, interest is typically paid to the lender as a percentage of the principal, the amount owed to the lender.
- Nominal, principal, par, or face amount is the amount on which the issuer pays interest, and which, most commonly, has to be repaid at the end of the term.
- The issuer has to repay the nominal amount on the maturity date. As long as all due payments have been made, the issuer has no further obligations to the bond holders after the maturity date.

Interest Defined

Interest is a fee paid by a borrower of assets to the owner as a form of compensation for the use of the assets. It is most commonly the price paid for the use of borrowed money, or money earned by deposited funds.

When money is borrowed, interest is typically paid to the lender as a percentage of the principal, the amount owed to the lender. The percentage of the principal that is paid as a fee over a certain period of time (typically one month or year) is called the interest rate.

Principal At Maturity

Nominal, principal, par, or face amount —is the amount on which the issuer pays interest, and which, most commonly, has to be repaid at the end of the term. Some structured bonds can have a redemption amount which is different from the face amount and can be linked to performance of particular assets such as a stock or commodity index, foreign exchange rate, or a fund. This can result in an investor receiving less or more than his original investment at maturity (*Figure 8.4*).

The issuer has to repay the nominal amount on the **maturity date** (which can be any length of time). As long as all due payments have been made, the issuer has no further obligations to the bond holders after the maturity date. The maturity can be any length of time, although debt securities with a term of less than one year are generally

Figure 8.4 Principal is repaid at maturity

Some structured bonds can have a redemption amount which is different from the face amount and can be linked to performance of particular assets such as a stock or commodity index, foreign exchange rate, or a fund. This can result in an investor receiving less or more than his original investment at maturity

Accounting for Interest Earned and Principal at Maturity

During the life of the debt held to maturity, the company holding the debt will record the **interest** received at the designated payment dates.

Journal entry

Debit cash

Credit interest revenue

If a company paid $10,000 for 8% bonds, a journal entry is required to record the payment of principal at maturity.

Journal entry

Debit cash $10,000

Credit held to maturity investments $10,000

Remember the original entry debited the held to maturity investment account and credit cash.

Source: https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/debt-held-to-maturity/accounting-for-interest-earned-and-principal-at-maturity/

Section 3

Debt for Sale

Accounting for Sale of Debt

Accounting for Sale of Stock

Assessing Fair Value

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/debt-for-sale/

Accounting for Sale of Debt

How debt sales are recorded depends on whether the debt is classified as "held-to-maturity," "a trading security," or "available-for-sale".

KEY POINTS

- Because of fluctuations in market value, held-to-maturity debt is not periodically adjusted while owned. Recording the sale is simply a matter of recording how much cash was received and recording any gain or loss from the transaction.
- The book value of trading security debt changes based on its market value. Any increase or decrease in the value of the debt is recorded as an unrealized gain or loss in a company's income statement. Any gain or loss from the sale is based on the current book value of the debt.
- The book value of available-for-sale debt changes based on market value. Any increase/decrease in the value of the debt is recorded as an unrealized gain/loss in equity. When debt is sold, the company should recognize all unrecognized gain/loss, and the gain/loss based on the current book value.

Under FASB 115, a part of US GAAP (Generally Accepted Accounting Principles), a company must classify all of the debt securities it owns into one of three categories. If the company intends to hold the debt until it matures, it must be classified as a "**held-to-maturity**" security. If the company acquires the debt with the intent to resell it in the short-term, then it must be listed as a "trading security." If the debt is acquired without the intent to resell it in the short-term, nor the intent to hold it to maturity, it should be classified as "**available-for-sale**" (*Figure 8.5*). Each of these three classifications is treated differently for accounting purposes, both prior to sale and during the sale.

Figure 8.5 A bond certificate

How the sale of a bond is recorded on a company's books depends on how the debt is initially classified by the acquiring investor. Debt securities can be classified as "held-to-maturity," a "trading security," or "available-for-sale."

Held-to-Maturity

When debt is acquired and is intended to be held until maturity, it is recorded first by debiting a "Debt Investment Account," and then by crediting "Cash" for the amount the debt was purchased. For example, if a company purchased $1000 in debt securities, the transaction would be recorded like this:

Investments - Corporate Debt : $1000

Cash : $1000.

While the market value of the debt may vary over time, the company does not need to adjust the value of the debt on its books. Once the company sells the bond, it must report any gains or losses on the sale of the debt. So, in the example above, if the company sold the debt for $1200, it would need to make the following journal entry.

Investments : $1000

Net Gain on Sale : $200

Cash : $1200

If the company sold the debt for $800, it would need to make the following journal entry:

Investments : $1000

Cash : $800

Net Loss on Sale : $200

Trading Securities

If a company acquires debt that it intends to sell in the short-term, it must still record the sale. If a company acquired debt for $1000, and this debt is classified as a trading security, the company would still need to make the first journal entry in the aforementioned manner.That being said, the value of the debt on the owner's books must be adjusted to match the market value of the debt. For example, if the market value of the debt declined $200 from its original value to $800, a company would need to make the following journal entry:

Unrealized loss on trading security : $200

Investments : $200

The unrealized loss would be included on the company's income statement for the period it was recorded. If immediately after the accounting period, the company sold the debt for $800, it would need to make the following journal entry:

Cash : $800

Investments : $800

Because both the loss and the decrease in the debt asset's value were already recorded in the prior accounting period, the company would not have to make any additional adjustments.

Available-for-Sale

If a company acquires debt that is available-for-sale, it would still need to make a first journal entry in the same way that it would if the debt was "held-to-maturity" or a "trading security." It would also need to adjust the value of its debt asset in relation to its current market value. Using the same example above, assume a debt asset was acquired for $1000 but declined in value by $200. In the case of an available-for-sale asset, the following journal entry should be made in the following accounts:

(Equity) Unrealized loss on security investment : $200

(Asset) Investments : $200

Unlike **trading securities**, the unrealized gain is recorded in the equity section of the balance sheet and does not effect the current year income statement at all. This is because, unlike trading securities, the loss from an available-for-sale security is not expected to be realized in the near future. Returning to the example, assume that the debt asset is sold immediately after the end of the accounting period where it first recognized the unrealized loss. The asset is sold for $800. In such a case, the following entries would be appropriate:

(Asset) Cash : $800

(Income Statement) Loss on Investment : $200

(Asset) Investments : $800

(Equity) Unrealized loss on security investment : $200

The result of the journal entry is that the unrealized loss is realized, so the company's profit for the period is decreased by $200. The debt asset, as well as the unrealized loss, is removed from the company's books.

Accounting for Sale of Stock

How the stock sale is accounted for depends on the type of stock sold.

KEY POINTS

- For common stock at par value, debit cash and credit common stock. For common stock sold above par, debit cash, credit common stock, and credit additional paid in capital.
- For preferred stock, debit cash and credit preferred stock.
- For sales of treasury stock, debit cash and credit treasury stock.

Figure 8.6 Sale of Stock.

Often times companies offer their stock for sale as a way to generate cash. How the stock sale is accounted for depends on the type of stock sold. Most stock sales involve common stock or preferred stock.

Accounting for the Sale of Stock

Often times companies offer their stock for sale as a way to generate cash. How the stock sale is accounted for depends on the type of stock sold. Most stock sales involve common stock or preferred stock (*Figure 8.6*).

Common Stock-sold at par value

Journal entry

Debit cash

Credit common stock

If the common stock is sold above **par value** the journal entry is slightly different.

Debit cash

Credit common stock

Credit additonal paid in capital (to account for the difference between par value and sell value)

Preferred Stock

The sale of **preferred** stock is similarly treated, but a separate accounts should be established to record preferred stock and any additional paid in capital for preferred stock sold at above par value.

Journal entry

Debit cash

Credit preferred stock

Credit additional paid in capital preferred stock (if needed)

Treasury stock

Treasury stock is issued stock that the company has bought back from its shareholders. Since a corporation can't be its own shareholder, the "bought back" stocks are not considered assets of the corporation. Treasury stock also doesn't have the right to vote, receive dividends or receive liquidation value.

If the company plans to re issue the shares in the future, it would hold them in treasury and report the reduction in stockholder's equity on the balance sheet.

There are several reasons a company may purchase treasury stock, it may need it for employee compensation plans, to buy another company or to reduce the number of outstanding shares.

Journal entry

Debit treasury stock

Credit cash

When treasury stock is sold the accounts used to record the transaction will vary depending on whether the stock sold above or below the cost of purchase.

Sold above purchase cost

Debt cash

Credit treasury stock

Credit additional paid in capital (the difference between sale price and purchase price)

Assessing Fair Value

Companies must calculate the fair market value for these available for sale securities at the end of each subsequent accounting period.

KEY POINTS

- The difference between the purchase price and the current fair market value results in a an unrealized gain or loss.
- Realized gains and losses are included in income; unrealized amounts are included in income (trading investments) or in other comprehensive income (available-for-sale investments).
- Unrealized holding gains (unrealized because asset is not sold yet)-increase in fair value of an asset while held.
- Realized holding gain (realized through sale) increase in fair value of an asset while held.

Fair Value Method

Often companies use excess cash to purchase stocks and bonds from other companies. If a company purchases stocks or bonds with the intent to sell these items at a future date when they need cash, these are referred to as "Available-for-sale securities".

A company initially records the "available for sale securities" at cost. While holding onto the securities the company must calculate the fair market value for these securities at the end of each subsequent accounting period (*Figure 8.7*).

The difference between the purchase price and the current fair market value results in an unrealized gain or loss. The unrealized gain or loss affects the company's accumulated other comprehensive income, a component of stockholders' equity.

Figure 8.7 Debt

A company initially records the "available for sale securities" at cost. While holding onto the securities the company must calculate the fair market value for these securities at the end of each subsequent accounting period.

Realized gains and losses are included in income; unrealized amounts are included in income (trading investments) or in other comprehensive income (available-for-sale investments).

Unrealized holding gains (unrealized because asset is not sold yet)- increase in fair value of an asset while held.

Realized holding gain (realized through sale) increase in fair value of an asset while held.

Using the fair value method, available for sale investment with unrealized gains and losses included in other comprehensive income should have:

The original investment is recorded at its investment cost.

Transaction costs, such as brokerage fees, included in acquisition cost and capitalized, or immediately expensed.

Interest or dividends declared are recorded as investment income.

Interest income includes amortization of any premium or discount inherent in the initial purchase price

At the end of each reporting period, the investments are revalued to fair value (market value), whether this is higher or lower than the existing balance in the investment account.

Unrealized holding gains, defined as the difference between the existing balance in the investment account (the new fair value) and the old fair value, are recorded in other comprehensive income.

The investment is reported at fair value on the balance sheet.

Using the fair value method, available for sale investment with **unrealized** gains and losses recognized in net income should have:

The original investment is recorded at its investment cost. This is fair value on the purchase date.

Transaction costs, such as brokerage fees, may be included in acquisition cost and capitalized, or immediately expensed.

Interest or dividends declared are recorded as investment income.

At the end of each reporting period, the investments are revalued to fair value, whether this is higher or lower than the existing balance in the investment account.

Holding gains, defined as the difference between the existing balance in the investment account (the new fair value) and the old fair value, are recorded in net income.

The investment is reported at fair value on the balance sheet.

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Section 4

Holding Less than 20% of Shares

Fair Value Method

Calculating Fair Value

Reporting Fair Value

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/holding-less-than-20-of-shares/

Fair Value Method

The ownership of less than 20% creates an investment position carried at fair market value in the investor's balance sheet.

KEY POINTS

- Fair market value (FMV) is an estimate of the market value of a property, based on what a knowledgeable, willing, and unpressured buyer would probably pay to a knowledgeable, willing, and unpressured seller in the market.
- An estimate of Fair Market Value is usually subjective due to the circumstances of place, time, the existence of comparable precedents, and the evaluation principles of each involved person.
- The fair market value is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts.
- For assets carried at historical cost, the fair value of the asset is not used.

Fair Value Method

The ownership of less than 20% creates an investment position carried at historic book value or fair value (if available for sale or held for trading) in the investor's balance sheet.

In accounting, fair value (also knows as "fair market value") is used as a certainty of the market value of an asset (or liability) for which a market price cannot be determined (usually because there is no established market for the asset). Under US GAAP (FAS 157), fair value is the amount at which the asset could be bought or sold in a current transaction between willing parties, or transferred to an equivalent party, other than in a liquidation sale. This is used for assets whose carrying value is based on mark-to-market valuations; for assets carried at historical cost, the fair value of the asset is not used (*Figure 8.8*).

Since market transactions are often not observable for assets such as privately held businesses and most personal and real property, fair value must be estimated. An estimate of fair value is usually subjective due to the circumstances of place, time, the existence of comparable precedents, and the evaluation principles of each involved person. Opinions on value are always based upon subjective interpretation of available information at the time of assessment. This is in contrast to an imposed value, in which a legal

Figure 8.8 A gold nugget

Fair market value (FMV) is an estimate of the market value of a property.

authority (law, tax regulation, court, etc.) sets an absolute value upon a product or a service.

A property sale, in lieu of an **eminent domain** taking, would not be considered a fair market transaction since one of the parties (i.e., the seller) was under undue pressure to enter into the transaction. Other examples of sales that would not meet the test of fair market value include a liquidation sale, deed in lieu of foreclosure, distressed sale, and similar types of transactions.

In United States tax law, the definition of fair value is found in the United States Supreme Court decision in the Cartwright case: the fair market value is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts.

The term fair market value is used throughout the Internal Revenue Code among other federal statutory laws in the USA including bankruptcy, many state laws, and several regulatory bodies.

Calculating Fair Value

Calculating fair value involves considering objective factors including acquisition, supply vs. demand, actual utility, and perceived value.

KEY POINTS

- Fair value, also called "fair price", is a concept used in accounting and economics, defined as a rational and unbiased estimate of the potential market price of a good, service, or asset.
- In accounting, a three-level framework is used to calculate an asset or liability's fair value -- Level 1 is based on quoted market prices, Level 2 is based on estimated market observables, and Level 3 uses unobservable inputs derived internally by the company.
- Under US GAAP, when purchasing less than 20% of a company's stock, the cost method is used to account for the investment.
- As required by FAS 115, investments accounted for under the cost method should be adjusted to current fair value at the end of each accounting period, in cases where the fair value is readily determinable.

Determining Fair Value

Fair value, is a concept used in accounting and economics, defined as a rational and unbiased estimate of the potential market price of a good, service, or asset, taking into account such objective factors as: (*Figure 8.9*)

acquisition/production/ distribution costs, replacement costs, or costs of close substitutes

actual utility at a given level of development of social productive capability

supply vs. demand

subjective factors such as: risk characteristics; cost of and **return on capital**; individually perceived utility

Figure 8.9 Fair value

Fair value is defined as a rational and unbiased estimate of the potential market price of a good, service, or asset.

In accounting, fair value is used as an approximation of the market value of an asset (or liability) for which a market price cannot be determined (usually because there is no established market for the asset). When an active market does not exist other methods have to

be used to estimate the fair value. Assumptions used to estimate fair value should be from the perspective of an unrelated market participant. This necessitates identification of the market in which the asset or liability trades. If more than one market is available, the "most advantageous market" should be used. Both the price and costs to do the transaction must be considered in determining which market is the most advantageous market.

A three-level framework is used to determine an asset or liability's fair value:

1. Level One -- The preferred inputs to valuation are “quoted prices in active markets for identical assets or liabilities,” with the caveat that the reporting entity must have access to that market. An example would be a stock trade on the New York Stock Exchange. Information at this level is based on direct observations of transactions involving the identical assets or liabilities being valued.

2. Level Two -- This valuation is based on market observables. FASB indicates that assumptions enter into models that use Level 2 inputs, a condition that reduces the precision of the outputs (estimated fair values), but nonetheless produces reliable numbers that are representationally faithful, verifiable and neutral.

3. Level Three -- The FASB describes Level 3 inputs as “unobservable.” If observable inputs from levels 1 and 2 are not available, the entity may only rely on internal information if the cost and effort to obtain external information is too high. Within this level, fair value is also estimated using a valuation technique. Significant assumptions or inputs used in the valuation technique are based upon inputs that are not observable in the market and are based on internal information. This category allows “for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

Under US GAAP (FAS 157), fair value is the amount at which the asset could be bought or sold in a current transaction between willing parties or transferred to an equivalent party other than in a liquidation sale. This is used for assets whose carrying value is based on mark-to-market valuations; for assets carried at historical cost, the fair value of the asset is not used.

An example of how to determine fair value can involve the purchase of company shares of less than 20% total equity -- assume ABC Corporation purchases 10% of XYZ's Corporation's common stock, or 50,000 shares. The market price of the stock is USD 1. When purchasing less than 20% of a company's stock, the cost method is used to account for the investment. ABC records a journal entry for

the purchase by debiting Investment in XYZ Corp. for USD 50,000 and crediting Cash for USD 50,000.

Adjusting Fair Value

As required by FAS 115, investments accounted for under the cost method should be adjusted to current fair value at the end of each accounting period, in cases where the fair value is readily determinable. Adjustments are debited (for gains in fair value) or credited (for losses) to a fair value adjustment account that will adjust the investment account balance to its fair value at the end of the reporting period.

If the investment is considered a "trading security" or stock purchased for the purpose of selling it in the near term, the balancing debit or credit is charged to an unrealized loss or gain account. If the investment is an "available for sale" security, the balancing debit or credit also goes to an unrealized loss or gain account. For investments where the fair value is not readily determinable, the investment is carried at cost.

Reporting Fair Value

Stock investments of 20% or less are recorded at cost (considered its fair value) and reported as an asset on the balance sheet.

KEY POINTS

- Fair value accounting, also known as mark-to-market accounting, can change values on the balance sheet as market conditions change. In contrast, historical cost accounting, based on the past transactions, is simpler, more stable, and easier to perform, but does not represent current market value.
- Ownership of less than 20% of a company's stock dictates that the investor is not able to exercise significant influence in the company or participate in shareholder meetings where business decisions are made.
- Dividends declared on investments of less than 20% equity are reported as current assets on the balance sheet and other income on the income statement.

Fair Value Accounting and Financial Statements

Fair value accounting, also known as mark-to-market accounting, can change values on the balance sheet as market conditions change. In contrast, historical cost accounting, based on past

transactions, is simpler, more stable, and easier to perform, but does not represent current market value. It summarizes past transactions instead. Mark-to-market accounting can become inaccurate if market prices fluctuate greatly or change unpredictably. Buyers and sellers may claim a number of specific instances when this is the case, including inability to value the future income and expenses on the income statement accurately and collectively, often due to unreliable information, or overly-optimistic/ overly-pessimistic expectations.

Reporting Stock Investments of Less Than 20% of Shares

Ownership of less than 20% of a company's stock dictates that the investor is not able to exercise significant influence in the company or participate in shareholder meetings where business decisions affecting the company are made. Ownership of this quantity of stock is recorded using the cost method.

The following is an example of how to report investments of less than 20% of shares -- assume ABC Corporation purchases 10% of XYZ's Corporation's common stock, or 50,000 shares. The market price of the stock is USD 1. When purchasing less than 20% of a company's stock, the cost method is used to account for the investment. ABC records a journal entry for the purchase by debiting Investment in XYZ Corp. for USD 50,000 and crediting Cash for USD 50,000. The investment in XYZ Corporation is reported at cost in the asset section of the balance sheet.

If the investee declares dividends, the investor records a journal entry for their share of the investment. Assume XYZ Corporation declares a **dividend** of USD 1 per share. ABC records a journal entry debiting Dividends Receivable for USD 50,000 and crediting Dividend Income for USD 50,000. The Dividend Receivable is reported on the balance sheet under current assets and Dividend Income is reported on the income statement under a section for other income.

Reporting Adjustments in Fair Value

As required by FAS 115, the value of an investment accounted for under the cost method should be adjusted to current fair value at the end of each accounting period, in cases where the fair value is readily determinable. Changes in fair value are debited (for gains in fair value) or credited (for losses) to a fair value adjustment account reported on the balance sheet to adjust the investment account balance to its end of period fair value.

If the investment is considered a "trading security" or stock purchased for the purpose of selling it in the near term, the balancing debit or credit is charged to an unrealized loss or gain reported on the income statement. If the investment is an "available

for sale" security, the balancing debit or credit goes to an unrealized loss or gain account reported in the other comprehensive income section of owner's equity on the balance sheet. When the investment is sold, all losses or gains from the transaction become realized and flow through into the income statement to adjust revenues for the period.

Section 5

Holding 20-50% of Shares

Equity Method

Assessing Control

Reporting Equity Investments

https://www.boundless.com/accounting/valuation-and-reporting-of-investments-in-other-corporations/holding-20-50-of-shares/

Equity Method

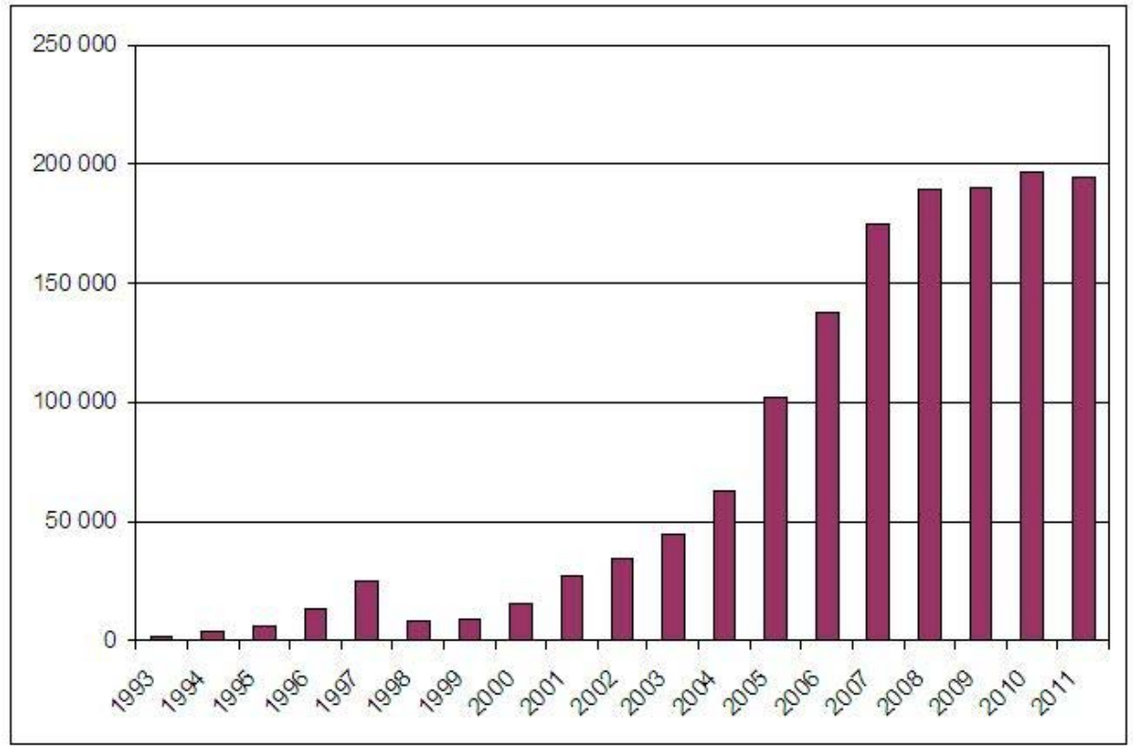
Equity method is the process of treating equity investments (usually 20–50%) of companies. The investor keeps such equities as an asset.

KEY POINTS

- Equity method in accounting is the process of treating equity investments, usually 20–50%, in associate companies. The investor keeps such equities as an asset.
- The investor's proportional share of the associate company's net income increases the investment; net loss, and proportional payment of dividends, decreases it.
- Typically, equity holders receive voting rights on certain issues, residual rights, meaning that they share the company's profits, and are allowed to recover some of the company's assets in the event that it folds (although they generally have the lowest priority in recovering their investment).

Equity method in accounting is the process of treating equity investments, usually 20–50%, in associate companies. The investor keeps such equities as an asset. The investor's proportional share of the associate company's net income increases the investment; a net loss, or proportional payment of dividends, decreases the investment. In the investor's income statement, the proportional share of the investee's net income or net loss is reported as a single-line item (*Figure 8.10*).

Figure 8.10 Equity



Investors keep equities as assets using equity method.

An equity investment generally refers to the buying and holding of shares of stock by individuals and firms in anticipation of income from dividends and capital gains. Typically, equity holders receive voting rights, meaning that they can vote on candidates for the board of directors (shown on a proxy statement received by the investor) as well as certain major transactions. Equity holders also

receive residual rights, meaning that they share the company's profits, as well as the right to recover some of the company's assets in the event that it folds—although they generally have the lowest priority in recovering their investment. It may also refer to the acquisition of equity (ownership) participation in a private (unlisted) company or a startup company. When the investment is in infant companies, it is referred to as venture capital investing and is generally regarded as a higher risk than investment in listed going-concern situations.

Equities held by private individuals are often held as **mutual funds** or as other forms of collective investment schemes, many of which have quoted prices that are listed in financial newspapers or magazines. Mutual funds are typically managed by prominent fund management firms, such as Schroders, Fidelity Investments, or The Vanguard Group. Such holdings allow individual investors to obtain diversification of the fund(s) and to make use of the skill of the professional fund managers in charge of the fund(s). An alternative, which is usually employed by large private investors and **pension funds**, is to hold shares directly. In the institutional environment, many clients who own portfolios have what are called segregated funds, as opposed to or in addition to the pooled mutual fund alternatives.

A calculation can be made to assess whether an equity is over- or under-priced, compared with a long-term government bond. This is called the Yield Gap or Yield Ratio. It is the ratio of the dividend yield of an equity and that of the long-term bond.

Assessing Control

An investor has significant influence by holding 20% to 50% of shares, serving on the board, or participating in policy making.

KEY POINTS

- The equity method is a method of accounting whereby the investment is initially recognized at cost and adjusted thereafter for the post-acquisition change in the investor's share of net assets of the investee.
- If an investor holds, directly or indirectly (e.g., through subsidiaries), 20% or more of the voting power of the investee, it is presumed that the investor has significant influence, unless it can be clearly demonstrated that this is not the case.
- An investor shall discontinue the use of the equity method from the date when it ceases to have significant influence over an associate and shall account for the investment in accordance with IAS 39 from that date.

The equity method is a method of accounting whereby the investment is initially recognized at cost and adjusted thereafter for the post-acquisition change in the investor's share of net assets of the investee. The profit or loss of the investor includes the investor's share of the profit or loss of the investee.

Significant Influence

If an investor holds, directly or indirectly (e.g., through subsidiaries), 20% or more of the voting power of the investee, it is presumed that the investor has significant influence, unless it can be clearly demonstrated that this is not the case. Conversely, if the investor holds, directly or indirectly (e.g., through subsidiaries), less than 20% of the voting power of the investee, it is presumed that the investor does not have significant influence, unless such influence can be clearly demonstrated. A substantial or majority ownership by another investor does not necessarily preclude an investor from having significant influence.

The existence of significant influence by an investor is usually evidenced in one or more of the following ways:

1. Representation on the board of directors or equivalent governing body of the investee
2. Participation in policy-making processes, including participation in decisions about dividends or other distributions
3. Material transactions between the investor and the investee
4. Interchange of managerial personnel
5. Provision of essential technical information

Equity Method

Under the equity method, the investment in an associate is initially recognized at cost and the carrying amount is increased or decreased to recognize the investor's share of the profit or loss of the investee after the date of acquisition. The investor's share of the profit or loss of the investee is recognized in the investor's profit or loss. Distributions received from an investee reduce the carrying amount of the investment. Adjustments to the carrying amount may also be necessary for changes in the investor's proportionate interest in the investee arising from changes in the investee's other comprehensive income. Such changes include those arising from the revaluation of property, plant and equipment and from foreign exchange translation differences. The investor's share of those changes is recognized in other comprehensive income of the investor (*Figure 8.11*).

When potential voting rights exist, the investor's share of profit or loss of the investee and of changes in the investee's equity is determined on the basis of present ownership interests and does not reflect the possible exercise or conversion of potential voting rights.

An investor shall discontinue the use of the equity method from the date when it ceases to have significant influence over an associate and shall account for the investment in accordance with IAS 39

Figure 8.11 Shares of equity

The investor's share of the profit or loss of the investee is recognised in the investor's profit or loss.

from that date, provided the associate does not become a subsidiary or a joint venture as defined in IAS 31. On the loss of significant influence, the investor shall measure at fair value any investment the investor retains in the former associate. The investor shall recognize in profit or loss any difference between:

1. The fair value of any retained investment and any proceeds from disposing of the part interest in the associate

2. The carrying amount of the investment at the date when significant influence is lost

When an investment ceases to be an associate and is accounted for in accordance with **IAS** 39, the fair value of the investment at the date when it ceases to be an associate shall be regarded as its fair

value on initial recognition as a financial asset in accordance with IAS 39.

Reporting Equity Investments

Investments recorded under the equity method usually consist of stock ownership of a company between 20% to 50%.

KEY POINTS

- When the amount of stock purchased is between 20% and 50% of the common stock outstanding, the purchasing company's influence over the acquired company is often significant and the investor participates in business decision-making.
- Under the equity method, the purchaser records its investment at the original cost. The balance of the investment increases by the pro-rata share of the investee's income and decreases by the pro-rata share of dividends declared by the subsidiary.
- At the time of purchase, goodwill can arise from the difference between the cost of the investment and the book value of the underlying assets.

Reporting Stock Investments of 20-50% of Equity

When the amount of stock purchased is between 20% and 50% of the common stock outstanding, the purchasing company's influence over the acquired company is often significant. The deciding factor,

however, is significant influence or the ability for the investor to have a say in business decisions made by company owners. If other factors exist that reduce the influence, or if significant influence is gained at an ownership of less than 20%, the equity method may be appropriate. FASB interpretation 35 (FIN 35) underlines the circumstances where the investor is unable to exercise significant influence).

To account for this type of investment, the purchasing company uses the equity method. Under the equity method, the purchaser records its investment at the original cost. The balance of the investment increases by the pro-rata share of the investee's income and decreases by the pro-rata share of dividends declared by the subsidiary.

An example of how to apply the equity method to a stock investment -- assume ABC Corporation purchases 30% of XYZ Corporation (or 80,000 shares) and can exercise significant influence. The market price of the stock is USD 1. At the end of 201X, XYZ earns net income of 100,000 and declares a dividend of USD 1 per share. The following journal entries are made by ABC to record the investment in XYZ:

Journal entry for the stock investment purchase:

DR - Investment in XYZ Corporation USD 80,000 (80,000 shares * USD 1 market price/share)

CR - Cash USD 80,000

Journal entry to account for the pro-rata share of XYZ annual income:

DR - Investment in XYZ Corporation USD 30,000 (100,000 net income * .30)

CR - Equity in XYZ Corp. Income USD 30,000

Journal entry to account for the pro-rata share of XYZ dividends:

DR - Dividends Receivable 80,000 (80,000 shares * USD 1 dividend per share)

CR - Investment in XYZ Corporation 80,000

Goodwill and Equity Investments

At the time of purchase, goodwill can arise from the difference between the cost of the investment and the book value of the underlying assets. The component that can give rise to goodwill is: the difference between the fair market value of the underlying assets and their book value (*Figure 8.12*).

Goodwill is no longer amortized under U.S. GAAP (FAS 142) of June 2001. Companies objected to the removal of the option to use pooling-of-interests, so amortization was removed by the Financial Accounting Standards Board as a concession. As of January 1, 2005, it is also forbidden under International Financial Reporting Standards. Goodwill can now only be impaired under these GAAP standards.

Figure 8.12 Goodwill

Goodwill is an accounting concept meaning the excess value of an asset acquired over its book value due to a company's competitive advantages.

To test goodwill for impairment, companies are now required to determine the fair value of the reporting units, using the present value of future cash flow, and compare it to their carrying value (book value of assets plus goodwill minus liabilities). If the fair value is less than carrying value (impaired), the goodwill value needs to be reduced so that the fair value is equal to the carrying value. The impairment loss is reported as a separate line item on the income statement, and the new adjusted value of goodwill is reported in the balance sheet.

Section 6

Ownership: Holding More than 50% of Shares

Reporting for a Combined Entity

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Reporting for a Combined Entity

When the amount of stock owned is >50% of common stock, a parent-subsidiary relationship is formed that requires consolidated reporting.

KEY POINTS

- A subsidiary company, or daughter company is a company that is completely or partly owned and partly or wholly controlled by another company that owns more than half of the subsidiary's stock.
- Consolidated financial statements show the parent and subsidiary as one single entity. During the year, the parent company uses the equity method to account for its investment. At the end of the year, a consolidation working paper eliminates intercompany transactions between parent and subsidiary.
- As of 2004, the acquisition method is the only allowable method that can be used to prepare consolidated financial statements for companies that combined after 2004. Other consolidation methods previously used were the purchase and the pooling of interests methods.

Reporting for a Combined Entity

The ownership of more than 50% of voting stock creates a subsidiary. The financial statements of the parent and subsidiary are consolidated for reporting purposes.

A subsidiary company, or daughter company is a company that is completely or partly owned and partly or wholly controlled by another company that owns more than half of the subsidiary's stock. The subsidiary can be a company, corporation, or limited liability company. In some cases it is a government or **state-owned enterprise**. The controlling entity is called its parent company, parent, or holding company.

An operating subsidiary is a business term frequently used within the United States's railroad industry. In the case of a railroad, it refers to a company that is a subsidiary but operates with its own identity, locomotives, and rolling stock. In contrast, a non-operating subsidiary would exist on paper only (i.e. stocks, bonds, articles of incorporation) and would use the identity and rolling stock of the parent company.

When the amount of stock purchased is more than 50% of the outstanding common stock, the purchasing company usually has control over the acquired company. Control in this context is defined as ability to direct policies and management. In this type of

relationship the controlling company is the parent and the controlled company is the subsidiary. The parent company needs to issue consolidated financial statements at the end of the year to reflect this relationship.

Consolidated financial statements show the parent and the subsidiary as one single entity. During the year, the parent company can use the equity or the cost method to account for its investment in the subsidiary. Each company keeps separate books. However, at the end of the year, a consolidation working paper is prepared to combine the separate balances and to eliminate the intercompany transactions between the parent and the subsidiary, along with the subsidiary's stockholder equity and the parent's subsidiary investment account. The result is one set of financial statements that reflect the financial results of the consolidated entity. As of 2004, the acquisition method is the only allowable method that can be used to prepare consolidated financial statements for companies that combined after 2004. Other consolidation methods previously used were the purchase and the pooling of interests methods (*Figure 8.13*).

The following is an example of how to calculate consolidated net income -- assume ABC Corporation owns 80% of XYZ Corporation; the remaining 20% is a non-controlling ownership interest.

Net Income for 201X for ABC is USD 20,000 and for XYZ net income is USD 8,000. First, to arrive at consolidated net income for the two companies, ABC must eliminate the effect of the equity method used to account for its investment.

ABC's net income for the year includes 80% of XYZ's net income, or USD 6,400. This amount must be subtracted from the net income figure to arrive at 13,600 (20,000 - 6,400).

The consolidated net income for both companies after this adjustment is USD 21,600 (20,000 - 6,400 + XYZ's total net income of 8,000). Second, the portion of net income attributed to

Consolidated Balance Sheet

	2008	%	2007	%
Assets				
Current Assets				
Cash & Bank Balances	4,825	1.5%	1,353	0.4%
Receivables	167,451	51.4%	138,379	45.6%
Prepayments & Accrued Incom	8,077	2.5%	10,003	3.3%
Total Current Assets	180,353	55.4%	149,735	49.3%
Non-Current Assets				
Investment in Subsidiaries/Aff	10,702	3.3%	13,725	4.5%
CAPEX	27,308	8.4%	27,640	9.1%
Tangible Fixed Assets	106,819	32.8%	112,284	37.0%
LT Receivables	353	0.1%	294	0.1%
Total Non-Current Assets	145,272	44.6%	153,943	50.7%
TOTAL ASSETS	325,625	100%	303,678	100%
Liabilities & Equity				
Shareholder's Equity				
Paid in capital	24,960	7.7%	24,960	8.2%
Reserves	(24,710)	-7.6%	(42,834)	-14.1%
Profit/Loss Brought Forward	2,106	0.6%	2,106	0.7%
Retained Earnings/Loss	(66,838)	-20.5%	(31,715)	-10.4%
Total Equity	(64,482)	-19.8%	(47,483)	-15.6%
Current Liabilities				
Deferred Taxes	408	0.1%	630	0.2%
Total Current Liabilities	408	0.1%	630	0.2%
Non-Current Liabilities				
Bank Borrowings	119,532	36.7%	110,412	36.4%
Other Borrowings	142,336	43.7%	102,429	33.7%
Payables	102,258	31.4%	103,656	34.1%
Accruals & Deferred Incomes	22,764	7.0%	30,886	10.2%
End of Service Endowmnty	2,809	0.9%	3,148	1.0%
Total Non-Current Liabilities	389,699	119.7%	350,531	115.4%
TOTAL LIABILITIES & EQUI	325,625	100%	303,678	100%

Figure 8.13
Consolidated financial statements
Consolidated financial statements show the parent and the subsidiary as one single entity.

the non-controlling ownership interest must be deducted, or USD 1,600 (8,000 * .20).

Therefore, consolidated income for ABC and its controlling interest in XYZ is USD 20,000 (21,600 - 1,600).

Chapter 9

Reporting of Current & Contingent Liabilities

https://www.boundless.com/accounting/reporting-of-current-contingent-liabilities/

Section 1

Introduction to Liabilities

Defining a Liability

Classifying Types of Liabilities

https://www.boundless.com/accounting/reporting-of-current-contingent-liabilities/introduction-to-liabilities/

Defining a Liability

A liability is defined as an obligation of an entity arising from past transactions/events and settled through the transfer of assets.

KEY POINTS

- Some of the characteristics of a liability include: a form of borrowing, personal income that is payable, a responsibility to others settled through the transfer of assets, a duty obligated to another without avoiding settlement, and a past transaction that obligates the entity.
- The IASB's definition of a liability is: a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits.
- Types of liabilities found in the balance sheet include current liabilities, such as payables and deferred revenues, and long-term liabilities, such as bonds payable.

Liability Definition & Characteristics

In financial accounting, a liability is defined as an obligation of an entity arising from past transactions or events, the settlement of which may result in the transfer or use of assets, provision of services or other yielding of economic benefits in the future. A liability is defined by the following characteristics:

Any type of borrowing from persons or banks for improving a business or personal income that is payable in the current or long term.

A duty or responsibility to others that entails settlement by future transfer or use of assets, provision of services, or other transaction yielding an economic benefit due at a specified or determinable date, on occurrence of a specified event, or on demand.

A duty or responsibility that obligates the entity to another, leaving it little or no discretion to avoid settlement.

A transaction or event that has already occurred and which obligates the entity (*Figure 9.1*).

Liability Defined by the IASB

Probably the most accepted accounting definition of a liability is the one used by the International Accounting Standards Board (IASB). The following is a quotation from the International Financial Reporting Standards (IFRS) Framework: "A liability is a present **obligation** of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits."

Figure 9.1 Business liabilities can add up quickly.

A liability is a claim on a company's assets.

Examples of Liabilities

Types of liabilities found on a company's balance sheet include: current liabilities like notes payable, accounts payable, interest payable, and salaries payable. Liabilities can also include deferred revenue accounts for monies received that may not be earned until a future accounting period. An example of a deferred revenue account is an annual software license fee received on January 1 and earned over the course of a year. The company's **fiscal year** end is May 31. For the current fiscal year, the company will earn 5/12 of the fee and the remaining amount (7/12) stays in a deferred revenue account until it is earned in the next accounting period. Long-term liabilities have maturity dates that extend past one year, such as bonds payable and pension obligations.

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Classifying Types of Liabilities

Two typical classification types for liabilities are current and long-term.

KEY POINTS

- Current liabilities are often loosely defined as liabilities that must be paid within one year. For firms having operating cycles longer than one year, current liabilities are defined as those which must be paid during that longer operating cycle.
- Long-term liabilities are reasonably expected not to be liquidated or paid off within a year. They usually include issued long-term bonds, notes payables, long-term leases, pension obligations, and long-term product warranties.
- Contingent liabilities can be current or long-term and usually deal with legal actions or litigation claims against the entity or claims, such as penalties or fees, an organization encounters throughout the course of business.

Types of Liabilities

Liabilities are classified in different types. The two main categories of these are current liabilities and long-term liabilities.

Current Liabilities

Current liabilities are often loosely defined as liabilities that must be paid within a single calender year. For firms with operating cycles that last longer than one year, current liabilities are defined as those liabilities which must be paid during that longer operating cycle. A better definition, however, is that current liabilities are liabilities that will be settled either by current assets or by the creation of other current liabilities.

Example of current liabilities include accounts payable, short-term notes payable, commercial paper, trade notes payable, and other liabilities incurred in the normal operations of the business. Some of these normal operating costs include salaries payable, wages payable, interest payable, income tax payable, and the current balance of a long-term debt that will be due within a single year. Other long-term obligations, such as bonds, can be classified as current because they are callable by the creditor. When a debt becomes callable in the upcoming year (or operating cycle, if longer), the debt is required to be classified as current, even if it is not expected to be called. If a particular creditor has the right to demand payment because of an existing violation of a provision or debt statement, then that debt should be classified as current also. In situations where a debt is not yet callable, but will be **callable** within the year if a violation is not corrected within a specified grace

period, that debt should be considered current. The only conditions under which the debt would not be classified as current would be if it's probable that the violation will be collected or waived (*Figure 9.2*).

Figure 9.2 Excessive debt can cripple a business and a country.

A business can have different liabilities depending on the debt instruments into which they enter.

Long-term Liabilities

Long-term liabilities are reasonably expected not to be liquidated or paid off within the span of a single year. These usually include issued long-term bonds, notes payables, long-term leases, pension obligations, and long-term product warranties.

Contingent Liabilities

Contingent liabilities can be current or long-term. They typically deal with legal actions or litigation claims against the entity or claims (such as penalties or fees) an organization encounters throughout the course of business. Contingent items are accrued if the claims and their likelihood of occurring are probable, and if the relevant amount of the liability can be reasonably estimated.

Section 2

Current Liabilities

Defining a Current Liability

Accounts Payable

Notes Payable

Current Maturities of Long-Term Debt

Current Obligations Expected to be Refinanced

Dividends Payable

Unearned and Deferred Revenues

Other Current Liabilities: Sales Tax, Income Tax, Payroll, & Customer Advances

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Defining a Current Liability

Current liabilities are usually settled with cash or other assets within a fiscal year or operating cycle, whichever period is longer.

KEY POINTS

- A current liability can be defined in one of two ways: (1) all liabilities of the business that are to be settled in cash within a firm's fiscal year or operating cycle, or (2) all liabilities of the business that are to be settled by current assets or by the creation of new current liabilities.
- Common characteristics of liabilities are (1) borrowed funds for use that must be repaid, (2) a duty to another party that involves the payment of an economic benefit, (3) a duty that obligates the entity to another without avoiding settlement, and (4) a past transaction that obligates the entity.
- Current liabilities are many times not "current" and are actually past due. For example, accounts payable are due within 30 days and are typically paid within 30 days. However, they do often run past 30 days in some situations.

Definition of a Liability

In financial accounting, a liability is defined as an obligation of an entity arising from past transactions or events, the **settlement** of which may result in the transfer or use of assets, provision of services or other yielding of future economic benefits. Liabilities are reported on the balance sheet, along with assets and owner's equity. They are an important part of the basic accounting equation -- assets = liabilities + owner's equity. A liability is defined by one of the following characteristics:

1. A borrowing of funds from individuals or banks for improving a business or personal income that is payable during a short or long time period.
2. A duty or responsibility to others that entails settlement by future transfer or use of assets, provision of services, or other transaction yielding an economic benefit, at a specified date, on occurrence of a specified event, or on demand.
3. A duty or responsibility that obligates the entity to another entity, with no option to avoid settlement.
4. A transaction or event that has already occurred and obligates the entity (*Figure 9.3*).

Definition of a Current Liability

A current liability can be defined in one of two ways: (1) all liabilities of the business that are to be settled in cash within a firm's fiscal year or operating cycle, whichever period is longer or (2) all liabilities of the business that are to be settled by current

Figure 9.3 A current liability, such as a credit purchase, can be documented with an invoice.

Current liabilities are debt owed and payable no later than the current accounting period.

assets or by the creation of new current liabilities. Another important point is that current liabilities are many times not "current" and are actually past due. For example, accounts payable are due within 30 days and are typically paid within 30 days. However, they do often run past 30 days or 60 days in some situations. So, the accounts payable balance reported on the balance sheet under "current" liabilities may include amounts that are over 30 days due.

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Accounts Payable

Accounts payable is money owed by a business to its suppliers and creditors and typically shown on its balance sheet as a current liability.

KEY POINTS

- Accounts payable is recorded in the A/P sub-ledger at the time an invoice is vouchered for payment. Vouchered means that an invoice is approved for payment and has been recorded in the general ledger or A/P subledger as an outstanding, or open, liability because it has not been paid.
- Payables are often categorized as trade payables, which are for the purchase of physical goods that are recorded in inventory; another category is expense payables or purchases of goods or services that are expensed.
- Common examples of expense payables are advertising, travel, entertainment, office supplies, and utilities. These items are obtained through credit that suppliers offer to their customers by allowing them to pay for a product or service after it has been received or used.

Definition of Accounts Payable

Accounts payable (A/P) is money owed by a business to its suppliers and creditors. It is typically shown on its balance sheet as a current liability. In addition to its disclosure on the balance sheet, accounts payable is recorded in the A/P **sub-ledger** at the time an invoice is vouchered for payment. Vouchered, or vouched, means that an invoice is approved for payment and has been recorded in the general ledger or A/P sub-ledger as an outstanding, or open, liability because it has not been paid. Payables are often categorized as trade payables, or purchases of physical goods that are recorded in inventory. Another category is expense payables, or purchases of goods or services that are expensed. Common examples of expense payables are advertising, travel, entertainment, office supplies, and utilities. A/P is a form of credit that suppliers offer to their customers by allowing them to pay for a product or service after it has been received. Suppliers offer various payment terms for an invoice (*Figure 9.4*).

Processing Accounts Payable

A/P payment terms may include the offer of a cash discount for paying an invoice within a defined number of days. For example, the 2/10 Net 30 term means that the seller will deduct 2% from the invoice total if payment is made within 10 days and the invoice must be paid within 30 days. If the payment is delayed until Day 31 then the full amount of the invoice is due and past due charges may apply. As invoices are paid, the amounts are recorded as reductions to the accounts payable balance in the liability section and cash in

Figure 9.4 An invoice payable in 30 days is typically recorded as accounts payable.

In most businesses, accounts payable is a common type of current liability.

the assets section of the balance sheet. The A/P payment process begins as an invoice is received by the purchaser and matched to a packing (receiving) slip and purchase order. When the three documents are matched, the invoice is paid. This is referred to as the three-way match. The three-way match can be modified to expedite payments. For example, three-way matching may be limited solely to large-value invoices, or the matching is automatically approved if the received quantity is within a certain percentage of the amount authorized in the purchase order.

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Notes Payable

A note payable is a liability where one party makes an unconditional written promise to pay a specific sum of money to another.

KEY POINTS

- The terms of a note usually include the principal amount, interest rate (if applicable), parties involved, date, terms of repayment (which may include interest), and maturity date.
- Negotiable promissory notes are used extensively in combination with mortgages in the financing of real estate transactions. Notes are also issued, along with commercial papers, to provide capital to businesses.
- To report the note as a current liability it should be due within a 12-month period or current operating cycle, whichever is longer. The note payable amount can include the principal as well as the interest payment amounts due.

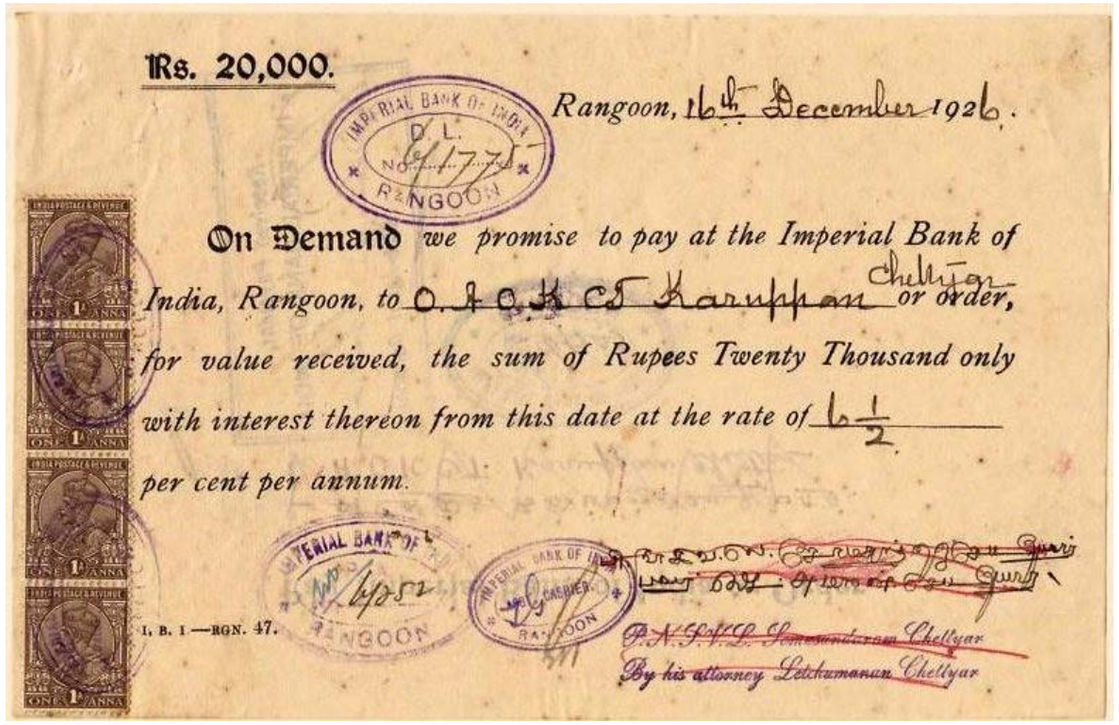
Definition of Promissory Note

A promissory note is a negotiable instrument, where one party (the maker or issuer) makes, under specific terms, an unconditional promise in writing to pay a determined sum of money to the other (the payee), either at a fixed or determinable future time or on demand by the payee. The terms of a note usually include the principal amount, interest rate (if applicable), parties involved, date, terms of repayment (which may include interest), and maturity date. Sometimes, provisions are included concerning the payee's rights in the event of a **default**, which may include foreclosure of the maker's assets. Demand promissory notes are notes that do not carry a specific maturity date, but are due on demand by the lender. Usually the lender will only give the borrower a few days notice before the payment is due. For loans between individuals, writing and signing a promissory note are often instrumental for tax and record keeping purposes (*Figure 9.5*).

Accounting for Notes Payable

Negotiable promissory notes are used extensively in combination with mortgages in the financing of real estate transactions. Notes are also issued, along with commercial papers, to provide capital to businesses. When a note is signed and it becomes a binding agreement, a **notes payable** can be recorded to report the debt on the balance sheet. To report the note as a current liability it should be due within a 12-month period or current operating cycle, whichever is longer. The note payable amount can include the principal as well as the interest payment amounts due. If periodic payments are made throughout the term of the note, the payments will reduce the notes payable balance. It's important not to confuse

Figure 9.5 A 1926 promissory note from the Bank of India.



A promissory note due in less than a year is reported under current liabilities.

a note with a loan contract, which is a legally distinct document from a note. It is non-negotiable, and does not include an unconditional promise to pay clause.

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Current Maturities of Long-Term Debt

The portion of long-term liabilities that must be paid in the coming 12-month period are classified as current liabilities.

KEY POINTS

- Long-term liabilities are liabilities with a due date that extends over one year, such as bonds payable with a maturity date of 10 years. Long-term liabilities are a way to show the existence of debt that can be paid in a time period longer than one year.
- The portion of long-term liabilities that must be paid in the coming 12-month period are moved from the long-term liability section to the current liability section of the balance sheet.
- Current debt on the balance sheet is listed by maturity date, in relation to the due date of other current liabilities. If a current liability section has an accounts payable account (due in 30 days), a current balance of loans payable (due in 12 months) would be listed after accounts payable.

Definition of Long-Term Debt

Long-term liabilities are liabilities with a due date that extends over one year, such as a notes payable that matures in 2 years. In accounting, the long-term liabilities are shown on the right side of the balance sheet, along with the rest of the liability section, and their sources of funds are generally tied to capital assets. Examples of long-term liabilities are debentures, bonds, mortgage loans and other bank loans (it should be noted that not all bank loans are long term since not all are paid over a period greater than one year.) Also long-term liabilities are a way for a company to show the existence of debt that can be paid in a time period longer than one year, a sign that the company is able to obtain long-term financing (*Figure 9.6*).

Figure 9.6 War bonds were used to support World War II.

Bonds are a form of long-term debt because they typically mature several years after their original issue date.

Long-Term Debt Due in the Current Period

The portion of long-term liabilities that must be paid in the coming 12-month period are classified as current liabilities. The portion of the liability considered "current" is moved from the long-term liabilities section to the current liabilities section. The position of where the debt should be disclosed is based on its maturity date in relation to the due date of other current liabilities. For example, a loan for which two payments of USD 1,000 are due--one in the next 12 months and the other after that date--would be split into one USD 1000 portion of the debt classified as a current liability, and the other USD 1000 as a long-term liability (note this example does not take into account any interest or discounting effects, which may be required depending on the accounting rules that may apply). If the **current liability** section already has an accounts payable account (balance which is usually paid off in 30 days), the current portion of the loan payable (due within 12 months) would be listed after accounts payable.

Current Obligations Expected to be Refinanced

Per FASB 6, current obligations that an enterprise intends and is able to refinance with long term debt have different reporting requirements.

KEY POINTS

- Refinancing may refer to the replacement of an existing debt obligation, or current liability, with a debt obligation under different terms.
- The most common type of debt refinancing occurs in the home mortgage market. Reasons to refinance include to obtain a better interest rate; to consolidate current debt; to free up cash and reduce periodic payments; and to reduce debt risk.
- Calculating the up-front, ongoing, and potentially variable transaction costs of refinancing is an important part of the decision on whether or not to refinance, since they can wipe out any savings generated by the new loan terms.

Definition of Refinancing

Refinancing may refer to the replacement of an existing debt obligation with a debt obligation under different terms. The terms

and conditions of refinancing may vary widely by the type of debt involved and is based on several economic factors such as:

the inherent and projected risk of the asset(s) backing the loan,

the financial stability of the lender,

credit availability,

banking regulations,

the borrower's credit worthiness, and

the borrower's net worth.

If the replacement of debt occurs under financial distress, refinancing might be referred to as debt restructuring. The most common type of debt refinancing occurs in the home mortgage market (*Figure 9.7*).

Reasons to Refinance Debt

A loan or other type of debt can be refinanced for various reasons:

1. To take advantage of a better interest rate or loan terms (a reduced monthly payment or a reduced term)
2. To consolidate other debt(s) into one loan (a potentially longer/shorter term contingent on interest rate differential and fees)
3. To reduce the monthly repayment amount (often for a longer term, contingent on interest rate differential and fees)
4. To reduce or alter risk (e.g. switching from a variable-rate to a fixed-rate loan)
5. To free up cash (often for a longer term, contingent on interest rate differential and fees)

Figure 9.7 Deciding to refinance debt can be a balancing act between the funds requested and the interest rate charged on the funds.

Refinanced debt must be finalized and the new loan terms approved before reporting it and replacing it for the old debt in the liability section.

Risks of Refinanced Debt

Calculating the up-front, ongoing, and potentially variable transaction costs of refinancing is an important part of the decision on whether or not to refinance. If the refinanced loan has lower monthly repayments or consolidates other debts for the same repayment, it will result in a larger total interest cost over the life of the loan and will result in the borrower remaining in debt for many more years. Most fixed-term loans are subject to **closing fees** and points and have penalty clauses that are triggered by an early repayment of the loan, in part or in full.

Penalty clauses are only applicable to loans paid off prior to maturity and involve the payment of a penalty fee. The above-mentioned items are considered the transaction fees on the refinancing. These fees must be calculated before substituting an old loan for a new one, as they can wipe out any savings generated through refinancing.

In some jurisdictions, refinanced mortgage loans are considered **recourse debt**, meaning that the borrower is liable in case of default, while un-refinanced mortgages are **non-recourse debt**.

Dividends Payable

Dividends are payments made by a corporation to its shareholders; the payment amount is reported as dividends payable on the balance sheet.

KEY POINTS

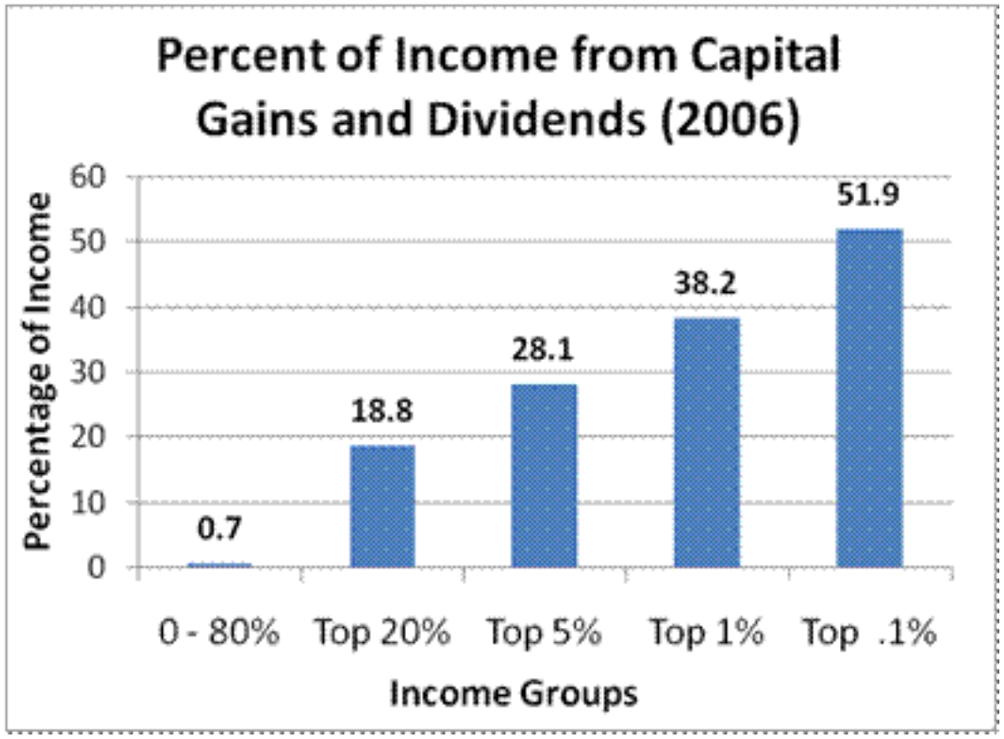
- There are two ways to distribute cash to shareholders: share repurchases (reported as treasury stock in the owner's equity section of the balance sheet) and dividends (liability).
- A shareholder receives a dividend in proportion to the shares he owns. He must also be a shareholder on the date of record in order to be eligible for the dividend.
- The declared per share dividend amount is multiplied by the number of shares outstanding and this result is debited to retained earnings and credited to dividends payable. Dividends payable is recorded as a current liability on the company's books when the dividend is declared.

Dividends are the portion of corporate profits paid out to shareholders. When a corporation earns a profit or surplus, that money can be put to two uses: it can either be re-invested in the business (called retained earnings), or it can be distributed to shareholders as dividends.

There are two ways to distribute cash to shareholders: share repurchases (reported as **treasury stock** in the owner's equity section of the balance sheet) or dividends.

Many corporations retain a portion of their earnings and pay out the remaining earnings as a dividend (*Figure 9.8*). A dividend is allocated as a fixed amount per share. Therefore, a shareholder receives a dividend in proportion to the shares he owns -- for example, if shareholder Y owns 100 shares when company Z

Figure 9.8 Dividends are considered a form of passive income for investors.



Companies that declare dividends must record a liability for the amount of the dividends that will be paid to investors.

declares a dividend of USD 1.00 per share. then shareholder Y will receive a dividend of USD 100 for his shares.

For the company, a dividend payment is not an expense, but the division of after tax profits among shareholders. On the dividend declaration date, a company's board of directors announces its intention to pay a dividend to shareholders on record as of a certain date (date of record). The per share dividend amount is multiplied by the number of shares outstanding and this result is debited to **retained earnings** and credited to dividends payable.

Dividends payable is recorded as a current liability on the company's books; the journal entry confirms that the dividend payment is now owed to the stockholders. On the declaration date, the Board announces the date of record and a **payment date**; the payment date is the date when the funds are sent to the shareholders and the dividends payable account is reduced for the payment amount.

Unearned and Deferred Revenues

A deferred revenue is recognized when cash is received upfront for a product before delivery or for a service before rendering.

KEY POINTS

- A deferred item, in accrual accounting, is any account where a revenue or expense, recorded as an liability or asset, is not realized until a future date (accounting period) or until a transaction is completed.
- Unearned revenues are recorded because the earnings process is not complete when the cash is received, so the cash is recorded as a liability for the products or services that are due to the buyer.
- An example of a deferred revenue is the monies received for a 12-month magazine subscription. The proceeds on the subscription relate to a future benefit (magazine) for the buyer that he will receive over the course of 12 months.

Definition of Deferred and Unearned Revenues

A deferred item, in accrual accounting, is any account where a revenue or **expense**, recorded as an liability or asset, is not realized

until a future date (accounting period) or until a transaction is completed. Examples of deferred items include annuities, charges, taxes, income, etc. If the deferred item relates to an expense (cash has been paid out), it is carried as an asset on the balance sheet. If the deferred item relates to revenue (cash has been received), it is carried as a liability. A deferred revenue is specifically recognized when cash is received upfront for a product before delivery or for a service before rendering. In these cases, the earnings process is not complete when the cash is received, so the cash is recorded as a liability for the products or services that are due to the buyer (*Figure 9.9*).

Figure 9.9 Receipts for magazine subscriptions are a type of deferred revenue.

A deferred revenue item involves cash received before the earnings process is complete.

Accounting for Deferred and Unearned Revenues

An example of a deferred revenue is the monies received for a 12-month magazine subscription. The proceeds on the subscription relate to a future benefit (magazine) for the buyer that he will receive over the course of 12 months. Since the seller has received full payment for all 12 issues that will be delivered over the course of the year, the payment is recorded as unearned or deferred revenue in the current liability section of the balance sheet. If cash received is for benefits that extend past the current accounting period, a long-term liability would be recorded instead. As each magazine is delivered to the buyer (earnings process is now complete), the applicable "earned" portion of the original payment is transferred from the liability account to subscription revenue, which is disclosed on the income statement.

Other Current Liabilities: Sales Tax, Income Tax, Payroll, & Customer Advances

Other current liabilities reported on the balance sheet are sales tax, income tax, payroll, and customer advances (deferred revenue).

KEY POINTS

- A sales and use tax is a tax paid to a governing body by a seller for the sales of certain goods and services.
- An income tax is a tax levied on the income of individuals or businesses (corporations or other legal entities).
- Wages and salaries in cash consist of wages or salaries payable at regular weekly, monthly or other intervals. This includes payments by results and piecework payments, plus allowances such as those for working overtime.
- Deferred revenue is, in accrual accounting, money received for goods or services which have not yet been delivered and revenue on the sale has not been earned.

Sales Tax Payable

The sales and use tax is a tax paid to a governing body by a seller for the sales of certain goods and services. The payment of the tax by the seller occurs periodically and varies depending on the jurisdiction. Usually laws allow (or require) the seller to collect funds for the tax from the consumer at the point of purchase. Laws may allow sellers to itemized the tax separately from the price of the goods or services, or require it to be included in the price (tax-inclusive). The tax amount is usually calculated by applying a percentage rate to the taxable price of a sale. Sales tax payable can be accrued on a monthly basis by debiting sales tax expense and crediting sales tax payable for the tax amount applicable to monthly sales. The sales tax payable account is reported in the current liability section of the balance sheet until the tax is paid (*Figure 9. 10*).

Income Tax Payable

Income tax is a tax levied on the income of individuals or businesses (corporations or other legal entities). Corporate tax refers to a direct tax levied on the net earnings made by companies or associations and often includes the capital gains of a company. Net earnings are generally considered gross revenue minus expenses. Expenses can vary; for example, corporate expenses related to fixed assets are usually deducted in full over their useful lives by using percentage

Figure 9.10 A company can incur different types of tax liabilities.

Taxes, employee salaries, and customer advances that will be payable or earned within a 12-month period can be reported as current liabilities.

rates based on the class of asset to which they belong. Accounting principles and tax rules about recognition of expenses and revenue will vary at times, giving rise to book-tax differences. If the book-tax difference is carried over more than a year, it is referred to as a deferred tax. Future assets and liabilities created by a deferred tax are reported on the balance sheet. Income tax payable can be accrued by debiting income tax expense and crediting income tax payable for the tax owed; the payable is disclosed in the current liability section until the tax is paid.

Salaries and Wages Payable

Wages and salaries in cash consist of wages or salaries payable at regular weekly, monthly, or other intervals, including payments by results and piecework payments, plus allowances like:

working overtime;

amounts paid to employees away from work for short periods (e.g., on holiday);

ad hoc bonuses and similar payments;

commissions, gratuities and tips received by employees.

Customer Advances (Deferred Revenue)

Deferred revenue is, in accrual accounting, money received for goods or services that have not yet been delivered and revenue on the sale has not been earned. According to the revenue recognition principle, the deferred amount is recorded as a liability until delivery is made, at which time it is converted into revenue. An example of a typical customer advance is the receipt of an annual maintenance contract fee, where the entire contract is paid up front. The receipt of $12,000 for the annual maintenance contract is initially recorded as deferred revenue. As the maintenance service is rendered and a portion of the fee is earned, $1,000 is recognized

periodically each month as revenue and the deferred revenue account is reduced.

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Contingencies

Gain Contingencies

Loss Contingencies

https://www.boundless.com/accounting/reporting-of-current-contingent-liabilities/contingencies/

Gain Contingencies

Gain contingencies, or possible occurrences of a gain on a claim or obligation involving the entity, are reported when realized (earned).

KEY POINTS

- If a specific event that can cause the gain occurs, and the gain is realized, then the gain is accrued for and reported in the financial statements. It is also disclosed in the notes section.
- Probable and quantifiable gains are not accrued for reporting purposes, but they can be disclosed in the notes to the financial statements if they are material. If the gain is not probable or reasonably estimated, but could materially effect financial statements, the gain is disclosed in a note.
- The materiality concept states that if a gain contingency, that remains unrealized, affects the economic decision of statement users, it should be disclosed in the notes.
- Following conservative constraints for a gain contingency, only a realized gain should be accrued for and disclosed on an income statement.

Gain Contingency

Gain contingencies, or the possible occurrences of a gain on a claim or obligation that involves the entity, are reported when realized (earned). If a specific event that can cause the gain occurs, and the gain is realized, then the gain is disclosed (*Figure 9.11*). If the gain is probable and quantifiable, the gain is not accrued for financial reporting purposes, but it can be disclosed in the notes to financial statements. If the gain is not probable or its amount cannot be reasonably estimated, but its effect could materially affect financial statements, a note disclosing the nature of the gain is also disclosed in the notes. Care should be taken that misleading language is not used regarding the potential for the gain to be realized. The disclosure of gain contingencies is affected by the materiality concept and the conservatism constraint.

Materiality

Materiality is a concept or convention within auditing and accounting that relates to the importance/significance of an amount, transaction, or discrepancy. For example, an auditor expresses an opinion on whether financial statements are prepared, in all material aspects, in conformity with generally accepted accounting principles (GAAP). Professional judgment is required to determine what is material and what isn't. Generally, if the omission or misstatement of information can influence the economic decision of financial statement users, the missing or incorrect information is considered material. Thus, if a gain

Figure 9.11
Renovation
Renovation plans and projects can increase the value of a building and eventually bring about a gain. However these gains should only be accrued when the gain is realized.

omission of revenues and gains until those gains are realized. Thus, for a gain **contingency**, only a realized gain is accrued for and disclosed on the income statement. A material gain contingency that is both probable and reasonably estimated can be disclosed in the notes to financial statements.

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contingency, that remains unrealized, affects the economic decision of statement users, it should be disclosed in the notes.

Conservatism

Most accounting principles follow the conservative constraint, which encourages the immediate disclosure of losses and expenses on the income statement. This constraint also encourages the

Loss Contingencies

A loss contingency may be incurred by the entity based on the outcome of a future event, such as litigation.

KEY POINTS

- Due to conservative accounting principles, loss contingencies are reported on the balance sheet and footnotes on the financial statements, if they are probable and their quantity can be reasonably estimated.
- Unlike gain contingencies, losses are reported immediately as long as they are probable and reasonably estimated. They do not have to be realized in order to report them on the balance sheet.
- For losses that are material, but may not occur and their amounts can not be estimated, a note to the financial statements disclosing the loss contingency is reported.

Definition of Loss Contingencies

A loss contingency is incurred by the entity based on the outcome of a future event, such as litigation. Due to conservative accounting principles, loss contingencies are reported on the balance sheet and footnotes on the financial statements, if they are **probable** and their quantity can be reasonably estimated. A footnote can also be included to describe the nature and intent of the loss. The likelihood of the loss is described as probable, reasonably possible, or remote. The ability to estimate a loss is described as known, reasonably estimable, or not reasonably estimable (*Figure 9.12*).

Figure 9.12 Loss contingencies are recorded as soon as a loss is probable and estimated.

Several criteria are available to describe the likelihood and ability to estimate a loss.

Contingent Liabilities for Losses

Loss contingencies can refer to contingent liabilities that may arise from discounted notes receivable, income tax disputes, or penalties that may be assessed because of some past action or failure of another party to pay a debt that a company has guaranteed. Unlike

gain contingencies, losses are reported immediately as long as they are probable and reasonably estimated. They do not have to be realized in order to report them on the balance sheet. At least a minimum amount of the loss expected to be incurred is accrued. For losses that are material, but may not occur and their amounts cannot be estimated, a note to the financial statements disclosing the loss contingency is reported.

Example of a Disclosed Loss Contingency

A jury awarded $5.2 million to a former employee of the Company for an alleged breach of contract and wrongful termination of employment. The Company has appealed the judgment on the basis of errors in the judge's instructions to the jury and insufficiency of evidence to support the amount of the jury's award. The Company is vigorously pursuing the appeal. The Company and its subsidiaries are also involved in other litigation arising in the ordinary course of business. Since it presently is not possible to determine the outcome of these matters, no provision has been made in the financial statements for their ultimate resolution. The resolution of the appeal of the jury award could have a significant effect on the Company's earnings in the year that a determination is made. However, in management's opinion, the final resolution of all legal matters will not have a material adverse effect on the Company's financial position.

Section 4

Reporting and Analyzing Current Liabilities

Reporting Current Liabilities

What Goes on the Balances Sheet and What Goes in the Notes

Reporting Contingencies

Current Ratio

Acid-Test Ratio

Working Capital Management Analysis

https://www.boundless.com/accounting/reporting-of-current-contingent-liabilities/reporting-and-analyzing-current-liabilities/

Reporting Current Liabilities

Current liabilities are reported first in the liability section of the balance sheet because they have first claim on company assets.

KEY POINTS

- Current liabilities are typically due and paid for during the current accounting period or within a one year period. They are paid off with assets or other current liabilities.
- For many companies, accounts payable is the first balance sheet account listed in the current liabilities section. Accounts payable includes goods, services, or supplies that were purchased with credit and for use in the operation of the business and payable within a one year period.
- Long-term liabilities are listed in a separate section after current debt; however, for all long-term liabilities, any amounts due in the current fiscal year are reported under the current liability section.

Current Liabilities in the Balance Sheet

The balance sheet, or statement of financial position, is a snapshot of a company's assets, liabilities, and owner's equity on a given date. The presentation of the balance sheet should support the accounting equation of assets = liabilities + owner's equity.

Liabilities are disclosed in a separate section that distinguishes between short-term and long-term liabilities. Short-term, or current liabilities, are listed first in the liability section of the statement because they have first claim on company assets. Current liabilities are typically due and paid for during the current accounting period or within a one year period. They are paid off with assets or other current liabilities (*Figure 9.13*).

Figure 9.13 Most current liabilities have a claim on cash or other assets. Current liabilities is the first section reported under liabilities on the balance sheet.

Accounts Payable

For many companies, accounts payable is the first balance sheet account listed in the current liabilities section. For example, accounts payable for goods, services, or supplies that were purchased with credit and for use in the operation of the business and payable within a one-year period would be current liabilities. Accounts payable are typically due within 30 days. Amounts listed

on a balance sheet as accounts payable represent all bills payable to vendors of a company, whether or not the bills are more or less than 30 days old. Therefore, late payments are not disclosed on the balance sheet for accounts payable. An aging schedule showing the amount of time certain amounts are past due may be presented in the notes to audited financial statements; however, this is not common accounting practice.

Other Liabilities

In addition to current liabilities, long-term liabilities are listed in a separate section after current debt. Long-term liabilities can include bonds, mortgages, and loans that are payable over a term exceeding one year. However, for all long-term liabilities, any amounts due in the current fiscal year are reported under the current liability section.

What Goes on the Balances Sheet and What Goes in the Notes

The balance sheet lists current liability accounts and their balances; the notes provide explanations for the balances, which are sometimes required.

KEY POINTS

- All liabilities are typically placed on the same side of the balance sheet as the owner's equity because both those accounts have credit balances.
- Current liabilities and their account balances as of the date on the balance sheet are presented first on the balance sheet, in order by due date. The balances in these accounts are typically due in the current accounting period or within one year.
- Current liability information found in the notes to the financial statements provide additional explanation on the account balances and any circumstances affecting them. Accounting principles can sometimes require this type of disclosure.

The Balance Sheet

In financial accounting, a balance sheet or statement of financial position is a summary of the financial balances of a sole proprietorship, a business partnership, a corporation, or other business organization, such as an **LLC** or an **LLP**. Assets, liabilities, and the equity of stockholders are listed as of a specific date, such as the end of a fiscal year or accounting period. Of the four basic financial statements, the balance sheet is the only statement which applies to a single point in time of a company's calendar year. Balance sheets are presented with assets in one section, and liabilities and equity in the other section, so that the two sections "balance." The fundamental accounting equation is: assets = liabilities + equity (*Figure 9.14*).

Current Liabilities on the Balance Sheet

All liabilities are typically placed on the same side of the report page as the owner's equity because both those accounts have credit balances (asset accounts, on the other hand, have debit balances). Current liabilities and their account balances as of the date on the balance sheet are presented first, in order by due date. The balances in these accounts are typically due in the current accounting period or within one year. Current liabilities can represent costs incurred for employee salaries and wages, production and build up of inventory, and acquisition of equipment which are needed and used up during normal business operations.

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 9.14 The Balance Sheet
The balance sheet reports Assets, Liabilities, and Equity

Information in the Notes

Current liability information found in the notes to the financial statements provide additional explanation on the liability balances

and any circumstances affecting them. Accounting principles can sometimes require the disclosure of specific information for the benefit of the financial statement user. For example, companies that pay **pension** plan benefits require additional footnote disclosure that provide the user with additional details on pension costs and the assets used to fund it.

Reporting Contingencies

Contingencies are reported as liabilities if it is probable they will incur a loss, and their amounts can be reasonably estimated.

KEY POINTS

- A loss contingency is not reported if it can not be recognized due to improbability (not more than 50% likely to occur) and/or the amount of the loss can not be reliably measured or estimated. Gain contingencies are reported on the income statement when they are realized (earned).
- A probable contingency is defined as more than 50% likely to occur because there was a past obligating event.
- If a probable loss can be estimated based on historical information, then it can be reliably measured.

Loss Contingencies and Liabilities

Contingencies are reported as liabilities on the balance sheet and/or disclosed in the notes to the financial statements when it is probable they will incur a loss and when the loss can be reasonably estimated.

Probability

Probable is defined as more than 50% likely to occur due to a past obligation. The past obligating event defines a future payment event as a payment due on a specific date from the company, who is linked to an obligating event by a specific agreement.

Loss Contingency

A loss contingency is not reported if:

A loss contingency is less than 50% likely to occur due to a past obligation.

The amount of the loss can not be reliably measured or estimated.

Gain Contingency

Gain contingencies are reported on the income statement when they are realized (earned) (*Figure 9.15*).

Estimating a Loss Contingency

Reliability

A probable loss contingency can be measured reliably if it can be estimated based on historical information (*Figure 9.16*). For example, to accrue a provision for **product warranty** costs, assume that minor repairs cost 5% of the total product sales and an

Figure 9.15 Funds may be lost due to contingent liabilities.

Conservative accounting principles state that companies should report loss contingencies as they occur.

estimated 5% of products may require minor repairs within 1 year of sale. Major repairs cost 20% and 1% of products may require major repairs in 3 years.

Provision Estimation

The provision is calculated by multiplying 5% of total product cost by 5% of products needing minor repair and then adding 20% of cost for major repair, multiplied by 1% of products needing major repair.

5% x 5% + 20 % x 1% (of budgeted total sales)

A warranty expense is debited for the provision amount that will offset product sales revenue in the income statement and a credit is

Figure 9.16 Car Repairs

Cars require regular maintenance. Such contingent liabilities can be estimated reliably based on historical cost and readily available information.

posted to warranty provision liability. The amount for repairs occurring in year one is reported in the current liability section of the balance sheet; the portion relating to major repairs in three years is disclosed as long-term liability. As the warranty claims are made, the liability account is debited and cash is credited for the cost of the repair. The long-term liability warranty provision is moved to the current liability section in the accounting period occurring three years after the product sale.

Current Ratio

The current ratio is a financial ratio that measures whether or not a firm has enough resources to pay its debts over the next 12 months.

KEY POINTS

- The current ratio is calculated by taking total current assets and dividing by total current liabilities. The ratio is an indication of a firm's market liquidity and ability to meet creditor's demands.
- Acceptable current ratios vary from industry to industry and are generally between 1.5% and 3% for healthy businesses. If a company's current ratio is in this range, then it generally indicates good short-term financial strength.
- If the value of a current ratio is considered high, then the company may not be efficiently using its current assets, specifically cash, or its short-term financing options. A high current ratio can be a sign of problems in managing working capital.
- When a current ratio is low and current liabilities exceed current assets (the current ratio is below 1), then the company may have problems meeting its short-term obligations (current liabilities).

Current & Financial Ratios

The current ratio is a financial ratio that measures whether or not a firm has enough resources to pay its debts over the next 12 months. It compares a firm's current assets to its current liabilities. Along with other financial ratios, the current ratio is used to try to evaluate the overall financial condition of a corporation or other organization. Financial ratios may be used by managers within a firm, by current and potential shareholders (owners) of a firm, and by a firm's creditors. Financial analysts use financial ratios to compare the strengths and weaknesses in various companies. Ratios can be expressed as a decimal value, such as 0.10, or given as an equivalent percent value, such as 10% (*Figure 9.17*).

Figure 9.17 Ratios can be used to analyze financial trends.

The current ratio can be use to evaluate a company's liquidity.

The current ratio is calculated by taking total current assets and dividing by total current liabilities.

Uses for Current Ratio

The ratio is an indication of a firm's market liquidity and ability to meet creditor's demands. Acceptable current ratios vary from industry to industry and are generally between 1.5% and 3% for healthy businesses.

If a company's current ratio is in this range, then it generally indicates good short-term financial strength. If **current liabilities** exceed current assets (the **current ratio** is below 1), then the company may have problems meeting its short-term obligations (current liabilities).

High vs. Low Current Ratio

If the value of a current ratio is considered high, then the company may not be efficiently using its current assets, specifically cash, or its short-term financing options. A high current ratio can be a sign of problems in managing working capital (what is leftover of current assets after deducting current liabilities). While a low current ratio may indicate a problem in meeting current obligations, it is not

indicative of a serious problem. If an organization has good long-term revenue streams, it may be able to borrow against those prospects to meet current obligations. Some types of businesses usually operate with a current ratio of less than one. For example, when inventory turns over more rapidly than accounts payable becomes due, the current ratio will be less than one. This can allow a firm to operate with a low current ratio.

Acid-Test Ratio

The acid-test, or quick ratio, measures the ability of a company to use its near cash or quick assets to pay off its current liabilities.

KEY POINTS

- The acid-test ratio is calculated by adding cash, cash equivalents, marketable securities, and accounts receivable. The sum is then divided by current liabilities.
- Generally, the acid test ratio should be 1:1 or higher; however, this varies widely by industry. In general, the higher the ratio is, the greater the company's liquidity (i.e., the better able to meet current obligations using liquid assets).
- The acid-test ratio, like other financial ratios, is a test of viability for business entities but does not give a complete picture of a company's health.

Acid-Test and Financial Ratios

The acid-test ratio, also known as the quick ratio, measures the ability of a company to use its near cash or quick assets to immediately extinguish or retire its current liabilities. Quick assets include the current assets that can presumably be quickly converted to cash at close to their book values. The numerator of the ratio

includes "quick assets," such as cash, cash equivalents, marketable securities, and accounts receivable.

The acid-test ratio, like other financial ratios, is a test of viability for business entities but does not give a complete picture of a company's health. For example, if a business has large amounts in accounts receivable which are due for payment after a long period (say 120 days) and essential business expenses and accounts payable are due for immediate payment, the quick ratio may look healthy when the business is actually about to run out of cash. In contrast, if the business has negotiated fast payment terms with customers and long payment terms from suppliers, it may have a very low quick ratio yet good liquidity (*Figure 9.18*).

Uses of Acid-Test Ratio

The acid-test ratio is calculated by adding cash, cash equivalents, marketable securities, and accounts receivable. The sum is then divided by current liabilities. Note that the calculation omits inventory and a different version of the formula involves subtracting inventory from current assets and dividing by current liabilities. Generally, the acid test ratio should be 1:1 or higher; however, this varies widely by industry. In general, the higher the ratio is, the greater the company's liquidity (i.e., the better able to meet current obligations using liquid assets). A company with a quick ratio of less than 1 cannot currently pay back its short-term liabilities.

Figure 9.18 A low acid-test ratio may be a sign of poor use of cash by a business.

The acid-test ratio is similar to the current ratio except the value of inventory is omitted from the calculation.

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Working Capital Management Analysis

Working capital is a financial metric that represents the operational liquidity of a business, organization, or other entity.

KEY POINTS

- Net working capital is calculated as current assets minus current liabilities. Positive working capital is required to ensure that a firm is able to continue its operations and has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses.
- Cash flows can be evaluated using the cash conversion cycle -- the net number of days from the outlay of cash for raw material to receiving payment from the customer.
- Profitability can be evaluated by looking at return on capital (ROC). This metric is determined by dividing relevant income for the 12 months by the cost of capital used. When ROC exceeds the cost of capital, firm value is enhanced and profits are expected in the short term.

Definition of Working Capital

Working capital (abbreviated WC) is a financial metric that represents the operational liquidity of a business, organization, or other entity. Along with fixed assets, such as property, plant, and equipment, working capital is considered a part of operating capital. Positive working capital is required to ensure that a firm is able to continue its operations and has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses. A company can be endowed with assets and profitability but short on liquidity if its assets cannot be converted into cash (*Figure 9.19*).

Figure 9.19 If money grew on trees, companies would never have a working capital shortage.

Sufficient working capital ensures a company is able to meet its short term obligations.

Uses of Working Capital

Net working capital is calculated as current assets minus current liabilities. It is a derivation of working capital commonly used in valuation techniques such as **discounted cash flows** (DCFs). If current assets are less than current liabilities, an entity has a working capital **deficiency**, also called a working capital deficit. The ability to meet the current portion of debt (payable within 12 months) is critical because it represents a short-term claim to current assets and is often secured by long term assets. Common types of short-term debt are bank loans and lines of credit.

Managing Working Capital

Decisions relating to working capital and short term financing are referred to as working capital management. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses. Working capital management entails short-term decisions, usually relating to the next one-year period and are based in part on cash flows and/or profitability.

Evaluating Working Capital Management

Cash flows can be evaluated using the cash conversion cycle -- the net number of days from the outlay of cash for raw material to receiving payment from the customer. Because this number effectively corresponds to the time that the firm's cash is tied up in operations and unavailable for other activities, management generally aims for a low net count.

Profitability can be evaluated by looking at return on capital (ROC). This metric is determined by dividing relevant income for the 12 months by the cost of capital used. When ROC exceeds the cost of capital, firm value is enhanced and profits are expected in the short term.

Chapter 10

The Time Value of Money

https://www.boundless.com/accounting/the-time-value-of-money--2/

Section 1

Introduction to the Time Value of Money

Why is it Important?

What is the Time Value of Money?

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Why is it Important?

Time value of money is integral in making the best use of a financial player's limited funds.

KEY POINTS

- Money today is worth more than the same quantity of money in the future.
- Loans, investments, and any other deal must be compared at a single point in time to determine if it's a good deal or not.
- The process of determining how much a sum of money is worth today is called discounting. It is done for most major business transactions.

Why is the Time Value of Money Important?

The time value of money is a concept integral to all parts of business. A business does not want to know just what an investment is worth today—it wants to know the total value of the investment. What is the investment worth in total? Let's take a look at a couple of examples.

Suppose you are one of the lucky people to win the lottery. You are given two options on how to receive the money.

1. Option 1: Take $5,000,000 right now.
2. Option 2: Get paid $600,000 every year for the next 10 years.

In option 1, you get $5,000,000 and in option 2 you get $6,000,000. Option 2 may seem like the better bet because you get an extra $1,000,000, but the time value of money theory says that since some of the money is paid to you in the future, it is worth less. By figuring out how much option 2 is worth today (through a process called **discounting**), you'll be able to make an apples-to-apples comparison between the two options. If option 2 turns out to be worth less than $5,000,000 today, you should choose option 1, or vice versa.

$$FV = PV \cdot (1 + i)^t$$

Figure 10.1
Compound Interest
By this formula, your deposit ($100) is PV, i is the interest rate (5% for Bank 1, 6% for Bank 2), t is time (5 years), and FV is the future value.

Let's look at another example. Suppose you go to the bank and deposit $100. Bank 1 says that if you promise not to withdraw the money for 5 years, they'll pay you an **interest rate** of 5% a year. Before you sign up, consider that there is a cost to you for not

having access to your money for 5 years. At the end of 5 years, Bank 1 will give you back $128. But you also know that you can go to Bank 2 and get a guaranteed 6% interest rate, so your money is actually worth 6% a year for every year you don't have it (*Figure 10.1*). Converting our present cash worth into future value using the two different interest rates offered by Banks 1 and 2, we see that putting our money in Bank 1 gives us roughly $128 in 5 years, while Bank 2's interest rate gives $134. Between these two options, Bank 2 is the better deal for maximizing future value.

What is the Time Value of Money?

The Time Value of Money is the concept that money is worth more today that it is in the future.

KEY POINTS

- Being given $100 today is better than being given $100 in the future because you don't have to wait for your money.
- Money today has a value (present value, or PV) and money in the future has a value (future value, or FV).
- The amount that the value of the money changes after one year is called the interest rate (i). For example, if money today is worth 10% more in one year, the interest rate is 10%.

One of the most fundamental concepts in finance is the Time Value of Money. It states that money today is worth more than money in the future.

Imagine you are lucky enough to have someone come up to you and say "I want to give you $500. You can either have $500 right now, or I can give you $500 in a year. What would you prefer?" Presumably, you would ask to have the $500 right now. If you took the money now, you could use it to buy a TV. If you chose to take

the money in one year, you could still use it to buy the same TV, but there is a cost. The TV might not be for sale, inflation may mean that the TV now costs $600, or simply, you would have to wait a year to do so and should be paid for having to wait. Since there's no cost to taking the money now, you might as well take it.

There is some value, however, that you could be paid in one year that would be worth the same to you as $500 today. Say it's $550- you are completely indifferent between taking $500 today and $550 next year because even if you had to wait a year to get your money, you think $50 is worth waiting.

In finance, there are special names for each of these numbers to help ensure that everyone is talking about the same thing. The $500 you get today is called the **Present Value (PV**). This is what the money is worth right now. The $550 is called the Future Value (FV). This is what $500 today is worth after the time period (t)- one year in this example. In this example money with a PV of $500 has a FV of $550. The rate that you must be paid per year in order to not have the money is called an **Interest Rate (i or r**).

All four of the variables (PV, FV, r, and t) are tied together in the equation in (*Figure 10.2*). Don't worry if this seems confusing; the concept will be explored in more depth later.

Figure 10.2 Simple Interest Formula

$$FV = PV \cdot (1 + rt)$$

The value of money in the future (FV) is equal to the value of the money today (PV) times the quantity of 1 plus the interest rate to the number of periods.

Section 2

Future Value, Single Amount

Multi-Period Investment

Approaches to Calculating Future Value

Calculating Future Value

Single-Period Investment

https://www.boundless.com/accounting/the-time-value-of-money--2/future-value-single-amount/

Multi-Period Investment

Multi-period investments take place over more than one period (usually multiple years). They can either accrue simple or compound interest.

KEY POINTS

- Investments that accrue simple interest have interest paid based on the amount of the principal, not the balance in the account.
- Investments that accrue compound interest have interest paid on the balance of the account. This means that interest is paid on interest earned in previous periods.
- Simple interest increases the balance linearly, while compound interest increases it exponentially.

There are two primary ways of determining how much an investment will be worth in the future if the time frame is more than one period.

The first concept of accruing (or earning) interest is called "simple interest." Simple interest means that you earn interest only on the principal. Your total balance will go up each period, because you earn interest each period, but the interest is paid only on the amount you originally borrowed/deposited. Simple interest is expressed through the formula in (*Figure 10.3*).

Figure 10.3 Simple Interest Formula

$$FV = PV \cdot (1 + rt)$$

Simple interest is paid only on the principal amount (the PV).

Suppose you make a deposit of $100 in the bank and earn 5% interest per year. After one year, you earn 5% interest, or $5, bringing your total balance to $105. One more year passes, and it's time to **accrue** more interest. Since simple interest is paid only on your **principal** ($100), you earn 5% of $100, not 5% of $105. That means you earn another $5 in the second year, and will earn $5 for every year of the investment. In simple interest, you earn interest based on the original deposit amount, not the account balance.

The second way of accruing interest is called "compound interest." In this case, interest is paid at the end of each period based on the balance in the account. In simple interest, it is only how much the principal is that matters. In compound interest, it is what the balance is that matters. Compound interest is named as such because the interest compounds: Interest is paid on interest. The formula for compound interest is (*Figure 10.4*).

Suppose you make the same $100 deposit into a bank account that pays 5%, but this time, the interest is compounded. After the first year, you will again have $105. At the end of the second year, you also earn 5%, but it's 5% of your balance, or $105. You earn $5.25 in interest in the second year, bringing your balance to $110.25. In the third year, you earn interest of 5% of your balance, or $110.25. You earn $5.51 in interest bringing your total to $115.76.

Figure 10.4 Simple Interest Formula

$$FV = PV \cdot (1 + i)^t$$

Simple interest is paid only on the principal amount (the PV).

Compare compound interest to simple interest. Simple interest earns you 5% of your principal each year, or $5 a year. Your balance will go up linearly each year. Compound interest earns you $5 in the first year, $5.25 in the second, a little more in the third, and so on. Your balance will go up exponentially.

Simple interest is rarely used compared to compound interest, but it's good to know both types.

Approaches to Calculating Future Value

Calculating FV is a matter of identifying PV, i (or r), and t (or n), and then plugging them into the compound or simple interest formula.

KEY POINTS

- The "present" can be moved based on whatever makes the problem easiest. Just remember that moving the date of the present also changes the number of periods until the future for the FV.
- To find FV, you must first identify PV, the interest rate, and the number of periods from the present to the future.
- The interest rate and the number of periods must have consistent units. If one period is one year, the interest rate must be X% per year, and vis versa.

The method of calculating future value for a single amount is relatively straightforward; it's just a matter of plugging numbers into an equation. The tough part is correctly identifying what information needs to be plugged in.

As previously discussed, there are four things that you need to know in order to find the FV:

1. How does the interest accrue? Is it simple or compounding interest?
2. Present Value
3. Interest Rate
4. Number of periods

Let's take one complex problem as an example:

On June 1, 2014, you will take out a $5000 loan for 8-years. The loan accrues interest at a rate of 3% per **quarter**. On January 1, 2015, you will take out another $5000, eight-year loan, with this one accruing interest per year. The loan accrues interest on the principal only. What is the total future value of your loans on December 31, 2017?

Figure 10.5 Compound Interest

$$FV = PV \cdot (1+i)^t$$

Compound interest is interest based off of the account balance, not the principal amount.

First, the question is really two questions: What is the value of the first loan in 2017, and what is the value of the second in 2017? Once both values are found, simply add them together.

Let's talk about the first loan first. The present value is $5,000 on June 1, 2014. It is possible to find the value of the loan today, and then find it's value in 2017, but since the value is the same in 2017, it's okay to just imagine it is 2014 today. Next, we need to identify the interest rate. The problem says it's 3% per quarter, or 3% every three months. Since the problem doesn't say otherwise, we assume that the interest on this loan is compounded. That means we will use the formula in (*Figure 10.5*). Finally, we need to identify the number of periods. There are two and a half years between the inception of the loan and when we need the FV. But recall that the interest rate and periods must be in the same units. That means that the interest must either be converted to % per year, or one period must be one quarter. Let's take one period to be one quarter. That means there are 10 periods. Please note that we don't really care when the loan ends in this problem–we only care about the value of the loan on December 31, 2017.

Figure 10.6 Simple Interest Formula

$$FV = PV \cdot (1+rt)$$

Simple interest accrues only on the principal.

Next, we simply plug the numbers into (*Figure 10.5*). PV=5000, i=.03, and t=10. That gives us a FV of $6,719.58.

Now let's find the value of the second loan at December 31, 2017. Again, PV=$5000, but this time, pretend it is January 1, 2015. This

time, the interest is 5% per year and it is explicitly stated to be simple interest. That means we use the formula in (*Figure 10.6*). January 31, 2017 is exactly two years from the January 1, 2015 and since the interest is measured per year, we can set t=2 years.

When we plug all of those numbers into (*Figure 10.6*), we find that FV=$5,512.50

Since the problem asks for the total FV of the loans, we add $6,719.58 to $5,512.50, and get a total value of $12,232.08.

Calculating Future Value

The Future Value can be calculated by knowing the present value, interest rate, and number of periods, and plugging them into an equation.

KEY POINTS

- The future value is the value of a given amount of money at a certain point in the future if it earns a rate of interest.
- The future value of a present value is calculated by plugging the present value, interest rate, and number of periods into one of two equations.
- Unless otherwise noted, it is safe to assume that interest compounds and is not simple interest.

When calculating a future value (FV), you are calculating how much a given amount of money today will be worth some time in the future. In order to calculate the FV, the other three variables (PV, interest rate, and number of periods) must be known. Recall that the interest rate is represented by either r or i, and the number of periods is represented by either t or n. It is also important to remember that the interest rate and the periods must be in the same units. That is, if the interest rate is 5% per year, one period is one year.

To see how the calculation of FV works, let's take an example:

What is the FV of a $500, 10-year loan with 7% annual interest?

In this case, the PV is $500, t is 10 years, and i is 7% per year. The next step is to plug these numbers into an equation. But recall that there are two different formulas for the two different types of interest, simple interest (*Figure 10.7*) and **compound interest** (*Figure 10.8*). If the problem doesn't specify how the interest is accrued, assume it is compound interest, at least for business problems.

Figure 10.7 Simple Interest Formula

$$FV = PV \cdot (1 + rt)$$

Simple interest means interest is accrued on the principal alone.

Figure 10.8 Compound Interest

$$FV = PV \cdot (1 + i)^t$$

Compound interest means interest is accrued on the balance each time interest is paid.

So from the formula, we see that $FV=PV(1+i)^t$ so $FV=500(1+.07)^{10}$. Therefore, FV=$983.58.

In practical terms, you just calculated how much your loan will be in 10 years. This assumes that you don't need to make any payments during the 10 years, and that the interest compounds. Unless the problem states otherwise, it is safe to make these assumptions- you will be told if there are payments during the 10 year period, or if it is simple interest.

Source:https://www.boundless.com/finance/the-time-value-of-money/future-value-single-amount--2/calculating-future-value--2/

Single-Period Investment

Since the number of periods (n or t) is one, FV=PV(1+i), where i is the interest rate.

KEY POINTS

- Single-period investments use a specified way of calculating future and present value.
- Single-period investments take place over one period (usually one year).
- In a single-period investment, you only need to know two of the three variables PV, FV, and i. The number of periods is implied as one since it is a single-period.

The amount of time between the present and future is called the number of periods. A period is a general block of time. Usually, a period is one year. The number of periods can be represented as either t or n.

Suppose you're making an investment, such as depositing your money in a bank. If you plan on leaving the money there for one year, you're making a **single-period investment**. Any investment for more than one year is called a **multi-period investment**.

Figure 10.9 Compound Interest

$$FV = PV \cdot (1+i)^t$$

Interest is paid at the total amount in the account, which may include interest earned in previous periods.

Let's go through an example of a single-period investment. As you know, if you know three of the following four values, you can solve for the fourth:

1. Present Value (PV)
2. Future Value (FV)
3. Interest Rate (i or r) [Note: for all formulas, express interest in it's decimal form, not as a whole number. 7% is .07, 12% is .12, and so on.]
4. Number of **Periods (t or n)**

In a single-period, there is only one formula you need to know: FV=PV(1+i). The full formulas (which we will be addressing later) are in (*Figure 10.10*) and (*Figure 10.9*), but when t=1, they both become FV=PV(1+i).

For example, suppose you deposit $100 into a bank account that pays 3% interest. What is the balance in your account after one year?

In this case, your PV is $100 and your interest is 3%. You want to

Figure 10.10 Simple Interest Formula

$$FV = PV \cdot (1+rt)$$

Simple interest is when interest is only paid on the amount you originally invested (the principal). You don't earn interest on interest you previously earned.

know the value of your investment in the future, so you're solving for FV. Since this is a single-period investment, t (or n) is 1. Plugging the numbers into the formula, you get FV=100(1+.03) so FV=100(1.03) so FV=103. Your balance will be $103 in one year.

Annuities

Calculating Annuities

Present Value of Annuity

Future Value of Annuity

Annuities

https://www.boundless.com/accounting/the-time-value-of-money--2/annuities/

Calculating Annuities

Annuities can be calculated by knowing four of the five variables: PV, FV, interest rate, payment size, and number of periods.

KEY POINTS

- There are five total variables that go into annuity calculations: PV, FV, interest rate (i or r), payment amount (A, m, pmt, or p), and the number of periods (n).
- The calculations for ordinary annuities and annuities-due differ due to the different times when the first and last payments occur.
- Perpetuities don't have a FV formula because they continue forever. To find the FV at a point, treat it as an ordinary annuity or annuity-due up to that point.

There are five total variables that go into annuity calculations:

Present value (PV)

Future value (FV)

Interest rate (i or r)

Payment amount (A, m, pmt, or p)

Number of periods (n)

So far, we have addressed ways to find the PV and FV of three different types of annuities:

Ordinary annuities: payments occur at the end of the period (*Figure 10.11*) and (*Figure 10.12*)

Figure 10.11 PV Ordinary Annuity

$$P_0 = \frac{P_n}{(1+i)^n} = P \cdot \sum_{k=1}^{n} \frac{1}{(1+i)^{n+1-k}} = P\frac{1-(1+i)^{-1}}{i}$$

The PV of an annuity with the payments at the end of each period

Figure 10.12 FV Ordinary Annuity

$$FV(A) = A \cdot \frac{(1+i)^n - 1}{i}$$

The FV of an annuity with the payments at the end of each period

Annuities-due: payments occur at the beginning of the period (*Figure 10.13*) and (*Figure 10.14*)

Figure 10.13 PV Annuity-due

$$P_n = P\frac{(1+i)^n - 1}{i}(1+i)$$

The PV of an annuity with the payments at the beginning of each period

Perpetuities: payments continue forever (*Figure 10.15*). Perpetuities don't have a FV because they don't have an end date. To find the FV of a **perpetuity** at a certain point, treat the annuity up to that point as one of the other two types.

Figure 10.14 FV Annuity Due

$$\text{The Future Value of an Annuity due} = \frac{m\left[(1+r/n)^{nt+1}-1\right]}{r/n} - m$$

The FV of an annuity with payments at the beginning of each period

Figure 10.15 PV of a Perpetuity

$$PV = \frac{A}{r}$$

The PV of an annuity with an infinite number of payments

Each formula can be rearranged within a few steps to solve for the payment amount. Solving for the interest rate or number of periods is a bit more complicated, so it is better to use Excel or a financial calculator to solve for them.

This may seem like a lot to commit to memory, but there are some tricks to help. For example, note that the PV of an **annuity-due** is simply 1+i times the PV of an **ordinary annuity**.

As for the FV equations, the FV of an annuity-due is the same as the FV of an ordinary annuity plus one period and minus one payment.

This logically makes sense because all payments in an ordinary annuity occur one period later than in an annuity-due.

Unfortunately, there are a lot of different ways to write each variable, which may make the equations seem more complex if you are not used to the notation. Fundamentally, each formula is similar, however. It is just a matter of when the first and last payments occur (or the size of the payments for perpetuities). Go carefully through each formula and the differences should eventually become apparent, which will make the formulas much easier to understand, regardless of the notation.

Present Value of Annuity

The PV of an annuity can be found by calculating the PV of each individual payment and then summing them up.

KEY POINTS

- The PV for both annuities-due and ordinary annuities can be calculated using the size of the payments, the interest rate, and number of periods.
- The PV of a perpetuity can be found by dividing the size of the payments by the interest rate.
- Payment size is represented as p, pmt, or A; interest rate by i or r; and number of periods by n or t.

The Present Value (PV) of an annuity can be found by calculating the PV of each individual payment and then summing them up (*Figure 10.16*). As in the case of finding the Future Value (FV) of an annuity, it is important to note when each payment occurs. Annuities-due have payments at the beginning of each period, and ordinary annuities have them at the end.

$$PV = \sum_{t=0}^{n} \frac{FV_t}{(1+i)^t}$$

Figure 10.16 Sum FV
The PV of an investment is the sum of the present values of all its payments.

Recall that the first payment of an annuity-due occurs at the start of the annuity, and the final payment occurs one period before the end. The PV of an annuity-due can be calculated using (*Figure 10.17*), where P is the size of the payment (sometimes A or pmt), i is the interest rate, and n is the number of periods.

$$P_0 = \frac{P_n}{(1+i)^n} = P\frac{1-(1+i)^{-n}}{i}(1+i)$$

Figure 10.17 PV of Annuity-due
The PV of an annuity-due, where p is the size of the payments, n is the number of periods, and i is the interest rate.

An ordinary annuity has annuity payments at the end of each period, so the formula is slightly different than for an annuity-due. An ordinary annuity has one full period before the first payment (so it must be discounted) and the last payment occurs at the termination of the annuity (so it must be discounted for one period more than the last period in an annuity-due). The formula is in (*Figure 10.18*), where p,n, and i represent the same things as in (*Figure 10.17*).

Figure 10.18 PV Ordinary Annuity

$$P_0 = \frac{P_n}{(1+i)^n} = P \cdot \sum_{k=1}^{n} \frac{1}{(1+i)^{n+1-k}} = P\frac{1-(1+i)^{-1}}{i}$$

The PV of an ordinary annuity where p is the size of each payment, n is the number of periods, and i is the interest rate

Both annuities-due and ordinary annuities have a finite number of payments, so it is possible, though cumbersome, to find the PV for each period. For perpetuities, however, there are an infinite number of periods, so we need a formula to find the PV. The formula for calculating the PV is the size of each payment divided by the interest rate.

Future Value of Annuity

The future value of an annuity is the sum of the future values of all of the payments in the annuity.

KEY POINTS

- To find the FV, you need to know the payment amount, the interest rate of the account the payments are deposited in, the number of periods per year, and the time frame in years.
- The first and last payments of an annuity due both occur one period before they would in an ordinary annuity, so they have different values in the future.
- There are different formulas for annuities due and ordinary annuities because of when the first and last payments occur.

The future value of an annuity is the sum of the future values of all of the payments in the annuity. It is possible to take the FV of all cash flows and add them together, but this isn't really pragmatic if there are more than a couple of payments.

If you were to manually find the FV of all the payments, it would be important to be explicit about when the inception and termination of the annuity is. For an annuity-due, the payments occur at the beginning of each period, so the first payment is at the inception of

the annuity, and the last one occurs one period before the termination.

For an ordinary annuity, however, the payments occur at the end of the period. This means the first payment is one period after the start of the annuity, and the last one occurs right at the end. There are different FV calculations for annuities due and ordinary annuities because of when the first and last payments occur.

There are some formulas to make calculating the FV of an annuity easier. For both of the formulas we will discuss, you need to know the payment amount (m, though often written as pmt or p), the interest rate of the account the payments are deposited in (r, though sometimes i), the number of periods per year (n), and the time frame in years (t).

The formula for an annuity-due is in (*Figure 10.19*), whereas the formula for an ordinary annuity is in (*Figure 10.20*). Provided you have m, r, n, and t, you can find the future value (FV) of an annuity.

Figure 10.19 FV Annuity-Due

$$\text{The Future Value of an Annuity due} = \frac{m\left[(1+r/n)^{nt+1}-1\right]}{r/n} - m$$

The FV of an annuity with payments at the beginning of each period: m is the amount amount, r is the interest, n is the number of periods per year, and t is the number of years.

Figure 10.20 FV Ordinary Annuity

$$A = \frac{m\left[(1+r/n)^{nt}-1\right]}{r/n}$$

The FV (A) of an annuity with payments at the end of the period: m is the payment amount, r is the interest rate, n is the number of periods per year, and t is the length of time in years.

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Annuities

An annuity is a type of investment in which regular payments are made over the course of multiple periods.

KEY POINTS

- Annuities have payments of a fixed size paid at regular intervals.
- There are three types of annuities: annuities-due, ordinary annuities, and perpetuities.
- Annuities help both the creditor and debtor have predictable cash flows, and it spreads payments of the investment out over time.

An annuity is a type of multi-period investment where there is a certain principal deposited and then regular payments made over the course of the investment. The payments are all a fixed size. For example, a car loan may be an annuity: In order to get the car, you are given a loan to buy the car. In return you make an initial payment (down payment), and then payments each month of a fixed amount. There is still an interest rate implicitly charged in the loan. The sum of all the payments will be greater than the loan amount, just as with a regular loan, but the payment schedule is spread out over time.

Suppose you are the bank that makes the car loan. There are three advantages to making the loan an annuity. The first is that there is a regular, known cash flow. You know how much money you'll be getting from the loan and when you'll be getting them. The second is that it should be easier for the person you are loaning to to repay, because they are not expected to pay one large amount at once. The third reason why banks like to make annuity loans is that it helps them monitor the financial health of the debtor. If the debtor starts missing payments, the bank knows right away that there is a problem, and they could potentially amend the loan to make it better for both parties.

Similar advantages apply to the debtor. There are predictable payments, and paying smaller amounts over multiple periods may be advantageous over paying the whole loan plus interest and fees back at once.

Since annuities, by definition, extend over multiple periods, there are different types of annuities based on when in the **period** the payments are made. The three types are:

1. Annuity-due: Payments are made at the beginning of the period (*Figure 10.21*). For example, if a period is one month, payments are made on the first of each month.

2. Ordinary Annuity: Payments are made at the end of the period (*Figure 10.22*). If a period is one month, this means that payments are made on the 28th/30th/31st of each month. Mortgage payments are usually ordinary annuities.

3. Perpetuities: Payments continue forever. This is much rarer than the first two types.

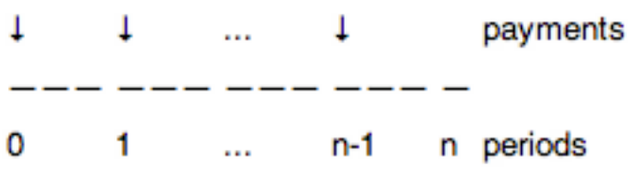

Figure 10.21
Annuity Due
An annuity-due has payments at the beginning of the payments. The first payment is made at the beginning of period 0.

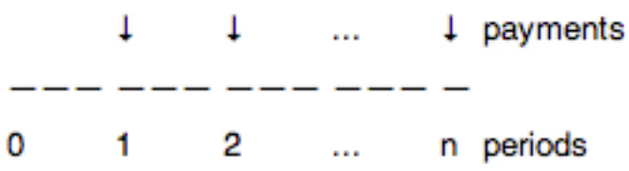

Figure 10.22
Ordinary Annuity
Payments are made at the end of each period. The first payment is made at the end of period 0.

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Section 4

Additional Detail on Present and Future Values

Loans and Loan Amortization

Calculating Values for Fractional Time Periods

The Relationship Between Present and Future Value

Comparing Between Interest Rates

Calculating Values for Different Durations of Compounding Periods

Calculating Perpetuities

https://www.boundless.com/accounting/the-time-value-of-money--2/additional-detail-on-present-and-future-values/

Loans and Loan Amortization

When paying off a debt, a portion of each payment is for interest while the remaining amount is applied towards the principal balance and amortized.

KEY POINTS

- Each amortization payment should be equal in size and pays off a portion of the principal as well as a portion of the interest.
- The percentage of interest versus principal in each payment is determined in an amortization schedule.
- If the repayment model for a loan is "fully amortized," then the very last payment pays off all remaining principal and interest on the loan.

In order to pay off a loan, the debtor must pay off not only the principal but also the interest. Since interest accrues on both the principal and previously accrued interest, paying off a loan can seem like a dance between paying off the principal fast enough to reduce the amount of interest without having huge payments. There is an incentive to paying off the loan ahead of schedule (lower total cost due to less accrued interest), but there is also a disincentive (less use of the principal). After all, if the debtor had enough money and liquidity to pay off the loan instantly, s/he wouldn't have needed the loan.

The process of figuring out how much to pay each month is called "amortization." Amortization refers to the process of paying off a debt (often from a loan or mortgage) over time through regular payments. A portion of each payment is for interest while the remaining amount is applied towards the principal balance.

In order to figure out how much to pay off to amortize each month, many lenders offer their debtors an **amortization schedule**. An amortization schedule is a table detailing each periodic payment on an amortizing loan, as generated by an amortization calculator. The typical loan amortization schedule offers a summary of the number of moths left for loan, interest paid, etc. The percentage of interest versus principal in each payment is determined in an amortization schedule (*Figure 10.23*).These schedules makes it easier for the person who has to repay the loan, s/he can calculate and work accordingly.

If the repayment model for a loan is "fully amortized," then the very last payment (which, if the schedule was calculated correctly, should be equal to all others) pays off all remaining principal and interest on the loan.

Period	Interest	Principal	Balance
1	$583.33	$191.97	$99,808.03
2	$582.21	$193.09	$99,614.95
3	$581.09	$194.21	$99,420.74
4	$579.95	$195.34	$99,225.39
5	$578.81	$196.48	$99,028.91
6	$577.67	$197.63	$98,831.28
7	$576.52	$198.78	$98,632.50
8	$575.36	$199.94	$98,432.55
9	$574.19	$201.11	$98,231.44
10	$573.02	$202.28	$98,029.16
11	$571.84	$203.46	$97,825.70
12	$570.65	$204.65	$97,621.05
13	$569.46	$205.84	$97,415.21
14	$568.26	$207.04	$97,208.16
15	$567.05	$208.25	$96,999.91
16	$565.83	$209.47	$96,790.45
17	$564.61	$210.69	$96,579.76
18	$563.38	$211.92	$96,367.84
19	$562.15	$213.15	$96,154.69
20	$560.90	$214.40	$95,940.29
21	$559.65	$215.65	$95,724.64
22	$558.39	$216.91	$95,507.74
23	$557.13	$218.17	$95,289.57
24	$555.86	$219.44	$95,070.13

Figure 10.23
Amortization Schedule
An example of an amortization schedule of a $100,000 loan over the first two years.

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Calculating Values for Fractional Time Periods

The value of money and the balance of the account may be different when considering fractional time periods.

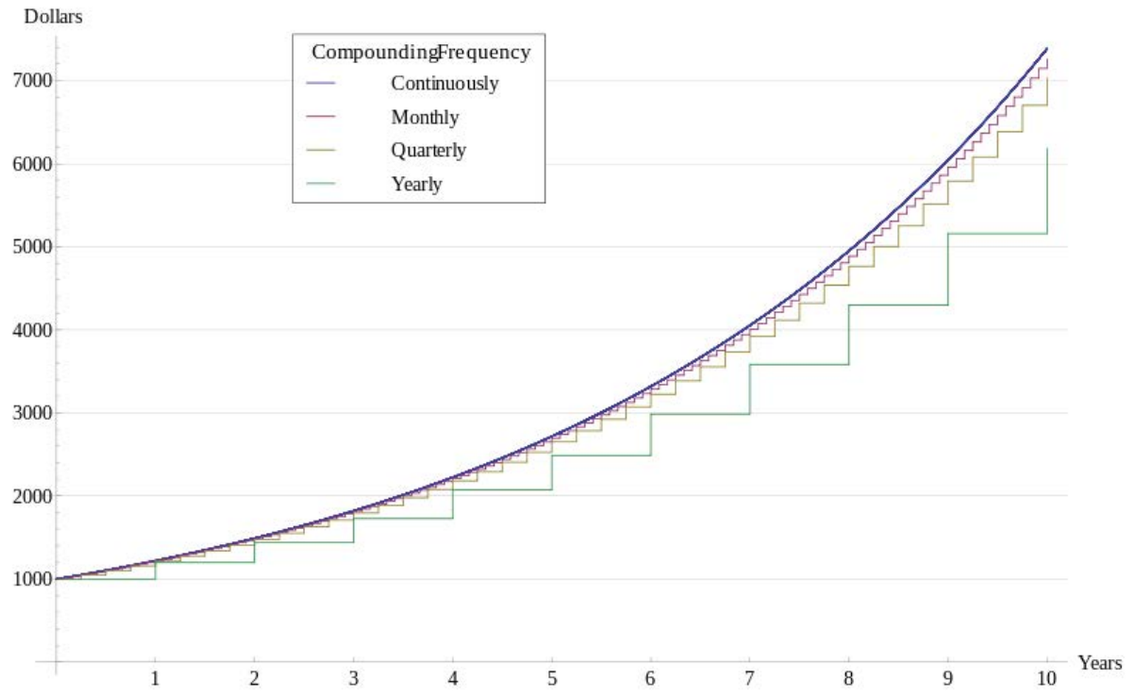
KEY POINTS

- The balance of an account only changes when interest is paid. To find the balance, round the fractional time period down to the period when interest was last accrued.
- To find the PV or FV, ignore when interest was last paid an use the fractional time period as the time period in the equation.
- The discount rate is really the cost of not having the money over time, so for PV/FV calculations, it doesn't matter if the interest hasn't been added to the account yet.

Up to this point, we have implicitly assumed that the number of periods in question matches to a multiple of the compounding period. That means that the point in the future is also a point where interest accrues. But what happens if we are dealing with fractional time periods?

Compounding periods can be any length of time, and the length of the period affects the rate at which interest accrues (*Figure 10.24*).

Figure 10.24 Compounding Interest



The effect of earning 20% annual interest on an initial $1,000 investment at various compounding frequencies.

Suppose the **compounding period** is one year, starting January1, 2012. If the problem asks you to find the value at June 1, 2014, there is a bit of a conundrum. The last time interest was actually paid was at January 1, 2014, but the time-value of money theory clearly suggests that it should be worth more in June than in January.

In the case of fractional time periods, the devil is in the details. The question could ask for the future value, present value, etc., or it could ask for the future balance, which have different answers.

Future/Present Value

If the problem asks for the future value (FV) or present value (PV), it doesn't really matter that you are dealing with a fractional time period. You can plug in a fractional time period to the appropriate equation to find the FV or PV. The reasoning behind this is that the interest rate in the equation isn't exactly the interest rate that is earned on the money. It is the same as that number, but more broadly, is the cost of not having the money for a time period. Since there is still a cost to not having the money for that fraction of a compounding period, the FV still rises.

Account Balance

The question could alternatively ask for the balance of the account. In this case, you need to find the amount of money that is actually in the account, so you round the number of periods down to the nearest whole number (assuming one period is the same as a compounding period; if not, round down to the nearest compounding period). Even if interest compounds every period, and you are asked to find the balance at the 6.9999th period, you need to round down to 6. The last time the account actually accrued interest was at period 6; the interest for period 7 has not yet been paid.

If the account accrues interest continuously, there is no problem: there can't be a fractional time period, so the balance of the account is always exactly the value of the money.

The Relationship Between Present and Future Value

Present value (PV) and future value (FV) measure how much the value of money has changed over time.

KEY POINTS

- The future value (FV) measures the nominal future sum of money that a given sum of money is "worth" at a specified time in the future assuming a certain interest rate, or more generally, rate of return. The FV is calculated by multiplying the present value by the accumulation function.
- PV and FV vary jointly: when one increases, the other increases, assuming that the interest rate and number of periods remain constant.
- As the interest rate (discount rate) and number of periods increase, FV increases or PV decreases.

The future value (FV) measures the nominal future sum of money that a given sum of money is "worth" at a specified time in the future assuming a certain interest rate, or more generally, rate of return. The FV is calculated by multiplying the present value by the accumulation function. The value does not include corrections for inflation or other factors that affect the true value of money in the future. The process of finding the FV is often called capitalization.

On the other hand, the present value (PV) is the value on a given date of a payment or series of payments made at other times. The process of finding the PV from the FV is called discounting.

PV and FV are related (*Figure 10.25*), which reflects compounding interest (simple interest has n multiplied by i, instead of as the exponent). Since it's really rare to use simple interest, this formula is the important one.

$$FV = PV(1+i)^n$$

Figure 10.25 FV of a single payment
The PV and FV are directly related.

PV and FV vary directly: when one increases, the other increases, assuming that the interest rate and number of periods remain constant.

The interest rate (or discount rate) and the number of periods are the two other variables that affect the FV and PV. The higher the interest rate, the lower the PV and the higher the FV. The same relationships apply for the number of periods. The more time that passes, or the more interest accrued per period, the higher the FV will be if the PV is constant, and vice versa.

The formula implicitly assumes that there is only a single payment. If there are multiple payments, the PV is the sum of the present values of each payment and the FV is the sum of the future values of each payment.

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Comparing Between Interest Rates

Variables, such as compounding, inflation, and the cost of capital must be considered before comparing interest rates.

KEY POINTS

- A nominal interest rate that compounds has a different effective rate (EAR), because interest is accrued on interest.
- The Fisher Equation approximates the amount of interest accrued after accounting for inflation.
- A company will theoretically only invest if the expected return is higher than their cost of capital, even if the return has a high nominal value.

The amount of interest you would have to pay on a loan or would earn on an investment is clearly an important consideration when making any financial decisions. However, it is not enough to simply compare the nominal values of two interest rates to see which is higher.

Effective Interest Rates

The reason why the nominal interest rate is only part of the story is due to compounding. Since interest compounds, the amount of interest actually accrued may be different than the nominal amount. The last section went through one method for finding the amount of interest that actually accrues: the Effective Annual Rate (EAR).

The EAR is a calculation that account for interest that compounds more than one time per year. It provides an annual interest rate that accounts for compounded interest during the year. If two investments are otherwise identical, you would naturally pick the one with the higher EAR, even if the nominal rate is lower.

Real Interest Rates

Interest rates are charged for a number of reasons, but one is to ensure that the creditor lowers his or her exposure to . Inflation causes a nominal amount of money in the present to have less purchasing power in the future. Expected inflation rates are an integral part of determining whether or not an interest rate is high enough for the creditor.

$$i \approx r + \pi$$

Figure 10.26 Fisher Equation

The nominal interest rate is approximately the sum of the real interest rate and inflation.

The Fisher Equation (*Figure 10.26*) is a simple way of determining the real interest rate, or the interest rate accrued after accounting for inflation. To find the real interest rate, simply subtract the expected inflation rate from the nominal interest rate.

For example, suppose you have the option of choosing to invest in two companies. Company 1 will pay you 5% per year, but is in a country with an expected inflation rate of 4% per year. Company 2 will only pay 3% per year, but is in a country with an expected inflation of 1% per year. By the Fisher Equation, the real interest rates are 1% and 2% for Company 1 and Company 2, respectively. Thus, Company 2 is the better investment, even though Company 1 pays a higher nominal interest rate.

Cost of Capital

Another major consideration is whether or not the interest rate is higher than your cost of capital. The cost of capital is the rate of return that capital could be expected to earn in an alternative investment of equivalent risk. Many companies have a standard cost of capital that they use to determine whether or not an investment is worthwhile.

In theory, a company will never make an investment if the expected return on the investment is less than their cost of capital. Even if a 10% annual return sounds really nice, a company with a 13% cost of capital will not make that investment.

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Calculating Values for Different Durations of Compounding Periods

Finding the Effective Annual Rate (EAR) accounts for compounding during the year, and is easily adjusted to different period durations.

KEY POINTS

- The units of the period (e.g. one year) must be the same as the units in the interest rate (e.g. 7% per year).
- When interest compounds more than once a year, the effective interest rate (EAR) is different from the nominal interest rate.
- The equation in (*Figure 10.27*) skips the step of solving for EAR, and is directly usable to find the present or future value of a sum.

Sometimes, the units of the number of periods does not match the units in the interest rate. For example, the interest rate could be 12% compounded monthly, but one period is one year. Since the units have to be consistent to find the PV or FV, you could change one period to one month. But suppose you want to convert the

interest rate into an annual rate. Since interest generally compounds, it is not as simple as multiplying 1% by 12 (1% compounded each month). This atom will discuss how to handle different compounding periods.

$$A(t) = A_0\left(1 + \frac{r}{n}\right)^{\lfloor nt \rfloor}$$

Figure 10.27 FV Periodic Compounding

Finding the FV (A(t)) given the PV (Ao), nominal interest rate (r), number of compounding periods per year (n), and number of years (t).

Effective Annual Rate

The effective annual rate (EAR) is a measurement of how much interest actually accrues per year if it compounds more than once per year. The EAR can be found through the formula in (*Figure 10.28*) where i is the nominal interest rate and n is the number of times the interest compounds per year (for continuous compounding, see (*Figure 10.29*)). Once the EAR is solved, that becomes the interest rate that is used in any of the capitalization or discounting formulas.

Figure 10.28 Calculating the effective annual rate

$$r = (1 + i/n)^n - 1$$

The effective annual rate for interest that compounds more than once per year.

Figure 10.29 EAR with Continuous Compounding

$$r = e^i - 1$$

The effective rate when interest compounds continuously.

For example, if there is 8% interest that compounds quarterly, you plug .08 in for i and 4 in for n. That calculates an EAR of .0824 or 8.24%. You can think of it as 2% interest accruing every quarter, but since the interest compounds, the amount of interest that actually accrues is slightly more than 8%. If you wanted to find the FV of a sum of money, you would have to use 8.24% not 8%.

Solving for Present and Future Values with Different Compounding Periods

Solving for the EAR and then using that number as the effective interest rate in present and **future value** (PV/FV) calculations is demonstrated here. Luckily, it's possible to incorporate compounding periods into the standard time-value of money formula. The equation in (*Figure 10.27*) is the same as the formulas we have used before, except with different notation. In this equation, A(t) corresponds to FV, A_0 corresponds to **Present Value**, r is the nominal interest rate, n is the number of compounding periods per year, and t is the number of years.

The equation follows the same logic as the standard formula. r/n is simply the nominal interest per compounding period, and nt represents the total number of compounding periods.

Solving for n

The last tricky part of using these formulas is figuring out how many periods there are. If PV, FV, and the interest rate are known, solving for the number of periods can be tricky because n is in the exponent. It makes solving for n manually messy. (*Figure 10.30*) shows an easy way to solve for n. Remember that the units are important: the units on n must be consistent with the units of the interest rate (i).

Figure 10.30 Solving for n

$$n = \frac{\log(FV) - \log(PV)}{\log(1+i)}$$

This formula allows you to figure out how many periods are needed to achieve a certain future value, given a present value and an interest rate.

Calculating Perpetuities

The present value of a perpetuity is simply the payment size divided by the interest rate and there is no future value.

KEY POINTS

- Perpetuities are a special type of annuity; a perpetuity is an annuity that has no end, or a stream of cash payments that continues forever.
- To find the future value of a perpetuity requires having a future date, which effectively converts the perpetuity to an ordinary annuity until that point.
- Perpetuities with growing payments are called Growing Perpetuities; the growth rate is subtracted from the interest rate in the present value equation.

Perpetuities are a special type of annuity; a perpetuity is an annuity that has no end, or a stream of cash payments that continues forever. Essentially, they are ordinary annuities, but have no end date. There aren't many actual perpetuities, but the United Kingdom has issued them in the past.

Since there is no end date, the annuity formulas we have explored don't apply here. There is no end date, so there is no future value

formula. To find the FV of a perpetuity would require setting a number of periods which would mean that the perpetuity up to that point can be treated as an ordinary annuity.

There is, however, a PV formula for perpetuities (*Figure 10.31*). The PV is simply the payment size (A) divided by the interest rate (r). Notice that there is no n, or number of periods. More accurately, (*Figure 10.31*) is what results when you take the limit of the ordinary annuity PV formula as n → ∞.

$$PV = \frac{A}{r}$$

Figure 10.31 PV of a Perpetuity
The PV of a perpetuity is the payment size divided by the interest rate.

It is also possible that an annuity has payments that grow at a certain rate per period. The rate at which the payments change is fittingly called the **growth rate** (g). The PV of a growing perpetuity is represented in (*Figure 10.32*). It is essentially the same as in (*Figure 10.31*) except that the growth rate is subtracted from the interest rate. Another way to think about it is that for a normal perpetuity, the growth rate is just 0, so the formula boils down to the payment size divided by r

$$PVGP = \frac{A}{(i-g)}$$

Figure 10.32 PV Growing Perpetuity
The present value of a growing annuity subtracts the growth rate from the interest rate.

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Section 5

Yield

Calculating the Yield of a Single Period Investment

Calculating the Yield of an Annuity

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Calculating the Yield of a Single Period Investment

The yield of a single period investment is simply $\frac{(FV - PV)}{PV} * 100$.

KEY POINTS

- There are a number of ways to calculate yield, but the most common ones are to calculate the percent change from the initial investment, APR, and APY (or EAR).
- APR (annual percentage rate) is a commonly used calculation that figures out the nominal amount of interest accrued per year. It does not account for compounding interest.
- APY (annual percentage yield) is a way of using the nominal interest rate to calculate the effective interest rate per year. It accounts for compounding interest.
- EAR (effective annual rate) is a special type of APY that uses APR as the nominal interest rate.

Determining Yield

The yield on an investment is the amount of money that is returned to the owner at the end of the term. In short, it's how much you get back on your investment.

Naturally, this is a number that people care a lot about. The whole point of making an investment is to get a yield. There are a number of different ways to calculate an investment's yield, though. You may get slightly different numbers using different methods, so it's important to make sure that you use the same method when you are comparing yields. This section will address the yield calculation methods you are most likely to encounter, though there are many more.

Change-In-Value

The most basic type of yield calculation is the change-in-value calculation. This is simply the change in value (FV minus PV) divided by the PV times 100% (*Figure 10.33*). This calculation measures how different the FV is from the PV as a percentage of PV.

Figure 10.33 Percent Change

$$\text{Percentage change} = \frac{\Delta V}{V_1} = \frac{V_2 - V_1}{V_1} \times 100.$$

The percent change in value is the change in value from PV to FV (V2 to V1) divided by PV (V1) times 100%.

Annual Percentage Rate

Another common way of calculating yield is to determine the Annual Percentage Rate, or APR. You may have heard of APR from ads for car loans or credit cards. These generally have monthly

loans or fees, but if you want to get an idea of how much you will accrue in interest per year, you need to calculate an APR. Nominal APR is simply the interest rate multiplied by the number of payment periods per year. However, since interest compounds, nominal APR is not a very accurate measure of the amount of interest you actually accrue.

Effective Annual Rate

To find the effective APR, the actual amount of interest you would accrue per year, we use the Effective Annual Rate, or EAR (*Figure 10.34*).

Figure 10.34 EAR

$$\text{EAR} = (1 + \frac{\text{APR}}{n})^n - 1$$

The Effective Annual Rate is the amount of interest actually accrued per year based on the APR. n is the number of compounding periods of APR per year.

For example, you may see an ad that says you can get a car loan at an APR of 10% compounded monthly. That means that APR=.10 and n=12 (the APR compounds 12 times per year). That means the EAR is 10.47%.

The EAR is a form of the Annual Percentage Yield (APY). APY may also be calculated using interest rates other than APR, so a more general formula is in (*Figure 10.35*). The logic behind calculating APY is the same as that used when calculating EAR: we want to know how much you actually accrue in interest per year. Interest usually compounds, so there is a difference between the **nominal interest rate** (e.g. monthly interest times 12) and the **effective interest rate**.

Figure 10.35 Annual Percentage Yield

$$APY = \left(1 + \frac{i_{\text{nom}}}{N}\right)^N - 1$$

The Annual Percentage Yield is a way or normalizing the nominal interest rate. Basically, it is a way to account for the time factor in order to get a more accurate number for the actual interest rate.inom is the nominal interest rate.N is the number of compounding periods per year.

Calculating the Yield of an Annuity

The yield of an annuity is commonly found using either the percent change in the value from PV to FV, or the internal rate of return.

KEY POINTS

- The yield of an annuity may be found by discounting to find the PV, and then finding the percentage change from the PV to the FV.
- The Internal Rate of Return (IRR) is the discount rate at which the NPV of an investment equals 0.
- The IRR calculates an annualized yield of an annuity.

The yield of annuity can be calculated in similar ways to the yield for a single payment, but two methods are most common.

The first is the standard percentage-change method (*Figure 10.37*). Just as for a single payment, this method calculated the percentage difference between the FV and the PV. Since annuities include multiple payments over the lifetime of the investment, the PV (or V_1 in (*Figure 10.37*) is the present value of the entire investment, not just the first payment.

Figure 10.37 Percent Change

$$\text{Percentage change} = \frac{\Delta V}{V_1} = \frac{V_2 - V_1}{V_1} \times 100.$$

The PV of the annuity is V1 and the FV is V2. This measured by what percentage the FV is different from the PV.

The second popular method is called the **internal rate of return (IRR)**. The IRR is the interest rate (or discount rate) that causes the **Net Present Value (NPV)** of the annuity to equal 0 (*Figure 10.36*). That means that the PV of the cash outflows equals the PV of the cash inflows. The higher the IRR, the more desirable is the investment. In theory, you should make investment with an IRR greater than the cost of capital.

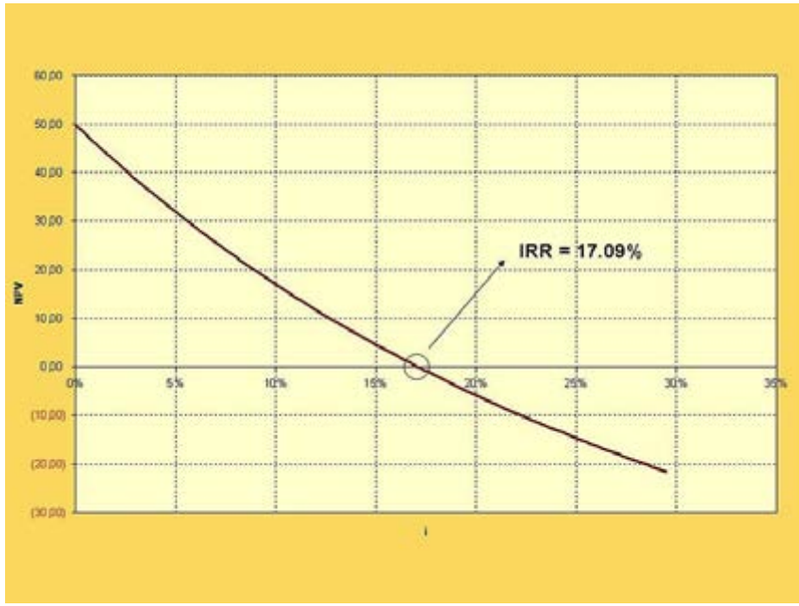

Figure 10.36 Internal Rate of Return

The internal rate of return (IRR) is the interest rate that will cause the NPV to be 0.

Let's take an example investment: It is not technically an annuity because the payments vary, but still is a good example for how to find IRR:

Suppose you have a potential investment that would require you to make a $4,000 investment today, but would return cash flows of $1,200, $1,410, $1,875, and $1,050 in the four successive years. This investment has an implicit rate of return, but you don't know what it is. You plug the numbers into the NPV formula and set NPV equal to 0. (*Figure 10.38*) You then solve for r, which is your IRR (it's not easy to solve this problem by hand. You will likely need to use a business calculator or Excel). When r = 14.3%, NPV = 0, so therefore the IRR of the investment is 14.3%.

Figure 10.38 IRR Example

$$\text{NPV} = -4000 + \frac{1200}{(1+r)^1} + \frac{1410}{(1+r)^2} + \frac{1875}{(1+r)^3} + \frac{1050}{(1+r)^4} = 0.$$

The setup to find the IRR of the investment with cash flows of -4000, 1200, 1410, 1875, and 1050. By setting NPV = 0 and solving for r, you can find the IRR of this investment.

Section 6

Valuing Multiple Cash Flows

Present Value, Multiple Flows

Future Value, Multiple Flows

https://www.boundless.com/accounting/the-time-value-of-money--2/valuing-multiple-cash-flows/

Present Value, Multiple Flows

The PV of multiple cash flows is simply the sum of the present values of each individual cash flow.

KEY POINTS

- To find the PV of multiple cash flows, each cash flow much be discounted to a specific point in time and then added to the others.
- To discount annuities to a time prior to their start date, they must be discounted to the start date, and then discounted to the present as a single cash flow.
- Multiple cash flow investments that are not annuities unfortunately cannot be discounted by any other method but by discounting each cash flow and summing them together.

The PV of multiple cash flows follows the same logic as the FV of multiple cash flows. The PV of multiple cash flows is simply the sum of the present values of each individual cash flow (*Figure 10.39*).

Figure 10.39 PV of Multiple Cash Flows

$$PV = \sum_{t=0}^{n} \frac{FV_t}{(1+i)^t}$$

The PV of multiple cash flows is the sum of the present values of each cash flow.

Each cash flow must be discounted to the same point in time. For example, you cannot sum the PV of two loans at the beginning of the loans if one starts in 2012 and one starts in 2014. If you want to find the PV in 2012, you need to **discount** the second loan an additional two years, even though it doesn't start until 2014.

The calculations get markedly simpler if the cash flows make up an annuity. In order to be an annuity (and use the formulas explained in the annuity module), the cash flows need to have three traits:

1. Constant payment size
2. Payments occur at fixed intervals
3. A constant interest rate

Things may get slightly messy if there are multiple annuities, and you need to discount them to a date before the beginning of the payments.

Suppose there are two sets of cash flows which you determine are both annuities. The first extends from 1/1/14 to 1/1/16, and the second extends from 1/1/15 to 1/1/17. You want to find the total PV of all the cash flows on 1/1/13.

The annuity formulas are good for determining the PV at the date of the inception of the annuity. That means that it's not enough to simply plug in the payment size, interest rate, and number of periods between 1/1/13 and the end of the annuities. If you do, that supposes that both annuities begin on 1/1/13, but neither do.

Instead, you have to first find the PV of the first annuity on 1/1/14 and the second on 1/1/15 because that's when the annuities begin.

You now have two present values, but both are still in the future. You then can discount those present values as if they were single sums to 1/1/13.

Unfortunately, if the cash flows do not fit the characteristics of an annuity, there isn't a simple way to find the PV of multiple cash flows: each cash flow much be discounted and then all of the PVs must be summed together.

Future Value, Multiple Flows

To find the FV of multiple cash flows, sum the FV of each cash flow.

KEY POINTS

- The FV of multiple cash flows is the sum of the FV of each cash flow.
- To sum the FV of each cash flow, each must be calculated to the same point in the future.
- If the multiple cash flows are a fixed size, occur at regular intervals, and earn a constant interest rate, it is an annuity. There are formulas for calculating the FV of an annuity.

Future Value, Multiple Cash Flows

Finding the future value (FV) of multiple cash flows means that there are more than one payment/investment, and a business wants to find the total FV at a certain point in time. These payments can have varying sizes, occur at varying times, and earn varying interest rates, but they all have a certain value at a specific time in the future.

The first step in finding the FV of multiple cash flows is to define when the future is. Once that is done, you can determine the FV of

each cash flow using the formula in (*Figure 10.40*). Then, simply add all of the future values together.

Figure 10.40 FV of a single payment

$$FV = PV(1+i)^n$$

The FV of multiple cash flows is the sum of the future values of each cash flow.

Source:https://www.boundless.com/finance/the-time-value-of-money/valuing-multiple-cash-flows--2/future-value-multiple-flows--2/

Manually calculating the FV of each cash flow and then summing them together can be a tedious process. If the cash flows are irregular, don't happen at regular intervals, or earn different interest rates, there isn't a special way to find the total FV.

However, if the cash flows do happen at regular intervals, are a fixed size, and earn a uniform interest rate, there is an easier way to find the total FV. Investments that have these three traits are called "annuities."

There are formulas to find the FV of an **annuity** depending on some characteristics, such as whether the payments occur at the beginning or end of each period. There is a module that goes through exactly how to calculate the FV of annuities.

If the multiple cash flows are a part of an annuity, you're in luck; there is a simple way to find the FV. If the cash flows aren't uniform, don't occur at fixed intervals, or earn different interest rates, the only way to find the FV is do find the FV of each cash flow and then add them together.

Section 7

Present Value, Single Amount

The Discount Rate

Number of Periods

Calculating Present Value

Multi-Period Investment

Single-Period Investment

https://www.boundless.com/accounting/the-time-value-of-money--2/present-value-single-amount/

The Discount Rate

Discounting is the procedure of finding what a future sum of money is worth today.

KEY POINTS

- The discount rate represents some cost (or group of costs) to the investor or creditor.
- Some costs to the investor or creditor are opportunity cost, liquidity cost, risk, and inflation.
- The discount rate is used by both the creditor and debtor to find the present value of an amount of money.

Another common name for finding present value (PV) is discounting. Discounting is the procedure of finding what a future sum of money is worth today. As you know from the previous sections, to find the PV of a payment you need to know the future value (FV), the number of time periods in question, and the interest rate. The interest rate, in this context, is more commonly called the **discount rate**.

The discount rate represents some cost (or group of costs) to the investor or creditor (*Figure 10.41*). The sum of these costs amounts to a percentage which becomes the interest rate (plus a small profit, sometimes). Here are some of the most significant costs from the investor/creditor's point of view:

Figure 10.41 Borrowing and lending Banks like HSBC take such costs into account when determining the terms of a loan for borrowers.

1. Opportunity Cost: The cost of not having the cash on hand at a certain point of time. If the investor/creditor had the cash s/he could spend it, but since it has been invested/loaned out, s/he incurs the cost of not being able to spend it.
2. Inflation: The real value of a single dollar decreases over time with inflation. That means that even if everything else is constant, a $100 item will retail for more than $100 in the future. Inflation is generally positive in most countries at most times (if it's not, it's called deflation, but it's rare).

3. Risk: There is a chance that you will not get your money back because it is a bad investment, the debtor defaults. You require compensation for taking on that risk.

4. Liquidity: Investing or loaning out cash necessarily reduces your liquidity.

All of these costs combine to determine the interest rate on an account, and that interest rate in turn is the rate at which the sum is discounted.

The PV and the discount rate are related through the same formula we have been using, $\frac{FV}{[(1+i)]^n}$.

If FV and n are held as constants, then as the discount rate (i) increases, PV decreases. PV and the discount rate, therefore, vary inversely, a fundamental relationship in finance. Suppose you expect $1,000 dollars in one year's time (FV = $1,000) . To determine the present value, you would need to discount it by some interest rate (i). If this discount rate were 5%, the $1,000 in a year's time would be the equivalent of $952.38 to you today (1000/[1.00 + 0.05]).

Number of Periods

The number of periods corresponds to the number of times the interest is accrued.

KEY POINTS

- A period is just a general term for a length of time. It can be anything- one month, one year, one decade- but it must be clearly defined and fixed.
- For both simple and compound interest, the number of periods varies jointly with FV and inversely with PV.
- The number of periods is also part of the units of the discount rate: if one period is one year, the discount rate must be defined as X% per year. If one period is one month, the discount rate must be X% per month.

In (*Figure 10.43*), n represents the number of periods. A period is just a general term for a length of time. It can be anything- one month, one year, one decade- but it must be clearly defined and fixed. The length of one period must be the same at the beginning of an investment and at the end. It is also part of the units of the discount rate: if one period is one year, the discount rate must be defined as X% per year. If one period is one month, the discount rate must be X% per month.

The number of periods corresponds to the number of times the interest is accrued. In the case of simple interest (*Figure 10.42*) the number of periods, t, is multiplied by their interest rate. This makes sense because if you earn $30 of interest in the first period, you also earn $30 of interest in the last period, so the total amount of interest earned is simple t x $30.

Figure 10.42 Simple Interest Formula

$$FV = PV \cdot (1 + rt)$$

The number of periods is multiplied by the interest rate, r, providing for a linear relationship between PV and FV.

Simple interest is rarely used in comparison to compound interest (*Figure 10.43*). In compound interest, the interest in one period is also paid on all interest accrued in previous periods. Therefore, there is an exponential relationship between PV and FV, which is reflected in $(1+i)^n$ (*Figure 10.44*).

Figure 10.43 FV of a single payment

$$FV = PV(1 + i)^n$$

The number of periods varies inversely with PV and jointly with FV.

For both forms of interest, the number of periods varies jointly with FV and inversely with PV. Logically, if more time passes between the present and the future, the FV must be higher or the PV lower (assuming the discount rate remains constant).

Figure 10.44 Car

Car loans, mortgages, and student loans all generally have compound interest.

Source:https://www.boundless.com/finance/the-time-value-of-money/present-value-single-amount--2/number-of-periods/
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Calculating Present Value

Calculating the present value (PV) is a matter of plugging FV, the interest rate, and the number of periods into an equation.

KEY POINTS

- The first step is to identify if the interest is simple or compound. Most of the time, it is compound.
- The interest rate and number of periods must have consistent units.
- The PV is what a future sum is worth today given a specific interest rate (often called a "discount rate").

Finding the present value (PV) of an amount of money is finding the amount of money today that is worth the same as an amount of money in the future, given a certain interest rate.

Calculating the present value (PV) of a single amount is a matter of combining all of the different parts we have already discussed. But first, you must determine whether the type of interest is simple or compound interest. If the interest is **simple interest**, you plug the numbers into (*Figure 10.45*). If it is

Figure 10.45 Simple Interest Formula

$$FV = PV \cdot (1 + rt)$$

Interest accrues only on the principal.

compound interest, you use (*Figure 10.46*).

Figure 10.46 Present Value Single Payment

$$PV = \frac{FV}{(1+i)^n}$$

Finding the PV is a matter of plugging in for the three other variables.

Inputs

Future Value: The known value of the money at a declared point in the future.

Interest Rate (Discount Rate): Represented as either i or r. This is the percentage of interest paid each period.

Number of periods: Represented as n or t.

Once you know these three variables, you can plug them into the appropriate equation. If the problem doesn't say otherwise, it's safe to assume the interest compounds. If you happen to be using a program like Excel, the interest is compounded in the PV formula. Simple interest is pretty rare.

One area where there is often a mistake is in defining the number of periods and the interest rate. They have to have consistent units, which may require some work. For example, interest is often listed as X% per year. The problem may talk about finding the PV 24 months before the FV, but the number of periods must be in years since the interest rate is listed per year. Therefore, n = 2. As long as the units are consistent, however, finding the PV is done by plug-and-chug.

Multi-Period Investment

Multi-period investments are investments with more than one period, so n (or t) is greater than one.

KEY POINTS

- Finding the PV for a multi-period investment is the same as for a single-period investment: plug FV, the interest rate, and the number of periods into the correct formula.
- PV varies jointly with FV, and inversely with i and n.
- When n>1, simple and compound interest cease to provide the same answer (unless the interest rate is 0).

Multi-Period Investments

Things get marginally more complicated when dealing with a **multi-period** investment. That is, an investment where n is greater than 1.

Suppose the interest rate is 3% per year. That means that the value of $100 will be 3% more after one year, or $103. After the second year, the investment will be 3% more, or 3% more than $103. That means the original investment of $100 is now worth $106.09. The investment is not worth 6% more after two years. In the second year, you earn 3% interest on your original $100, but you also earn 3% interest on the $3 you earned in the first year. This is called compounding interest: interest accrues on previously earned interest.

As such, PV and FV are related exponentially, which is reflected in (*Figure 10.47*). Using the formula in (*Figure 10.47*) is relatively simple. Just as with a single-period investment, you simply plug in the FV, i and n in order to find the PV. PV varies jointly with FV, and inversely with i and n which makes sense based on what we know about the time value of money.

Figure 10.47 Present Value Single Payment

$$PV = \frac{FV}{(1+i)^n}$$

The PV of a single sum varies jointly with FV, and inversely with i and n.

The formula may seem simple, but there is one major tripping point: units. Sometimes, the interest rate will be something like 5% annually, and you are asked to find the PV after 24 months. The number of periods, however, is not 24--it is 2. In the interest rate is written as "percent per year" your periods must also be measured in years. If your periods are defined as "days", your interest rate must be written as "percent per day."

Single-Period Investment

When considering a single-period investment, n is one, so the PV is simply FV divided by 1+i.

KEY POINTS

- A single period investment has the number of periods (n or t) equal to one.
- For both simple and compound interest, the PV is FV divided by 1+i.
- The time value of money framework says that money in the future is not worth as much as money in the present.

The time value of money framework says that money in the future is not worth as much as money in the present. Investors would prefer to have the money today because then they are able to spend it, save it, or invest it right now instead of having to wait to be able to use it.

The difference between what the money is worth today and what it will be worth at a point in the future can be quantified. The value of the money today is called the present value (PV), and the value of the money in the future is called the future value (FV). There is also a name for the cost of not having the money today: the interest rate or discount rate (i or r). For example, if the interest rate is 3% per year, it means that you would be willing to pay 3% of the money to have it one year sooner. The amount of time is also represented by a variable: the number of periods (n). One period could be any length of time, such as one day, one month, or one year, but it must be clearly defined, consistent with the time units in the interest rate, and constant throughout your calculations.

Figure 10.48 FV of a single payment

$$FV = PV(1+i)^n$$

The FV is related to the PV by being i% more each period.

All of these variables are related through an equation that helps you find the PV of a single amount of money. That is, it tells you what a single payment is worth today, but not what a series of payments is worth today (that will come later). (*Figure 10.48*) relates all of the variables together. In order to find the PV, you must know the FV, i, and n.

When considering a single-period investment, n is, by definition, one. That means that the PV is simply FV divided by 1+i. There is a cost to not having the money for one year, which is what the interest rate represents. Therefore, the PV is i% less than the FV.

Chapter 11

Reporting of Long-Term Liabilities

https://www.boundless.com/accounting/reporting-of-long-term-liabilities/

Section 1

Overview of Bonds

Characteristics of Bonds

Types of Bonds

https://www.boundless.com/accounting/reporting-of-long-term-liabilities/overview-of-bonds/

Characteristics of Bonds

In finance, bonds are a form of debt: the creditor is the bond holder, the debtor is the bond issuer, and the interest is the coupon.

KEY POINTS

- Interest on bonds, or coupon payments, are normally payable in fixed intervals, such as semiannually, annually, or monthly.
- Variations exist in bond types, payment terms, and features.
- The yield is the rate of return received from investing in the bond.
- The issuer has to repay the nominal amount on the maturity date.

Overview Of Bonds

Bonds are debt instruments issued by bond issuers to bond holders. A bond is a debt security under which the bond issuer owes the bond holder a debt including interest or coupon payments and or a future repayment of the principal on the maturity date. Variations exist in bond types, payment terms, and features.

Interest on bonds, or coupon payments, are normally payable in fixed intervals, such as semiannually, annually, or monthly. Ownership of bonds are often negotiable and transferable to secondary markets. Bonds provide the borrower with external funds to finance long-term investments, or, in the case of government bonds, to finance current expenditure (*Figure 11.1*).

Figure 11.1
Government Bond
This is an image of a state-issued debt instrument including all the essential information for the indenture.

Bonds and stocks are both securities, but the major difference between the two is that stockholders have an equity stake in the company, whereas bondholders have a creditor stake in the company. Another difference is that bonds usually have a defined term, or maturity, after which the bond is redeemed, whereas stocks may be outstanding indefinitely. An exception is an irredeemable bond, such as a perpetuity.

Principal

Nominal, principal, par, or face amount—the amount on which the issuer pays interest, and which, most commonly, has to be repaid at the end of the term.

Maturity

The issuer has to repay the nominal amount on the maturity date. As long as all due payments have been made, the issuer has no further obligations to the bond holders after the maturity date. The length of time until the maturity date is often referred to as the term or maturity of a bond. In the market for United States Treasury securities, there are three categories of bond maturities:

short term (bills): maturities between one to five year (instruments with maturities less than one year are called money market instruments)

medium term (notes): maturities between six to twelve years

long term (bonds): maturities greater than twelve years

Coupon

The **coupon** is the interest rate that the issuer pays to the bond holders. Usually this rate is fixed throughout the life of the bond. It can also vary with a money market index, such as LIBOR, or it can be even more exotic.

Yield

The yield is the rate of return received from investing in the bond. It usually refers either to the current yield, or running yield, which is simply the annual interest payment divided by the current market price of the bond. It can also refer to the yield to maturity or redemption yield, which is a more useful measure of the return of the bond, taking into account the current market price, and the amount and timing of all remaining coupon payments and of the repayment due on maturity. It is equivalent to the internal rate of return of a bond.

Credit Quality

The "quality" of the issue refers to the probability that the bondholders will receive the amounts promised on the due dates. This will depend on a wide range of factors. High-yield bonds are bonds that are rated below investment grade by the credit rating agencies. As these bonds are more risky than investment-grade bonds, investors expect to earn a higher yield. Therefore, because of the inherent riskiness of these bonds, they are also called high-yield or "junk" bonds.

Market Price

The market price of a tradeable bond will be influenced among other things by the amounts, currency, the timing of the interest payments and capital repayment due, the quality of the bond, and the available redemption yield of other comparable bonds which can be traded in the markets.

The issue price at which investors buy the bonds when they are first issued will typically be approximately equal to the nominal amount. The net proceeds that the issuer receives are thus the issue price less issuance fees.

Optionality

Occasionally a bond may contain an embedded option:

Callability — Some bonds give the issuer the right to repay the bond before the maturity date on the call dates. Most callable bonds allow the issuer to repay the bond at **par**. With some bonds, the issuer has to pay a premium. This is mainly the case for high-yield bonds. These have very strict covenants, restricting the issuer in its operations. To be free from these covenants, the issuer can repay the bonds early, but only at a high cost.

Putability — Some bonds give the holder the right to force the issuer to repay the bond before the maturity date on the put dates. These are referred to as retractable or putable bonds.

Types of Bonds

In finance, there are many different types of bonds that vary in term agreements, duration, structure, source, and other characteristics.

KEY POINTS

- Bonds can be either secured or unsecured.
- Bonds can be registered or unregistered.
- Some bonds are exchangeable or convertible.

In finance, there are many types of bonds. This section provides a overview of the most common types that exist in the financial world today.

Secured bonds

This is a bond for which a company has pledged specific property to ensure its payment.

Mortgage bonds

The most common secured bonds. It is a legal claim (lien) on specific property that gives the bondholder the right to possess the pledged property if the compafny fails to make required payments.

Unsecured bonds

A debenture bond, or simply a debenture. This is an unsecured bond backed only by the general creditworthiness of the issuer, not by a lien on any specific property. More easily issued by a company that is financially sound.

Registered bonds

This bears the owner's name on the bond certificate and in the register of bond owners kept by the bond issuer or its agent, the registrar. Bonds may be registered as to principal (or face value of the bond) or as to both principal and interest. Most bonds in our economy are registered as to principal only. For a bond registered as to both principal and interest, the issuer pays the bond interest by check. To transfer ownership of registered bonds, the owner endorses the bond and registers it in the new owner's name.Therefore, owners can easily replace lost or stolen registered bonds.

Unregistered (bearer) bonds

This is the property of its holder or bearer and the owner's name does not appear on the bond certificate or in a separate record. Physical delivery of the bond transfers ownership.

Coupon bonds

These are not registered as to interest. Coupon bonds carry detachable coupons for the interest they pay. At the end of each interest period, the owner clips the coupon for the period and presents it to a stated party, usually a bank, for collection.

Term bonds and serial bonds

A term bond matures on the same date as all other bonds in a given bond issue. Serial bonds in a given bond issue have maturities spread over several dates. For instance, one-fourth of the bonds may mature on 2011 December 31, another one-fourth on 2012 December 31, and so on.

Callable bonds

These contain a provision that gives the issuer the right to call (buy back) the bond before its maturity date, similar to the call provision of some preferred stocks. A company is likely to exercise this call right when its outstanding bonds bear interest at a much higher rate than the company would have to pay if it issued new but similar bonds. The exercise of the call provision normally requires the company to pay the bondholder a call premium of about USD 30 to USD 70 per USD 1,000 bond. A call premium is the price paid in excess of face value that the issuer of bonds must pay to redeem (call) bonds before their maturity date.

Convertible bonds

A **convertible bond** may be exchanged for shares of stock of the issuing corporation at the bondholder's option. These bonds have a stipulated conversion rate of some number of shares for each USD 1,000 bond. Although any type of bond may be convertible, issuers add this feature to make risky debenture bonds more attractive to investors.

Bonds with stock warrants

A stock warrant allows the bondholder to purchase shares of common stock at a fixed price for a stated period. Warrants issued with long-term debt may be nondetachable or detachable. A bond with nondetachable warrants is virtually the same as a convertible bond; the holder must surrender the bond to acquire the common stock. Detachable warrants allow bondholders to keep their bonds and still purchase shares of stock through exercise of the warrants.

Junk bonds (High-yield bonds)

These are high-interest rate, high-risk bonds. Many junk bonds issued in the 1980s financed corporate restructurings. These restructurings took the form of management buyouts (called leveraged buyouts or LBOs), and hostile or friendly takeovers of companies by outside parties. By early 1990s, junk bonds lost favor as many issuers defaulted on their interest payments. Some issuers

declared bankruptcy or sought relief from the bondholders by negotiating new debt terms.

Fixed rate bonds

These have a coupon that remains constant throughout the life of the bond. A variation is stepped-coupon bonds, whose coupon increases during the life of the bond.

Floating rate notes

Also known as FRNs or floaters, these have a variable coupon that is linked to a reference rate of interest, such as LIBOR or Euribor.

Zero-coupon bonds

Zeros pay no regular interest. They are issued at a substantial discount to par value, so that the interest is effectively rolled up to maturity (and usually taxed as such). The bondholder receives the full principal amount on the redemption date.

Exchangeable bonds

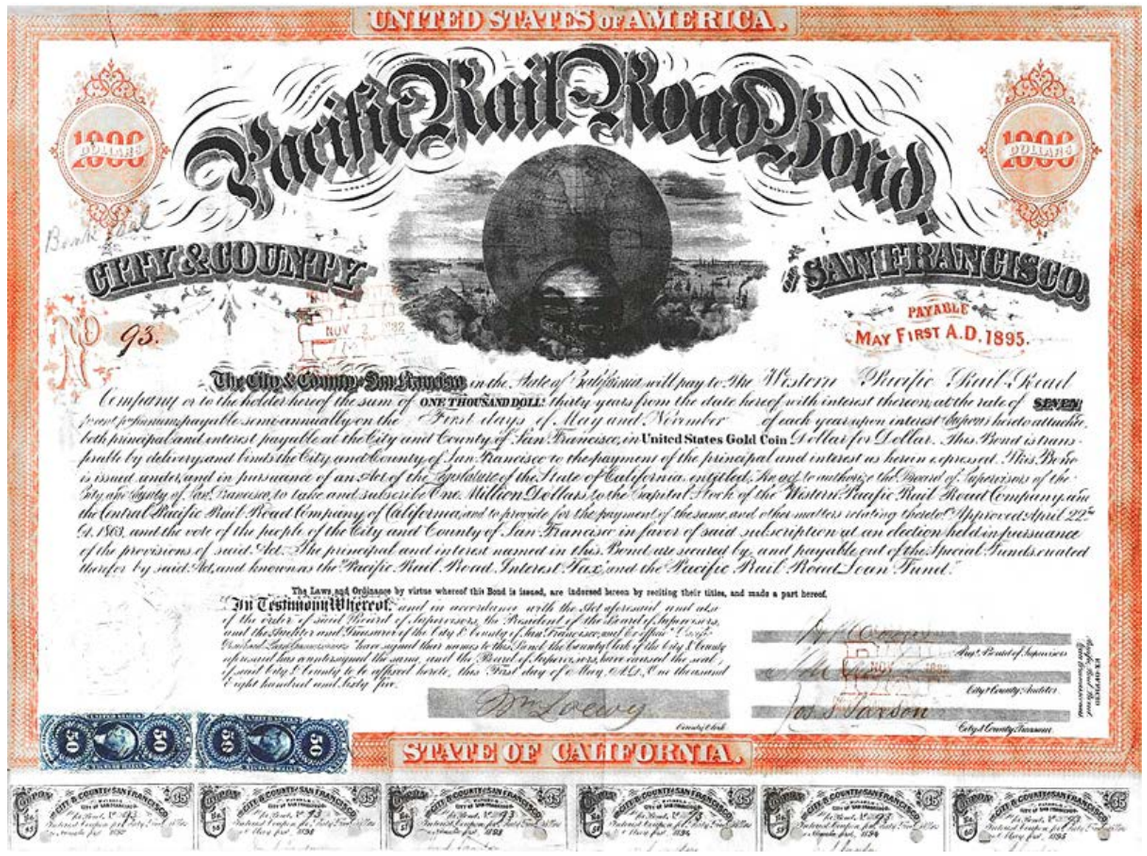
These allow for exchange to shares of a corporation other than the issuer.

War bond

These are issued by a country to fund a war.

Municipal bond

Figure 11.2 Pacific Railroad Bond



English: $1,000 (30 year, 7%) "Pacific Railroad Bond" (#93 of 200) issued by the City and County of San Francisco under "An Act to Authorize the Board of Supervisors of the City and County of San Francisco to take and subscribe One Million Dollars to the Capital Stock of the Western Pacific Rail Road Company and the Central Pacific Rail Road Company of California and to provide for the payment of the same and other matters relating thereto" approved on April 22, 1863, as amended by section Five of the "Compromise Act" approved on April 4, 1864, to fund the construction of the Western Pacific Railroad between San Francisco Bay (at Alameda) and the CPRR of Cal. at Sacramento, dated May 1, 1865 (digitally scanned, reconstructed, restored, and enhanced)

These are bonds issued by a state, U.S. Territory, city, local government, or their agencies. Interest income received by holders of municipal bonds is often exempt from the federal tax and the issuing state's income tax. Some municipal bonds issued for certain purposes may not be tax exempt.

Treasury bond

Also called a government bond, this is issued by the Federal government and is not exposed to default risk. It is characterized as the safest bond, with the lowest interest rate. Backed by the “full faith and credit” of the federal government, this type of bond is often referred to as risk-free.

Source:https://www.boundless.com/accounting/reporting-of-long-term-liabilities/overview-of-bonds/types-of-bonds--2/

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Issuing Bonds

On issuance, the journal entry to record the bond is a debit to cash and a credit to bonds payable.

KEY POINTS

- Bonds differ from notes payable because a note payable represents an amount payable to only one lender, while multiple bonds are issued to different lenders at the same time.
- Bonds are a form of financing for a company, in which the company agrees to pay the bondholders interest over the life of the bond. When bonds are issued they are classified as long-term liabilities.
- Other journal entries associated with bonds is the accounting for interest each period that interest is payable. The journal entry to record that is a debit interest expense and a credit to cash.
- The amount of risk associated with the company issuing the bond determines the price of the bond. The more risk assessed to a company the higher the interest rate the issuer must pay to bondholders.

Issuing Bonds

Bonds are essentially a form of financing for a company, but instead of borrowing form a bank the company is borrowing from investors. In exchange, the company agrees to pay the bondholders interest at predetermined intervals, for a set amount of time.

Bonds differ from notes payable because a note payable represents an amount payable to only one lender, while multiple bonds are issued to different lenders at the same time. Also, the bondholders may sell their bonds to other investors any time prior to the bonds maturity.

Bond prices

The amount of risk associated with the company issuing the bond determines the price of the bond. The more risk assessed to a company the higher the interest rate the issuer must pay to buyers. If a bond has a coupon interest rate that is higher than the **market interest rate** it is considered a premium.

The premium (higher interest rate) is to offset the assumed higher than average risk associated with investing in the company.

Bonds are considered issued at a discount when the coupon interest rate is below the market interest rate.That means a company selling bonds at a discount rate receive less than the face value of the bond in the sale.

When bonds are issued, they are classified as long-term liabilities. On issuance, the journal entry to record the bond is a debit to cash and a credit to bonds payable.

Other journal entries associated with bonds is the accounting for interest each period that interest is payable. The journal entry to record that is a debit interest expense and a credit to cash.

Bonds Payable and Interest Expense

Journal entries are required to record initial value and subsequent interest expense as the issuer pays coupon payments to the bondholder.

KEY POINTS

- Issuers must account for interest expense during the term of issued bonds.
- Bonds are recorded at face value, when issued, as a debit to the cash account and a credit to the bonds payable account.
- Bonds require additional entries to record interest expense as the issuer pays coupon payments to the bondholder according to the agreed terms of the bond.
- National governments, municipalities and companies issue bonds to raise cash.

Bonds derive their value primarily from two promises made by the borrower to the lender or bondholder. The borrower promises to pay (1) the face value or principal amount of the bond on a specific maturity date in the future, and (2) periodic interest at a specified rate on face value at stated dates, usually semiannually, until the maturity date (*Figure 11.3*).

Figure 11.3 Old Lousianna State Bond

Louisiana "baby bond", 1874 series, payable 1886

Example of bonds issued at face value on an interest date:-

Valley Company's accounting year ends on December 31. On 2010 December 31, Valley issued 10-year, 12% **yield** bonds with a USD 100,000 face value, for USD 100,000. The bonds are dated 2010 December 31, call for semiannual interest payments on June 30 and December 31, and mature on 2020 December 31. Valley made the required interest and principal payments when due. The entries for the 10 years are as follows:

On 2010 December 31, the date of issuance, the entry is:

2010 Dec. 31 Cash (+A) 100,000

Bonds payable (+L) 100,000

To record bonds issued at face value.

On each June 30 and December 31 for 10 years, beginning 2010 June 30 (ending 2020 June 30), the entry would be: Each year June 30 And Dec.31

Bond Interest Expense ($100,000 x 0.12 x½) (-SE) 6,000

Cash (-A) 6,000

To record periodic interest payment. On 2020 December 31, the maturity date, the entry would be:

2020 Dec. 31

Bond interest expense (-SE) 6,000

Bonds payable (-L) 100,000

Cash (-A) 106,000

To record final interest and bond redemption payment.

Note that Valley does not need adjusting entries because the interest payment date falls on the last day of the accounting period. The income statement for each of the 10 years (2010-2018) would show Bond Interest Expense of USD 12,000 (USD 6,000 X 2); the balance sheet at the end of each of the years (2010-2018) would report bonds payable of USD 100,000 in long-term liabilities. At the end of 2019, Valley would reclassify the bonds as a current liability because they will be paid within the next year.

The real world is more complicated. For example, assume the Valley bonds were dated 2010 October 31, issued on that same date, and pay interest each April 30 and October 31. Valley must make an adjusting entry on December 31 to accrue interest for November and December. That entry would be:

2010 Dec. 31

Bond interest expense ($100,000 x 0.12 x 2/12) (-SE) 2,000

Bond interest payable (+L) 2,000

To accrue two month's interest expense.

The 2011 April 30, entry would be: 2011 Apr. 30

Bond interest expense ($100,000 x 0.12 x(4/12)) (-SE) 4,000

Bond interest payable (-L) 2,000

Cash (-A) 6,000

To record semiannual interest payment.

The 2011 October 31, entry would be:

2011 Oct. 31

Bond interest expense (-SE) 6,000

Cash (-A) 6,000

To record semiannual interest payment.

Each year Valley would make similar entries for the semiannual payments and the year-end accrued interest. The firm would report the USD 2,000 Bond Interest Payable as a current liability on the December 31 balance sheet for each year.

Source:https://www.boundless.com/accounting/reporting-of-long-term-liabilities/overview-of-bonds/bonds-payable-and-interest-expense/

Section 2

Valuing Bonds

Factors Affecting the Price of a Bond

Bond Valuation Method

Bonds Issued at Par Value

Bonds Issued at a Discount

Bonds Issued at a Premium

Valuing Zero Coupon Bonds

https://www.boundless.com/accounting/reporting-of-long-term-liabilities/valuing-bonds/

Factors Affecting the Price of a Bond

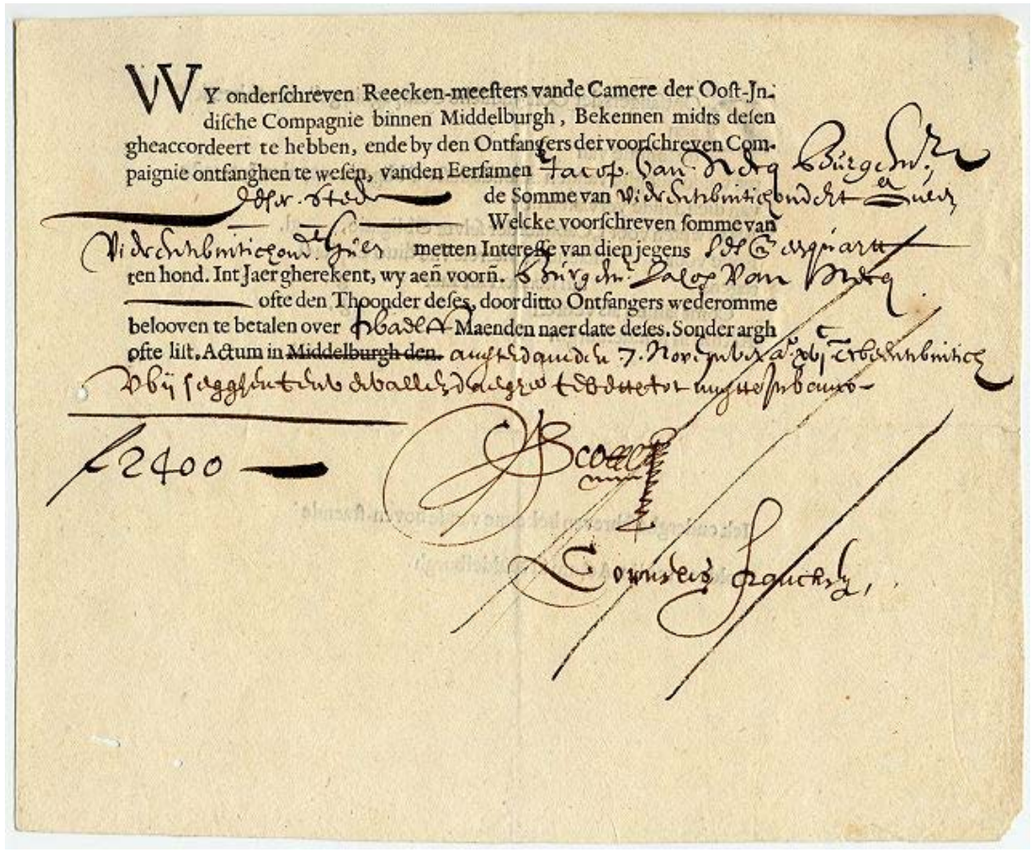
A bond's book value is affected by its term, face value, coupon rate, and discount rate.

KEY POINTS

- A bond's term, or maturity, is how long the issuing company has until it must repay the entirety of what it owes.
- Otherwise known as the principal or nominal amount, this is the amount of money that the organization issuing the bond has to pay interest on and generally has to repay when the bond is redeemed at the end of the term.
- A bond's coupon is the interest rate that the business must pay on the bond's face value.
- The discount rate is a a measure of what the bondholder's return would be if he invested his money in something other than the bond. In practical terms, the discount rate generally equals the coupon rate or interest rate associated with similar investment securities.

A bond is a financial security that is created when a person transfers funds to a company or government, with the understanding that at some point in the future the entity issuing the **bond** will have to repay the amount, plus interest (*Figure 11.4*). Generally, the person who holds the actual bond document is the one with the right to receive payment. This allows people who originally acquire a bond to sell it on the open market for an immediate payout, as opposed to waiting for the issuing entity to pay the debt back. Note that the trading value of a bond (its market price) can vary from its face value depending on differences between the coupon and market interest rates.

Figure 11.4 A bond from the Dutch East India Company



A bond is a financial security that represents a promise by a company or government to repay a certain amount, with interest, to the bondholder.

A bond's book value is determined by several factors.

Term

A bond's term, or maturity, is how long the issuing company has until it must repay the entirety of what it owes. Sometimes a business will make interest payments during the term of the bond, but a term ends when all of the payments associated with the bond are completed.

Face Value of Bond

Otherwise known as the principal or nominal amount, this is the amount of money that the organization issuing the bond has to pay interest on and generally has to repay when the bond is redeemed at the end of the term. The redemption amount generally equals how much the original investor paid to acquire the bond. However, the redemption amount can be different than the acquisition cost.

Coupon

A bond's coupon is the interest rate that the business must pay on the bond's face value. These interest payments are generally paid periodically during the bond's term, although some bonds pay all the interest it owes at the end of the period. While the coupon rate is generally a fixed amount, it can also be "indexed." This means that the interest rate is calculated by taking an established rate that fluctuates over time, such as a bank's lending rate, and adding a "premium" percentage amount to determine the bond's coupon rate. As a result, the interest that is paid to the bond holder fluctuates over time with an indexed coupon rate.

Discount Rate

A bond's value is measured based on the present value of the future interest payments the bond holder will receive. To calculate the present value, each payment is adjusted using the discount rate. The discount rate is a measure of what the bondholder's return would be if he invested his money in another security. In practical terms, the discount rate generally equals the coupon rate or interest rate associated with similar investment securities.

Bond Valuation Method

A bond's value is measured by its sale price, but a business can estimate a bond's price before issuance by calculating its present value.

KEY POINTS

- When calculating the present value of a bond, use the market rate as the discount rate.
- Regardless of whether the bond is sold at a premium or discount, a company must list a "bond payable" liability equal to the face value of the bond.
- If the market rate is greater than the bond's contract rate, the bond will be sold at a discount. If the market rate is less than the bond's contract rate, the bond will be sold at a premium.

Bond Valuation

A business must record a liability in its records when it issues a series of bonds. The value of the liability the business will record must equal the amount of money or goods it receives when it issues the bond. Whether the amount the business will receive equals its face value depends on the difference between the bond's **contract rate** and the **market rate** of interest at the time the bond is issued (*Figure 11.5*).

Figure 11.5 Balance Sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

		5 April			5 April 2004
ASSETS:	£	£	£		£
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
Itemised (audio visual, appliances)		2,400			2,700
Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
			446,200		425,100
INVESTMENT ASSETS (LONG TERM)					
Bonds:					
Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
Total Banks			78,000		36,000
TOTAL ASSETS			637,300		589,700
LIABILITIES:					
CURRENT LIABILITIES					
Credit Cards		(3,100)			(1,400)
TOTAL ASSETS, LESS CURRENT LIABILITIES			634,200		588,300
LONG TERM LIABILITIES					
mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
		(120,000)			(100,000)
TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
TOTAL ASSETS, LESS TOTAL LIABILITIES			514,200		488,300
plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car deprciated from £9,000 to £7,000
   c. Car purchased for £15,000
2 Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

A bond issued by a company is recorded as a liability on its balance sheet.

The bond's contract rate is another term for the bond's coupon rate. It is what the issuing company uses to calculate what it must pay in interest on the bond. The market rate is what other bonds that have a similar risk pay in interest.

Regardless of what the contract and market rates are, the business must always report a bond payable liability equal to the face value of the bonds issued. If the market rate is greater than the coupon rate, the bonds will probably be sold for an amount less than the bonds' face value and the business will have to report a "bond discount." The value of the bond discount will be the difference between what the bonds' face value and what the business received when it sold the bonds. If the market rate is less than the coupon rate, the bonds will probably be sold for an amount greater than the bonds' value. The business will then need to record a "bond premium" for the difference between the amount of cash the business received and the bonds' face value.

Calculating the Premium and Discount

If the market and coupon rates differ, the issuing company must calculate the present value of the bond to determine what price to charge when it sells the security on the open market. The present value of a bond is composed of two components; the principal and the interest payments. The discount rate for both the principal and interest payment components is the market rate when the bond was issued.

Bonds Issued at Par Value

To record a bond issued at par value, credit the "bond payable" liability account for the total face value of the bonds and debit cash for the same amount.

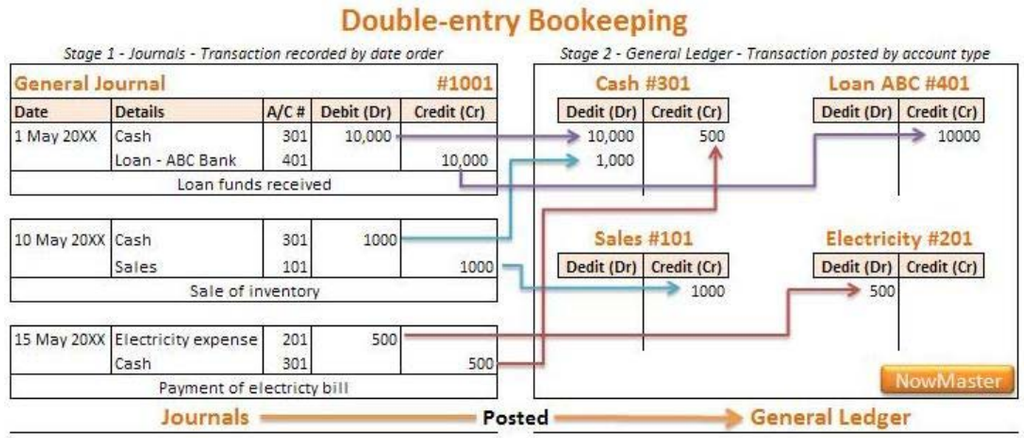
KEY POINTS

- Recording a bond issued at par value is a simple process, since there is generally no premium or discount associated with the bond's sale.
- To record interest paid on a bond issued at par value, debit the amount paid to the bond interest expense account and credit the same amount to the cash account.
- When the bond is paid off, record any final interest payment. Then debit the bond payable account and credit the cash account for the full face value of the bonds.

Bonds issued at par value are relatively simple to calculate and record (*Figure 11.6*). When a bond is issued at par value it is sold for the face value amount. This generally means that the bond's market and contract rates are equal to each other, meaning that there is no bond premium or discount.

When a business issues a bond, it participates in three types of transactions. First, the business issues the bond in exchange for cash. Next, it generally pays interest during the term of the bond.

Figure 11.6 The General Ledger



All transactions made by the company in relation to the bond must be recorded in its general ledger.

Finally, it pays off the obligation by repaying the face amount and the last interest payment. Each of these transactions must be recorded in the company's financial records with a series of journal entries.

Issuing the Bond

When the bond is issued, the company must record a liability called "bond payable." This is generally a long-term liability. It is created by recording a credit equal to the face value of all the bonds that are issued. To balance this entry, the company must also debit cash equal to the face value of all the bonds issued. Since the bonds are sold at par value, the amount of cash the company receives should equal the total face value of the issued bonds.

Interest Payments

When the company makes an interest payment, it must credit, or decrease, its cash balance by the amount it paid in interest. To balance the entry, the company must record a debit equal to the amount it paid in its bond interest expense account.

Paying Off the Bond

When the bond is paid off, the company must record two transactions. First, it must record any final interest payments that are made. Then, it must record the bond principal being paid off. This is done by debiting the bond payable account and crediting the cash account for the full book value of the bond.

Source:https://www.boundless.com/accounting/reporting-of-long-term-liabilities/valuing-bonds/bonds-issued-at-par-value/

Bonds Issued at a Discount

When a business sells a bond at a discount, it must record a discount balance in its records and amortize that amount over the bond's term.

KEY POINTS

- When the bond is sold, the company credits the "bonds payable" liability account by the bonds' face value. The company debits the cash account by the amount of money it receives from the sale. The difference between the face value and sales price is debited as the discount value.
- The amortization rate for the bond's discount balance is calculated by dividing the discount amount by the number of periods the company has to pay interest.
- To record interest expense, a business credits the bond discount account by the amortization rate and credits cash by the amount of money it pays in interest expense. Interest expense is debited by the sum of the amortization rate and how much it pays in interest to the bond holder.
- When the bond matures, the business must record the repayment of the principal to the bondholder, as well as all final interest payments. At this time, the discount on bond payable and bond payable accounts must be zeroed out, and all cash payments must be recorded.

Issuing Bonds at a Discount

For the issuer, recording a bond issued at a discount can be a little more difficult than recording a bond issued at par value. Because the issuer receives less cash for the bond than the face value, this difference must be recorded in the company records as a discount expense. When a bond is sold at a discount, the market rate of the bond exceeds the contract rate. As a result, the bond must be sold at an amount less than its face value. In addition, that discounted amount must be amortized over the term of the bond. When the company amortizes the discount associated with the bond, it increases its interest expense beyond what it actually pays to the bondholder (*Figure 11.7*).

Recording the Bond Sale

When a bond is sold, the company records a liability by crediting the "bonds payable" account for the bond's total face value. Next, the company debits the cash account by the amount of money it receives from the bond sale. The business then debits the difference between the bond's face value and what it receives in cash from the sale. That is the discount amount.

Assume a business sells a 10 year, $100,000 bond for $90,000. The journal entry for that transaction would be as follows:

Cash $90,000 Dr.

Discount on Bond Payable $10,000 Dr.

Bond Payable $100,000 Cr.

Recording Interest Payments

As the company pays interest, the discount on the bond payable is amortized. Generally, the amortization rate is calculated by dividing the discount by the number of periods the company has to pay interest.

Using the example from above, assume the company pays 6% interest on the $100,000 bond annually. That means that the amortization rate on the bond payable equal $1,000 ($100,000/10 years). While the business would only have to pay the bondholder $6,000 in cash, its total interest expense equals $7,000, or the amount of interest it pays plus the amortization rate. The journal entry would be:

Figure 11.7 Amortization & depreciation in the accounting cycle

A bond's discount amount must be amortized over the term of the bond.

Bond Interest Expense $7,000 Dr.

Discount on Bond Payable $1,000 Cr.

Cash $6,000 Cr.

Recording Bond Maturity

When the bond matures, the business must record the repayment of the principal to the bondholder, as well as all final interest payments. At this time, the discount on bond payable and bond payable accounts must be zeroed out, and all cash payments must be recorded.

Using our example from above, the final set of bond journal entries should look like this:

Bond Interest Expense $7,000 Dr.

Discount on Cash Payable $1,000 Cr.

Cash $6,000 Cr.

Bond Payable $100,000 Dr.

Cash $100,000 Cr.

Bonds Issued at a Premium

When a bond is sold at a premium, the difference between the sales price and face value of the bond must be amortized over the bond's term.

KEY POINTS

- When the bond is issued, the company must debit the cash by the amount that the business receives, credit a bond payable liability account by an amount equal to the face value of the bonds, and credit a bond premium account by the difference between the sale price and the bond's face value.
- To calculate the amortization rate of the bond premium, a company generally divides the bond premium amount by the number of interest payments that will be made during the term of the bond.
- When recording interest payments, the company credits cash by the amount paid to the bond holder, debits the bond premium account by the amortization rate, and debit interest expense for the difference between the amount paid in interest and the premium's amortization for the period.
- When the bond reaches maturity, the company must pay the bondholder the face value of the bond, finish amortizing the premium, and pay any remaining interest obligations. When all the final journal entries are made, the bond premium and bond payable account must equal zero.

When a bond is issued at a premium, that means that the bond is sold for an amount greater than the bond's face value (*Figure 11.8*). This generally means that the bond's contract rate is greater than the market rate. Like with a bond that is sold at a discount, the difference between the bond's face value and sales price must be amortized over the term of the bond. However, unlike with a bond sold at a discount, the process of amortizing the premium will decrease the bond's interest expense recorded on the issuing company's financial records. The issuing company will still be required to pay the bondholder the interest payments guaranteed by the bond.

Period	Interest	Principal	Balance
1	$583.33	$191.97	$99,808.03
2	$582.21	$193.09	$99,614.95
3	$581.09	$194.21	$99,420.74
4	$579.95	$195.34	$99,225.39
5	$578.81	$196.48	$99,028.91
6	$577.67	$197.63	$98,831.28
7	$576.52	$198.78	$98,632.50
8	$575.36	$199.94	$98,432.55
9	$574.19	$201.11	$98,231.44
10	$573.02	$202.28	$98,029.16
11	$571.84	$203.46	$97,825.70
12	$570.65	$204.65	$97,621.05
13	$569.46	$205.84	$97,415.21
14	$568.26	$207.04	$97,208.16
15	$567.05	$208.25	$96,999.91
16	$565.83	$209.47	$96,790.45
17	$564.61	$210.69	$96,579.76
18	$563.38	$211.92	$96,367.84
19	$562.15	$213.15	$96,154.69
20	$560.90	$214.40	$95,940.29
21	$559.65	$215.65	$95,724.64
22	$558.39	$216.91	$95,507.74
23	$557.13	$218.17	$95,289.57
24	$555.86	$219.44	$95,070.13

Figure 11.8 Amortization Schedule

If a bond is sold at a premium, a company must amortize the difference between the sales price and the bond's face value over the term of the bond.

Bond Issue

When the bond is issued, the company must debit the cash account by the amount that the business receives for the bond sale. A liability, titled "bond payable," must be created and credited by an amount equal to the face value of the issued bonds. The difference between the cash from the bond sale and the face value of the bond must be credited to a bond premium account.

For example, assume a business issues a 10-year bond that pays 6% interest annually, with a face value of $100,000. This bond sells for $110,000. The resulting journal entry would be:

Cash - $110,000

Bond Payable - $100,000

Bond Premium - $100,000

Interest Payments on the Bond

When the business pays interest, it must also amortize the bond premium at that time. To calculate the amortization rate of the bond premium, a company generally divides the bond premium amount by the number of interest payments that will be made during the term of the bond. Every time interest is paid, the company must credit cash for the interest amount paid to the bond holder. The company must debit the bond premium account by the amortization rate. The difference between the amount paid in interest and the premium's amortization for the period is the interest expense for that period.

Using the example from above, the $10,000 premium would be divided by 10 annual interest payments. This would make the amortization rate of the bond's premium equal to $1,000 per year. The company must pay $6,000 in interest annually, so the company's annual interest expense equals $5,000. The resulting journal entry is:

Bond Interest Expense - $5,000

Bond Premium - $1,000

Cash - $6,000

Bond Reaches Maturity

When the bond reaches maturity, the company must pay the bondholder the face value of the bond, finish amortizing the premium, and pay any remaining interest obligations. When all the final journal entries are made, the bond premium and bond payable account must equal zero.

Using the example, this is what the final journal entries must look like:

Bond Interest Expense - $5,000

Bond Premium - $1,000

Cash - $6,000

Bond Payable - $100,000

Cash - $100,000

EXAMPLE

Assume a business issues a 10-year bond that has an effective annual interest rate of 6%, with a face value of $100,000. This bond sells for $110,000. The resulting journal entry would be: Cash $110,000 Bond Payable $100,000The $10,000 premium would be divided by 10 annual interest payments. This would make the amortization rate of the bond's premium equal to $1,000 per year. The company must pay $6,000 in interest annually, so the company's annual interest expense equals $5,000. The resulting journal entry is: Bond Interest Expense $5,000 Bond Premium $1,000 Cash $6,000When the bond reaches maturity, the company must pay the bondholder the face value of the bond, finish amortizing the premium, and pay any remaining interest obligations. In this example, the final journal entries will be: Bond Interest Expense $5,000 Bond Premium $1,000 Cash $6,000 Bond Payable $100,000 Cash $100,000

Valuing Zero Coupon Bonds

The value of a zero-coupon bond equals the present value of its face value discounted by the bond's contract rate.

KEY POINTS

- $\frac{Face\ \ Value\ \ of\ \ Bond}{(1+\ \ interest\ \ rate\ \ of\ \ bond)^{Term\ \ of\ \ Bond}}$ = Present Value of Zero-Coupon Bond.
- A zero-coupon bond is one that does not make ongoing interest payment to the bondholder over the term of the bond.
- The issuing entity will sell the zero-coupon bond at lower than face value. When the bond's term is over, the issuing business will repay the bond at its face value.

A zero-coupon bond is one that does not pay interest over the term of the bond. Instead, the entity will sell the bond at lower than face value. When the bond's term is over, the issuing business will repay the bond at its face value. The bondholder generates a return paying less than what he receives in payment at the end of the bond's term.

While the business may not make periodic interest payments, interest income is still generated. The interest income is merely accumulated and paid at the end of the bond's term (*Figure 11.9*).

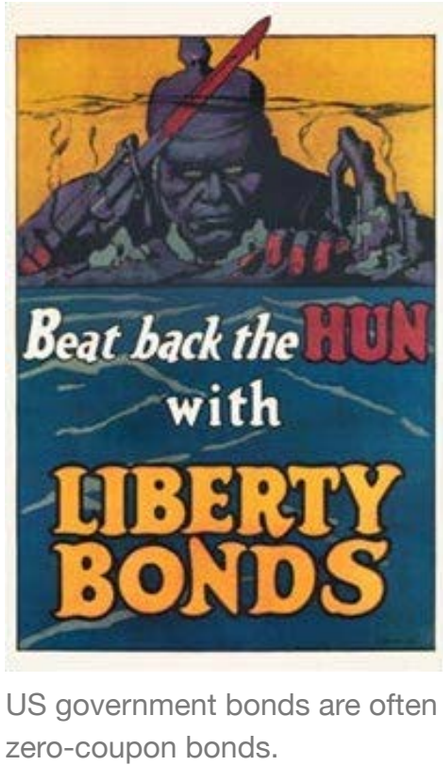
Formula for Calculating Value of Zero-Coupon Bond

Zero-Coupon Bond Value = Face Value of Bond / (1+ interest Rate)

Generally, the price of a **zero-coupon bond** is based on the present value of the amount the issuing business will pay the bondholder when the bond matures. The amount the company pays at the end of the term equals the bond's face value. The present value is determined using the interest rate stated on the bond. The bond's term is used as the time period in the present value calculation.

It is important when completing the zero-coupon bond calculation to ensure the time period and term of the bond are expressed in similar terms. If the interest rate of the bond is expressed as a monthly rate and the term of the bond is 10 years, the bond term should be expressed as 120 months when making the calculation.

Figure 11.9 "Beat Back the Hun with Liberty Bonds"



US government bonds are often zero-coupon bonds.

Example Calculation

Assume a business issues a 2 year note, paying 5% interest with a face value of $100,000. To calculate its present value, you would raise 1.05 to the tenth power. This equals 1.1025. You then divide $100,000 by 1.1025. The result is that the bond would have a present value of $90,702.95.

Section 3

Bond Retirement

Redeeming at Maturity

Redeeming Before Maturity

https://www.boundless.com/accounting/reporting-of-long-term-liabilities/bond-retirement/

Redeeming at Maturity

The journal entry to record the retirement of a bond: Debit Bonds Payable & Credit Cash.

KEY POINTS

- Unless the bond matures in a year or less it is shown on the balance sheet in the long term liabilities section.
- At maturity, all due payments are made, and the issuer has no further obligations to the bond holders after the maturity date.
- On the balance sheet the Bonds Payable account can be shown as different issues or consolidated into a single balance.
- Keep in mind the carrying value - cash paid to retire bonds = gain or loss on bond retirement.

Bond Retirement

A maturity date is the date when the bond issuer must pay off the bond. Maturity is generally an indication of when you as an investor will get your money back. Typically, bonds stop earning interest after they mature. As long as all due payments have been made, the issuer has no further obligations to the bondholders after the maturity date (*Figure 11.10*).

Figure 11.10 A bond certificate

A bond certificate issued via the South Carolina Consolidation Act of 1873.

The carrying value of bonds at maturity will always equal their par value. In other words, par value (nominal, principal, par or face amount), the amount on which the issuer pays interest, and which, most commonly, has to be repaid at the end of the term. For a bond sold at discount, its carrying value will increase and equal their par value at maturity. For a bond sold at premium, its carrying value will decrease and equal the par value at maturity.

Some structured bonds can have a redemption amount that is different from the face amount and can be linked to performance of particular assets such as a stock or commodity index, foreign

exchange rate or a fund. This can result in an investor receiving less or more than his original investment at maturity.

Bonds can be classified to coupon bonds and zero coupon bonds. For coupon bonds, the bond issuer is supposed to pay both the par value of the bond and the last coupon payment at maturity. In case of a zero coupon bond, only the amount of par value is paid when the bond is redeemed at maturity.

Bonds Payable & The Balance Sheet

Unless the bond matures in a year or less it is shown on the balance sheet in the long-term liabilities section. If current assets will be used to retire the bonds, a Bonds Payable account should be listed in the current liability section. If the bonds are to be retired and new ones issued, they should remain as a long-term liability. All bond discounts and premiums also appear on the balance sheet.

A separate account should be maintained for each bond issue. On the balance sheet, the Bonds Payable account can be shown as different issues or consolidated into a single balance. If a single balance is shown, then a schedule or note should disclose the details of the bond issues.

A description of bonds issued including the effective interest rate, maturity date, terms, and sinking fund requirements are included in the notes to financial statements.

Redeeming at Maturity

The journal entry to record the retirement of a bond:

Debit Bonds payable

Credit Cash

Keep in mind the carrying value - cash paid to retire bonds = gain or loss on bond retirement

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Redeeming Before Maturity

Early redemption happens on issuers or holders' intentions, more likely as interest rates are falling and bonds contain embedded options.

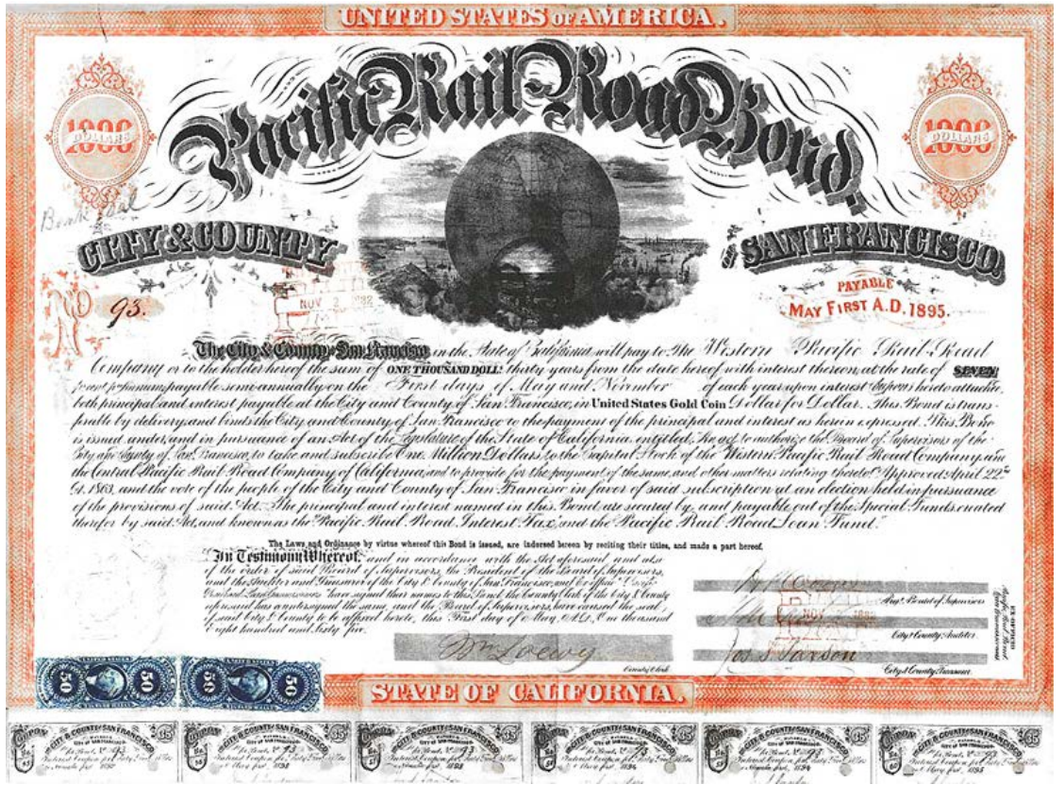
KEY POINTS

- Bonds can be redeemed at or before maturity. Early redemption may happen on bond issuers or bondholders' intentions.
- Before maturity, the bond is bought back at a premium to compensate for lost interest. It is notable that early repurchase happens more often when the interest rate in the market is on decline and when it is a callable bond.
- Putable bonds give the holder the right to force the issuer to repay the bond before maturity. The price at which bonds are redeemed in this case is predetermined in bond covenants.

Bonds can be redeemed at or before maturity. Early redemption may happen on bond issuers or bondholders' intentions (*Figure 11.11*).

For bond issuers, they can repurchase a bond at or before maturity. Redemption is made at the face value of the bond unless it occurs before maturity, in which case the bond is bought back at a premium to compensate for lost interest. The issuer has the right to redeem the bond at any time, although the earlier the redemption takes place, the higher the **premium** usually is. This provides an incentive for companies to do this as rarely as possible. It is notable that early repurchase happens more often when the interest rate in the market is on decline and when the bond contains an embedded option. It grants option-like features to the holder or the issuer. To be detailed, the bond issuer will repurchase bonds with callability.

Figure 11.11 Pacific Railroad Bond



$1,000 (30 year, 7%) "Pacific Railroad Bond" (#93 of 200) issued by the City and County of San Francisco.

Some bonds give the issuer the right to repay the bond before the maturity date on the call dates. These bonds are referred to as callable bonds. Most callable bonds allow the issuer to repay the bond at par. With some bonds, the issuer has to pay a premium, the so-called call premium. This is mainly the case for **high-yield bonds**. These have very strict covenants. They restrict the issuer in its operations. To be free from these covenants, the issuer can repay the bonds early, but only at a high cost.

Bonds with embedded options can also be ones with putability. Some bonds give the holder the right to force the issuer to repay the bond before the maturity date on the put dates. These are referred to as retractable or putable bonds. In this case, the price at which bonds are redeemed is predetermined in bond covenants.

Section 4

Reporting and Analyzing Long-Term Liabilities

Reporting Long-Term Liabilities

Analyzing Long-Term Liabilities

Debt-to-Equity Ratio

Times Interest Earned Ratio

Being Aware of Off-Balance-Sheet-Financing

https://www.boundless.com/accounting/reporting-of-long-term-liabilities/reporting-and-analyzing-long-term-liabilities/

Reporting Long-Term Liabilities

Debts that become due at a time that is greater than one year into the future are long-term liabilities and are reported as such on the balance sheet.

KEY POINTS

- Debts due greater than one year (12 months) into the future are considered long-term.
- If a classified balance sheet is being utilized, the current portion of the long-term liability, if any, needs to be backed out and reclassified as a current liability.
- "Notes payable" and "Bonds payable" are common examples of long-term liabilities.

Long-term liabilities are debts that become due, or mature, at a date that is more than a year into the future. An example of this is a student loan. Let's say John, a freshman in college, obtains a student loan for 25,000 (*Figure 11.12*) and the bank does not require loan payments until 6 months after he graduates, i.e. 4.5 years after the loan was originated. This is an example of a long-term liability.

"Notes Payable" and "Bonds Payable" are also examples of **long-term** liabilities, and they often introduce an interesting distinction between **current** liabilities and **long-term liabilities** presented on a classified balance sheet.

Figure 11.12 Sallie Mae facilitates several long-term liabilities

Student Loans are a prime example.

Let's say Company X obtains a 100,000 Note Payable that requires 5 annual payments of 20,000 starting 1/1/14. On Company X's 12/31/12 balance sheet, a long-term liability for 100,000 would be reported, but what about the balance sheet as of 12/31/13? Since Company X is required to make a 20,000 payment on 1/1/14, which is less than one year away, a current liability of 20,000 and a long-term liability of 80,000 would be reported on its balance sheet as of 12/31/13.

Continuing one year forward, Company X would report a current liability of 20,000 and a long-term liability of 60,000 on its balance sheet as of 12/31/2014.

What this example presents is the distinction between current liabilities and long-term liabilities. Despite a Note Payable, Bonds Payable, etc., starting out as a long-term liability, the portion of that

debt that is due within a year has to be backed out of the long-term liability and reported as a current liability.

See below for the balance sheet reporting treatment of the current and long-term liability portions of the Note Payable from initiation to final payment.

12/31/12 .....Current Liability: 0 .....Long-Term Liability: 100,000

12/31/13 .....Current Liability: 20,000 .....Long-Term Liability: 80,000

12/31/14 .....Current Liability: 20,000 .....Long-Term Liability: 60,000

12/31/15 .....Current Liability: 20,000 .....Long-Term Liability: 40,000

12/31/16 .....Current Liability: 20,000 .....Long-Term Liability: 20,000

12/31/17 .....Current Liability: 20,000 .....Long-Term Liability: 0

12/31/18 .....Current Liability: 0 .....Long-Term Liability: 0

Analyzing Long-Term Liabilities

Analyzing long-term liabilities combines debt ratio analysis, credit analysis and market analysis to assess a company's financial strength.

KEY POINTS

- Financial data used to calculate debt-ratios can be found on a company's balance sheet, income statement and statement of owner's equity.
- Benchmarking a company's credit rating and debt ratios will assist an analyst in determining a company's financial strength relative to its peers.
- Reading the footnotes contained in a company's financial statements can be crucial as the footnotes often contain valuable information regarding long-term liabilities and other factors that could immediately impact the company's ability to pay it's long-term debt.

Analyzing Long-Term Liabilities

Long-term liabilities are obligations that are due at least one year into the future, and include debt instruments such as bonds and mortgages. Analyzing long-term liabilities is done for assessing the likelihood the long-term liability's terms will be met by the borrower. After analyzing long-term liabilities, an analyst should have a reasonable basis for a determining a company's financial strength. Analyzing long-term liabilities is necessary to avoid buying the bonds of, or lending to, a company that may potentially become **insolvent**.

How is Long-Term Liability Analysis Performed?

Analyzing long-term liabilities often includes an assessment of how **creditworthy** a borrower is, i.e. their ability and willingness to pay their debt. Standard & Poor's is a credit rating agency that issues credit ratings for the debt of public and private companies. As part of their analysis Standard & Poor's will issue a credit rating that is designed to give lenders and investors an idea of the creditworthiness of the borrower. The best rating is AAA with the worst being D. Please consult the figure (*Figure 11.13*) as an example of Standard & Poor's credit ratings issued for debt issued by governments all over the world.

In addition to credit rating agencies such as Standard & Poor's, analysts can use debt ratios to help **benchmark** a company to it's industry peers. Comparing a company to its peers will give an analyst perspective about what is considered normal or abnormal for a respective industry. Popular debt ratios include: debt ratio, debt to equity, long-term debt to equity, times interest earned ratio

(interest coverage ratio), and debt service coverage ratio. Data used to calculate these ratios are provided on a company's balance sheet, income statement, and statement of changes in equity. Typically, company's present liabilities with the earliest due dates first.

Debt Ratio:

$$\frac{Total\ \ Liabilities}{Total\ \ Assets}$$

Debt to Equity Ratio:

$$\frac{Long-Term\ \ Debt\ \ +\ \ Value\ \ of\ \ Leases}{Average\ \ Shareholders\ \ Equity}$$

Long-Term Debt to Equity Ratio:

$$\frac{Long-Term\ \ Debt}{Total\ \ Assets}$$

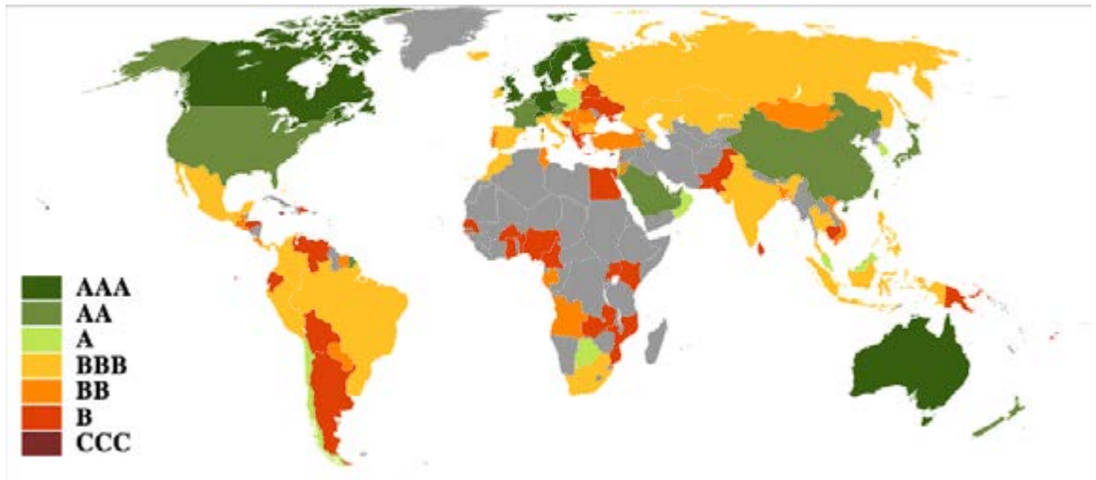
Times Interest Earned Ratio (aka Coverage Ratio):

$$\frac{EBIT}{Annual\ \ Interest\ \ Expense}$$

Debt Service Coverage Ratio:

$$\frac{Net\ \ Operating\ \ Income}{Total\ \ Debt\ \ Service}$$

Figure 11.13 World countries Standard & Poor's ratings



An example of the credit ratings prescribed by Standard & Poor's as a result of their respective long-term liability analysis for debt issued at the national government level.

There is more to analyzing long-term liabilities than simply reading a company's credit rating and performing independent debt ratio analysis. In addition, an analyst needs to consider the overall economy, industry trends and management's experience when forming a conclusion about the strength or weakness of a company's financial position. When gathering information, an analyst should always read the footnotes contained in financial statements to determine if there are any disclosures related to long-term liabilities or other factors that may impact the company's ability to pay it's long-term obligations.

Source:https://www.boundless.com/accounting/reporting-of-long-term-liabilities/reporting-and-analyzing-long-term-liabilities/analyzing-long-term-liabilities/

Debt-to-Equity Ratio

The Debt-to-Equity Ratio is a financial ratio that compares the debt of a company to its equity and is closely related to leveraging.

KEY POINTS

- Debt and equity have very distinct pros and cons.
- The composition of debt and equity and its influence on the value of a firm is a much debated topic.
- Debt and equity book values can be found on a company's balance sheet, and the debt portion of the ratio often excludes short-term liabilities.

Debt-to-Equity Ratio

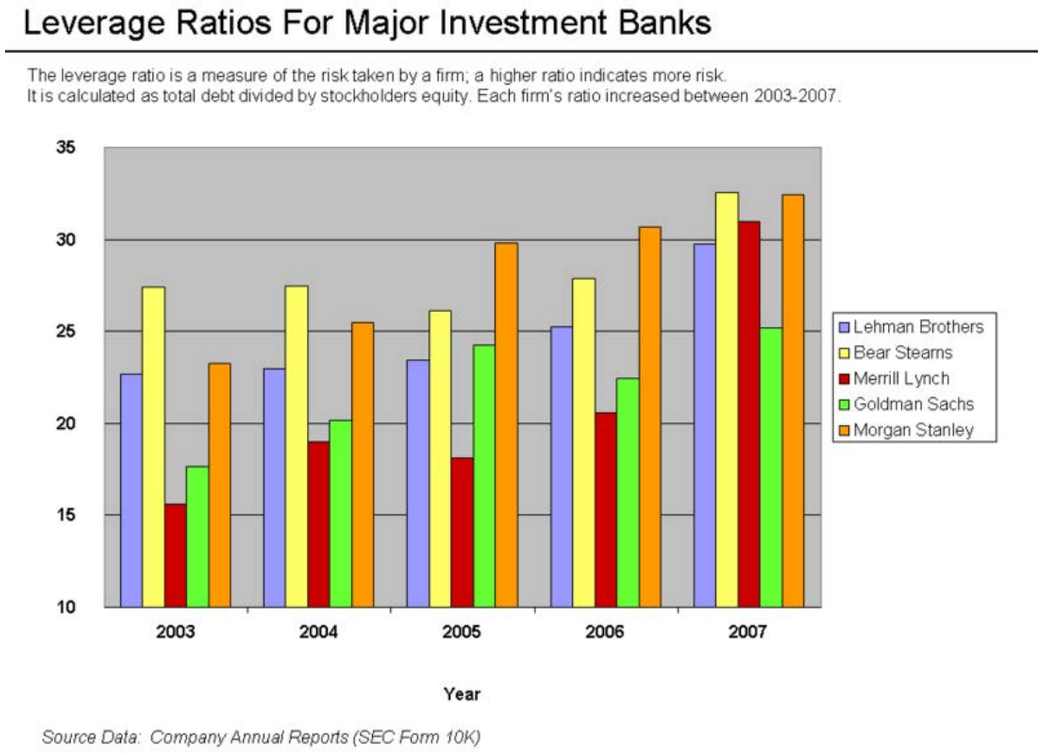
The Debt-to-Equity Ratio is a financial ratio indicating the relative proportion of shareholder's equity and debt used to finance a company's assets, and is calculated as total debt / total equity.

In order to obtain assets used in operations, a company will raise capital through either issuing shareholder's equity (e.g., publicly traded common stock) or debt (e.g., notes payable). Stakeholders, which include investors and lending institutions, provide

companies with capital with an expectation that those companies generate net income through their respective operations.

Debt is typically a long-term liability that represents a company's obligation to pay both principal and interest to purchasers of that debt.

Figure 11.14 Leverage Ratios



Graph of how infamous investment banks were leveraged prior to the credit crisis of 2008.

Equity represents ownership of a company, and does not include any agreed upon repayment terms.

Each form of raising capital has its own set of pros and cons. Interest payments on debt are tax deductible, while dividends on equity are not. Returns to purchasers of debt are limited to agreed-upon terms (i.e., interest rates), however, they have greater legal protection in the event of a bankruptcy. The returns an equity holder can achieve have unlimited upside, however, they are typically the last to be paid in the event of a bankruptcy.

Calculating the Debt-to-Equity Ratio

Calculating a company's debt to equity ratio is straight forward, and the debt and equity components can be found on a company's respective balance sheet. For more advanced analysis, financial analysts can calculate a company's debt to equity ratio using market values if both the debt and equity are publicly traded.

When used to calculate a company's financial leverage (*Figure 11.14*), the debt-to-equity ratio includes only long-term liabilities in the numerator and can even go a step further to exclude the current portion of the long-term liabilities. This means that other short-term liabilities, such as accounts payable, are excluded when calculating the debt-to-equity ratio.

Times Interest Earned Ratio

Times Interest Earned Ratio = (EBIT or EBITDA) / (Required Interest Payments), and is indicative of a company's financial strength.

KEY POINTS

- Times Interest Earned Ratio is the same as the interest coverage ratio.
- The higher the Times Interest Earned Ratio, the better, and a ratio below 2.5 is considered a warning sign of financial distress.
- A company will eventually default on its required interest payments if it cannot generate enough income to cover its required interest payments.

Times Interest Earned Ratio

The Times Interest Earned Ratio indicates the ability of a company to meet its required interest payments (*Figure 11.15*), and is calculated as:

Times Interest Earned Ratio = Earnings before Interest and Taxes (**EBIT**) / Interest Expense.

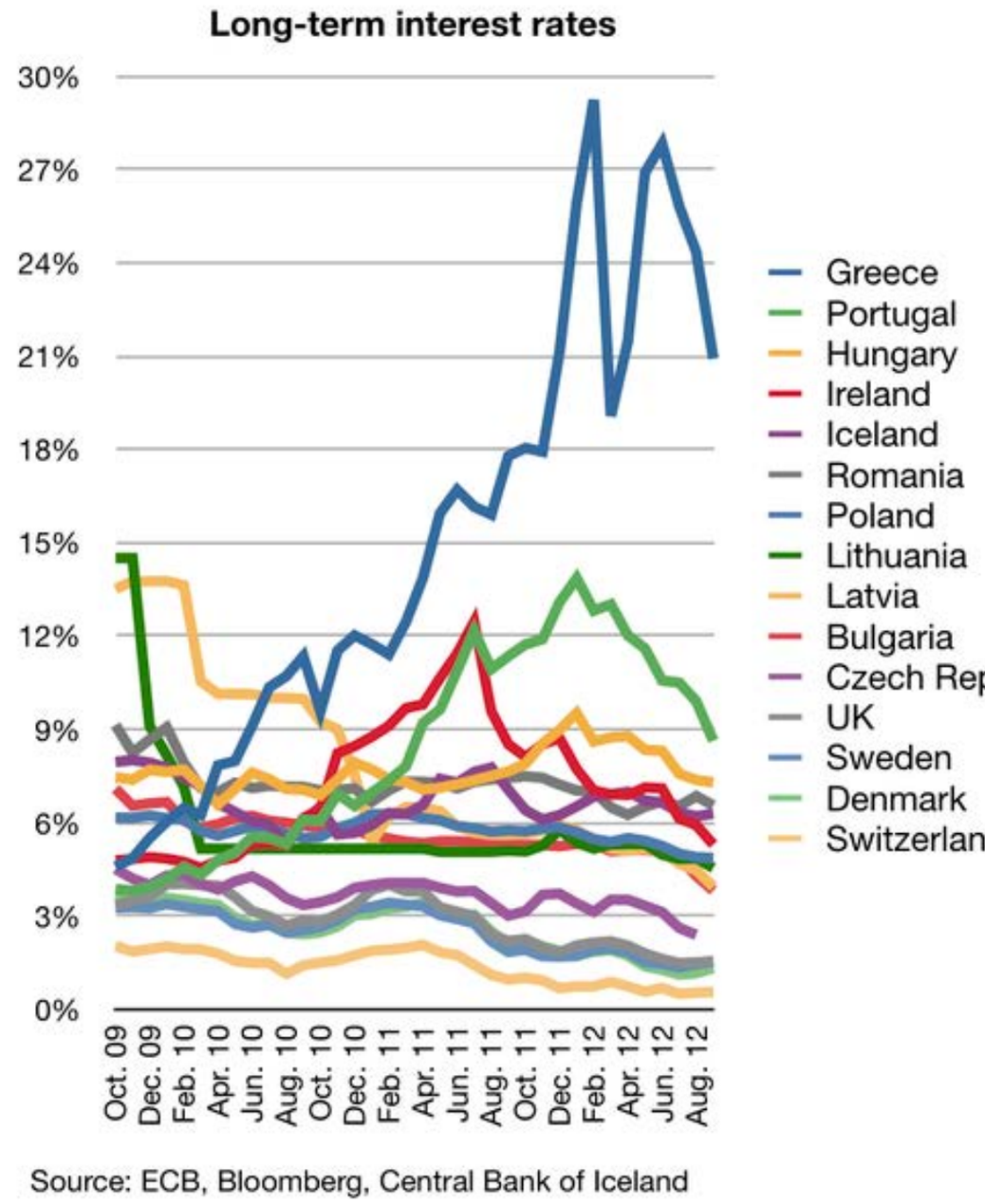
Earnings before Interest and Taxes (EBIT) can be calculated by taking net income, as reported on a company's income statement, and adding back interest and taxes.

Analysts often use "Operating Income" as a proxy for EBIT when complex accounting situations, such as discontinued operations, changes in accounting principle, extraordinary items, etc., are reported in a company's financial statements. Analysts will sometimes use EBITDA instead of EBIT when calculating the **Times Interest Earned Ratio**. **EBITDA** can be calculated by adding back Depreciation and Amortization expenses to EBIT.

The Times Interest Earned Ratio is used by financial analysts to assess a company's ability to pay its required interest payments. The higher this ratio, or the more EBIT a company can produce relative to its required interest payments, the stronger the company's creditworthiness and overall financial health are considered to be.

For example, if Company X's EBIT is 500,000 and its required interest payments are 300,000, its Times Interest Earned Ratio would be 1.67. If Company A's EBIT is 750,000 and its required interest payments are 150,000, itsTimes Interest Earned Ratio would be 5. Comparing the respective Times Interest Earned Ratios would lead an analyst to believe that Company A is in a much better financial position because its EBIT covers its required interest payments 5 times, relative to Company X, whose EBIT only covers

Figure 11.15 Long-Term Interest Rates



The Times Interest Earned Ratio is an indication of a company's overall financial health.

its required interest payments 1.67 times.

If a company's Times Interest Earned Ratio falls below 1, the company will have to fund its required interest payments with cash on hand or borrow more funds to cover the payments. Typically, a Times Interest Earned Ratio below 2.5 is considered a warning sign of financial distress.

Being Aware of Off-Balance-Sheet-Financing

Off-Balance-Sheet-Financing represents rights to use assets or obligations that are not reported on balance sheets to pay liabilities.

KEY POINTS

- Off-Balance-Sheet-Financing represents financial rights or obligations that a company is not required to report on their balance sheets.
- Off-Balance-Sheet-Financing can have a substantial effects on a company's financial health: Enron is a great example of this.
- An analyst should always read the footnotes contained in the financial statements as they often either disclose off-balance-sheet-financing directly or provide enough information to determine if the company could potentially enter into off-balance-sheet-financing arrangements.

Off-Balance-Sheet-Financing is associated with debt that is not reported on a company's balance sheet. For example, financial institutions offer asset management or brokerage services, and the assets managed through those services are typically owned by the individual clients directly or by trusts. While these financial

institutions may benefit from servicing these assets, they do not have any direct claim on them.

The formal accounting distinctions between on and off-balance sheet items can be complicated and are subject to some level of management judgment. However, the primary distinction between on and off-balance sheet items is whether or not the company owns, or is legally responsible for the debt. Furthermore, uncertain assets or liabilities are subject to being classified as "probable", "measurable" and "meaningful".

Figure 11.16
Jeffrey Skilling
Jeffrey Skilling is the former CEO of Enron, which was notorious for it's use of off-balance-sheet-financing.

An example of **off-balance-sheet financing** is an unconsolidated **subsidiary**. A parent company may not be required to consolidate a subsidiary into its financial statements for reporting purposes; however the parent company may be obligated to pay the unconsolidated subsidiaries liabilities.

Another example of off-balance-sheet financing is an **operating lease**, which are typically entered into in order to use equipment on a short-term basis relative to the overall useful life of the asset. An operating lease does not transfer any of the rewards or risks of ownership, and as a result are not reported on the balance sheet of the lessee. A liability is not recognized on the lessee's balance sheet even though the lessee has the obligation to pay an agreed upon amount in the future.

It is important to consider these off-balance-sheet-financing arrangements because they have an immediate impact on a company's overall financial health. For example, if a company defaults on the rental payments required by an operating lease, the lessor could repossess the assets or take legal action, either of which could be detrimental to the success of the company (*Figure 11.16*).

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Chapter 12

Reporting of Stockholders' Equity

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Section 1

Understanding the Corporation

Characteristics of a Corporation

Formation of the Corporation

Common Stock

Preferred Stock

https://www.boundless.com/accounting/reporting-of-stockholders-equity/understanding-the-corporation/

Characteristics of a Corporation

A corporation is a group having a continuous existence, powers, and liabilities independent of the existences of its members.

KEY POINTS

- Limited liability is a concept whereby a person's financial liability is limited to a fixed sum, most commonly the value of a person's investment in a company or partnership with limited liability.
- An advantage of the corporation is that the assets and structure of the corporation may continue beyond the lifetimes of its shareholders and bondholders. This allows stability and the accumulation of capital.
- An investor who purchases stock in a corporation (stockholder) receives a stock certificate that shows the number of shares they own. Under a corporation, the shareholder does not need the approval of the other stockholders to sell the stock.

KEY POINTS (cont.)

- In the United States a Separate Legal Entity or SLE refers to a type of legal entity with detached accountability. A business can be set up as an SLE to legally separate it from the individual or owner, such as a limited liability company or a corporation.

What is a Corporation?

An incorporated entity is a separate legal entity that has been incorporated through a legislative or registration process established through legislation. Incorporated entities have legal rights and liabilities that are distinct from its shareholders, and may conduct business for either profit-seeking business or not for profit purposes. Early incorporated entities were established by charter (i.e. by an ad hoc act granted by a monarch or passed by a parliament or legislature). Most jurisdictions now allow the creation of new corporations through registration. In addition to legal personality, registered companies tend to have limited liability, be owned by shareholders who can transfer their shares to others, and controlled by a board of directors who the shareholders appoint (*Figure 12.1*),(*Figure 12.2*).

Figure 12.1 Corporations and Double Taxation

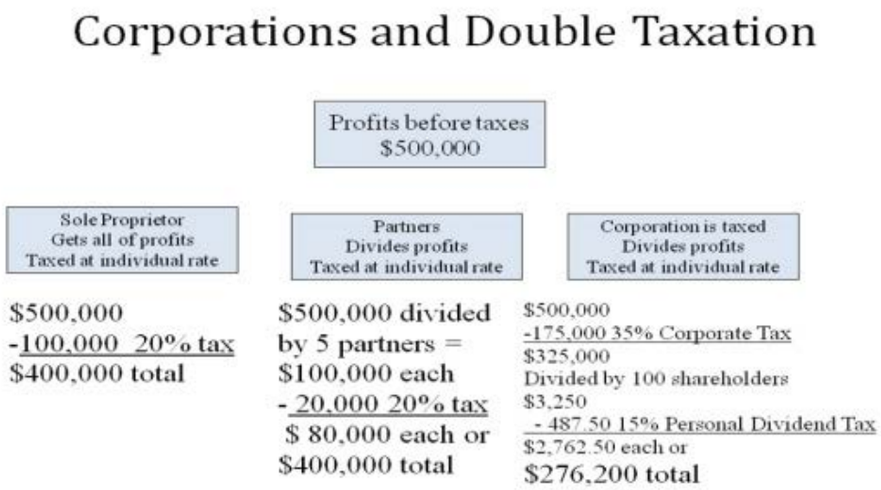


Figure 12.2 Organization of Starbucks Corporation

Limited Liability

Limited liability is a concept whereby a person's financial liability is limited to a fixed sum, most commonly the value of a person's investment in a company or partnership with limited liability. If a company with limited liability is sued, then the plaintiffs are suing the company, not its owners or investors. A shareholder in a limited company is not personally liable for any of the debts of the company, other than for the value of their investment in that company. This usually takes the form of that person's dividends in the company being zero, since the company has no profits to allocate. The same is true for the members of a limited liability partnership and the limited partners in a limited partnership. By contrast, sole proprietors and partners in general partnerships are each liable for all the debts of the business (unlimited liability).

Although a shareholder's liability for the company's actions is limited, the shareholder may still be liable for its own acts. For example, the directors of small companies (who are frequently also shareholders) are often required to give personal guarantees of the company's debts to those lending to the company. They will then be liable for those debts in the event that the company cannot pay, although the other shareholders will not be so liable. This is known as co-signing.

Unlimited Life/Perpetual Lifetime

Another advantage is that the assets and structure of the corporation may continue beyond the lifetimes of its shareholders and bondholders. This allows stability and the accumulation of capital, which is available for investment in larger and longer-lasting projects than if the corporate assets were subject to dissolution and distribution. This was also important in medieval times, when land donated to the Church (a corporation) would not generate the feudal fees that a lord could claim upon a landholder's death. In this regard, see Statute of Mortmain. However, a corporation can be dissolved by a government authority, putting an end to its existence as a **legal entity**. This usually only happens if the company breaks the law, for example, fails to meet annual filing requirements, or in certain circumstances if the company requests dissolution.)

Separate Legal Entity

In the United States a Separate Legal Entity or SLE refers to a type of legal entity with detached accountability. A business can be set up as an SLE to legally separate it from the individual or owner, such as a limited liability company or a **corporation**.

If a business is a separate legal entity, it means it has some of the same rights in law as a person. For example, it is able to enter contracts. In New Zealand, a company is a separate legal entity from its owners (shareholders) and can, for example, be sued, and enter into contracts in the name of the company, not the shareholders. Some traders and partnerships are not separate legal, entities from the owners.

Ease of Transferring Ownership Rights

An investor who purchases stock in a corporation (stockholder) receives a stock certificate that shows the number of shares they own. Under a corporation, the shareholder does not need the approval of of the other stockholders to sell the stock.

Financial Disclosure

In many jurisdictions, corporations whose shareholders benefit from limited liability are required to publish annual financial statements and other data, so that creditors who do business with the corporation are able to assess the creditworthiness of the corporation and cannot enforce claims against shareholders. Therefore, shareholders experience some loss of privacy in return for limited liability. This requirement generally applies in Europe, but not in Anglo-American jurisdictions, except for publicly traded corporations where financial disclosure is required for investor protection.

Formation of the Corporation

Registration is the main prerequisite to a corporation's assumption of limited liability.

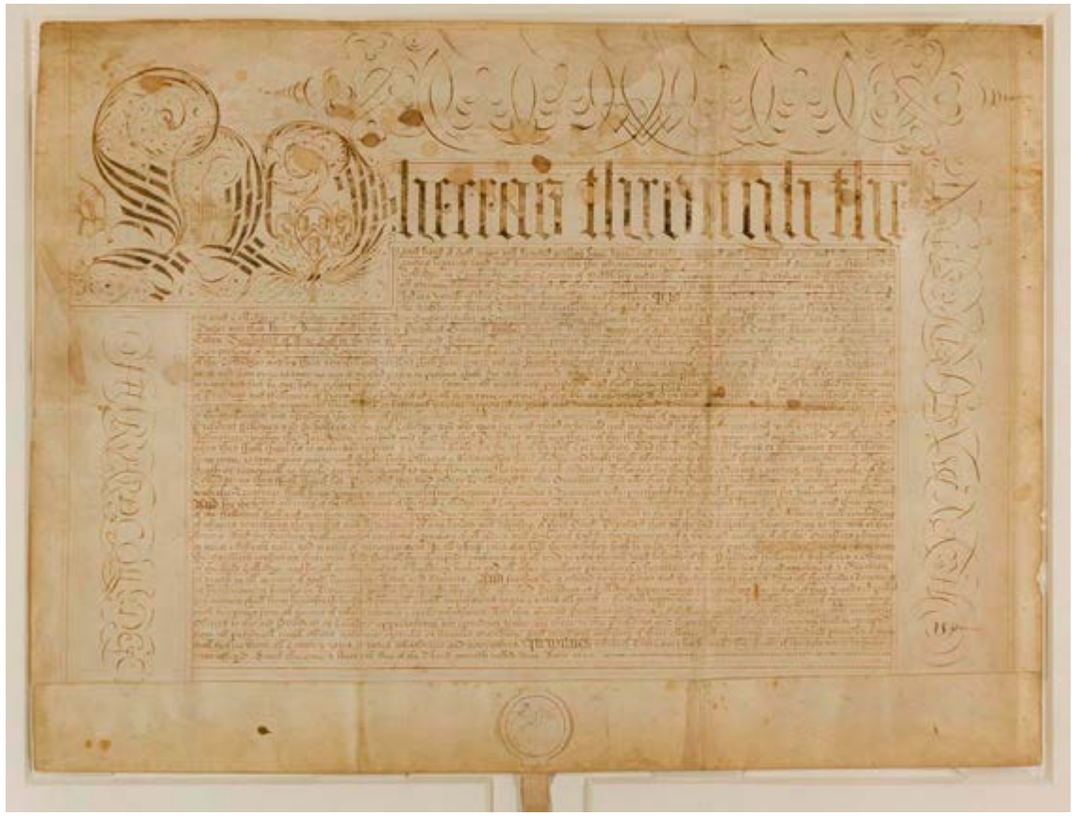
KEY POINTS

- Generally, a corporation files articles of incorporation with the government, laying out the general nature of the corporation, the amount of stock it is authorized to issue, and the names and addresses of directors.
- Nowadays, corporations in most jurisdictions have a distinct name that does not need to make reference to their membership.
- Some jurisdictions do not allow the use of the word "company" alone to denote corporate status, as it may refer to a partnership or some other form of collective ownership.
- In many jurisdictions, corporations whose shareholders benefit from limited liability are required to publish annual financial statements and other data, so that creditors who do business with the corporation are able to assess the creditworthiness of the corporation.

Formation

Historically, corporations were created by a charter granted by government (*Figure 12.3*). Today, corporations are usually

Figure 12.3 Charter of Harvard College



Example of an old charter.

registered with the state, province, or national government, and regulated by the laws enacted by that government.

Registration is the main prerequisite to a corporation's assumption of limited liability. The law sometimes requires the corporation to designate its principal address, as well as a registered agent (a person or company designated to receive legal service of process). It may also be required to designate an agent or other legal representative of the corporation.

Generally, a corporation files articles of incorporation with the government, laying out the general nature of the corporation, the amount of stock it is authorized to issue, and the names and addresses of directors. Once the articles are approved, the corporation's directors meet to create bylaws that govern the internal functions of the corporation, such as meeting procedures and officer positions.

The law of the jurisdiction in which a corporation operates will regulate most of its internal activities, as well as its finances. If a corporation operates outside its home state, it is often required to register with other governments as a foreign corporation, and is almost always subject to the laws of its host state pertaining to employment, crimes, contracts, civil actions, and the like.

Naming

Corporations generally have a distinct name. Historically, some corporations were named after their membership: for instance, "The President and Fellows of Harvard College." Nowadays, corporations in most jurisdictions have a distinct name that does not need to make reference to their membership. In Canada, this possibility is taken to its logical extreme: many smaller Canadian corporations have no names at all, merely numbers based on a registration number (for example, "12345678 Ontario Limited"),

which is assigned by the provincial or territorial government where the corporation incorporates.

In most countries, corporate names include a term or an abbreviation that denotes the corporate status of the entity (for example, "Incorporated" or "Inc." in the United States) or the limited liability of its members (for example, "Limited" or "Ltd."). These terms vary by jurisdiction and language. In some jurisdictions they are mandatory, and in others they are not. Their use puts everybody on constructive notice that they are dealing with an entity whose liability is limited, and does not reach back to the persons who own the entity: one can only collect from whatever assets the entity still controls when one obtains a judgment against it.

Some jurisdictions do not allow the use of the word "company" alone to denote corporate status, as it may refer to a partnership or some other form of collective ownership (in the United States it can be used by a sole proprietorship but this is not generally the case elsewhere).

Financial disclosure

In many jurisdictions, corporations whose shareholders benefit from limited liability are required to publish annual financial statements and other data, so that creditors who do business with the corporation are able to assess the creditworthiness of the corporation and cannot enforce claims against shareholders. Shareholders, therefore, experience some loss of privacy in return for limited liability. This requirement generally applies in Europe, but not in Anglo-American jurisdictions, except for publicly traded corporations where financial disclosure is required for investor protection.

Steps required for incorporation

1. The articles of incorporation (also called a **charter**, certificate of incorporation or letters patent) are filed with the appropriate state office, listing the purpose of the corporation, its principal place of business and the number and type of shares of stock. A registration fee is due, which is usually between $25 and $1,000, depending on the state.

2. A corporate name is generally made up of three parts: "distinctive element", "descriptive element", and a "legal ending". All corporations must have a distinctive element, and in most filing jurisdictions, a legal ending to their names. Some corporations choose not to have a descriptive element. In the name "Tiger Computers, Inc.", the word "Tiger" is the distinctive element; the word "Computers" is the descriptive element; and the "Inc." is the legal ending. The legal ending indicates that it is, in fact, a legal corporation and not just a

business registration or partnership. Incorporated, limited, and corporation, or their respective abbreviations (Inc., Ltd., Corp.) are the possible legal endings in the U.S.

3. Usually, there are also corporate bylaws which must be filed with the state. Bylaws outline a number of important administrative details such as when annual shareholder meetings will be held, who can vote and the manner in which shareholders will be notified if there is need for an additional "special" meeting.

Common Stock

Common stock is a form of ownership and equity, different from preferred stock, that still earns rights of ownership for its shareholders.

KEY POINTS

- Common stock is a form of equity ownership. It is a type of security that is also known as a voting share or an ordinary share.
- Common stock shareholders will not receive assets after bankruptcy unless the bondholders, other creditors, and preferred shareholders are paid first. Common shareholders also do not get dividends unless preferred shareholders receive them first.
- Common shareholders do receive voting rights. Some shareholders may also be able to exercise preemptive rights.

Common stock is a form of corporate equity ownership, which is a type of security (*Figure 12.4*). The terms "voting share" or "ordinary share" are also used in other parts of the world. "Common stock" is used primarily in the United States. It is called "common" to distinguish it from preferred stock. If both types of stock exist, common stock holders cannot be paid dividends until all preferred stock dividends (including payments in arrears) are paid in full.

Should bankruptcy occur, common stock shareholders receive any remaining funds after the bondholders, creditors (including employees), and preferred stockholders. Such shareholders usually receive nothing in the case of company liquidation.

Figure 12.4 New York Stock Exchange

Stocks can be bought and sold on exchanges, like the New York Stock Exchange shown above.

While Common stockholders are generally last in line among other creditors to receive assets should the business in question go bankrupt, common shares do tend to perform better than preferred shares over time. Also, Common stock usually carries the right to vote on certain matters. These matters include but are not limited to deciding for who gets to sit on the board of directors of the company. However, a company can have both a "voting" and "non-voting" class of common stock. Common shareholders do not get guaranteed dividends, so their returns can be uncertain. It must be remembered that Preferred stock generally does not carry voting rights.

Holders of **common stock** are able to influence the corporation through votes on establishing corporate objectives and policy, stock splits, and electing the company's board of directors. Some holders of common stock also receive preemptive rights, which enable them to retain their proportional ownership in a company should it issue another stock offering.

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Preferred Stock

Preferred stock usually carries no voting rights, but may carry a dividend, have priority over common stock upon liquidation and/or have other benefits.

KEY POINTS

- Preferred Stock is a security which has characteristics of both equity and debt securities.
- Preferred Stock shareholders have rights to dividends and assets (in the case of bankruptcy) before Common Stock shareholders.
- Preferred stockholders have a number of rights which will vary based on the business entity, but generally do not carry voting rights.

Preferred stock (also called preferred shares, preference shares or simply preferreds) is an equity security with properties of both an equity and a debt instrument (*Figure 12.5*), and is generally considered a hybrid instrument. It is senior (i.e. higher ranking) to common stock, but subordinate to bonds in terms of claim (or rights to their share of the assets of the company). In other words, in the case of liquidation or bankruptcy, preferred stock will have claim to assets before common stock, but after corporate bonds or other debt instruments.

Figure 12.5 Bond

Preferred Stocks are considered a hybrid security with properties of both stocks and bonds, but are subordinate to bonds when it comes to rights of claim to company assets.

Preferred stock usually carries no voting rights, but may carry a dividend and may have priority over common stock in the payment of dividends and upon liquidation. The specific terms of owning preferred stock are specified in a certificate of designation. The features and rights which are generally associated with preferred stock are as follows:

Preference in dividends

Preference in assets in the event of liquidation

Convertibility to common stock

Callability, at the option of the corporation

Nonvoting rights.

Similar to bonds, preferred stocks are rated by the major credit-rating companies. The rating for preferreds is generally lower, since preferred dividends do not carry the same guarantees as interest payments from bonds, and they are junior to all creditors.

Details with regards to the rights associated with preferred stock will vary with the business entity that issues the shares, and preferred stock can come in a number of different classes. Some examples are prior preferred stock (highest priority), preference preferred stock, convertible preferred stock (exchangeable for common stock), cumulative preferred stock, exchangeable preferred stock, participating preferred stock, putable preferred stock, monthly income preferred stock, and non-cumulative preferred stock.

Section 2

Stock Transactions

Issuing Stock

Employee Stock Compensation

Repurchasing Stock

Treasury Stock

https://www.boundless.com/accounting/reporting-of-stockholders-equity/stock-transactions/

Issuing Stock

The amount of issued stock is based on a company's authorized shares, or the maximum number of shares authorized for issue to shareholders.

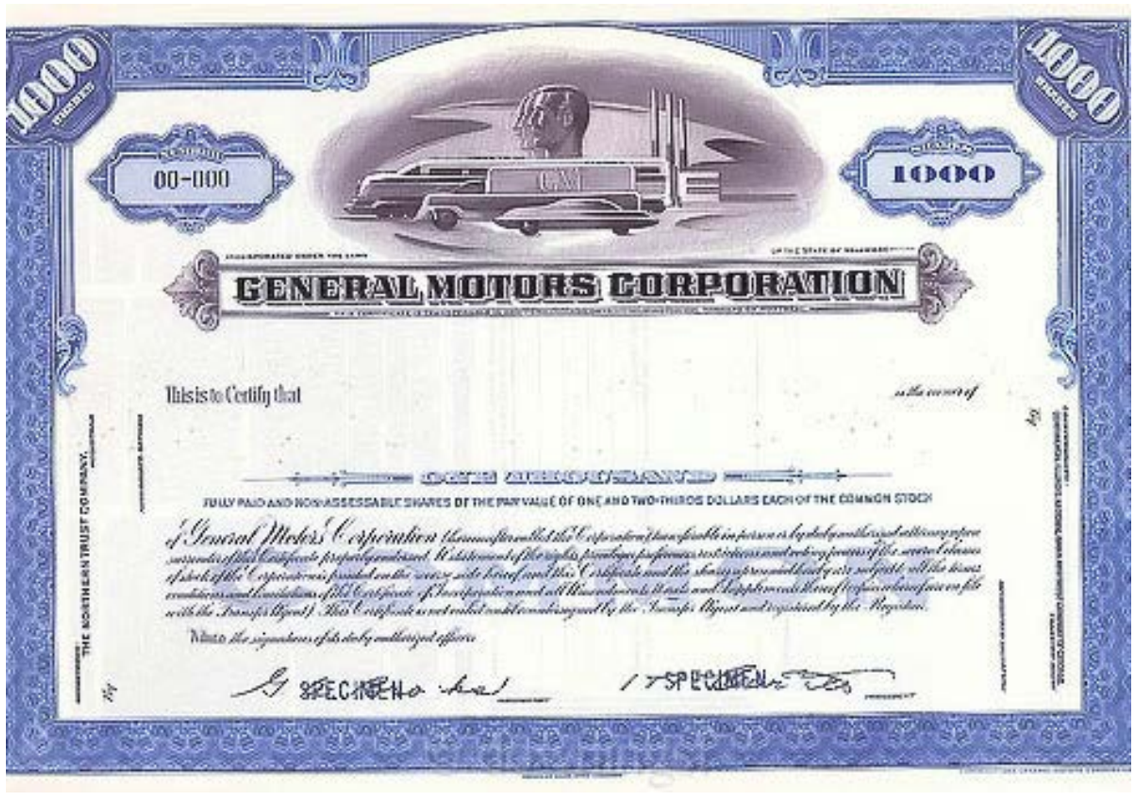
KEY POINTS

- Issued shares are the sum of outstanding shares and treasury stock, or stock reacquired by the company. Most public companies issue two major types of shares: common and preferred.
- Common shareholders may possess "voting" shares and have the ability to influence company decisions through their vote. Owning common stock tends to be riskier than owning preferred stock.
- Preferred stock is considered a hybrid financial instrument because the shares have properties of both equity and debt.
- When reporting common or preferred stock in stockholder's equity, the value of shares is divided between the stock's par, or stated, value, and the amount in excess of par is recorded to additional paid in capital.

Issuing Company Stock

The process of issuing stock-- or shares-- of a publicly traded company involves several steps. The amount of issued stock is dependent on the authorized capital of a company, or the maximum number of shares authorized by a company's corporate documents to issue to shareholders. A portion of authorized capital tends to remain unissued, but the number can be changed by shareholder approval. When shares are issued, they are transferred to a subscriber, an action referred to as an allotment. After the allotment, a subscriber becomes a shareholder. Issued shares are the sum of outstanding shares and treasury stock, or stock

Figure 12.6 General Motors Common Stock Certificate



Public companies issue common stock to raise business capital.

reacquired by the company. Most public companies issue two major types of shares: common and preferred (*Figure 12.6*).

Common Stock

Shares of common stock are primarily issued in the United States. Common shareholders may possess "voting" shares and have the ability to influence company decisions through their vote. Owning common stock tends to be riskier than owning preferred stock; yet over time, common shares on average perform better than preferred shares or bonds. The greater amount of risk is due to the fact that shares receive dividends only after preferred shareholders are paid and, in the event of a business liquidation, common stock shareholders are paid last, after creditors and preferred shareholders.

Preferred Stock

Preferred stock is considered a hybrid financial instrument because the shares have properties of both equity and debt. Preferred shares tend to pay dividends to shareholders, which can accumulate from one period to the next, and have priority over common shareholders when dividends are paid or assets liquidated. Similar to bonds, preferred shares are rated by credit-rating companies and are also callable by the company. Some other features associated with preferred stock include convertibility to common stock, non-voting rights, and the potential of shares to be either cumulative or non-cumulative of company dividends.

Stock Issuance and Stockholder's Equity

Both common and preferred stock issued are reported in the stockholder's equity section of the balance sheet. Each share type is reported at market value at the time the shares are purchased by investors, which is also the point in time when shares become outstanding. This value is divided between the stock's par, or stated value and additional paid in **capital**.

Employee Stock Compensation

An employee stock option (ESO) is a call (buy) option on a firm's common stock, granted to an employee as part of his compensation.

KEY POINTS

- Options, as their name implies, do not have to be exercised. The holder of the option should ideally exercise it when the stock's market price rises higher than the option's exercise price. When this occurs, the option holder profits by acquiring the company stock at a below market price.
- An ESO has features that are unlike exchange-traded options, such as a non-standardized exercise price and quantity of shares, a vesting period for the employee, and the required realization of performance goals.
- An option's fair value at the grant date should be estimated using an option pricing model, such as the Black–Scholes model or a binomial model. A periodic compensation expense is reported on the income statement and also in additional paid in capital account in the stockholder's equity section.

Definition of Employee Stock Options

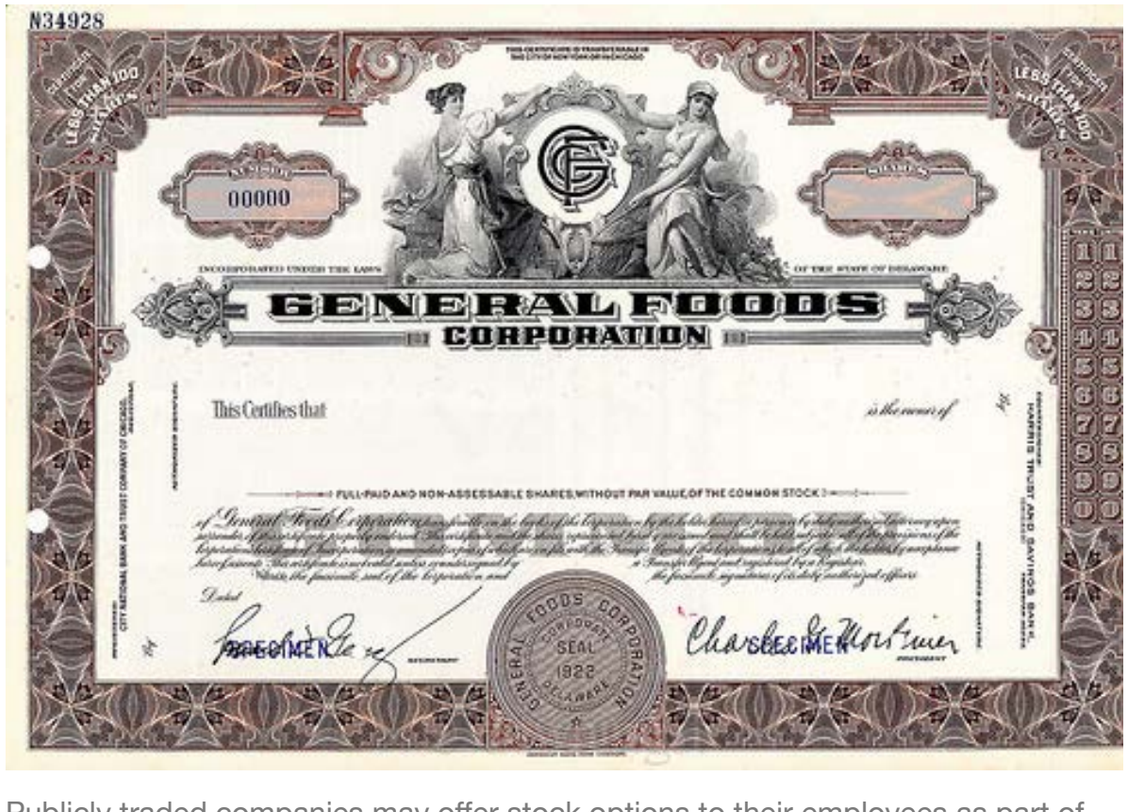
An employee stock option (ESO) is a call (buy) option on the common stock of a company, granted by the company to an employee as part of the employee's **remuneration** package. The objective is to give employees an incentive to behave in ways that will boost the company's stock price. ESOs are mostly offered to management as part of their executive compensation package. They may also be offered to non-executive level staff, especially by businesses that are not yet profitable and have few other means of compensation. Options, as their name implies, do not have to be exercised. The holder of the option should ideally exercise it when the stock's market price rises higher than the option's **exercise price**. When this occurs, the option holder profits by acquiring the company stock at a below market price (*Figure 12.7*).

Features of ESOs

ESOs have several different features that distinguish them from exchange-traded call options:

There is no standardized exercise price and it is usually the current price of the company stock at the time of issue. Sometimes a formula is used, such as the average price for the next 60 days after the grant date. An employee may have stock options that can be

Figure 12.7 General Foods Common Stock Certificate



Publicly traded companies may offer stock options to their employees as part of their compensation.

exercised at different times of the year and for different exercise prices.

The quantity of shares offered by ESOs is also non-standardized and can vary.

A **vesting period** usually needs to be met before options can be sold or transferred (e.g., 20% of the options vest each year for five years).

Performance or profit goals may need to be met before an employee exercises her options.

Expiration date is usually a maximum of 10 years from date of issue.

ESOs are generally not transferable and must either be exercised or allowed to expire worthless on expiration day. This should encourage the holder to sell her options early if it is profitable to do so, since there's substantial risk that ESOs, almost 50%, reach their expiration date with a worthless value.

Since ESOs are considered a private contract between an employer and his employee, issues such as corporate credit risk, the arrangement of the clearing, and settlement of the transactions should be addressed. An employee may have limited recourse if the company can't deliver the stock upon the exercise of the option.

ESOs tend to have tax advantages not available to their exchange-traded counterparts.

Accounting and Valuation of ESOs

Employee stock options have to be expensed under US GAAP in the US. As of 2006, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) agree that an option's fair value at the grant date should be estimated using an option pricing model. The majority of public and private

companies apply the Black–Scholes model. However, through September 2006, over 350 companies have publicly disclosed the use of a binomial model in Securities and Exchange Commission (SEC) filings. Three criteria must be met when selecting a valuation model:

1. The model is applied in a manner consistent with the fair value measurement objective and other requirements of FAS123R;
2. is based on established financial economic theory and generally applied in the field;
3. and reflects all substantive characteristics of the instrument (i.e. assumptions on volatility, interest rate, dividend yield, etc.).

A periodic compensation expense is recorded for the value of the option divided by the employee's vesting period. The compensation expense is debited and reported on the income statement. It is also credited to an additional paid-in capital account in the equity section of the balance sheet.

EXAMPLE

A company offers stock options due in three years. The stock options have a total value of $150,000, and is for 50,000 shares of stock at a purchase price of $10. The stock's par value is $1. The journal entry to expense the options each period would be: Compensation Expense $50,000 Additional Paid-In Capital, Stock Options $50,000. This expense would be repeated for each period during the option plan. When the options are exercised, the firm will receive cash of $500,000 (50,000 shares at $10). Paid-In capital will have to be reduced by the amount credited over the three year period. Common stock will increase by $50,000 (50,000 shares at $1 par value). And paid-in capital in excess of par must be credited to balance out the transaction. The journal entry would be:Cash $500,000 Additional Paid-In Capital, Stock Options $150,000 Common Stock $50,000 Additional Paid-In Capital, Excess of Par $600,000

Repurchasing Stock

A stock repurchase is the reacquisition by a company of its own stock for the purpose of retirement or re-issuance.

KEY POINTS

- Shares kept for the purpose of re-issuance are referred to as treasury stock.
- Buying back shares reduces the number of shares a company has outstanding without altering earnings. This can improve a company's price/earnings ratio and earnings per share.
- In an inefficient market that has underpriced a company's stock, a repurchase of shares can benefit current shareholders by providing support to the stock price. If the stock is overpriced, the opposite is true.
- On the balance sheet, treasury stock is listed under shareholders' equity as a negative number. The accounts may be called "Treasury stock" or "equity reduction".

Reasons to Repurchase Stock

The reasons to repurchase stock can vary from company to company. Reasons can include: (1) to cancel and retire the stock; (2) to reissue the stock later at a higher price; (3) to reduce the number of shares outstanding and increase earnings per share (EPS); or (4) to issue the stock to employees. The company either retires the repurchased shares or keeps them as treasury stock, available for re-issuance. If the intent of stock reacquisition is cancellation and retirement, the treasury shares exist only until they are retired and cancelled by a formal reduction of corporate capital. For accounting purposes, treasury shares are included in calculations to determine legal capital, but are excluded from calculations for EPS amounts (*Figure 12.8*).

Figure 12.8 General Foods Common Stock Certificate

Public companies sometimes repurchase their own stock. The reacquired stock is referred to as treasury stock.

Benefits to Repurchasing Stock

Stock repurchases are often used as a tax-efficient method to put cash into shareholders' hands, rather than paying dividends. Sometimes, companies do this when they feel that their stock is

undervalued on the open market. Another motive for stock repurchase is to protect the company against a takeover threat.

In an efficient market, the net effect of a stock repurchase does not change the value of each share. For example, if the market fairly prices a company's shares at $50 a share, and the company buys back 100 shares for $5,000, it now has $5,000 less cash but there are also 100 fewer shares outstanding. So, the net effect of the repurchase would be zero. Buying back shares can improve a company's **price earnings ratio** due to the reduced number of shares (and unchanged earnings). It can improve EPS due to the fewer number of shares outstanding as well as unchanged earnings. In an inefficient market that has underpriced a company's stock, a repurchase of shares can benefit current shareholders by providing support to the stock price. If the stock is overpriced, the opposite is true.

Accounting for Repurchased Shares

On the balance sheet, treasury stock is listed under shareholders' equity as a negative number. The accounts may be called "Treasury stock" or "equity reduction".

One way of accounting for treasury stock is with the cost method. In this method, the paid-in capital account is reduced in the balance sheet when the treasury stock is bought. When the treasury stock is sold back on the open market, the paid-in capital is either debited or credited if it is sold for more or less than the initial cost respectively.

Another common way for accounting for treasury stock is the par value method. In the par value method, when the stock is purchased back from the market, the books will reflect the action as a retirement of the shares. Therefore, common stock is debited and treasury stock is credited. However, when the treasury stock is resold back to the market, the entry in the books will be the same as the cost method.

In either method, any transaction involving treasury stock cannot increase the amount of retained earnings. If the treasury stock is sold for more than cost, then the paid-in capital treasury stock is the account that is increased, not retained earnings. In auditing financial statements, it is a common practice to check for this error to detect possible attempts to "cook the books."

EXAMPLE

Consider a company that repurchases 15,000 shares of its $1 par value stock for $25 per share. In this transaction, treasury stock is increased and cash is increased. Therefore, using the cost method, treasury stock is debited and cash is credited. Treasury Stock $375,000 Cash $375,000The firm then resells 7,500 shares of treasury stock for $28. In this transaction, cash is decreased, treasury stock is decreased, and additional paid-in capital is increased. Therefore, cash is debited, and treasury stock and additional paid-in capital is credited.Cash $210,000 Treasury Stock $187,500 Additional Paid-In Capital $22,500If the remaining 7,500 shares of stock are resold for less than the original $25 purchase price, and if the adjustment to treasury stock minus the proceeds from the sale is more than the balance of additional paid-in capital, an adjustment to retained earnings must be made. Consider the shares are sold for $21. The accounting for the transaction would be:Cash 157,500Additional Paid-In Capital 22,500Retained Earnings 7,500 Treasury Stock 187,500

Treasury Stock

Treasury stock is a company's issued and reacquired capital stock; the stock has not been retired and is legally available for reissuance.

KEY POINTS

- Treasury stock can be accounted for using the cost or par value methods.
- Using the cost method, a treasury stock account is debited in the equity section of the balance sheet for the stock purchase price and cash is credited.
- When using the par value method, the company's reacquisition of its own stock is treated as a retirement of the shares reacquired; treasury stock is debited for the par value of the stock and paid-in capital is debited or credited by the difference between the par value and repurchase price.

Definition of Treasury Stock

Treasury stock is the corporation's own capital stock it has issued and then reacquired. Because this stock has not been canceled, it is legally available for reissuance and cannot be classified as unissued stock. When a corporation has additional authorized shares of stock that are to be issued after the date of original issue, in most states the **preemptive right** requires offering these additional shares

first to existing stockholders on a pro rata basis. However, firms may reissue treasury stock without violating the preemptive right provisions of state laws; that is, treasury stock does not have to be offered to current stockholders on a pro rata basis. Treasury stock can be accounted for using the cost or par value methods (*Figure 12.9*).

Figure 12.9 Gerber Products Common Stock Certificate Companies that issue common stock and reacquire it in the future, reclassify it as treasury stock.

Cost Method

Using the cost method, a treasury stock account is increased (debited) in the equity section of the balance sheet for the stock purchase price and cash is reduced (credited). The treasury stock amount is subtracted from the other stockholders' equity amount, therefore it is considered a contra account. When the treasury stock is sold back on the open market, the treasury stock account is reduced (credited) for the original cost and the difference between original cost and sales price is debited or credited to a treasury stock **paid in capital** account, which is also disclosed in the equity section of the balance sheet. Cash is debited for the proceeds of the sale.

Par Value Method

When using the par value method, the company's reacquisition of its own stock is treated as a retirement of the shares reacquired. On the purchase date, treasury stock is increased (debited) for the par value of stock reacquired and paid in capital is reduced (debited) or increased (credited) by the amount of the purchase price in excess of par. Cash is also credited for the purchase price. When the stock is resold, treasury stock is credited for the par value of the stock sold. Differences between the sales price and repurchase price are debited or credited to paid in capital, along with a debit to cash for proceeds from the sale.

Section 3

Rules and Rights of Common and Preferred Stock

Claim to Income

Voting Right

Provisions of Preferred Stock: Cumulative Dividends, Conversion, Call, Participation, Floating Rate,

New Share Purchase

Preferred Stock Rules and Rights

Comparing Common Stock, Preferred Stock, and Debt

https://www.boundless.com/accounting/reporting-of-stockholders-equity/rules-and-rights-of-common-and-preferred-stock--2/

Claim to Income

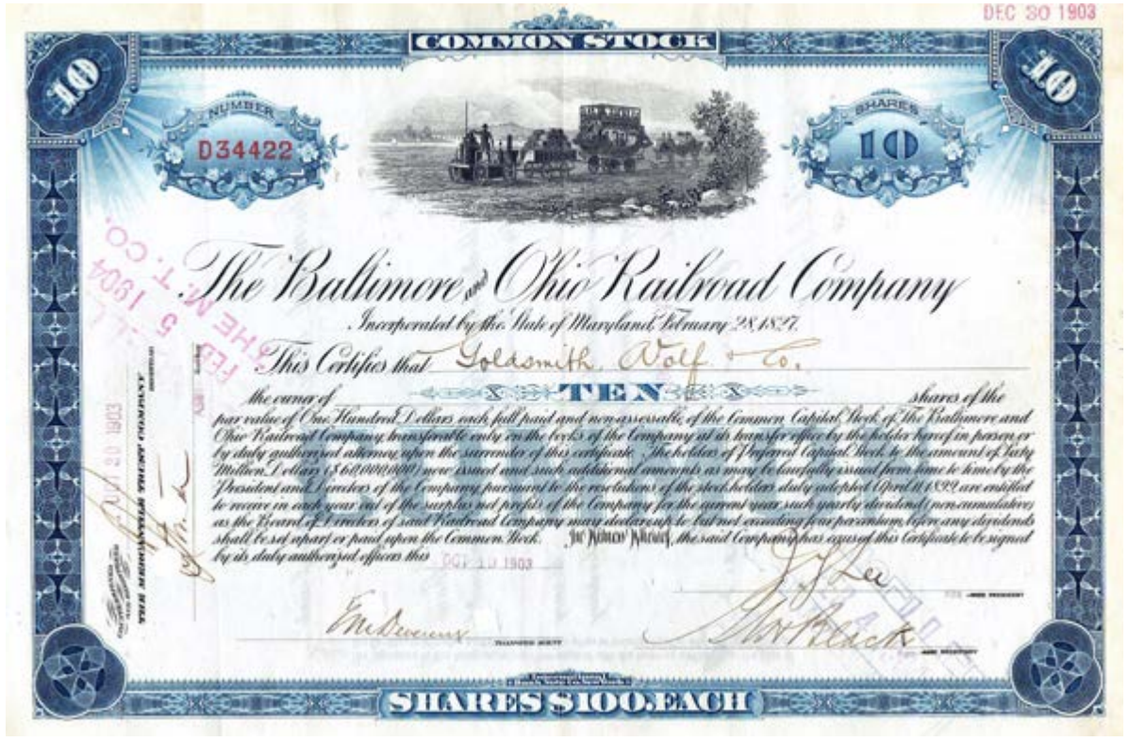
In the cases of bankruptcy and dividend distribution, preferred stock shareholders will receive assets before common stock shareholders.

KEY POINTS

- Common stock and preferred stock are both forms of equity ownership but carry different rights and claims to income.
- Preferred stock shareholders will have claim to assets over common stock shareholders in the case of company liquidation.
- Preferred stock also has first right to dividends.

Preferred and common stock have varying claims to income which will change from one equity issuer to another. In general, preferred stock will be given some preference in assets to common assets in the case of company liquidation, but both will fall behind bondholders when asset distribution takes place. In the event of bankruptcy, common stock investors receive any remaining funds after bondholders, creditors (including employees), and preferred stock holders are paid. As such, these investors often receive nothing after a bankruptcy. Preferred stock also has the first right to receive dividends. In general, common stock shareholders will not receive dividends until it is paid out to preferred shareholders. (*Figure 12.10*).Access to dividends and other rights vary from firm to firm.

Figure 12.10 1903 stock certificate of the Baltimore and Ohio Railroad



Preferred and common stock both carry rights of ownership, but represent different classes of equity ownership.

Preferred stock may or may not have a fixed liquidation value (or par value) associated with it. This represents the amount of capital that was contributed to the corporation when the shares were first issued. Preferred stock has a claim on liquidation proceeds of a stock corporation equal to its par (or liquidation) value, unless

otherwise negotiated. This claim is senior to that of common stock, which has only a residual claim.

Both types of stock can have a claim to income in the form of capital appreciation as well. As company value increases based on market determinants, the value of equity held in this company also will increase. This translates to a return on investment to shareholders. This will be different to common stock shareholders and preferred stock shareholders because of the different prices and rewards based on holding these different kinds of shares. In turn, should market forces decrease, the value of equity held will decrease as well, reflecting a loss on investment and, therefore, a decrease on the value of any claims to income for shareholders.

Voting Right

Common stock generally carries voting rights, while preferred stock does not; however, this will vary from company to company.

KEY POINTS

- Common stock shareholders can generally vote on issues, such as members of the board of directors, stock splits, and the establishment of corporate objectives and policy.
- While having superior rights to dividends and assets over common stock, generally preferred stock does not carry voting rights.
- Many of the voting rights of a shareholder can be exercised at annual general body meetings of companies. An annual general meeting is a meeting that official bodies, and associations involving the general public, are often required by law to hold.

Voting Rights

Common stock can also be referred to as a "voting share." Common stock usually carries with it the right to vote on business entity matters, such as electing the board of directors, establishing corporate objectives and policy, and stock splits. However, common stock can be broken into voting and non-voting classes. While

having superior rights to dividends and assets over common stock, generally preferred stock does not carry **voting rights**.

The matters that a stockholder gets to vote on vary from company to company. In many cases, the shareholder will be able to vote for members of a company board of directors and, in general, each share gets a vote as opposed to each shareholder. Therefore, a single investor who owns 300 shares will have more say in a voting matter than a single shareholder that owns 30.

Exercising Voting Rights

Many of the voting rights of a shareholder can be exercised at annual general body meetings of companies. An annual general meeting is a meeting that official bodies and associations involving the general public (including companies with shareholders) are often required by law (or the constitution, charter, by-laws, etc., governing the body) to hold. An AGM is held every year to elect the board of directors and inform their members of previous and future activities. It is an opportunity for the shareholders and partners to receive copies of the company's accounts, as well as reviewing fiscal information for the past year and asking any questions regarding the directions the business will take in the future. Shareholders also have the option to mail their votes in if they cannot attend the shareholder meetings. In 2007, the Securities and Exchange Commission voted to require all public companies to make their annual meeting materials available online. Shareholders with the right to vote will have numerous options in how to make their voice heard with regards to voting matters should they choose to (*Figure 12.11*).

Figure 12.11 Shareholder Meeting Common stock shareholders generally have voting rights in regards to corporate issues.

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Provisions of Preferred Stock: Cumulative Dividends, Conversion, Call, Participation, Floating Rate,

Preferred shares have numerous rights which can be attached to them, such as cumulative dividends, convertibility, and participation.

KEY POINTS

- If a preferred share has cumulative dividends, then it contains the provision that should a company fail to pay out dividends at any time at the stated rate, then the issuer will have to make up for it as time goes on.
- Convertible preferred stock can be exchanged for a predetermined number of company common stock shares.
- Often times companies will keep the right to call or buy back preferred shares at a predetermined price.
- Participating preferred issues offer holders the opportunity to receive extra dividends if the company achieves predetermined financial goals.

KEY POINTS (cont.)

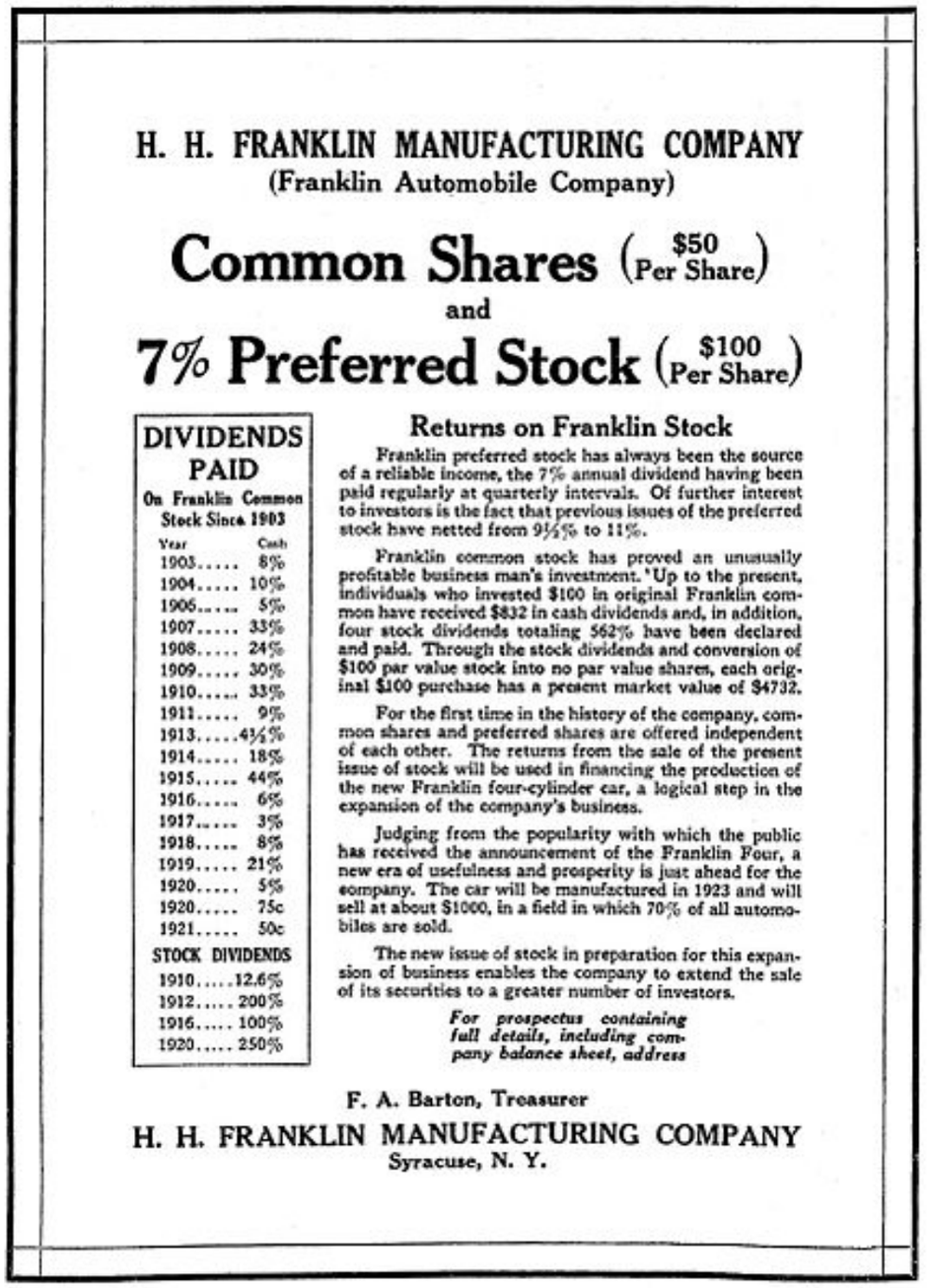
- Sometimes, dividends on preferred shares may be negotiated as floating; they may change according to a benchmark interest-rate index.

Preferred stock may be entitled to numerous rights, depending on what is designated by the issuer. One of these rights may be the right to **cumulative dividends**. Preferred stock shareholders already have rights to dividends before common stock shareholders, but cumulative preferred shares contain the provision that should a company fail to pay out dividends at any time at the stated rate, then the issuer will have to make up for it as time goes on (*Figure 12.12*).

Convertible preferred stock can be exchanged for a predetermined number of company common stock shares. Generally, this can occur at the discretion of the investor, and he or she may pick any time to do so and, therefore, take advantage of fluctuations in the price of common stock. Once converted, the common stock cannot be converted back to preferred status.

Often times companies will keep the right to call or buy back preferred shares at a predetermined price. These shares are **callable shares**.

Figure 12.12 Historical dividend information for Franklin Automobile Company



H. H. FRANKLIN MANUFACTURING COMPANY
(Franklin Automobile Company)

Common Shares ($50 Per Share)
and
7% Preferred Stock ($100 Per Share)

DIVIDENDS PAID
On Franklin Common Stock Since 1903

Year	Cash
1903.....	8%
1904.....	10%
1905.....	5%
1907.....	33⅓%
1908.....	24%
1909.....	30%
1910.....	33⅓%
1911.....	9%
1913.....4½%	
1914.....	18%
1915.....	44%
1916.....	6%
1917.....	3%
1918.....	8%
1919.....	21%
1920.....	5%
1920.....	75c
1921.....	50c

STOCK DIVIDENDS

1910.....	12.6%
1912.....	200%
1916.....	100%
1920.....	250%

Returns on Franklin Stock

Franklin preferred stock has always been the source of a reliable income, the 7% annual dividend having been paid regularly at quarterly intervals. Of further interest to investors is the fact that previous issues of the preferred stock have netted from 9½% to 11%.

Franklin common stock has proved an unusually profitable business man's investment. Up to the present, individuals who invested $100 in original Franklin common have received $832 in cash dividends and, in addition, four stock dividends totaling 562% have been declared and paid. Through the stock dividends and conversion of $100 par value stock into no par value shares, each original $100 purchase has a present market value of $4732.

For the first time in the history of the company, common shares and preferred shares are offered independent of each other. The returns from the sale of the present issue of stock will be used in financing the production of the new Franklin four-cylinder car, a logical step in the expansion of the company's business.

Judging from the popularity with which the public has received the announcement of the Franklin Four, a new era of usefulness and prosperity is just ahead for the company. The car will be manufactured in 1923 and will sell at about $1000, in a field in which 70% of all automobiles are sold.

The new issue of stock in preparation for this expansion of business enables the company to extend the sale of its securities to a greater number of investors.

For prospectus containing full details, including company balance sheet, address

F. A. Barton, Treasurer
H. H. FRANKLIN MANUFACTURING COMPANY
Syracuse, N. Y.

Dividends are one of the privileges of stock ownership, and preferred shares get more rights to them than common shares do.

There is a class of preferred shares known as "participating preferred stock." These preferred issues offer holders the opportunity to receive extra dividends if the company achieves predetermined financial goals. Investors who purchased these stocks receive their regular dividend regardless of company performance (assuming the company does well enough to make its annual dividend payments). If the company achieves predetermined sales, earnings, or profitability goals, the investors receive an additional dividend.

Almost all preferred shares have a negotiated, fixed-dividend amount. The dividend is usually specified as a percentage of the par value, or as a fixed amount. Sometimes, dividends on preferred shares may be negotiated as floating; they may change according to a benchmark interest-rate index or floating rate. An example of this would be tying the dividend rate to LIBOR.

New Share Purchase

New shares can be purchased on exchanges and current shareholders will usually have preemptive rights to newly issued shares.

KEY POINTS

- New share purchase is an important indicator of current shareholder belief in the health of the company and long term prospects for growth.
- Current Shareholders will often have preemptive rights that give them the right to purchase newly issued company shares before they go on sale to the general public.
- New shares can be purchased on exchanges, which offer a platform for the financial marketplace.

New share purchases are an important action by share shareholders, since it requires a further investment in a business entity and is a reflection of a shareholder's decision to maintain an ownership position in a company, or a potential investor's belief that purchasing equity in a company will be an investment that grows in value.

Current shareholders may have preemptive rights over new shares offered by the company. In practice, the most common form of **preemption** right is the right of existing shareholders to acquire new shares issued by a company in a rights issue, a usually but not always public offering. In this context, the pre-emptive right is also called "subscription right" or "subscription privilege." This is the right, but not the obligation, of existing shareholders to buy the new shares before they are offered to the public. In this way, existing shareholders can maintain their proportional ownership of the company, preventing stock dilution.

New shares may be purchased over the same exchange mechanisms that previous stock was acquired. A **stock exchange** is a form of exchange which provides services for stock brokers and traders to trade stocks, bonds, and other securities (*Figure 12.13*). Stock exchanges also provide facilities for issue and redemption of securities and other financial instruments, and capital events, including the payment of

Figure 12.13
Exchanges
New shares can be traded on exchanges such as the Nasdaq, but will usually be offered to current shareholders before being put on sale to the general public.

income and dividends. The initial offering of stocks and bonds to investors is by definition done in the primary market and subsequent trading is done in the secondary market. A stock exchange is often the most important component of a stock market. Supply and demand in stock markets are driven by various factors that, as in all free markets, affect the price of stocks.

Preferred Stock Rules and Rights

Preferred stock can include rights such as preemption, convertibility, callability, and dividend and liquidation preference.

KEY POINTS

- Preferred stock generally does not carry voting rights, but this may vary from company to company.
- Preferred stock can gain cumulative dividends, convertibility to common stock, and callability.
- The rights that come with ownership of preferred stock are detailed in a "Certificate of Designation".

Preferred stock usually carries no voting rights, but may carry a dividend and may have priority over common stock in the payment of dividends and upon liquidation. Terms of the preferred stock are stated in a "Certificate of Designation (*Figure 12.14*)."

Preferred stock is a special class of shares that may have any combination of features not possessed by common stock. The following features are usually associated with preferred stock: Preference in dividends preference in assets, in the event of

Figure 12.14 VOC stock

Preferred stock is a security (a little more modern that this stock from the VOC or Dutch East India Company) that carries certain rights which designate it from common stock or debt.

liquidation, convertibility to common stock, callability, and at the option of the corporation. Some preferred shares have special voting rights to approve extraordinary events (such as the issuance of new shares or approval of the acquisition of a company) or to elect directors, but, once again, most preferred shares have no voting rights associated with them. Some preferred shares gain voting rights when the preferred dividends are in arrears for a substantial time.

Preferred stock may or may not have a fixed liquidation value (or par value) associated with it. This represents the amount of capital which was contributed to the corporation when the shares were first issued. Preferred stock has a claim on liquidation proceeds of a stock corporation equal to its par (or liquidation) value, unless otherwise negotiated. This claim is senior to that of common stock, which has only a residual claim.Almost all preferred shares have a negotiated, fixed-dividend amount. The dividend is usually specified as a percentage of the par value, or as a fixed amount. Sometimes, dividends on preferred shares may be negotiated as floating; they may change according to a benchmark interest-rate index. Preferred stock may also have rights to cumulative dividends.

Source:https://www.boundless.com/finance/stock-valuation/rules-and-rights-of-common-and-preferred-stock/preferred-stock-rules-and-rights--2/

Comparing Common Stock, Preferred Stock, and Debt

Common stock, preferred stock, and debt are all securities that a company may offer; each of these securities carries different rights.

KEY POINTS

- Common stock and preferred stock fall behind debt holders as creditors that would receive assets in the case of company liquidation.
- Common stock and preferred stock are both types of equity ownership. They receive rights of ownership in the company, such as voting and dividends.
- Debt holders often receive a bond for lending and while this does not give the ownership rights of being a stockholder, it does create a superior claim to a company's assets in the case of liquidation.

Equity

Common Stock and Preferred Stock are both methods of purchasing equity in a business entity.

Common stock generally carries voting rights along with it, while preferred shares generally do not.

Preferred shares act like a hybrid security, in between common stock and holding debt. Preferred stock can (depending on the issue) be converted to common stock and have access to accumulated dividends and multiple other rights. Preferred stock also has access to dividends and assets in the case of liquidation before common stock does.

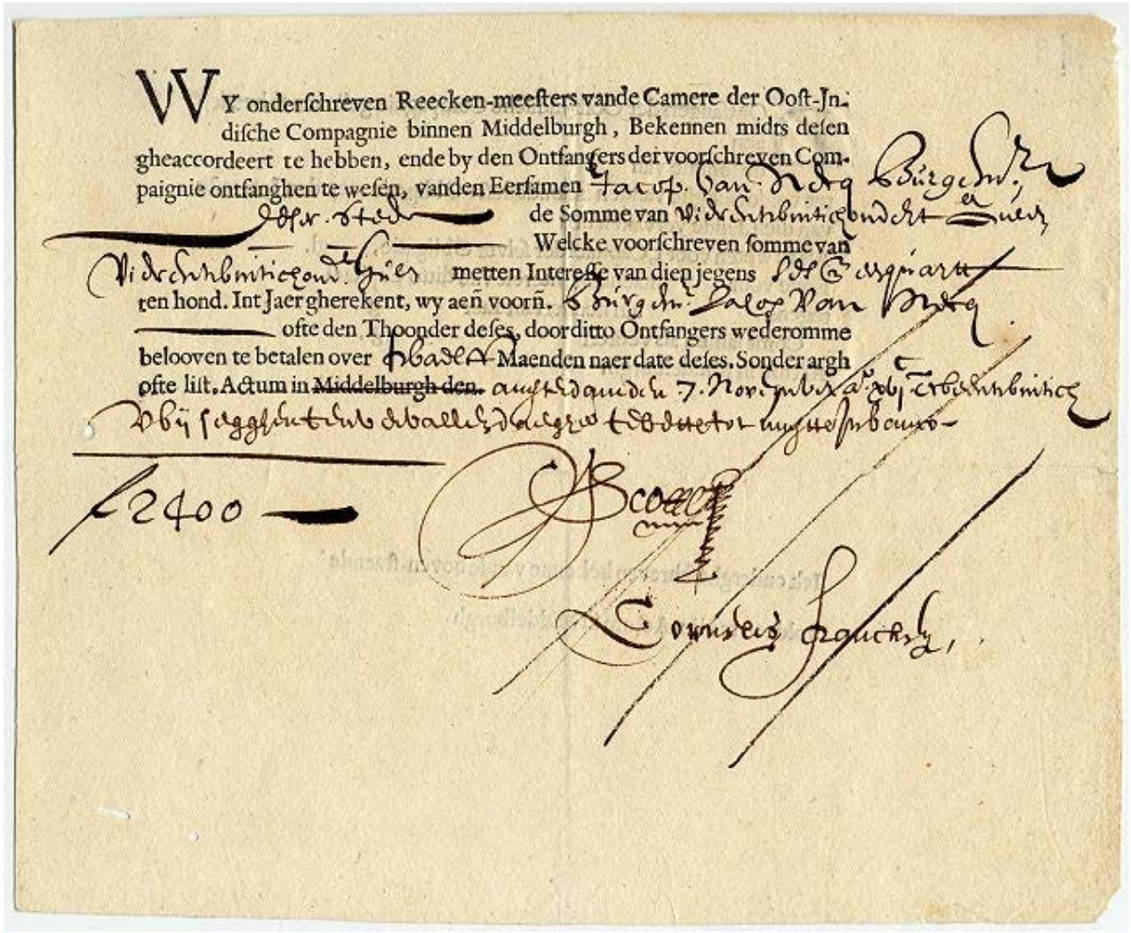
However, both common and preferred stock fall behind debt holders when it comes to claims to assets of a business entity should bankruptcy occur. Common shareholders often do not receive any assets after bankruptcy as a result of this principle. However, common stock shareholders can theoretically use their votes to affect company decision making and direction in a way they believe will help the company avoid liquidation in the first place.

Debt

Debt can be "purchased" from a company in the form of a bond (*Figure 12.15*).

In finance, a bond is an instrument of indebtedness of the bond issuer to the holders. It is a debt security, under which the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay them interest and/or to repay the principal at a later date, termed the maturity. Therefore, a bond is a form of loan or IOU: the holder of the bond is the lender (creditor), the issuer of the

Figure 12.15 A bond from the Dutch East India Company



A bond, like the one seen here, is a symbol of holding company debt. Debt holders will receive assets in the case of liquidation before stockholders, but do not receive ownership rights in the company.

bond is the borrower (debtor), and the coupon is the interest. Bonds provide the borrower with external funds to finance long-term investments, or, in the case of government bonds, to finance current expenditure.

Bonds and stocks are both securities, but the major difference between the two is that (capital) stockholders have an equity stake in the company (i.e., they are owners), whereas, bondholders have a creditor stake in the company (i.e., they are lenders). Another difference is that bonds usually have a defined term, or maturity, after which the bond is redeemed, whereas stocks may be outstanding indefinitely.

Source:https://www.boundless.com/finance/stock-valuation/rules-and-rights-of-common-and-preferred-stock/comparing-common-stock-preferred-stock-and-debt--2/
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Section 4

Additional Detail on Preferred Stock

Dividend Preference

Liquidation Preference

Accounting for Preferred Stock

https://www.boundless.com/accounting/reporting-of-stockholders-equity/additional-detail-on-preferred-stock/

Dividend Preference

A corporation may issue two basic classes or types of capital stock, common and preferred, both of which can receive dividends.

KEY POINTS

- A corporation may issue two basic classes or types of capital stock, common and preferred. If a corporation issues only one class of stock, this stock is common stock. All of the stockholders enjoy equal rights.
- Common stock is a form of corporate equity ownership. Common stock holders cannot be paid dividends until all preferred stock dividends are paid in full. On the other hand, common shares on average perform better than preferred shares or bonds over time.
- Preferred stock is an equity security with properties of both an equity and a debt instrument, and is generally considered a hybrid instrument. Preferreds are senior (higher ranking) to common stock, but subordinate to bonds in terms of claim.

Dividends

A corporation may issue two basic classes or types of capital stock—common and preferred. If a corporation issues only one class of stock, this stock is common stock. All of the stockholders enjoy equal rights. Common stock is usually the residual equity in the corporation, meaning that all other claims against the corporation rank ahead of the claims of the common stockholder. Preferred stock is a class of capital stock that carries certain features or rights not carried by common stock. Within the basic class of preferred stock, a company may have several specific classes of preferred stock, each with different dividend rates or other features (*Figure 12.16*).

Figure 12.16 Accounting for Stock Dividends

Date	Account	Debit	Credit
12/1	Retained earnings	.15*150,000*15=$337,500	
	Stock dividend distributable		Stocks to be issued * par = $90,000
	Additional paid-in-capital		(stocks to be issued)*(15-4)= $247,500

Shows accounting for stock dividends.

Companies issue preferred stock in order to avoid the following:

Using bonds with fixed interest charges that must be paid regardless of the amount of net income.

Issuing so many additional shares of common stock that earnings per share are less in the current year than in prior years.

Diluting the common stockholders' control of the corporation, since preferred stockholders usually have no voting rights.

Unlike common stock, which has no set maximum or minimum dividend, the dividend return on preferred stock is usually stated at an amount per share or as a percentage of par value. Therefore, the firm fixes the dividend per share (*Figure 12.17*).

Figure 12.17 1903 Stock Certificate of the Baltimore and Ohio Railroad

Example of what a stock certificate from 1903 looks like.

Details on Common Stock

Common stock is a form of corporate equity ownership, a type of security. The terms "voting share" or "ordinary share" are also used in other parts of the world; common stock is primarily used in the United States. It is called "common" to distinguish it from preferred stock. If both types of stock exist, common stock holders cannot be paid dividends until all preferred stock dividends (including payments in arrears) are paid in full. In the event of bankruptcy, common stock investors receive any remaining funds after bondholders, creditors (including employees), and preferred stock holders are paid. As such, such investors often receive nothing after a bankruptcy. On the other hand, common shares on average perform better than preferred shares over time.

Common stock usually carries with it the right to vote on certain matters, such as electing the board of directors. However, a company can have both a "voting" and "non-voting" class of common stock. Holders of common stock are able to influence the corporation through votes on establishing corporate objectives and policy, stock splits, and electing the company's board of directors. Some holders of common stock also receive preemptive rights, which enable them to retain their proportional ownership in a company should it issue another stock offering. There is no fixed dividend paid out to common stock holders and so their returns are uncertain, contingent on earnings, company reinvestment, and efficiency of the market to value and sell stock. Additional benefits from common stock include earning dividends and capital appreciation.

Details on Preferred Stocks

Preferred stock (also called preferred shares, preference shares or simply preferreds) is an equity security with properties of both an equity and a debt instrument, and is generally considered a hybrid instrument. Preferreds are senior (higher ranking) to common stock, but subordinate to bonds in terms of claim (or rights to stock holders' share of company assets). Preferred stock usually carries no voting rights, but may carry a dividend and may have priority over common stock upon liquidation, and in the payment of dividends. Terms of the preferred stock are stated in a "Certificate of Designation."

Similar to bonds, preferred stocks are rated by the major credit-rating companies. The rating for preferreds is generally lower, since preferred dividends do not carry the same guarantees as interest payments from bonds, and because they are junior to all creditors.

Liquidation Preference

The main purpose of a liquidation where the company is insolvent is to satisfy claims in the manner and order prescribed by law.

KEY POINTS

- The main purpose of a liquidation where the company is insolvent is to collect in the company's assets, determine the outstanding claims against the company, and satisfy those claims in the manner and order prescribed by law.
- Before the claims are met, secured creditors are entitled to enforce their claims against the assets of the company to the extent that they are subject to a valid security interest. In most legal systems, only fixed security takes precedence over all claims.
- Claimants with non-monetary claims against the company may be able to enforce their rights against the company. For example, a party who had a valid contract for the purchase of land against the company may be able to obtain an order for specific performance.
- Most preferred stocks are preferred as to assets in the event of liquidation of the corporation.

Liquidation Preference

The main purpose of a liquidation where the company is insolvent is to collect in the company's assets, determine the outstanding claims against the company, and satisfy those claims in the manner and order prescribed by law. The liquidator must determine the company's title to property in its possession. Property which is in the possession of the company, but which was supplied under a valid retention of title clause will generally have to be returned to the supplier. Property which is held by the company on trust for third parties will not form part of the company's assets available to pay creditors.

Before the claims are met, secured creditors are entitled to enforce their claims against the assets of the company to the extent that they are subject to a valid security interest. In most legal systems, only fixed security takes precedence over all claims. Security by way of floating charge may be postponed to the preferential creditors.

Claimants with non-monetary claims against the company may be able to enforce their rights against the company. For example, a party who had a valid contract for the purchase of land against the company may be able to obtain an order for specific performance and compel the liquidator to transfer title to the land to them, upon tender of the purchase price. After the removal of all assets which are subject to retention of title arrangements, fixed security, or are otherwise subject to proprietary claims of others, the liquidator will pay the claims against the company's assets (*Figure 12.18*).

Figure 12.18 Plane Liquidation

Planes are an example of liquidated items when companies "go under." They are generally auctioned off to the highest bidder.

Priority of Claims

Generally, the priority of claims on the company's assets will be determined in the following order:

Liquidators costs

Creditors with fixed charge over assets

Costs incurred by an administrator

Amounts owed to employees for wages/superannuation (director limit $2,000)

Payments owed in respect of workers' injuries

Amounts owed to employees for leave (director limit $1,500)

Retrenchment payments owing to employees

Creditors with floating charge over assets

Creditors without security over assets

Shareholders (Liquidating distribution) - Most preferred stocks are preferred as to assets in the event of liquidation of the corporation. Stock preferred as to assets is preferred stock that receives special treatment in liquidation. Preferred stockholders receive the par value (or a larger stipulated liquidation value) per share before any assets are distributed to common stockholders. A corporation's cumulative preferred dividends in arrears at liquidation are payable even if there are not enough accumulated earnings to cover the dividends. Also, the x` for the current year is payable. Stock may be preferred as to assets, dividends, or both.

Unclaimed assets will usually vest in the state as bona vacantia.

EXAMPLE

A party who had a valid contract for the purchase of land against the company may be able to obtain an order for specific performance and compel the liquidator to transfer title to the land to them, upon tender of the purchase price. After the removal of all assets which are subject to retention of title arrangements, fixed security, or are otherwise subject to proprietary claims of others, the liquidator will pay the claims against the company's assets.

Accounting for Preferred Stock

All preferred stock is reported on the balance sheet in the stockholders' equity section and it appears first before any other stock.

KEY POINTS

- Stock preferred as to dividends means that the preferred stockholders receive a specified dividend per share before common stockholders receive any dividends. A dividend on preferred stock is the amount paid to preferred stockholders as a return for the use of their money.
- Noncumulative preferred stock is preferred stock on which the right to receive a dividend expires whenever the dividend is not declared. When noncumulative preferred stock is outstanding, a dividend omitted or not paid in any one year need not be paid in any future year.
- Cumulative preferred stock is preferred stock for which the right to receive a basic dividend, usually each quarter, accumulates if the dividend is not paid. Companies must pay unpaid cumulative preferred dividends before paying any dividends on the common stock.

KEY POINTS (cont.)

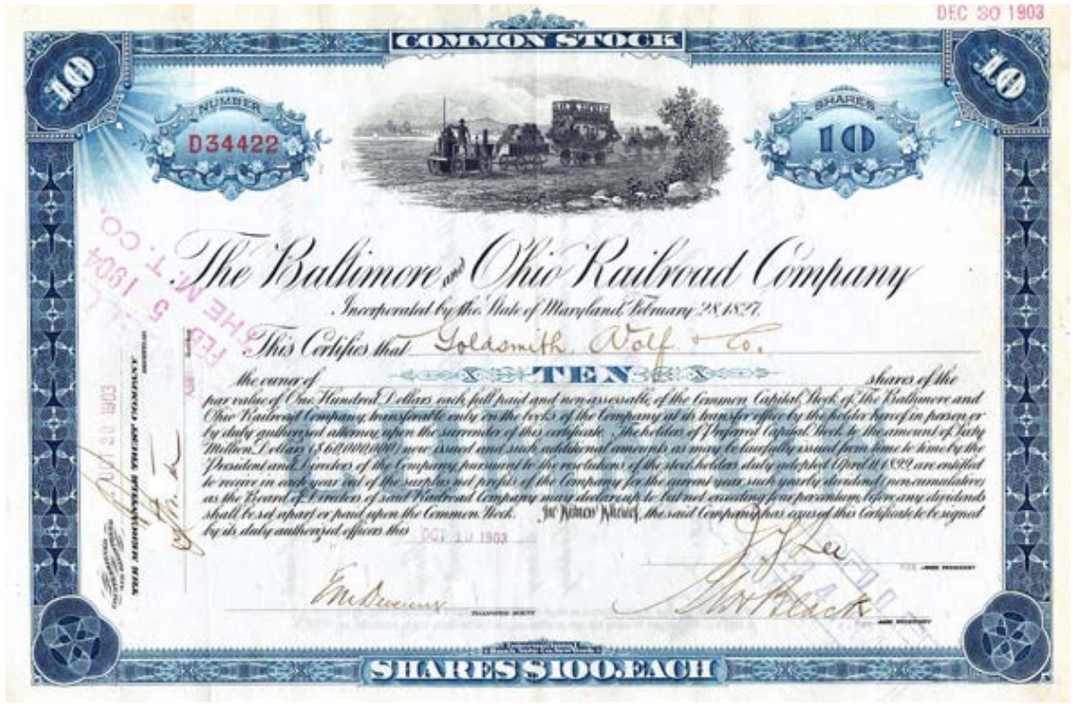
- All preferred stock is reported on the balance sheet in the stockholders' equity section and it appears first before any other stock. The par value, authorized shares, issued shares, and outstanding shares is disclosed for each type of stock.

Preferred Stock

Preferred stock is a class of capital stock that carries certain features or rights not carried by common stock (*Figure 12.19*). Within the basic class of preferred stock, a company may have several specific classes of preferred stock, each with different dividend rates or other features. Companies issue preferred stock to avoid:

1. using bonds with fixed interest charges that must be paid regardless of the amount of net income;
2. issuing so many additional shares of common stock that earnings per share are less in the current year than in prior years; and
3. diluting the common stockholders' control of the corporation, since preferred stockholders usually have no voting rights.

Figure 12.19 1903 stock certificate of the Baltimore and Ohio Railroad



Preferred stock is a class of capital stock that carries certain features or rights not carried by common stock.

Unlike common stock, which has no set maximum or minimum dividend, the dividend return on preferred stock is usually stated at an amount per share or as a percentage of par value. Therefore, the firm fixes the dividend per share.

Types of Preferred Stock

When a corporation issues both preferred and common stock, the preferred stock may be:

Preferred as to dividends. It may be noncumulative or cumulative.

Preferred as to assets in the event of liquidation.

Convertible or nonconvertible.

Callable.

Preferred as to Dividends

Stock preferred as to dividends means that the preferred stockholders receive a specified dividend per share before common stockholders receive any dividends. A dividend is the amount paid to preferred stockholders as a return for the use of their money.

For no-par preferred stock, the dividend is a specific dollar amount per share per year, such as USD 4.40. For par value preferred stock, the dividend is usually stated as a percentage of the par value, such as 8% of par value; occasionally, it is a specific dollar amount per share. Most preferred stock has a par value.

Usually, stockholders receive dividends on preferred stock quarterly. Such dividends—in full or in part—must be declared by the board of directors before paid. In some states, corporations can declare preferred stock dividends only if they have retained earnings (income that has been retained in the business) at least equal to the dividend declared.

Noncumulative Preferred Stock

Noncumulative preferred stock is preferred stock in which a dividend expires whenever the dividend is not declared. When noncumulative preferred stock is outstanding, a dividend omitted or not paid in any one year need not be paid in any future year. Because omitted dividends are lost forever, noncumulative preferred stocks are not attractive to investors and are rarely issued.

Cumulative Preferred Stock

Cumulative preferred stock is preferred stock for which the right to receive a basic dividend, usually each quarter, accumulates if the dividend is not paid. Companies must pay unpaid cumulative preferred dividends before paying any dividends on the common stock. For example, assume a company has cumulative, USD 10 par value, 10% preferred stock outstanding of USD 100,000, common stock outstanding of USD 100,000, and retained earnings of USD 30,000. It has paid no dividends for two years. The company would pay the preferred stockholders dividends of USD 20,000 (USD 10,000 per year times two years) before paying any dividends to the common stockholders.

Dividends in arrears are cumulative unpaid dividends, including the quarterly dividends not declared for the current year. Dividends in arrears never appear as a liability of the corporation because they are not a legal liability until declared by the board of directors. However, since the amount of dividends in arrears may influence the decisions of users of a corporation's financial statements, firms disclose such dividends in a footnote.

Most preferred stocks are preferred as to assets in the event of liquidation of the corporation. Stock preferred as to assets is preferred stock that receives special treatment in liquidation. Preferred stockholders receive the par value (or a larger stipulated liquidation value) per share before any assets are distributed to common stockholders. A corporation's cumulative preferred dividends in arrears at liquidation are payable even if there are not enough accumulated earnings to cover the dividends. Also, the cumulative dividend for the current year is payable. Stock may be preferred as to assets, dividends, or both.

Convertible Preferred Stock

Convertible preferred stock is preferred stock that is convertible into common stock of the issuing corporation. Convertible preferred stock is uncommon, most preferred stock is nonconvertible. Holders of convertible preferred stock shares may exchange them, at their option, for a certain number of shares of common stock of the same corporation.

Preferred Stock and the Balance Sheet

All preferred stock is reported on the balance sheet in the stockholders' equity section and it appears first before any other stock. The par value, authorized shares, issued shares, and outstanding shares is disclosed for each type of stock.

Section 5

Dividend Policy

Clientele

Stock Dividends versus Cash Dividends

Investor Preferences

Accounting Considerations

Signaling

https://www.boundless.com/accounting/reporting-of-stockholders-equity/dividend-policy--2/

Clientele

Change in a firm's dividend policy may cause loss of old clientele and gain of new clientele, based on their different dividend preferences.

KEY POINTS

- The clientele effect is the idea that the type of investors attracted to a particular kind of security will affect the price of the security when policies or circumstances change.
- Current clientele might choose to sell their stock if a firm changes their dividend policy and deviates considerably from the investor's preferences. Changes in policy can also lead to new clientele, whose preferences align with the firm's new dividend policy.
- In equilibrium, the changes in clientele sets will not lead to any change in stock price.
- The real world implication of the clientele effect lies in the importance of dividend policy stability, rather than the content of the policy itself.

The Clientele Effect

The clientele effect is the idea that the type of investors attracted to a particular kind of security will affect the price of the security when policies or circumstances change. These investors are known as **dividend clientele**. For instance, some **clientele** would prefer a company that doesn't pay dividends at all, but instead invests their retained earnings toward growing the business. Some would instead prefer the regular income from dividends over capital gains. Of those who prefer dividends over capital gains, there are further subsets of clientele; for example, investors might prefer a stock that pays a high dividend, while another subset might look for a balance between dividend payout and reinvestment in the company.

Figure 12.20 Clientele Type Example

Retirees are more likely to prefer high dividend payouts over capital gains since this provides them with cash income. Therefore, if a company discontinued paying dividends, the clientele effect may cause retiree shareholders to sell the stock in favor of other income generating investments.

Clientele may choose to sell their stock if a firm changes its dividend policy, and deviates considerably from its preferences. On the other hand, the firm may attract a new clientele group if its new dividend policy appeals to the group's dividend preferences. These changes in demographics related to a stock's ownership due to a change of dividend policy are examples of the "**clientele effect**."

This theory is related to the dividend irrelevance theory presented by Modigliani and Miller, which states that, under particular assumption, an investor's required return and the value of the firm are unrelated to the firm's dividend policy. After all, clientele can just choose to sell off their holdings if they dislike a firm's policy change, and the firm may simultaneously attract a new subset of clientele who like the policy change. Therefore, stock value is unaffected. This is true as long as the "market" for dividend policy is in equilibrium, where demand for such a policy meets the supply.

The clientele effect's real world implication is that what matters is not the content of the dividend policy, but rather the stability of the policy. While investors can always choose to sell shares of firms with undesirable dividend policy, and buy shares of firms with attractive dividend policy, there are brokerage costs and tax considerations associated with this. As a result, an investor may stick with a stock that has a sub-optimal dividend policy because the cost of switching investments outweighs the benefit the investor would receive by investing in a stock with a better dividend policy.

Although commonly used in reference to dividend or coupon (interest) rates, the clientele effect can also be used in the context of leverage (debt levels), changes in line of business, taxes, and other management decisions.

EXAMPLE

Suppose Firm A had been in a growth stage and did not offer dividends to its shareholders, but their policy changed to paying low cash dividends. Clientele interested in long term capital gains might be alarmed, interpreting this decision as a sign of slowing growth, which would mean less stock price appreciation in the future. This set of clientele could choose to sell the stock. On the other hand, dividend payments could appeal to investors who are interested in regular additional income from the investment, and they would buy Firm A's stock.

Stock Dividends versus Cash Dividends

Investors' preference for stock or cash depends on their inclinations toward factors such as liquidity, tax situation, and flexibility.

KEY POINTS

- Cash dividends provide steady payments of cash that can be used to reinvest in a company, if the shareholder desires.
- Holders of stock dividends can sell their stock for (hopefully) high capital gains in the future, or they can sell it off immediately to get cash, much like a cash dividend. This flexibility is seen by some as a benefit of stock dividend.
- Cash dividends are immediately taxable as income, while stock dividends are only taxed when they are actually sold by the shareholder.
- If an investor is interested in long-term capital gains, he or she will likely prefer stock dividends. If an investor needs a regular source of income, cash dividends will provide liquidity.
- Firms can choose to issue stock dividends if they would like to direct their earnings toward the development of the firm but would still like to appease stockholders with some form of payment.

KEY POINTS (cont.)

- Established firms with little more room to grow do not have pressing needs for all their cash earnings, so they are more likely to give cash dividends.

If a firm decides to parcel out dividends to shareholders, they have a choice in the form of payment: cash or stock. **Cash dividends** are those paid out in currency, usually via electronic funds transfer or by paper check. This is the most common method of sharing corporate profits with the shareholders of a company. Stock or scrip dividends are those paid out in the form of additional stock shares of either the issuing corporation or another corporation.Cash dividends provide investors with a regular stream of income. **Stock dividends**, unlike cash dividends, do not provide liquidity to the investors; however, they do ensure capital gains to the stockholders. Therefore, if investors are not interested in a long-term investment, they will prefer regular cash payments over payments of additional stock (*Figure 12.21*).

Costs of taxes can also play a role in choosing between cash or stock dividends. Cash dividends are immediately taxable under most countries' tax codes as income, while stock dividends are not taxable until sold for capital gains (if stock was the only choice for receiving dividends). This can be seen as a huge benefit of stock

dividends, particularly for investors of a high income tax bracket. A further benefit of the stock dividend is its perceived flexibility. Shareholders have the choice of either keeping their shares in hopes of high capital gains, or selling some of the new shares for cash, which is somewhat like receiving a **cash dividend**.

Figure 12.21 Income from Dividends

When choosing between cash or stock dividends, the trade-off is between liquidity in the short-term or income from capital gains in the long-term.

If the payment of stock dividends involves the issuing of new shares, it increases the total number of shares while lowering the price of each share without changing the market capitalization of the shares held. It has the same effect as a stock split: the total value of the firm is not affected. If the payment involves the issuing of new shares, it increases the total number of shares while lowering the price of each share without changing the market capitalization, or total value, of the shares held. As such, receiving stock dividends does not increase a shareholder's stake in the firm; by contrast, a shareholder receiving cash dividends could use that income to reinvest in the firm and increase their stake.

For the firm, dividend policy directly relates to the capital structure of the firm, so choosing between stock dividends and cash dividends is an important consideration. A firm that is still in its stages of growth will most likely prefer to retain its earnings and put them toward firm development, instead of sending them to their shareholders. The firm could also choose to appease investors with stock dividends, which would still allow it to retain its earnings. Conversely, a firm that is already quite stable with low growth is much more likely to choose payment of dividends in cash. The needs and cash flow of the firm are necessary points of consideration in choosing a dividend policy.

Investor Preferences

The significance of investors' dividend preferences is a contested topic in finance that has serious implications for dividend policy.

KEY POINTS

- Elements of dividend policy include: paying a dividend vs reinvestment in company, high vs low payout, stable vs irregular dividends, and frequency of payment.
- Some are of the opinion that the future gains are more risky than the current dividends, so investors prefer dividend payments over capital gains. Others contend that dividend policy is ultimately irrelevant, since investors are indifferent between selling stock and receiving dividends.
- Assuming dividend relevance, coming up with a dividend policy is challenging for the firms because different investors have different views on present cash dividends and future capital gains.
- Importance of the content and the stability of a dividend policy are subject to much academic debate.

The role of investor preferences for dividends and the value of a firm are pieces of the dividend puzzle, which is the subject of much academic debate. Assuming dividend relevance, coming up with a **dividend policy** is challenging for the directors and financial manager of a company because different investors have different views on present cash dividends and future **capital gains**. Investor preferences are first split between choosing dividend payments now, or future capital gains in lieu of dividends. Further elements of the dividend policy also include:1. High versus low payout, 2. Stable versus irregular dividends, and 3. Frequency of payment. Cash dividends provide liquidity, but the bonus share will bring capital gains to the shareholders. The investor's preference between the current cash dividend and the future capital gain has been viewed in kind.

Many people hold the opinion that the future gains are more risky than the current dividends, as the "Bird-in-the-hand Theory" suggests. This view is supported by both the Walter and Gordon models, which find that investors prefer those firms which pay regular dividends, and such dividends affect the market price of the share. Gordon's dividend discount model states that shareholders discount the future capital gains at a higher rate than the firm's earnings, thereby evaluating a higher value of the share. In short, when the retention rate increases, they require a higher discounting rate.

In contrast, others (see Dividend Irrelevance Theory) argue that the investors are indifferent between dividend payments and the future capital gains. Therefore, the content of a firm's dividend policy has

no real effect on the value of the firm.

Figure 12.22
Stock market
Investment preferences are split between choosing dividend payouts or future capital gains.

Investor preferences play an uncertain role in the "dividend puzzle," which refers to the phenomenon of companies that pay dividends being rewarded by investors with higher valuations, even though according to many economists, it should not matter to investors whether or not a firm pays dividends. There are a number of factors, such as psychology, taxes, and information asymmetries tied into this puzzle, which further complicate the matter (*Figure 12.22*).

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Accounting Considerations

Accounting for dividends depends on their payment method (cash or stock).

KEY POINTS

- Cash dividends are payments taken directly from the firm's income. This is formally accounted for by marking the amount down as a liability for the firm. The amount is transferred into a separate dividends payable account and this is debited on payment day.
- Accounting for stock dividends is essentially a transfer from retained earnings to paid-in capital.
- Unlike cash dividends, stock dividends do not come out of the firm's income, so the firm is able to both maintain their cash and offer dividends. The firm's net assets remain the same, as does the wealth of the investor.

Accounting for dividends depends on their payment method (cash or stock). On the declaration day, the firm's Board of Directors announces the issuance of stock dividends or payment of cash dividends. Cash dividends are payments taken directly from the firm's income. This is formally accounted for by marking the amount down as a liability for the firm. The amount is placed in a separate dividends payable account.

The accounting equation for this is simply:

Retained Earnings = Net Income – Dividends

Retained earnings are part of the balance sheet (another basic financial statement) under "stockholders equity (shareholders' equity)." It is mostly affected by net income earned during a period of time by the company less any dividends paid to the company's owners/stockholders. The retained earnings account on the balance sheet is said to represent an "accumulation of earnings" since net profits and losses are added/subtracted from the account from period to period.

On the date of payment, when dividend checks are mailed out to stockholders, the dividends payable account is debited and the firm's cash account is credited.

Stock dividends are parsed out as additional stocks to shareholders on record. Unlike cash dividends, this does not come out of the firm's income. The firm is able to both maintain their cash and give dividends to investors. Here, the firm's net assets remain the same. If a firm authorizes a 15% stock dividend on Dec 1st, distributable on Feb 29, and to stockholders of record on Feb 1, the stock currently has a market value of $15 and a par value of $4. There are 150,000 shares outstanding and the firm will issue 22,500 additional shares. The value of the dividend is (150,000)(15%)(15) = $337,500.

The declaration of this dividend debits retained earnings for this value and credits the stock dividend distributable account for the number of new stock issued (150,000*.15 = 22,500) at par value. We must also consider the difference between market value and par (stated) value and record that as credit for additional paid-in-capital (*Figure 12.23*). On the day of issuance, the stock dividends distributable account is debited and stock is credited $90,000.

Figure 12.23 Accounting for stock dividends

Date	Account	Debit	Credit
12/1	Retained earnings	.15*150,000*15=$337,500	
	Stock dividend distributable		Stocks to be issued * par = $90,000
	Additional paid-in-capital		(stocks to be issued)*(15-4)= $247,500

This shows the balance sheet for a stock dividend on declaration date.

EXAMPLE

Cash dividend example: Firm A's Board of Directors declared a dividend on December 1, 2011 of $100,000 payable to shareholders of record on Feb 1, 2012 and payable on Feb 29, 2012. This $100,000 goes down as a liability on the firm's accounting sheet.

Source:https://www.boundless.com/finance/dividends/dividend-policy/accounting-considerations/

Signaling

Dividend decisions are frequently seen by investors as revealing information about a firm's prospects; therefore firms are cautious with these decisions.

KEY POINTS

- Signaling is the idea that one agent conveys some information about itself to another party through an action. It took root in the idea of asymmetric information; in this case, managers know more than investors, so investors will find "signals" in the managers' actions to get clues about the firm.
- For instance, when managers lack confidence in the firm's ability to generate cash flows in the future they may keep dividends constant, or possibly even reduce the amount of dividends paid out. Investors will notice this and choose to sell their share of the firm.
- Investors can use this knowledge about signal to inform their decision to buy or sell the firm's stock, bidding the price up in the case of a positive dividend surprise, or selling it down when dividends do not meet expectations.
- Firms are aware of this signaling effect, so they will try not to send a negative signal that sends their stock price down.

A dividend decision may have an information **signaling** effect that firms will consider in formulating their policy. This term is drawn

from economics, where signaling is the idea that one agent conveys some information about itself to another party through an action.

Signaling took root in the idea of asymmetric information, which says that in some economic transactions, inequalities in access to information upset the normal market for the exchange of goods and services (*Figure 12.24*). An **information asymmetry** exists if firm managers know more about the firm and its future prospects than the investors.

When investors have incomplete information about the firm (perhaps due to opaque accounting practices) they will look for other information in actions like the firm's dividend policy. For instance, when managers lack confidence in the firm's ability to generate cash flows in the future they may keep dividends constant, or possibly even reduce the amount of dividends paid out. Conversely, managers that have access to information that indicates very good future prospects for the firm (e.g. a full order book) are more likely to increase dividends.

Investors can use this knowledge about managers' behavior to inform their decision to buy or sell the firm's stock, bidding the price up in the case of a positive dividend surprise, or selling it down when dividends do not meet expectations. This, in turn, may influence the **dividend decision** as managers know that stock holders closely watch dividend announcements looking for good or bad news. As managers tend to avoid sending a negative signal to the market about the future prospects of their firm, this also tends to lead to a dividend policy of a steady, gradually increasing payment.

Figure 12.24 A company's dividend decision may signal what management believes is the future prospects of the firm and its stock price.

A model developed by Merton Miller and Kevin Rock in 1985 suggests that dividend announcements convey information to investors regarding the firm's future prospects. Many earlier studies had shown that stock prices tend to increase when an increase in dividends is announced and tend to decrease when a decrease or omission is announced. Miller and Rock pointed out that this is likely due to the information content of dividends.

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Cash Dividend Alternatives

Dividend Reinvestments

Stock Dividends

Drawbacks of Share Repurchases

Reverse Splits

Benefits of Share Repurchases

Stock Splits

Share Repurchases

https://www.boundless.com/accounting/reporting-of-stockholders-equity/cash-dividend-alternatives/

Dividend Reinvestments

Dividend reinvestment plans (DRIPs) automatically reinvest cash dividends in the stock.

KEY POINTS

- DRIPs help shareholders reinvest their dividends in the underlying stock without having to wait for enough money to buy a whole number of shares. It also may allow them to avoid some brokerage fees.
- DRIPs help stabilize stock prices by inherently encouraging long-term investment instead of active-management, which may cause volatility.
- DRIPs are generally associated with programs offered by the company. However, brokerage firms may offer similar reinvestment programs called "synthetic DRIPs".

In some instances, a company may offer its shareholders an alternative option to receiving cash dividends. The shareholder chooses to not receive dividends directly as cash; instead, the shareholder's dividends are directly reinvested in the underlying equity. This is called a dividend reinvestment program or dividend reinvestment plan (DRIP).

The purpose of the DRIP is to allow the shareholder to immediately **reinvest** his or her dividends in the company. Should the shareholder choose to do this on his or her own, s/he would have to wait until enough cash accumulates to buy a whole number of shares and s/he would also incur brokerage fees (*Figure 12.25*).

Figure 12.25 Charles Schwab

Brokerage firms like Charles Schwab earn money by charging a brokerage fee for executing transactions. Thus, participating in a DRIP helps shareholders avoid some or all of the fees they would occur if they reinvested the dividends themselves.

Participating in a DRIP, however, does not mean that the reinvestment of the dividends is free for the shareholder. Some DRIPs are free of charge for participants, while others do charge fees and/or proportional commissions.

DRIPs have become popular means of investment for a wide variety of investors as DRIPs enable them to take advantage of dollar-cost averaging with income in the form of corporate dividends that the company is paying out. Not only is the investor guaranteed the return of whatever the dividend yield is, but s/he may also earn whatever the stock appreciates to during his or her time of ownership. However, s/he is also subject to whatever the stock may decline to, as well.

There is an advantage to the the company managing the DRIP, too. DRIPS inherently encourage long-term investment in the shares, which helps to mitigate some of the volatility associated with active-trading. DRIPs help to stabilize the stock price.

The name "DRIP" is generally associated with programs run by the dividend-paying company. However, some brokerage firms also offer similar plans where shareholders can choose to have their cash dividends reinvested in stocks for little or no cost. This is called a synthetic DRIP.

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Stock Dividends

Stock dividends are when a company gives each shareholder additional stock in lieu of a cash dividend.

KEY POINTS

- Stock dividends are no different than stock splits in practice. They simply increase the number of shares outstanding, but not the market capitalization or the total value of the shareholders' assets.
- Stock dividends may be paid from non-outstanding stock or from the stock of another company (e.g. its subsidiary).
- Cash dividends are taxed while stock dividends are not.

In lieu of cash, a company may choose to pay its dividend in the form of stock. Instead of each shareholder receiving, say $2 for each share, they may receive an additional share. A stock dividend (also known as a scrip dividend) can be the economic equivalent of a **stock split**.

When a **stock dividend** is paid, no shareholder actually increases the values of his or her assets. The total number of shares outstanding increases in proportion to the change in the number of shares held by each shareholder. If a 5% stock dividend is paid, the total number of shares outstanding increases by 5%, and each

shareholder will receive 5 additional shares for each 100 held. As a result, each shareholder has the same ownership stake as before the stock dividend.

In addition, the value of the shares held does not change for each shareholder. As the number of shares outstanding increases, the price per share drops because the market capitalization does not change. Therefore, each shareholder will hold more shares, but each has a lower price so the total value of the shares remains unchanged.

The stock dividend is not, however, exactly the same as a stock split. A stock split is paid by switching out old shares for a greater number of new shares. The company is essentially converting to a new set of shares and asking each shareholder to trade in the old ones.

A stock dividend could be paid from shares not-outstanding. These are the company's own shares that it holds: they are not circulating in the market, but were issued just the same. The company may have gotten these shares from share repurchases, or simply from them not being sold when issued.

Stock dividends may also be paid from non-outstanding stock or from the stock of another company (e.g. its subsidiary).

An advantage of paying stock dividends instead of cash dividends to the shareholder is due to tax considerations. Cash dividends are taxed, while stock dividends are not (*Figure 12.26*). Of course, stock dividends don't actually change the asset value of the shareholders so, in effect, nothing of substance has occurred.

Figure 12.26
Supreme Court Seal
The Eisner vs. Macomber case was a US Supreme Court Case that helped determine the differences in taxation of cash and stock dividends.

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Drawbacks of Share Repurchases

Share repurchases often give an advantage to insiders and can be used to manipulate financial metrics.

KEY POINTS

- Insiders are more likely to know if a firm is undervalued, and are therefore more likely to know whether they should sell their shares in an open-market repurchase.
- Financial ratios that use the number of shares outstanding change when shares are repurchased. Executives and management whose compensation is tied to these metrics have an incentive to manipulate them through share repurchases.
- Share repurchases are often not completed. It is tough to value the effect of a share repurchase announcement because it is unknown whether it will occur in full.

There are a number of drawbacks to share repurchases. Both shareholders and the companies that are repurchasing the shares can be negatively affected.

Shares may be repurchased if the management of the company feels that the company's stock is undervalued in the market. It repurchases the shares with the intention of selling them once the market price of the shares increase to accurately reflect their true value. Not every shareholder, however, has a fair shot at knowing whether the repurchase price is fair. The repurchasing of the shares benefits the non-selling shareholders and extracts value from shareholders who sell. This gives insiders an advantage because they are more likely to know whether they should sell their shares to the company (*Figure 12.27*).

Figure 12.27 Martha Stewart

Martha Stewart was convicted of insider trading, which is not the same as insiders choosing whether to sell their shares in a share repurchase. Insiders are still at an advantage because they will know not to sell during the share repurchase.

Furthermore, share repurchases can be used to manipulate financial metrics. All financial ratios that include the number of shares outstanding (notably earnings per share, or EPS) will be affected by share repurchases. Since compensation may be tied to reaching a high enough EPS number, there is an incentive for executives and management to try to boost EPS by repurchasing shares. Inaccurate EPS numbers are not good for investors because they imply a degree of financial health that may not exist.

From the investor's standpoint, one drawback of share repurchases is that it's hard to judge how it will affect the valuation of the company. Companies often announce repurchases and then fail to complete them, but repurchase completion rates increased after companies were forced to retroactively disclose their repurchase activity. It is difficult for shareholders, especially relatively uninformed ones, to judge how the announcement will affect the value of their holdings if there is no guarantee that the full announced repurchase will occur.

Reverse Splits

Reverse splits are when a company reduces the number of shares outstanding by offering a number of new shares for each old one.

KEY POINTS

- In a reverse stock split (also called a stock merge), the company issues a smaller number of new shares. New shares are typically issued in a simple ratio, e.g. 1 new share for 2 old shares, 3 for 4, etc.
- A reverse split boosts the share price, so there is a stigma attached. Some investors have rules against trading shares below a certain value, so a company in financial trouble may issue a reverse split to keep their share price above that threshold.
- A reverse stock split may be used to reduce the number of shareholders. If a company completes reverse split in which 1 new share is issued for every 100 old shares, any investor holding less than 100 shares would simply receive a cash payment.

By owning a share, the shareholder owns a percentage of the company whose share s/he owns. A share, however, does entitle the shareholder to a specific percentage ownership; the amount of the company that the shareholder owns is dependent of the number of

shares owned and the number of shares outstanding. If Jim owns 10 shares of Oracle, and there are 1,000 shares outstanding, Jim effectively owns 1% of Oracle. If the number of shares outstanding were to double to 2,000, Jim's 10 shares would now correspond to a 0.5% ownership stake. In order for Jim's ownership stake to remain constant, the number of shares he holds must change in proportion to change in **outstanding shares**: he must own 20 shares if there are 2,000 shares outstanding.

That is the premise behind a reverse stock split. In a reverse stock split (also called a stock merge), the company issues a smaller number of new shares. New shares are typically issued in a simple ratio, e.g. 1 new share for 2 old shares, 3 for 4, etc.

The reduction in the number of issued shares is accompanied by a proportional increase in the share price. A company with a market capitalization of $1,000,000 from 1,000,000 shares trading at $1 chooses to reduce the number of outstanding shares to 500,000 through a reverse split. This leads to a corresponding rise in the stock price to $2.

There is a stigma attached to doing a reverse stock split, so it is not initiated without very good reason and may take a shareholder or board meeting for consent. Many institutional investors and mutual funds, for example, have rules against purchasing a stock whose price is below some minimum. In an extreme case, a company whose share price has dropped so low that it is in danger of being delisted from its stock exchange, might use a reverse stock split to increase its share price. For these reasons, a reverse stock split is often an indication that a company is in financial trouble.

A reverse stock split may be used to reduce the number of shareholders. If a company completes reverse split in which 1 new share is issued for every 100 old shares, any investor holding less than 100 shares would simply receive a cash payment. If the number of shareholders drops, the company may be placed into a different regulatory categories and may be governed by different laws (*Figure 12.28*).

Figure 12.28 SEC The Securities and Exchange Commission is the department that sets the different regulations regarding stock trading and splitting.

Source:https://www.boundless.com/finance/dividends/cash-dividend-alternatives--2/reverse-splits--2/

Benefits of Share Repurchases

Share repurchases are beneficial when the stock is undervalued, management needs to meet a financial metric, or there is a takeover threat.

KEY POINTS

- If management feels the company is undervalued, they will repurchase the stock, and then resell it once the price of the shares increases to reflect the accurate value of the firm.
- A member of management may have to meet earnings per share (EPS) metrics which can be increased by increasing earnings or lowering the number of outstanding shares. Share repurchases decrease the number of outstanding shares, and thus increase EPS.
- To prevent a firm from acquiring enough of a company's stock to take it over, the takeover target may buy back shares, often at a price above market value.

A company may seek to repurchase some of its outstanding shares for a number of reasons. The company may feel that the shares are undervalued, an executive's compensation may be tied to earnings per share targets, or it may need to prevent a **hostile takeover**.

For shareholders, the primary benefit is that those who do not sell their shares now have a higher percent ownership of the company's shares and a higher price per share. Those who do choose to sell have done so at a price they are willing to sell at - unless there was a 'put' clause, in which case they had to sell because of the structure of the share, something they would have already known when they bought the shares.

Undervaluation

Repurchasing shares may also be a signal that the manager feels that the company's shares are undervalued. In this event, it will choose to repurchase shares, and then resell them in the open market once the price increases to accurately reflect the value of the company.

Executive Compensation

In some instances, executive compensation may be tied to meeting certain earnings per share (EPS) metrics. If management needs to boost the EPS of the company to meet the metric, s/he has two choices: raise earnings or reduce the number of shares. If earnings cannot be increased, there are a number of ways to artificially boost earnings (called earnings management), but s/he can also reduce the number of shares by repurchasing shares. Strictly speaking, this

is a benefit to the management and executives, not the company or the shareholders. -Thwart (*Figure 12.29*).

Figure 12.29 Marc Benioff

CEOs, like Marc Benioff of Salesforce.com, may have to meet certain financial targets in order to earn his or her bonus. If one of these targets is EPS, they may have an incentive to try to increase EPS artificially.

Hostile Takeovers

A company can take over another firm if it holds enough of the other takeover target's shares (the buyer of the shares is called the bidder, and the company it is trying to buy is called the takeover target). The bidder is buying the takeover target's shares in an attempt to purchase enough to own it. Assuming the firm does not want to be taken over this way, the takeover attempt is called hostile. In order to prevent this from happening, the takeover target needs to prevent the bidder from purchasing enough of the shares. To do this, the takeover target will repurchase its own shares from the unfriendly bidder, usually at a price well above market value. Furthermore, it can prevent future takeover attempts. Companies with a lot of cash on their balance sheets are more attractive takeover targets because the cash can be used to pay down the debt incurred to carry out the acquisition. Share repurchases are one way of lowering the amount of cash on the balance sheet.

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Stock Splits

A stock split increases the number of shares outstanding without changing the market value of the firm.

KEY POINTS

- A stock split is executed by offering several new shares in exchange for old ones. This may be a 3-for-1 split, for example: each share could be traded in for three new ones.
- A stock split does not change the market capitalization of the firm, it merely changes the number of shares outstanding. Therefore the price per share decreases as the number of shares outstanding increases.
- Each shareholder retains his or her same ownership stake because the number of share s/he holds changes in proportion to the change in the total number of shares outstanding.

A stock split or stock divide increases the number of shares in a public company. Suppose a company has 1,000 shares outstanding. The company may want to increase this number to 2,000 shares without issuing new shares. They would split their stock 2-for-1. That means that every shareholder trades in one old share and gets two new shares in return.

The ownership stake for each shareholder remains constant because the number of shares held changes in proportion to the number of shares outstanding. They own the same percentage of the outstanding shares, though the nominal number of shares increases.

The price of the shares, however, changes. Since the market value of the company remains the same, the price of the new shares adjusts to reflect the new number of outstanding shares. For example, a company that has 100,000 shares outstanding that trade at $6 has a **market capitalization** of $600,000. After a 3-for-1 stock split the market capitalization of the company remains unchanged at $600,000, but there are not 300,000 shares trading at $2.

Lowering the price per share is attractive to some companies. Berkshire Hathaway Class A shares have never been split, so the price has followed the company's growth over time (*Figure 12.30*). Since the price of a Class A share was over $121,000 on May 2, 2012, smaller investors may have chosen not to invest in Berkshire Hathaway Class A shares because of cash-flow or

Figure 12.30 Berkshire Hathaway

BERKSHIRE HATHAWAY INC.

Berkshire Hathaway has famously never had a stock split, and has never paid a dividend. As a result its Class A shares traded at $121,775.00 as of May 2, 2012, making them the highest-priced shares on the New York Stock Exchange.

liquidity concerns. There are, however, Class B shares that trade at a lower value.

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Share Repurchases

A share repurchase is when a company buys its own stock from public shareholders, thus reducing the number of shares outstanding.

KEY POINTS

- Since the market capitalization is unchanged and the number of shares outstanding drops, a share repurchase will lead to a corresponding increase in stock price.
- The reduction of the shares outstanding means that even if profits remain the same, the earnings per share increase.
- There are a number of methods for repurchasing shares, the most popular of which is open-market: the company buys back shares at the market dictated price if the price is favorable.

An alternative to cash dividends is share repurchases. In a share repurchase, the issuing company purchases its own publicly traded shares, thus reducing the number of shares outstanding. The company then can either retire the shares, or hold them as treasury stock (non-circulating, but available for re-issuance).

When a company repurchases its own shares, it reduces the number of shares held by the public. The reduction of the shares outstanding means that even if profits remain the same, the

earnings per share increase. Repurchasing shares when a company's share price is undervalued benefits non-selling shareholders and extracts value from shareholders who sell.

Repurchasing shares will lead to a corresponding increase in price of the shares still outstanding. The market capitalization of the company is unchanged, meaning that a reduction in the number of shares outstanding must be accompanied by an increase in stock price.

There are six primary repurchasing methods:

1. Open Market: The firm buys its stock on the open market from shareholders when the price is favorable. This method is used for almost 75% of all repurchases.
2. Selective Buy-Backs: The firm makes **repurchase** offers privately to some shareholders.
3. Repurchase Put Rights: Put rights are the right of the seller to purchase at a certain price, set ahead of time. If the company has put rights on its shares, it may use them to repurchase shares at that price.
4. Fixed Price Tender Offer: The firm announces a number of shares it is looking for and a fixed price they are willing to pay. Shareholders decide whether or not to sell their shares to the company.
5. Dutch Auction Self-Tender Repurchase: The company announces a range of prices at which they are willing to repurchase. Shareholder voluntarily state the price at which they individually are willing to sell. The company then constructs the supply-curve, and then announces the purchase price. The company repurchases shares from all shareholders who stated a price at or below that repurchase price (*Figure 12.31*).

Figure 12.31 Todd Shipyards

Todd Shipyards, in 1981, was the first company to use the Dutch Auction method of stock repurchasing. Share repurchases (which uses open market repurchases more than Dutch Auctions) have increased from $5 billion in 1980 to $349 billion in 2005.

6. Employee Share Scheme Buy-Back: The company repurchases shares held by or for employees or salaried directors of the company.

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Section 7

Reporting and Analyzing Equity

Reporting Stockholders' Equity

Earnings per Share

Dividend Yield Ratio

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Reporting Stockholders' Equity

Equity (beginning of year) + net income – dividends +/– gain/loss from changes to the number of shares outstanding = Equity (end of year).

KEY POINTS

- The book value of equity will change relative to changes in the firm's assets (liabilities, depreciation, new issue, and stock repurchase).
- The book value of equity will change as there are changes in the firm's assets. This includes changes to liabilities, depreciation, new issue, and stock repurchase.
- The market value of shares in the stock market does not correspond to the equity per share calculated in the accounting statements.

Reporting Stockholders' Equity

In financial accounting, owner's equity consists of an entity's net assets. Net assets are the difference between the total assets of the entity, and all its liabilities. Equity appears on the balance sheet of financial position, one of the four primary financial statements (*Figure 12.32*).

Figure 12.32 Balance Sheet

LIABILITIES and SHAREHOLDERS' EQUITY
LIABILITIES
Current Liabilities (Creditors: amounts falling due within one year)
Accounts Payable
Current Income Tax Payable
Current portion of Loans Payable
Short-term Provisions
Other Current Liabilities, e.g. Unearned Revenue, Deposits

Non-Current Liabilities (Creditors: amounts falling due after more than one year)
Loans Payable
Issued Debt Securities, e.g. Notes/Bonds Payable
Deferred Tax Liabilities
Provisions, e.g. Pension Obligations
Other Non-Current Liabilities, e.g. Lease Obligations
SHAREHOLDERS' EQUITY
Paid-in Capital
  Share Capital (Ordinary Shares, Preference Shares)
  Share Premium
  Less: Treasury Shares
Retained Earnings
Revaluation Reserve
Accumulated Other Comprehensive Income

Shareholders' equity in a balance sheet.

The book value of equity will change in the case of the following events:

Changes in the firm's assets relative to its liabilities. For example, a profitable firm may receive more cash for its products than the cost at which it produced the goods, and so in the act of making a profit, it increases its assets.

Depreciation. For example, equity will decrease when machinery depreciates. Depreciation is registered as a decline in the value of

the asset, and as a decrease in shareholders' equity on the liabilities side of the firm's balance sheet.

Issue of new equity in which the firm obtains new capital and increases the total shareholders' equity.

Share repurchases, in which a firm gives back money to its investors, reducing its financial assets, and the liability of shareholders' equity. For practical purposes (except for its tax consequences), share repurchasing is similar to a dividend payment, as both consist of the firm giving money back to investors. Rather than giving money to all shareholders immediately in the form of a dividend payment, a **share repurchase** reduces the number of shares, thereby increasing the percent of future income and distributions garnered by each remaining share.

The market value of shares in the stock market does not correspond to the equity per share calculated in the accounting statements. Stock valuations, which are often much higher, are based on other considerations related to the business's operating cash flow, profits, and future prospects. Some factors are derived from the accounting statements.

Equity (beginning of year) + net income – dividends +/– gain/loss from changes to the number of shares outstanding = Equity (end of year).

Dirty Surplus Accounting

Dirty surplus accounting involves the inclusion of other comprehensive income or unusual items in net income, which will consequently flow into retained earnings. These items can skew net income and provide information that could be misleading. A prime example of dirty surplus accounting is the inclusion of unrealized gains or losses on treasury stocks, or securities they are holding for sale.

The main problem with dirty surplus accounting is that unusual items that affect shareholders equity can be easily hidden. Employee stock options are a good example of expenses that may not explicitly show up on the income statement. ESOs can, in actuality, cost shareholders a large sum; therefore, it is important for investors to realize the magnitude of these costs in order to correctly value a firm's equity.

Earnings per Share

Earnings per share (EPS) is the amount of a company's earnings per each outstanding share of a company's stock.

KEY POINTS

- Companies' income statements must report EPS for each of the major categories of the income statement: continuing operations, discontinued operations, extraordinary items, and net income.
- The EPS formula does not include preferred dividends for categories outside of continued operations and net income.
- EPS (basic formula) = Profit / Weighted Average Common shares. EPS (net income formula) = Net income / Average Common shares. EPS (continuing operations formula) = Income from continuing operations / Weighted Average Common shares.
- Diluted Earnings Per Share (diluted EPS) is a company's earnings per share (EPS) calculated using fully diluted shares outstanding (i.e. including the impact of stock option grants and convertible bonds).

Earnings per share (EPS) is the amount of earnings per each outstanding share of a company's stock. In the United States, the Financial Accounting Standards Board (FASB) requires that companies' income statements report EPS for each of the major categories of the income statement: continuing operations, **discontinued operations**, extraordinary items, and net income.

The EPS formula does not include preferred dividends for categories outside of continued operations and net income. Earnings per share for continuing operations and net income are more complicated; any preferred dividends are removed from net income before calculating EPS. This is because preferred stock rights have precedence over common stock. If preferred dividends total $100,000, then that money is not available to distribute to each share of common stock.

Earnings Per Share (Basic Formula) (*Figure 12.34*):

Earnings Per Share (Net Income Formula) (*Figure 12.35*):

Earnings Per Share (Continuing Operations Formula) (*Figure 12.33*): Only preferred dividends actually declared in the current year are subtracted. The exception is when preferred shares are cumulative, in which case annual dividends are deducted regardless of whether they have been declared or not. Dividends in arrears are not relevant when calculating EPS.

Diluted Earnings Per Share (diluted EPS) is a company's earnings per share (EPS) calculated using fully diluted outstanding shares (i.e. including the impact of stock option grants and convertible

bonds). Diluted EPS indicates a "worst case" scenario, one in which everyone who could have received stock without purchasing it directly for the full market value did so.

To find diluted EPS, basic EPS is first calculated for each of the categories on the income statement. Then each of the dilutive securities are ranked based on their effects, from most dilutive to least dilutive and antidilutive. Then the basic EPS number is diluted one by one by applying each, skipping any instruments that have an antidilutive effect.

Calculations of diluted EPS vary. Morningstar reports diluted EPS "Earnings/Share $" (net income minus preferred stock dividends divided by the weighted average of common stock shares outstanding over the past year). This is adjusted for dilutive shares.

Figure 12.33 Earnings Per Share

$$\text{Earnings Per Share} = \frac{\text{Income from Continuing Operations}}{\text{Weighted Average Common Shares}}$$

Continuing operations formula

Figure 12.34 Earnings Per Share

$$\text{Earnings Per Share} = \frac{\text{Profit}}{\text{Weighted Average Common Shares}}$$

Basic formula

Some data sources may simplify this calculation by using the number of shares outstanding at the end of a reporting period.

Figure 12.35 Earnings Per Share

$$\text{Earnings Per Share} = \frac{\text{Net Income}}{\text{Average Common Shares}}$$

Net income formula

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Dividend Yield Ratio

The dividend-price ratio is a company's annual dividend payments divided by market capitalization, or dividend per share divided by the price per share.

KEY POINTS

- Dividend yield is used to calculate the earning on investment (shares) considering only the returns in the form of total dividends declared by the company during the year. Its reciprocal is the Price/Dividend ratio.
- Preferred share dividend yield is the dividend payments on preferred shares are set out in the prospectus.
- Unlike preferred stock, there is no stipulated dividend for common stock. Instead, dividends paid to holders of common stock are set by management, usually with regard to the company's earnings.
- Historically, a higher dividend yield has been considered to be desirable among many investors. A high dividend yield may be evidence that a stock is under priced or that the company has fallen on hard times, and future dividends will not be as high as previous ones.

The dividend yield or the dividend-price ratio of a share is the company's total annual dividend payments divided by its market capitalization, or the dividend per share, divided by the price per share. It is often expressed as a percentage.

Dividend yield is used to calculate the earning on investment (shares) considering only the returns in the form of total dividends declared by the company during the year. Its reciprocal is the Price/Dividend ratio.

Preferred share dividend yield is the dividend payments on preferred shares, which are set out in the prospectus. The name of the preferred share will typically include its yield at par. For example, a 6% preferred share. However, the dividend may, under some circumstances, be passed or reduced. The yield is the ratio of the annual dividend to the current market price, which will vary.

Unlike preferred stock, there is no stipulated dividend for common stock. Instead, dividends paid to holders of common stock are set by management, usually with regard to the company's earnings. There is no guarantee that future dividends will match past dividends or even be paid at all. The historic yield is calculated using the following formula (*Figure 12.36*):

Figure 12.36 Current dividend yield

$$\text{Current Dividend Yield} = \frac{\text{Most Recent Full-Year Dividend}}{\text{Current Share Price}}$$

Current dividend yield = Most recent Full-Year Dividend / Current Share Price

For example, take a company which paid dividends totaling 1 per share last year and whose shares currently sell for $20. Its dividend yield would be calculated as follows: 1/20 = 0.05 = 5%.

The yield for the S&P 500 is reported this way. U.S. newspaper and Web listings of common stocks apply a somewhat different calculation. They report the latest quarterly dividend multiplied by 4 divided by the current price. Others try to estimate the next year's dividend and use it to derive a prospective dividend yield. Such a scheme is used for the calculation of the FTSE UK Dividend+ Index. Estimates of future dividend yields are by definition uncertain.

Historically, a higher dividend yield has been considered to be desirable among many investors. A high dividend yield can be considered to be evidence that a stock is under priced or that the company has fallen on hard times and future dividends will not be as high as previous ones. Similarly, a low dividend yield can be considered evidence that the stock is overpriced or that future dividends might be higher. Some investors may find a higher dividend yield attractive, for instance, as an aid to marketing a fund to retail investors, or maybe because they cannot get their hands on the capital, which may be tied up in a trust arrangement. In contrast, some investors may find a higher dividend yield unattractive, perhaps because it increases their tax bill.

Section 8

Additional Topics in Stockholders' Equity

Other Comprehensive Income

Convertible Stock

Stock Warrants

Calculating Diluted Earnings per Share

https://www.boundless.com/accounting/reporting-of-stockholders-equity/additional-topics-in-stockholders-equity/

Other Comprehensive Income

Accumulated Other Comprehensive Income (AOCI) is all the changes in equity other than transactions from owners and distributions to owners.

KEY POINTS

- Other comprehensive income is comprised of several gains and losses that are not disclosed in the income statement and which relate to available for sale securities, foreign currency translation, derivatives, pension plans, and revaluation of assets.
- The AOCI balance is presented as a line item in the stockholder's equity section of the balance sheet.
- The individual components of AOCI can be presented in a separate statement of comprehensive income or a separate section for comprehensive income within the income statement.

Definition of Other Comprehensive Income

Other comprehensive income, disclosed in the stockholder's equity section, is the total non-owner change in equity for a reporting period or all the changes in equity other than transactions from owners and distributions to owners. Most changes to equity, such as revenues and expenses, appear in the income statement. A few gains and losses are not shown in the income statement since they are not closed to retained earnings. They are disclosed in the shareholder equity section of the balance sheet known as "accumulated other comprehensive income" (*Figure 12.37*).

Figure 12.37 Stakeholders that use financial statements. Other comprehensive income can be reported in its own statement of comprehensive income or in a separate section within the income statement.

Components of Other Comprehensive Income

Other comprehensive income is comprised of the following items:

Unrealized gains and losses on available for sale securities (debt and equity)

Gains and losses on the effective portion of derivatives held as cash flow hedges

Gains and losses resulting from the translation of the financial statements of foreign subsidiaries from the foreign currency to the reporting currency

Actuarial gains and losses on recognized defined benefit pension plans (minimum pension liability adjustments)

Changes in the revaluation surplus account (this account records changes between the market and book value of fixed assets on the balance sheet)

The accumulated other comprehensive income balance is presented as a line item in the stockholder's equity section of the balance sheet. The individual components of the balance can be presented in a separate statement of comprehensive income or a separate section for comprehensive income within the income statement.

Other Comprehensive Income and IFRS

All items of income and expense recognized in a period must be included in profit or loss unless a standard or an interpretation requires otherwise. Some IFRSs (international financial reporting standards) require or permit that some components be excluded from the income statement and instead be included in other comprehensive income.

Convertible Stock

A convertible security, such as convertible preferred stock, is any security that can be converted into another.

KEY POINTS

- Convertible preferred stock has an embedded option that allows the stock to be converted into a specified number of shares of common stock at a predetermined price; usually at a premium over the stock's market price.
- The conversion feature in convertible stock adds an option of acquiring common shares, which has certain advantages, such as voting rights and unlimited access to company earnings.
- Accounting principles require the reporting of convertible preferred stock in the same manner as non-convertible preferreds. The value of the conversion feature is not reported due to the uncertainty of when the conversion may occur, if at all.

Definition of Convertible Securities

This refers to any security that can be converted into another security. Convertible securities can include bonds that pay interest or preferred stocks that pay dividends. This type of stock has an embedded option that allows it to be converted into a specified number of shares of common stock at a predetermined price; usually at a premium over the stock's market price.

The conversion can also be based on the occurrence of certain conditions, such as the stock's market price appreciating to a predetermined level, or the requirement that the conversion take place by a certain date. The conversion is exercised at the security holder's discretion. The shareholder can also sell the original security and use the conversion feature as a favorable selling point (*Figure 12.38*).

Figure 12.38 Allied Paper Corp. Common Stock Certificate

A public company's preferred stock is designated as convertible if it can be exchanged for common stock.

Convertible Preferred Stock

Preferred stock (also called preferred shares) is an equity security with properties of both an equity and a debt instrument, and is

generally considered a hybrid. Preferred shares rank higher to common stock during earnings distributions, such as dividends; however, they are subordinate to bonds in terms of their claim to company assets in the event of a business liquidation. Unlike common stock, preferred shares usually have no voting rights. The shares may also be cumulative or non-cumulative. A cumulative preferred stock accumulates unpaid prior period dividends into the future, while a non-cumulative preferred loses rights to any dividends not paid in prior periods. The conversion feature adds an option of acquiring common shares, which has certain advantages, such as voting rights.

Convertible Stock and Stockholder's Equity

Accounting principles require the reporting of convertible preferred stock in the same manner as non-convertible preferreds. Preferred stock is reported in the stockholder's equity section as the number of shares outstanding, multiplied by the stock's market price. The result is divided between the value of the shares that fall under "common stock - par value" and the excess value over par is reported as "common stock - additional paid-in-capital". The value of the conversion feature is not reported due to the uncertainty of when the conversion may occur, if at all.

Stock Warrants

A stock warrant entitles the holder to buy the underlying stock of the issuer at a fixed exercise price until the expiration date.

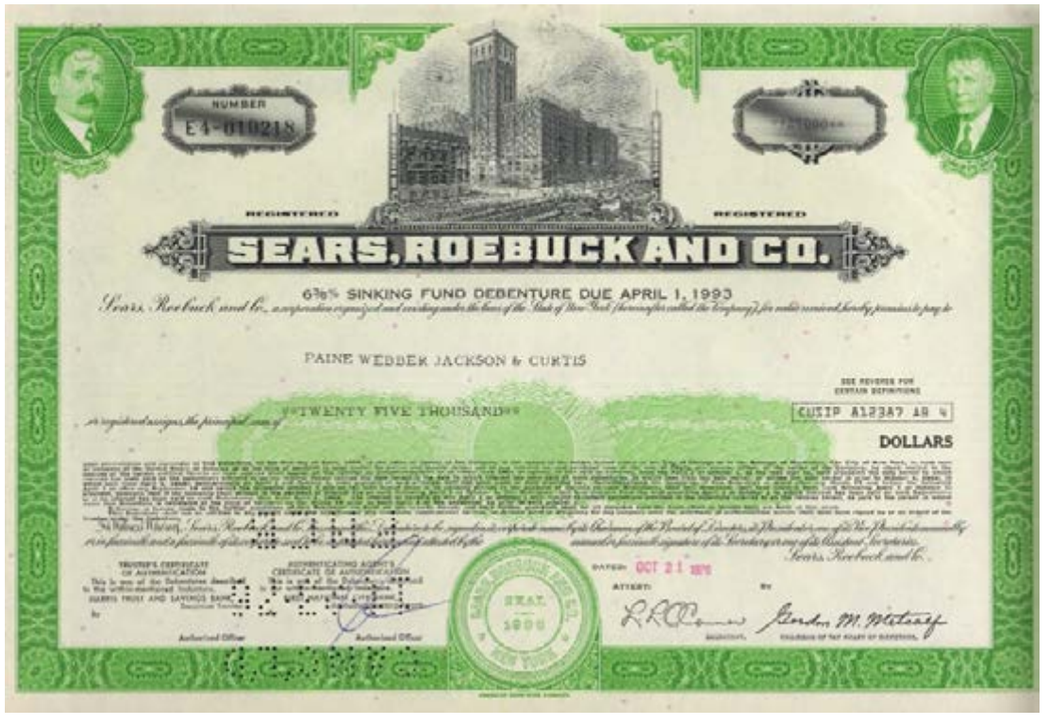
KEY POINTS

- Stock warrants, like options, are discretionary and it is not mandatory for the warrant holder to acquire the underlying stock. Warrants are frequently attached to bonds or preferred stock as an added bonus for the buyer.
- Stock warrants have several features that should be evaluated: premium, expiration date, leverage, and restrictions on exercise option.
- No matter the type of warrant, all are reported in the stockholder's equity section of the balance sheet as a line item under contributed capital. They are valued at their exercise price multiplied by the specified number of shares the warrant provides.

Definition of Stock Warrants

A stock warrant is similar to a stock option in that it entitles the holder to buy the underlying stock of the issuing company at a fixed exercise price until the expiration date. Stock warrants, like options, are discretionary and it is not mandatory for the warrant holder to acquire the underlying stock. Warrants are frequently attached to bonds or preferred stock as an added bonus for the buyer. They benefit the warrant issuer by allowing the company to pay lower interest rates or dividends. They can be used to enhance the yield of the bond and make them more attractive to potential buyers. Warrants can also be used in private equity deals (*Figure 12.39*).

Figure 12.39 Sears Roebuck & Co. Bond Certificate



Public companies can offer company bonds for sale with stock warrants attached.

Stock Warrant Features

Since warrants are typically attached to other securities, in certain cases it is possible to detach them and sell them independently of

the bond or stock. In the case of warrants issued with preferred stocks, stockholders may need to detach and sell the warrant before they can receive dividend payments. Therefore, it is sometimes beneficial to detach and sell a warrant as soon as possible. Stock warrants have several features that can make them more or less attractive investments:

Premium (the extra amount paid for the shares when exercising the warrant as compared to the market price paid when acquiring the stock through the open market)

Leverage (risk exposure to the underlying shares acquired through the warrant as compared to the risk exposure of shares purchased in the open market)

xpiration Date (the date the warrant expires; the longer the time frame involved until expiration the greater the opportunities for stock price appreciation, which increases the price of the stock warrant until its value diminishes to zero on the expiration date)

Restrictions on Exercise (American-style warrants must be exercised before the expiration date and European-style warrants can only be exercised on the expiration date.

Stock Warrants and Stockholder's Equity

There are many types of stock warrants -- equity, callable, putable, covered, basket, index, wedding, detachable, and naked warrants. No matter the type of warrant, all are reported in the stockholder's equity section of the balance sheet as a line item under **contributed capital**. They are valued at their exercise price multiplied by the specified number of common shares the warrant provides.

Calculating Diluted Earnings per Share

Diluted earnings per share (EPS) takes the basic EPS formula and accounts for the effect of dilutive shares on earnings.

KEY POINTS

- Dilutive common shares from dilutive instruments, such as stock options or stock warrants, are added to the basic equation's denominator (weighted average number of common shares outstanding), which decreases the value of earnings per share.
- Diluted earnings per share is the most conservative per share earnings number because the equation takes into account the largest number of common shares that could be outstanding.
- Basic EPS, based on net income and reported on the face of the income statement, is followed by diluted earnings per share, also reported on the income statement.

Definition

Diluted Earnings Per Share (diluted EPS) is a company's earnings per share (EPS) calculated using fully diluted common shares outstanding (i.e. which includes the impact of instruments such as stock option grants and convertible bonds). Fully diluted common shares consider securities with features that will increase the number of common shares outstanding and reduce (dilute) earnings per share. Diluted EPS indicates a "worst case" scenario, one in which everyone who could have received stock did so without purchasing shares directly for the full market value (*Figure 12.40*).

Figure 12.40 Earnings per share shows the amount of income applicable to each share of common stock.

Diluted earnings per share includes shares of common stock from dilutive securities, such as convertible debt or stock options, in its calculation.

Calculation

The basic earnings per share formula involves taking the income available for common shareholders (net income minus preferred

stock dividends), divided by the **weighted average** number of common shares outstanding. **Dilutive** common shares from dilutive instruments, such as stock options or stock warrants, are added to the basic equation's denominator (weighted average number of shares outstanding), which decreases the ending result of earnings per share. So, basic earnings per share tends to have a higher value than diluted earnings per share. Diluted earnings per share is the most conservative per share earnings number because the equation takes into account the largest number of common shares that could be outstanding.

Disclosure

Public companies calculate and disclose EPS for each major category on the face of the income statement. In other words, they make an EPS calculation for income from continuing operations, discontinued operations, extraordinary items, changes in accounting principle, and net income. Basic EPS, based on net income, is followed by diluted earnings per share and and both figures are reported on the income statement.

EXAMPLE

Sun Microsystems, Inc. has 3,417,000,000 weighted-average common shares outstanding with income available to common shareholders of USD 922,590,000 during a recent year. Stock warrants can be exercised for 1,000,000,000 common shares. Basic EPS = USD 922,590,000 / 3,417,000,000 = USD .27 per share. Diluted EPS = USD 922,590,000 / 3,417,000,000 + 1,000,000,000 = USD .20 per share.

Chapter 13

Detailed Review of the Income Statement

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/

Section 1

Understanding the Income Statement

Revenue

Cost of Goods Sold and Gross Profit

Operating Expenses, Non Operating Expenses, and Net Income

Income Statement Formats

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/understanding-the-income-statement/

Revenue

Revenue refers to the mechanism by which income enters a company.

KEY POINTS

- Expenses should be matched with revenue. The expense is recorded in the time period in which it is incurred, which is the time period that the expense is used to generate revenue.
- Revenue accounts indicate revenue generated by the normal operations of a business. Fees Earned and Sales are both examples of Revenue accounts.
- Revenue accounts have a normal credit balance.

Revenue

Revenue refers to the receipt of monetary value from the sale of goods or services and other income generating activities. Revenue is recorded for accounting purposes when it is earned by an entity, which usually involves an exchange of value among two or more parties in an arm's length transaction.

Figure 13.1 A simple cash register

Cash registers are a point at which companies capture revenue.

In U.S. business and financial accounting, the term "income" is also synonymous with revenue; however, many people use it as shorthand for net income, which is the amount of money that a company earns after covering all of its costs (which is not the same as revenue).

Revenue Accounts

Revenue accounts indicate revenue generated by the normal operations of a business. Fees Earned and Sales are both examples of Revenue accounts. Revenue accounts have a normal credit balance. Common income accounts are operating revenue, dividends, interest, and gains.

Revenue Recognition Principle

Revenue should not be recorded until the earnings process is nearly complete and there is little uncertainty as to whether or not collection of payment will occur. This means that revenue is recorded when it is earned, or when the job is complete.

Matching Principle

Expenses should be matched with revenue. The expense is recorded in the time period in which it is incurred, which is the time period

that the expense is used to generate revenue. This means that you can pay for an expense months before it is actually recorded, as the expense is matched to the period the revenue is made.

It is important to realize that revenue and expenses are not always the same as cash inflows and outflows. For a given cash outflow, an expense can be recognized in a period prior to payment, the same period or a later period. The same idea holds for revenue and incoming cash flows. This is what accounting makes very flexible and at the same time exposes to potential manipulation of net income. Accounting principles provide guidance and rules on when to recognize revenue and expenses.

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Cost of Goods Sold and Gross Profit

Gross profit or sales profit is the difference between revenue and the cost of making a product or providing a service.

KEY POINTS

- When the goods are bought or produced, the costs associated with such goods are capitalized as part of inventory (or stock) of goods. These costs are treated as an expense during the period in which the business recognizes income from sale of the goods.
- Costs include all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition. Costs of goods made by the business include material, labor, and allocated overhead.
- The costs of those goods not yet sold are deferred as costs of inventory until the inventory is sold or written down in value.

Cost of Goods Sold & Gross Profit

In accounting, gross profit or sales profit is the difference between revenue and the cost of making a product or providing a service before deducting overhead, payroll, taxation, and interest

payments. Note that this is different from operating profit (earnings before interest and taxes) (*Figure 13.2*).

Figure 13.2 Cost of Good Sold & Gross Profit

Gross profit = Net sales - Cost of goods sold

The various deductions leading from net sales to net income are as follows:

Net sales = Gross sales - (Customer Discounts, Returns, Allowances)

Gross profit = Net sales - Cost of goods sold

Operating profit = Gross profit - Total operating expenses

Net income (or Net profit) = Operating profit – taxes – interest

Cost of goods sold refers to the inventory costs of the goods a business has sold during a particular period. Costs are associated with particular goods by using one of several formulas, including specific identification, first-in-first-out (FIFO), or average cost. Costs include all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. Costs of goods made by the business include material, labor, and allocated overhead. The costs of those goods not yet sold are deferred as costs of inventory until the inventory is sold or written down in value.

Many businesses sell goods that they have bought or produced. When the goods are bought or produced, the costs associated with such goods are capitalized as part of inventory (or stock) of goods. These costs are treated as an expense during the period in which the business recognizes income from sale of the goods.

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Operating Expenses, Non Operating Expenses, and Net Income

Operating expenses and non operating expenses are deducted from revenue to yield net income.

KEY POINTS

- Operating expenses are day-to-day expenses such as sales and administration; the money the business spends in order to turn inventory into throughput.
- A capital expenditure, or non operating expense, is the cost of developing or providing non-consumable parts for the product or system.
- The income statement is used to assess profitability by deducting expenses from revenue. When net income is positive, it is called profit. When negative, it is a loss.

Operating Expenses and Non Operating Expenses

An operating expense is the ongoing cost of running a product, business, or system. Its counterpart, a **capital expenditure**, or non **operating expense**, is the cost of developing or providing non-consumable parts for the product or system (*Figure 13.3*).

Figure 13.3 Income Statement

Operating expenses, non operating expenses and net income are three key areas of the income statement.

For example, the purchase of a photocopier is a capital expenditure. Paper, toner, power, and maintenance costs represent operating expenses. In business, operating expenses are day-to-day expenses such as sales and administration. In short, this is the money the business spends in order to turn inventory into throughput. For larger businesses, operations may also include the cost of workers and facility expenses such as rent and utilities.

On an income statement, operating expenses include:

accounting expenses

license fees

maintenance and repairs, such as snow removal, trash removal, janitorial service, pest control, and lawn care

advertising

office expenses and supplies

attorney legal fees

utilities

insurance

property taxes

travel and vehicle expenses

leasing commissions

salary and wages

raw materials

Everything else is a fixed cost, including labor. In real estate, operating expenses comprise costs associated with the operation and maintenance of an income-producing property, including property management fees, real estate taxes, insurance, and utilities. Non operating expenses include loan payments, depreciation, and income taxes.

Net Income

The income statement is used to assess profitability by deducting expenses from revenue. When net income is positive, it is called profit. When negative, it is a loss. Net income increases when assets increase relative to liabilities. At the same time, other assets may decline in value and liabilities may increase.

Income Statement Formats

Income statements are commonly prepared in two formats: multiple-step and single-step.

KEY POINTS

- The income statement describes a company's revenue and expenses along with the resulting net income or loss over a period of time due to earning activities.
- In the multiple-step format revenues are often presented in great detail, cost of goods sold is subtracted to show gross profit, operating expenses are separated from other expenses, and operating income is separated from other income.
- In the single-step format, all expenses are combined in a single section including cost of goods sold.

Income Statement

An income statements may also be referred to as a profit and loss statement (P&L), revenue statement, statement of financial performance, earnings statement, operating statement or statement of operations. A company's financial statement indicates how the revenue, money received from the sale of products and services before expenses are taken out, is transformed into the net income, the result after all revenues and expenses have been accounted for, also known as Net Profit. It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported (*Figure 13.4*).

Figure 13.4 Income Statement
Income Statements commonly come in two formats

Income statements are commonly prepared in two formats: multiple-step and **single-step**. In the **multiple-step** format revenues are often presented in great detail, cost of goods sold is subtracted to show gross profit, operating expenses are separated from other expenses, and operating income is separated from other income. In the single-step format, all expenses are combined in a single section including cost of goods sold.

The income statement is used to assess profitability, as the expenses for the period are deducted from the revenues. When net income is

positive, it is a called profit. When negative, it is a loss. Net income increases when assets increase relative to liabilities. At the same time, other assets may decline in value and liabilities may increase. Thus, the balance sheet has a direct relation with the income statement.

However, information of an income statement has several limitations: items that might be relevant but cannot be reliably measured are often not reported. Some numbers depend on accounting methods used. While other numbers depend on judgments and estimates.

Section 2

Revenue Recognition

Importance of Timing: Revenue and Expense Recognition

Current Guidelines for Revenue Recognition

Recognition of Revenue at Point of Sale or Delivery

Recognition of Revenue Prior to Delivery

Recognition of Revenue After Delivery

Difference Between Accrual and Cash-Basis Accounting

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/revenue-recognition/

Importance of Timing: Revenue and Expense Recognition

Revenue is recognized when earned and payment is assured; expenses are recognized when incurred and the revenue associated with the expense is recognized.

KEY POINTS

- According to the principle of revenue recognition, revenues are recognized in the period earned (buyer and seller have entered into an agreement to transfer assets) and if they are realized or realizable (cash payment has been received or collection of payment is reasonably assured).
- The matching principle, part of accrual accounting, requires that expenses be recognized when obligations are (1) incurred (usually when goods are transferred or services rendered), and (2) that they offset recognized revenues, which were generated from those expenses.
- As long as the timing of the recognition of revenue and expense falls within the same accounting period, the revenues and expenses are matched and reported on the income statement.

Revenues and Matching Expenses

According to the principle of revenue recognition, revenues are recognized in the period when it is earned (buyer and seller have entered into an agreement to transfer assets) and realized or realizable (cash payment has been received or collection of payment is reasonably assured).

For example, if a company enters into a new trading relationship with a buyer, and it enters into an agreement to sell the buyer some of its goods. The company delivers the products but does not receive payment until 30 days after the delivery. While the company had an agreement with the buyer and followed through on its end of the contract, since there was no pre-existing relationship with the buyer prior to the sale, a conservative accountant might not recognize the revenue from that sale until the company receives payment 30 days later.

Expense Recognition

The assets produced and sold or services rendered to generate revenue also generate related expenses. Accounting standards require that companies using the accrual basis of accounting and match all expenses with their related revenues for the period, so that the income statement shows the revenues earned and expenses incurred in the correct accounting period (*Figure 13.5*).

Figure 13.5 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

When revenues and expenses are recognized greatly affects a business's income statement. Revenues and expenses are not included on a company's income statement until recognized.

The matching principle, part of the accrual accounting method, requires that expenses be recognized when obligations are (1) incurred (usually when goods are transferred, such as when they are sold or services rendered) and (2) the revenues that were generated from those expenses (based on cause and effect) are recognized.

For example, a company makes toy soldiers and acquires wood to make its goods. It acquires the wood on January 1st and pays for it on January 15th. The wood is used to make 100 toy soldiers, all of which are sold on February 15. While the costs associated with the wood were incurred and paid for during January, the expense would not be recognized until February 15th when the soldiers that the wood was used for were sold.

If no cause-and-effect relationship exists (e.g., a sale is impossible), costs are recognized as expenses in the accounting period they expired (e.g., when they have been used up or consumed, spoiled, dated, related to the production of substandard goods, or the services are not in demand). Examples of costs that are expensed immediately or when used up include administrative costs, R&D, and prepaid service contracts over multiple accounting periods.

The Effect of Timing on Revenues & Expenses

Often, a business will spend cash on producing their goods before it is sold or will receive cash for good sit has not yet delivered.

Without the matching principle and the recognition rules, a business would be forced to record revenues and expenses when it received or paid cash. This could distort a business's income statement and make it look like they were doing much better or much worse than is actually the case. By tying revenues and expenses to the completion of sales and other money generating tasks, the income statement will better reflect what happened in terms of what revenue and expense generating activities during the accounting period.

Current Guidelines for Revenue Recognition

Transactions that result in the recognition of revenue include sales assets, services rendered, and revenue from the use of company assets.

KEY POINTS

- Under accrual accounting, revenues are recognized when they are realized (payment collected) or realizable (the seller has reasonable assurance that payment on goods will be collected) and when they are earned (usually occurs when goods are transferred or services rendered).
- For companies that don't follow accrual accounting and use the cash-basis instead, revenue is only recognized when cash is received.
- Revenue recognition is a part of the accrual accounting concept that determines when revenues are recognized in the accounting period.
- The matching principle, along with revenue recognition, aims to match revenues and expenses in the correct accounting period. It allows a better evaluation of the income statement, which shows the revenues and expenses for an accounting period or how much was spent to earn the period's revenue.

Revenue Recognition Concepts

The revenue recognition principle is a cornerstone of accrual accounting together with the matching principle. They both determine the accounting period in which revenues and expenses are recognized. According to the principle, revenues are recognized if they are realized or realizable (the seller has collected payment or has reasonable assurance that payment on goods will be collected). Revenues must also be earned (usually occurs when goods are transferred or services rendered), regardless of when cash is received. For companies that don't follow accrual accounting and use the cash-basis instead, revenue is only recognized when cash is received (*Figure 13.6*).

Transactions that Recognize Revenue

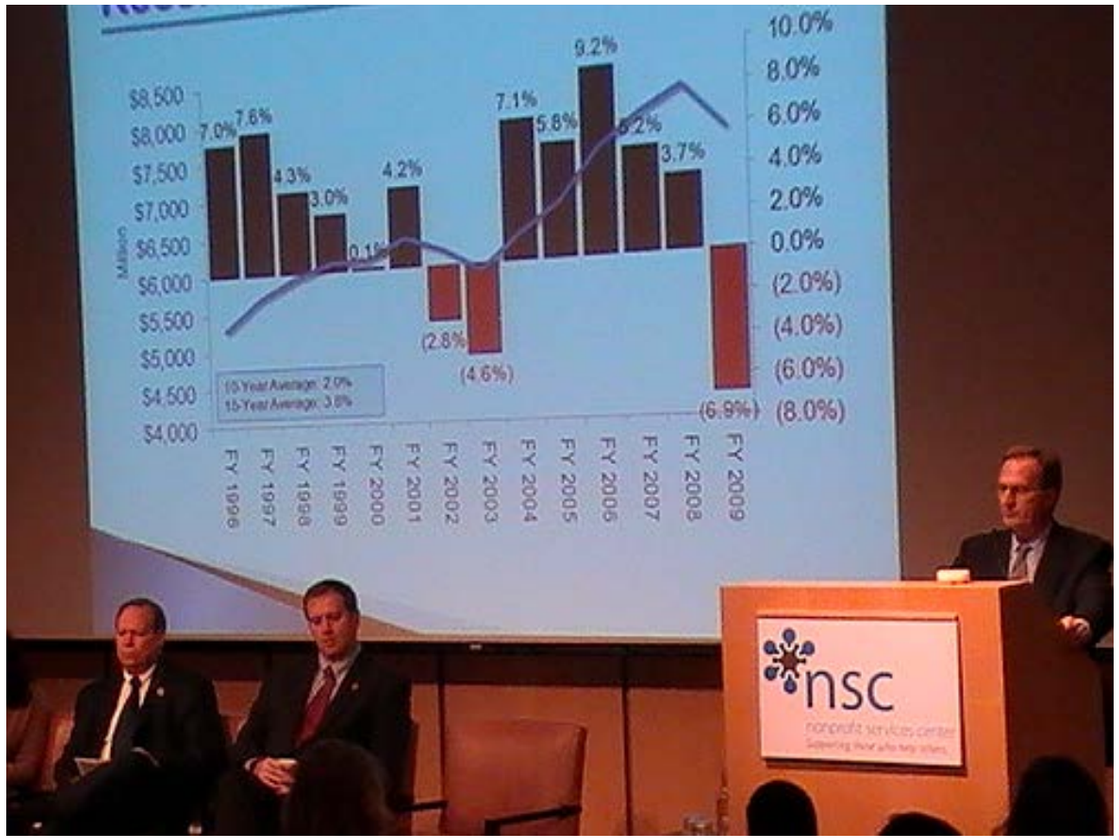
Transactions that result in the recognition of revenue include:

Sales of inventory, which are typically recognized on the date of sale or date of delivery, depending on the shipping terms of the sale

Sales of assets other than inventory, typically recognized at point of sale.

Sales of services rendered, recognized when services are completed and billed.

Figure 13.6 Presentation of Revenue Trends over Time



Guidelines for revenue recognition will affect how and when revenue is reported on the income statement.

Revenue from the use of the company's assets such as interest earned for money loaned out, rent for using fixed assets, and royalties for using intangible assets, such as a licensed trademark. Revenue is recognized due to the passage of time or as assets are used.

The Matching Principle

The matching principle's main goal is to match revenues and expenses in the correct accounting period. The principle allows a better evaluation of the income statement, which shows the revenues and expenses for an accounting period or how much was spent to earn the period's revenue. By following the matching principle, businesses reduce confusion from a mismatch in timing between when costs (expenses) are incurred and when revenue is recognized and realized.

Recognition of Revenue at Point of Sale or Delivery

Companies can recognize revenue at point of sale if it is also the date of delivery or if the buyer takes immediate ownership of the goods.

KEY POINTS

- The accrual journal entry to record the sale involves a debit to the accounts receivable account and a credit to sales revenue; if the sale is for cash, debit cash instead. The revenue earned will be reported as part of sales revenue in the income statement for the current accounting period.
- When transfer of ownership of goods sold is not immediate and delivery of the goods is required, the shipping terms of the sale dictate when revenue is recognized. Shipping terms are typically "FOB Destination" and "FOB Shipping Point".
- If a company cannot reasonably estimate the amount of future returns and/or has extremely high rates of returns on sales, they should recognize revenues only when the right of return expires.

Recognizing Revenue at Point of Sale or Delivery

Goods sold, especially retail goods, typically earn and recognize revenue at point of sale, which can also be the date of delivery if the

buyer takes immediate ownership of the merchandise purchased. Since most sales are made using credit rather than cash, the revenue on the sale is still recognized if collection of payment is reasonably assured. The accrual journal entry to record the sale involves a debit to the accounts receivable account and a credit to the sales revenue account; if the sale is for cash, the cash account would be debited instead. The revenue earned will be reported as part of sales revenue in the income statement for the current accounting period (*Figure 13.7*).

Figure 13.7 Street Market in India with Goods for Sale

A street market seller recognizes revenue when he relinquishes his merchandise to a buyer and receives payment for the item sold.

Terms of Delivery

When the transfer of ownership of goods sold is not immediate and delivery of the goods is required, the shipping terms of the sale dictate when revenue is recognized. Shipping terms are typically "FOB Destination" and "FOB Shipping Point". For goods shipped under **FOB** destination, ownership passes to the buyer when the goods arrive at the buyer's receiving dock; at this point, the seller has completed the sales transaction and revenue has been earned and is recorded. If the shipping terms are FOB shipping point, ownership passes to the buyer when the goods leave the seller's shipping dock, thus the sale of the goods is complete and the seller can recognize the earned revenue.

Revenue Recognition & Right of Return

If a company cannot reasonably estimate the amount of future returns and/or has extremely high rates of returns on sales, they should recognize revenues only when the right of return expires. Those companies that can estimate the number of future returns and have a relatively small return rate can recognize revenues at the point of sale, but must deduct estimated future returns.

Recognition of Revenue Prior to Delivery

Accrual accounting allows some revenue recognition methods that recognize revenue prior to delivery or sale of goods.

KEY POINTS

- For most goods that have been sold and are undelivered, the sales transaction is not complete and revenue on the sale has not been earned. In this case, an accrual entry for revenue on the sale is not made.
- The cash method of accounting recognizes revenue and expenses when cash is exchanged. For a seller using the cash method, if cash is received prior to the delivery of goods, the cash is recorded as earnings.
- Under the percentage-of-completion method, if a long-term contract specifies the price and payment options with transfer of ownership and details the buyer's and seller's expectations, then revenues, costs, and gross profit can be recognized each period based upon the progress of construction.

KEY POINTS (cont.)

- The completion of production method allows recognizing revenues even if no sale was made. This applies to natural resources where there is a ready market for these products with reasonably assured prices, units are interchangeable, and selling and distributing costs are not significant.

Definition of Revenue Recognition

The accounting principle regarding revenue recognition states that revenues are recognized when they are earned (transfer of value between buyer and seller has occurred) and realized or realizable (collection is reasonably assured). A transfer of value takes place between a buyer and seller when the buyer receives goods in accordance to a sales order approved by the buyer and seller and the seller receives payment or a promise to pay from the buyer for the goods purchased. Revenue must be realizable. In order words, for sales where cash was not received, the seller should be confident that the buyer will pay according to the terms of the sale (*Figure 13.8*).

Methods that Recognize Revenue Prior to Delivery or Sale

Percentage-of-completion method: if a long-term contract clearly specifies the price and payment options with transfer of ownership -- the buyer is expected to pay the whole amount and the seller is

Figure 13.8 Goods in Inventory

Depending on the shipping terms of the sale, a seller may not recognize revenue on goods sold that are pending delivery.

expected to complete the project -- then revenues, expenses, and gross profit can be recognized each period based upon the progress of construction (that is, percentage of completion). For example, if during the year, 25% of the building was completed, the builder can recognize 25% of the expected total profit on the contract. Percentage of completion is preferred over the completed contract method. However, expected loss should be recognized fully and immediately due to the **conservatism** constraint. All revenues, expenses, losses, and gains resulting from the percentage completed will be reported on the income statement.

Completion of production method: This method allows recognizing revenues even if no sale was made. This applies to agricultural products and minerals because there is a ready market for these products with reasonably assured prices, the units are interchangeable, and selling and distributing does not involve significant costs. All expected revenues and costs of production related to the units produced will be reported on the income statement.

Source:https://www.boundless.com/accounting/detailed-review-of-the-income-statement/revenue-recognition/recognition-of-revenue-prior-to-delivery/

Recognition of Revenue After Delivery

There are three methods that recognize revenue after delivery has taken place: the installment sales, cost recovery, and deposit methods.

KEY POINTS

- When a sale of goods carries a high uncertainty on collectibility, a company must defer the recognition of revenue until after delivery.
- The installment sales method recognizes income after a sale or delivery is made; the revenue recognized is a proportion or the product of the percentage of revenue earned and cash collected.
- The cost recovery method is used when there is an extremely high probability of uncollectable payments. Under this method, no revenue is recognized until cash collections exceed the seller's cost of the merchandise sold.
- The deposit method is used when a company receives cash before transfer of ownership occurs. Revenue is not recognized when cash is received, because the risks and rewards of ownership have not transferred to the buyer. Only as the transfer of value takes place is revenue recognized.

Recognizing Revenue after Delivery of Goods

When a sale of goods transaction carries a high degree of uncertainty regarding collectibility, a company must defer the recognition of revenue. In this situation, revenue is not recognized at point of sale or delivery. There are three methods that recognize revenue after delivery has taken place: (*Figure 13.9*).

Figure 13.9 Service Delivery
Delivery of goods or service may not be enough to allow for a business to recognize revenue on a sale if there is doubt that the customer will pay what it owes.

The installment sales method recognizes income after a sale or delivery is made; the revenue recognized is a proportion or the product of the percentage of revenue earned and cash collected. The unearned income is deferred (recorded as a liability) and then recognized to income when cash is collected. For example, if a company collected 45% of a product's sale price, it can recognize 45% of total revenue on that product. The installment sales method

is typically used to account for sales of consumer durables, retail land sales, and retirement property.

The cost recovery method is used when there is an extremely high probability of uncollectable payments. Under this method, no revenue is recognized until cash collections exceed the seller's cost of the merchandise sold. For example, if a company sold a machine worth $10,000 for $15,000, it can start recognizing revenue when the buyer has made payments in excess of $10,000. In other words, each dollar collected greater than $10,000 goes towards the seller's anticipated revenue on the sale of $5,000.

The deposit method is used when a company receives cash before transfer of ownership occurs. Revenue is not recognized when cash is received because the risks and rewards of ownership have not transferred to the buyer. The seller records the cash deposit as a deferred revenue, which is reported as a liability on the balance sheet until the revenue is earned. For example, sales of magazine subscriptions utilize the deposit method to recognize revenue. A **deferral** is recorded when a seller receives a subscriber's payment on the subscription; cash is debited and deferred magazine subscriptions (a liability account) is credited. As the delivery of the magazines take place, a portion of revenue is recognized, and the deferred liability account is reduced for the amount of the revenue.

Difference Between Accrual and Cash-Basis Accounting

Accrual accounting does not record revenues and expenses based on the exchange of cash, while the cash-basis method does.

KEY POINTS

- Accrual accounting does not consider cash when recording revenue; in most cases, goods must be transferred to the buyer in order to recognize earnings on the sale. An accrual journal entry is made to record the revenue on the transferred goods as long as collection of payment is expected.
- In accrual accounting, expenses incurred in the same period that revenues are earned are also accrued for with a journal entry. Same as revenues, the recording of the expense is unrelated to the payment of cash.
- For a seller using the cash method, revenue on the sale is not recognized until payment is collected and expenses are not recorded until cash is paid.
- The cash model is only acceptable for smaller businesses for which a majority of transactions occur in cash and the use of credit is minimal.

Definition of Accural Accounting

Under the accrual accounting method, the receipt of cash is not considered when recording revenue; however, in most cases, goods must be transferred to the buyer in order to recognize earnings on the sale. An accrual journal entry is made to record the revenue on the transferred goods even if payment has not been made. If goods are sold and remain undelivered, the sales transaction is not complete and revenue on the sale has not been earned. In this case, an accrual entry for revenue on the sale is not made until the goods are delivered or are in transit. Expenses incurred in the same period in which revenues are earned are also accrued for with a journal entry. Just like revenues, the recording of the expense is unrelated to the payment of cash. An expense account is debited and a cash or liability account is credited.

Definition of Cash-Basis Accounting

The cash method of accounting recognizes revenue and expenses when cash is exchanged. For a seller using the cash method, revenue on the sale is not recognized until payment is collected. Just like revenues, expenses are recognized and recorded when cash is paid. The Financial Accounting Standards Board (FASB), which dictates accounting standards for most companies—especially publicly traded companies—discourages businesses from using the cash model because revenues and expenses are not properly

matched. The cash model is acceptable for smaller businesses for which a majority of transactions occur in cash and the use of credit is minimal. For example, a landscape gardener with clients that pay by cash or check could use the cash method to account for her business' transactions (*Figure 13.10*).

Figure 13.10 A cashier at a hotel in Thailand

The cash-basis method, unlike the accrual method, relies on the receipt and payment of cash to recognize revenues and expenses.

Source:https://www.boundless.com/accounting/detailed-review-of-the-income-statement/revenue-recognition/difference-between-accrual-and-cash-basis-accounting/
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Section 3

Expense Recognition

Recognition of Expense

Current Guidelines for Expense Recognition

Difference Between Accrued and Deferred Expenses

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/expense-recognition/

Recognition of Expense

Expense recognition is an essential element in accounting because it helps define how profitable a business is in an accounting period.

KEY POINTS

- Expenses are outflows of cash or other assets from a person or company to another entity.
- Expenses can either take the form of a decrease in a business' cash or assets, or an increase in its liabilities. It is important to note that cash or property distributions to a business owner do not count as expenses.
- The accounting method the business uses determines when an expense is recognized.
- If the business uses cash basis accounting, an expense is recognized when the business pays for a good or service.
- Under the accrual system, an expense is recognized once it is incurred.

Recognition of Expenses

Expenses are outflows of cash or other valuable assets from a person or company to another entity. This outflow of cash is generally one side of a trade for products or services that have equal or better current or future value to the buyer than to the seller.

Technically, an expense is an event in which an asset is used up or a liability is incurred. In terms of the accounting equation, expenses reduce owners' equity (*Figure 13.11*).

The International Accounting Standards Board defines expenses as follows: "Expenses are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants."

An important issue in accounting is when to recognize expenditures. When a business recognizes an expenditure, it records the amount in its financial records. The expenditure offsets the income the business earned and is used to calculate the business's profit.

This makes the timing of expenses and revenues very important. By shifting the timing of when expenses are recognized, a company can artificially make its business appear more profitable. Therefore, the accounting standards institute has established clear guidelines to minimize any subjective judgment regarding when to recognize expenses. Thus, the accounting method the business uses depends on when an expense is recognized.

Figure 13.11 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Expenses are listed on a company's income statement.

Cash Basis Accounting

If the business uses **cash basis accounting**, an expenditure is recognized when the business pays for a good or service. Generally, cash basis accounting is reserved for tax accounting, not for financial reports.

Accrual Basis Accounting

Most financial reporting in the US is based on accrual basis accounting. Under the accrual system, an expense is not recognized until it is incurred. This means it is unimportant with regard to recognition when a business pays cash to settle an expense.

Source: https://www.boundless.com/accounting/detailed-review-of-the-income-statement/expense-recognition/recognition-of-expense/

Current Guidelines for Expense Recognition

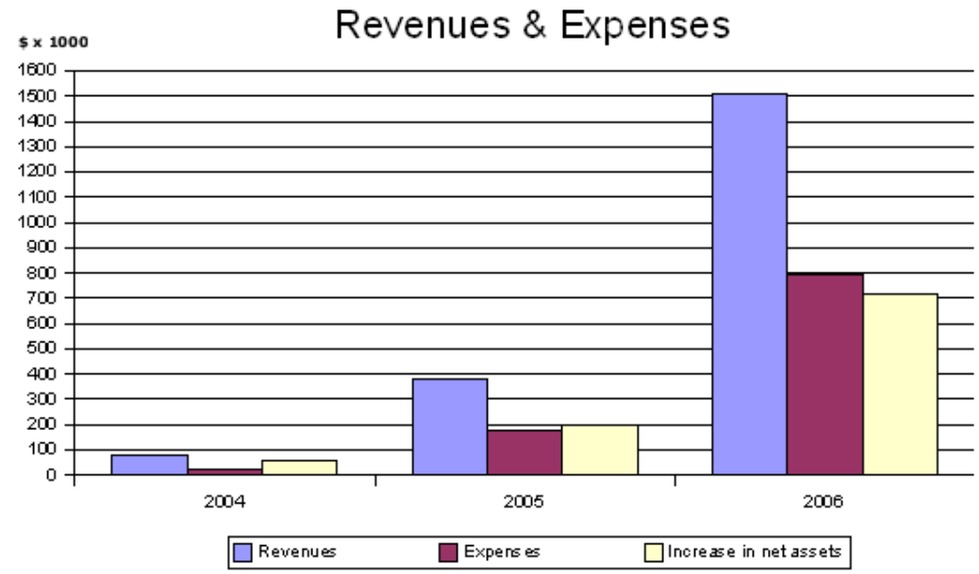
For an expense to be recognized under the matching principle, it must be both incurred and offset against recognized revenues.

KEY POINTS

- An expense is incurred when the underlying good is delivered or service is performed.
- If the cost can be tied to a revenue generating activity, it will not be recognized as an expense until the associated good or service is sold.
- If a company generates goods or services that it cannot sell, the costs associated with producing those items become expenses when the items become used up or consumed.
- If a cost is not directly tied to any revenue generating activity, it is recognized as soon as it is incurred.

Since most businesses operate using accrual basis accounting, expense recognition is guided by the matching principle. For an expense to be recognized, the obligation must be both incurred and offset against recognized revenues (*Figure 13.12*).

Figure 13.12 Revenues and Expenses



Expenses are recognized when the revenues those expenditures help generate are earned.

Incurred

An expense is incurred when the underlying good is delivered or service is performed. For example, assume a company enters into a contract with a supplier for the delivery of 1,000 units of raw material that will be used to produce the goods it sells. Two weeks later, the raw material is delivered to the company's warehouse. Two weeks after that, the company pays the outstanding obligation. Under the matching principle, the expense related to the raw material is not incurred until delivery.

Offset Against Recognized Revenues

Generally, an expense being incurred is insufficient for it to be recognized. If the cost can be tied to a revenue generating activity, it will not be recognized as an expense until the associated good or service is sold.

Using the same example from above, the delivery of the raw material is insufficient to cause the cost of those goods to be recognized as an expense. The raw material will be used to make items that will be sold to the public. When the items that used the raw materials are sold, then the costs related to the raw material are recognized.

No Cause and Effect

The matching principle assumes that every expense is directly tied to a revenue generating event, such as a production of a good or service. This is not always the case. When these expenses are recognized depends on what goods or services are related to the cost in question.

If a company generates goods or services that it cannot sell, the costs associated with producing those items become expenses when the items become used up or consumed. So if a business produced substandard goods that it could not sell or the good becomes spoiled, the production costs would be expensed as soon as it became clear that the item could not be sold.

If a cost is not directly tied to any revenue generating activity, it is recognized as soon as it is incurred. Examples of such costs include general administration and research and development.

Difference Between Accrued and Deferred Expenses

Accrued and deferred expenses represent the two possibilities that can occur due to timing differences under the matching principle.

KEY POINTS

- An accrued expense is a liability that represents an expense that has been recognized but not yet paid.
- A deferred expense is an asset that represents a prepayment of future expenses that have not yet been incurred.
- Oftentimes an expense is not recognized at the same time it is paid. This difference requires a business to record either an asset or liability on its balance sheet to reflect this difference in timing.

Expenses

Accrued expenses and deferred expenses are two examples of mismatches between when expenses are recognized under the matching principle **accrued revenue** and when those expenses are actually paid. Both are represented on the company's balance sheet (*Figure 13.13*).

Figure 13.13 Balance sheet

DOMESTIC BALANCE SHEET© as at 5 April 2005

		5 April			5 April 2004
ASSETS:	£	£	£		£
FIXED ASSETS					
Main Residence		375,000			372,000
Timeshare (Portugal)		18,000			18,000
Personal Transport Car 1		0		1	16,000
Personal Transport Car 2		7,000			9,000
Personal Transport Car 3		15,000			0
Itemised (audio visual, appliances)		2,400			2,700
Itemised Luxuries		7,800			7,400
Boat		21,000		2a	0
			446,200		425,100
INVESTMENT ASSETS (LONG TERM)					
Bonds:					
Smiths Insurance Bond	92,000				81,000
Mercury Endw Policy	0			3	8,000
Neptune Endw Policy	0			4	19,000
Uranus Bonds	500			5	0
Premium Bonds	20,000				20,000
		112,500			128,000
Shares:					
P&Q		600			600
			113,100		128,600
CURRENT ASSETS					
Banks:					
AC Bank		9,156			8,267
AC Savings1		16,944			7,709
AC Savings2		12,200			8,454
AC Bld Soc		39,700			11,570
Total Banks			78,000		36,000
TOTAL ASSETS			637,300		589,700
LIABILITIES:					
CURRENT LIABILITIES					
Credit Cards		(3,100)			(1,400)
TOTAL ASSETS, LESS CURRENT LIABILITIES			634,200		588,300
LONG TERM LIABILITIES					
mortgage	(100,000)				(100,000)
boat loan	(20,000)			2b	0
		(120,000)			(100,000)
TOTAL DOMESTIC LIABILITIES			(123,100)		(101,400)
TOTAL ASSETS, LESS TOTAL LIABILITIES			514,200		488,300
plus Total Domestic Change (TDC) domplus					25,900
is New Domestic Wealth (Closing Balance)			514,200		514,200

Notes
1. a. Car at residual value £18,000 sold for £17,000
   b. Car depreciated from £9,000 to £7,000
   c. Car purchased for £15,000
2 Boat £21,000 acquired with deposit £1,000 and long-term loan of £20,000
3. Investment matured
4. Investment surrendered
5. New investment
6. Car purchased and sold in 2004 does not appear

Accrued and deferred expenses are both listed on a company's balance sheet.

Accrued Expense

An **accrued expense** is a liability that represents an expense that has been recognized but not yet paid. Not every transaction requires an immediate exchange of cash for goods and services. Sometimes, especially when there is a prolonged history of ongoing transactions between two parties, formal invoicing and payment requirements can occur after the expense associated with the transaction has been recognized.

For example, assume a reseller receives goods from a supplier that it is able to immediately resell. However, the billing for those goods does not require payment for another month. Since the supplier delivered the goods and the reseller already generated revenues from the sale of those goods, it must recognize the associated expense. So the associated expense must be listed as a liability to be paid at some point in the future.

Deferred Expense

A **deferred expense** is an asset that represents a prepayment of future expenses that have not yet been incurred. Deferred expense is generally associated with service contracts that require payment in advance.

For example, assume a company enters into a legal services contract that requires an upfront payment of $12,000 for a year of services. The service has not yet been delivered, so the business cannot recognize the expense yet. So the business will record a $12,000 deferred expense asset. The provider then delivers on his service each month, requiring the business to recognize the associated expense. As a result, the business must recognize $1000 in expenses each month and decrease the value of the deferred expense asset by that amount.

Section 4

Additional Income Statement Considerations

Impact of the Operating Cycle on the Income Statement

Irregular Items Reporting

Special Reporting

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/expense-recognition/

Impact of the Operating Cycle on the Income Statement

The accrual method ensures proper reporting on the income statement because the operating cycle doesn't coincide with the accounting cycle.

KEY POINTS

- A company's income statement shows profit (or loss) for a given period of time.
- A company's operating cycle is the length of time necessary to convert inventory into a sale, plus the length of time to receive payment from receivables, plus the length of time to pay the accounts payable.
- The length of the operating cycle varies depending on how long inventory, receivable, and payable remain outstanding.
- The accounting cycle is a series of steps performed during the accounting period (some throughout the period, some only at the end of the period) for the purpose of creating financial statements.
- The accounting cycle is often different from the operating cycle.

Income Statement

The income statement is one component of the financial statements for a company. It can also be referred to as an earnings statement, profit and loss statement, or operating statement (*Figure 13.14*). The income statement reports the profitability of a business organization for a stated period, such as a month or a year. These time periods are usually of equal length so that statement users can make valid comparisons of a company's performance from period to period. Profitability is measured by comparing the revenues earned with the expenses incurred to produce the revenue.

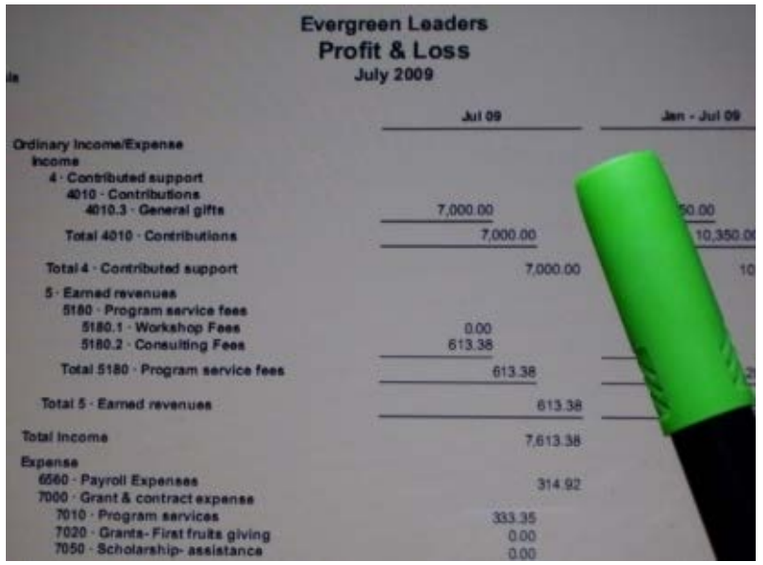


Figure 13.14 The company's income statement

The income statement shows a company's profit or loss.

An example of revenue is cash received from the sale of products or services. Expenses are the costs involved in producing revenue, such as cash spent to purchase materials or pay bills or employees.

If the revenues for a period exceed the expenses for the same period, net income results (Net income = Revenues – Expenses). If expenses exceed revenues for the period, then the result is a net loss.

Accounting Cycle vs. Operating Cycle

Information enters the income statement via the accounting cycle. The accounting cycle is a series of steps performed during the accounting period (some throughout the period, some only at the end of the period) for the purpose of creating the financial statements. This includes analyzing items to determine if they are a business transaction, as well as classifying and recording the transactions as journal entries in the proper journal. After that, the items are posted from the journals to the general ledger, which is used to prepare the financial statements. Companies choose the length of their accounting cycle by how long it takes to carry out the required accounting—not when the individual business transactions take place.

Often, companies have a separate **operating cycle** for their business. The operating cycle reflects the length of time it takes a company to convert its inventory purchase to sales revenue. A typical operating cycle includes the length of time to convert inventory into a sale, length of time to receive payment from receivables, and length of time to pay the accounts payable.

The length of the operating cycle varies depending on how long inventory, receivable, and payable remain outstanding and may occur several times in one period. It is very rare that the accounting cycle and operating cycle coincide with each other. That is why each business transaction during the operating cycle is analyzed to determine which accounting cycle to record it in. When companies fail to follow this procedure, the current accounting cycle records do not accurately reflect the business transactions in each of the operating cycles. In that case, the financial statements, including the income statement, will not be accurate.

Accrual Basis of Accounting

To allow for the fluctuations in the operating cycle, many companies choose to use the accrual basis of accounting. In accrual accounting, companies recognize revenues when the company makes a sale or performs a service, regardless of when the company receives the cash. However, the matching principle necessitates the preparation of adjusting entries. Adjusting entries are journal entries made at the end of an accounting period, or at any time financial statements are to be prepared, to bring about a proper matching of revenues and expenses.

The matching principle requires that expenses incurred in producing revenues be deducted from the revenues they generated during the accounting period. The matching principle is one of the

underlying principles of accounting. This matching of expenses and revenues is necessary for the income statement to present an accurate picture of the profitability of a business.

Source:https://www.boundless.com/accounting/detailed-review-of-the-income-statement/additional-income-statement-considerations/impact-of-the-operating-cycle-on-the-income-statement/

Irregular Items Reporting

On the income statement, irregular items are line items reported separately from normal business income due to their irregular nature.

KEY POINTS

- Irregular items are shown separately to ensure users can identify what income from continuing business results will be.
- Irregular items are strange, one-off occurrences or accounting phenomena that will not occur again.
- Irregular items fall into one of three categories: extraordinary items, discontinued operations, and adjustments due to a change in accounting methodology.

Irregular items on the Income Statement

On an income statement, irregular items are line items reported separately from the normal income of the business due to their irregular nature. By definition irregular items are strange, one-off occurrences or accounting phenomena that will not occur again (*Figure 13.15*).

Figure 13.15 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

The income statement shows a companies profitability.

Irregular items are shown separately to ensure that users can identify what the income from continuing business results will be. If any special items are included on the income statement, the income tax expense or savings related to each item is net against the special item to report it after taxes.

Irregular items fall into one of three categories: extraordinary items, discontinued operations, and adjustments due to a change in accounting **methodology**.

Discontinued Operations

A discontinued operation is the most common type of **irregular item**. Keep in mind, shifting business location(s), stopping production temporarily, or changes due to technological improvement do not qualify as discontinued operations.

The transaction only qualifies as a discontinued operation if a component of the enterprise has either been disposed of or is classified as 'held for sale.' This component must represent a separate major line of business or geographical area of operation. It is part of a single, coordinated plan to dispose of this separate major line of business or geographical area of operations; or is a subsidiary acquired exclusively with a view to resale.

When a segment of a business is disposed of, a gain or loss is realized. This gain or loss is reported on the income statement under discontinued operations.

It is customary to report the results of continuing operations first. In addition to gain or loss information, the following should also be disclosed in the financial statements: the disposal date, which assets and liabilities were affected, the manner of disposal, and the identity of the segment.

Extraordinary Items

Extraordinary items are events or transactions that are unusual in nature and do not occur frequently. They can include acts of God as long as the act rarely occurs in the area in which the business operates. For example, a severe freeze in Florida does not qualify as an extraordinary item, but the confiscation of company assets by the government does.

In addition, gains and losses from disposal of plant assets or selling investments do not qualify as extraordinary because they are considered normal business activities.

Changes in Accounting Principle

When a company changes one of its accounting methods, such as switching from LIFO to FIFO, it must be disclosed in the financial statements of a company. The reasoning for the change, the effect on net income, and the justification of the change should all be disclosed.

The new principle is used to calculate the current year's amounts in the financial statements. The effect of the change on any prior years' amounts is shown separately in the income statement, net of taxes.

Special Reporting

Irregular items require special reporting procedures, and include discontinued operations, extraordinary items, and the reporting of the resultant EPS.

KEY POINTS

- Discontinued operation pertains to the elimination of a significant portion of a firm's business, such as the sale of a division.
- Extraordinary items are both unusual (abnormal) and infrequent -- for example, unexpected natural disasters, expropriation, and prohibitions under new regulations.
- If a company reports any irregular items on its income statement, then it must report earnings per share for the irregular items.
- With intraperiod tax allocation, the specific item (or items) that generated the income tax expense are shown on the income statement with the applicable tax applied.

Special Reporting Issues

Special, or irregular, items appear on single step or multi-step income statements, and require special reporting procedures. They are reported separately, and net of taxes, so that stakeholders can better predict future cash flows. Two examples of irregular items are discontinued operations and extraordinary expenses.

Discontinued operation is the most common type of irregular item. It pertains to the elimination of a significant portion of a firm's business, such as the sale of a division. Shifting business location(s),

XYZ Retailers
Income Statement
For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Figure 13.16
Sample Income Statement
Income statements show a company's financial position.

stopping production temporarily, or changes due to technological improvement do not qualify as discontinued operations.

Extraordinary items are both unusual (abnormal) and infrequent -- for example, unexpected natural disasters, expropriation, and prohibitions under new regulations. If an item is unique, but does not fit the criteria of being unusual and infrequent, it must remain in the main section of the income statement. No items may be presented in the income statement as extraordinary items under IFRS regulations, but are permissible under US GAAP.

Other special reporting issues include Earnings per Share, Retained Earnings and Intraperiod Tax Allocation.

Earnings per Share: If a company reports any irregular items on its income statement, then it must report earnings per share for those items. The earnings per share can appear on the income statement or in the notes to the income statement. Earnings per share measures the dollars earned by each share of common stock. Earnings per share are calculated as net income, with preferred dividends/weighted number of shares outstanding. There are two forms of earnings per share that are reported: basic and diluted. For basic earnings per share, the weighted average of shares outstanding includes only actual stocks outstanding. In diluted, the weighted average of shares outstanding is calculated as if all stock options, warrants, convertible bonds and other securities that could be transformed into shares are transformed. Diluted earnings per share are considered a more reliable way to measure earnings per share.

Retained Earnings: The statement of retained earnings explains the changes in a company's retained earnings over the reporting period. It is required by the U.S. Generally Accepted Accounting Principles (U.S. GAAP) whenever comparative balance sheets and income statements are presented. It may appear in the balance sheet, in a combined income and changes in retained earnings statement, or as a separate schedule. In essence, the statement of retained earnings uses information from the income statement and provides information to the balance sheet. The statement breaks down changes in the owners' interest in the organization, and also in the application of retained profit or surplus from one accounting period to the next. Line items typically include profits or losses from operations, dividends paid, the issue or redemption of stock, and any other items charged or credited to retained earnings.

Intraperiod Tax Allocation: With intraperiod tax allocation, the specific item (or items) that generated the income tax expense are shown on the income statement with the applicable tax amount applied. Income tax is allocated to income from continuing operations before tax, discontinued operations and extraordinary items.

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Section 5

Reporting and Analyzing the Income Statement

Preparation of the Income Statement

Income Statement Analyses

https://www.boundless.com/accounting/detailed-review-of-the-income-statement/reporting-and-analyzing-the-income-statement/

Preparation of the Income Statement

An income statement includes detail on operating and non-operating activities.

KEY POINTS

- Cash inflows or other enhancements of assets of an entity during a period from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major operations fall under the revenue category of the income statement.
- Cash outflows or other using up of assets or incurrence of liabilities during a period from delivering or producing goods, rendering services, or carrying out other activities that constitute the entity's ongoing major operations appear under the expenses section of the income statement.
- Discontinued operations is the most common type of irregular items. Shifting business location(s), stopping production temporarily, or changes due to technological improvement do not qualify as discontinued operations. Discontinued operations must be shown separately.

KEY POINTS (cont.)

- Certain items must be disclosed separately in the notes, if material, including write-downs of inventories to net realizable value or of property, and restructuring of the activities of an entity and reversal of any provisions for the costs of restructuring; and more.

Income Statement

An income statement is a company's financial statement that indicates how the revenue (money received from the sale of products and services before expenses are taken out, also known as the "top line") is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as net profit or the "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs (e.g., depreciation and amortization of various assets) and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported.

Revenue

Cash inflows or other enhancements of assets of an entity during a period from delivering or producing goods, rendering services, or

other activities constitute the entity's ongoing major operations. It is usually presented as sales minus sales discounts, returns, and allowances. Every time a business sells a product or performs a service, it obtains revenue. This often is referred to as gross revenue or sales revenue (*Figure 13.17*).

Expenses

Cash outflows or other using-up of assets or incurrence of liabilities during a period from delivering or producing goods, rendering services, or carrying out other activities constitute the entity's ongoing major operations.

Cost of Goods Sold (COGS)/Cost of Sales represents the direct costs attributable to goods produced and sold by a business (manufacturing or merchandising). It includes material costs, direct labor, and overhead costs (as in absorption costing), and excludes operating costs (period costs), such as selling, administrative, advertising or R&D, etc.

Selling, General, and Administrative expenses (SG&A or SGA) consist of the combined payroll costs. SGA is usually understood as a major portion of non-production related costs, in contrast to production costs, such as direct labor. Selling expenses represent expenses needed to sell products (e.g., salaries of sales people, commissions and travel expenses, advertising, freight, shipping,

Figure 13.17 A Sample Income Statement

XYZ Retailers
Income Statement
For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Example of how an income statement is laid out.

depreciation of sales store buildings and equipment, etc.). General and Administrative (G&A) expenses represent expenses to manage the business (salaries of officers/executives, legal and professional fees, utilities, insurance, depreciation of office building and equipment, office rents, office supplies, etc.).

Depreciation / Amortization is the charge with respect to fixed assets/intangible assets that have been capitalized on the balance sheet for a specific (accounting) period. It is a systematic and rational allocation of cost rather than the recognition of market value decrement.

Research & Development (R&D) expenses represent expenses included in research and development.

Non-operating Section

Other revenues or gains include those from other than primary business activities (e.g., rent, income from patents). They also includes unusual gains that are either unusual or infrequent, but not both (e.g., gains from the sale of securities or gain from disposal of fixed assets)

Other expenses or losses not related to primary business operations (e.g., foreign exchange loss).

Finance costs are costs of borrowing from various creditors (e.g., interest expenses, bank charges).

Income tax expense is the sum of the amount of tax payable to tax authorities in the current reporting period (current tax liabilities/ tax payable) and the amount of deferred tax liabilities (or assets).

Irregular Items

Discontinued operations is the most common type of irregular items. Shifting business location(s), stopping production temporarily, or changes due to technological improvement do not qualify as discontinued operations. Discontinued operations must be shown separately.Disclosures

Certain items must be disclosed separately in the notes (or the statement of comprehensive income), if material, including:

Write-downs of inventories to net realizable value or of property, plant and equipment to recoverable amount, as well as reversals of such write-downs

Restructurings of the activities of an entity and reversals of any provisions for the costs of restructuring

Disposals of items of property, plant, and equipment

Disposals of investments

Discontinued operations

Litigation settlements

Other reversals of provisions

Earnings Per Share

Because of its importance, earnings per share (EPS) are required to be disclosed on the face of the income statement. A company that reports any of the irregular items must also report EPS for these items either in the statement or in the notes. There are two forms of EPS reported:

Basic:In this case "weighted average of shares outstanding" includes only actual stocks outstanding.

Diluted: In this case, "weighted average of shares outstanding" is calculated as if all stock options, warrants, convertible bonds, and other securities that could be transformed into shares are transformed. This increases the number of shares and so EPS decreases. Diluted EPS is considered to be a more reliable way to measure EPS.

Income Statement Analyses

The income statement indicates how the revenue is transformed into net income and can provide many insights to a company's performance.

KEY POINTS

- Net income is an entity's income minus expenses for an accounting period. It is computed as the residual of all revenues and gains over all expenses and losses for the period. It has also been defined as the net increase in stockholder's equity that results from a company's operations.
- In stock trading, the P/E ratio (price-to-earnings ratio) of a share (also called its "P/E," or simply "multiple") is the market price of that share divided by the annual Earnings per Share (EPS). The P/E ratio is a widely used valuation multiple used as a guide to the relative values of companies.
- The dividend yield or the dividend-price ratio of a share is the company's total annual dividend payments divided by its market capitalization, or the dividend per share, divided by the price per share.

KEY POINTS (cont.)

- The operating ratio is a financial term defined as a company's operating expenses as a percentage of revenue. This financial ratio is most commonly used for industries that require a large percentage of revenues to maintain operations, such as railroads.
- Times interest earned (TIE) or interest coverage ratio is a measure of a company's ability to honor its debt payments.

The Income Statement

Income statement (also referred to as profit and loss statement (P&L), revenue statement, statement of financial performance, earnings statement, operating statement or statement of operations) is a company's financial statement that indicates how the revenue (money received from the sale of products and services before expenses are taken out, also known as the "top line") is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as Net Profit or the "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write-offs (e.g., depreciation and amortization of various assets) and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported (*Figure 13.18*).

Figure 13.18 A Sample Income Statement

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

This is a sample income statement.

The important thing to remember about an income statement is that it represents a period of time. This contrasts with the balance sheet, which represents a single moment in time.

Basic Equations

Revenues - Expenses = Net Income

In business, net income also referred to as the bottom line, net profit, or net earnings is an entity's income minus expenses for an accounting period. It is computed as the residual of all revenues and gains over all expenses and losses for the period. It has also been defined as the net increase in stockholder's equity that results from a company's operations.

Earnings per Share = (Net Income - Preferred Dividends) / Shares of Stock Outstanding

Earnings per share (EPS) is the amount of earnings per each outstanding share of a company's stock.

Price to Earnings **Ratio** = Market Value of Stock / Earnings per Share

In stock trading, the P/E ratio (price-to-earnings ratio) of a share (also called its "P/E," or simply "multiple") is the market price of that share divided by the annual Earnings per Share (EPS). The P/E ratio is a widely used valuation multiple used as a guide to the

relative values of companies. A higher P/E ratio means that investors are paying more for each unit of current net income, so the stock is more "expensive" than one with a lower P/E ratio. The P/E ratio can be regarded as being expressed in years. The price is in currency per share, while earnings are in currency per share per year, so the P/E ratio shows the number of years of earnings which would be required to pay back the purchase price, ignoring inflation, earnings growth and the time value of money.

Dividend Yield = (Dividends per Share / Market Value of Stock) x 100

The dividend yield or the dividend-price ratio of a share is the company's total annual dividend payments divided by its market capitalization, or the dividend per share, divided by the price per share. It is often expressed as a percentage.

Dividend yield is used to calculate the earnings on investment (shares) considering only the returns in the form of total dividends declared by the company during the year.

Operating Expense Ratio = Operating Expense / Net Sales

The operating ratio is a financial term defined as a company's operating expenses as a percentage of revenue. This financial ratio is most commonly used for industries that require a large percentage of revenues to maintain operations, such as railroads. In railroading, an operating ratio of 80 or lower is considered desirable.

The operating ratio can be used to determine the efficiency of a company's management by comparing operating expenses to net sales. It is calculated by dividing the operating expenses by the net sales. The smaller the ratio, the greater the organization's ability to generate profit should revenues decrease. The ratio does not factor in expansion or debt repayment.

Times Interest Earned = Net Income / Annual Interest Expense

Times interest earned (TIE) or interest coverage ratio is a measure of a company's ability to honor its debt payments. It may be calculated as either EBIT or EBITDA divided by the total interest payable.

Chapter 14

Detailed Review of the Statement of Cash Flows

https://www.boundless.com/accounting/detailed-review-of-the-statement-of-cash-flows/

Section 1

Cash Flow Accounting

Importance of Cash Flow Accounting

Key Considerations for the Statement of Cash Flows

https://www.boundless.com/accounting/detailed-review-of-the-statement-of-cash-flows/cash-flow-accounting/

Importance of Cash Flow Accounting

The statement of cash flows provides insight that the balance sheet and income statement do not, particularly in regard to a company's cash position.

KEY POINTS

- Without positive cash flow, a company will not be able to meet its financial obligations, thereby leading to a cash crunch or bankruptcy.
- Cash flow is the movement of money into or out of a business, project, or financial product.
- The statement of cash flows is a valuable reporting tool for managers, investors, and creditors.
- Being profitable does not necessarily mean being liquid.

Importance Of Cash Flow Accounting

Cash flow is the movement of money into or out of a business, project, or financial product from operating, investing, and financing activities. It is usually measured during a specified, finite period of time, or accounting period. The measurement of cash flow can be used for calculating other parameters that give information on a company's value, liquidity or solvency, and situation. Without positive cash flow, a company cannot meet its financial obligations (*Figure 14.1*).

Figure 14.1 Cash Flow
Cash

Management is interested in the company's cash inflows and cash outflows because these determine the availability of cash necessary to pay its financial obligations. In addition, management uses cash flow for the following:

To determine problems with a company's liquidity

To determine a project's rate of return or value

To determine the timeliness of cash flows into and out of projects, which are used as inputs in financial models such as internal rate of return and net present value

Being profitable does not necessarily mean being liquid. A company can fail because of a shortage of cash even when it is profitable. Cash flow is often used as an alternative measure of a company's

profitability when it is believed that accrual accounting concepts do not represent economic realities.

For example, a company may be profitable but generate little operational cash (as may be the case for a company that barters its products rather than selling for cash or when its accounts receivable turnover is long). In such cases if needed, the company may derive additional operating cash by issuing shares, raising additional debt finance, or selling its assets. In addition, cash flow can be used to evaluate the "quality" of income generated by accrual accounting. When net income is composed of large non-cash items, it is considered low quality.

Key Considerations for the Statement of Cash Flows

The statement of cash flows highlights the activities that directly and indirectly affect a company's overall cash balance.

KEY POINTS

- The statement shows changes in cash and cash equivalents rather than working capital.
- The statement of cash flows consists of three primary categories: operating activities, investing activities and financing activities.
- The statement of cash flows lists all cash inflows and outflows during a reporting period.

The Statement of Cash Flows

A cash flow statement provides information beyond that available from other financial statements, such as the Income Statement and the Balance Sheet, through providing a reconciliation between the beginning and ending balances of cash and cash equivalents of a firm over a fiscal or accounting period.The main purpose of the statement, according to the Financial Accounting Standard Board

(FASB) is to provide information about the changes of an entity's cash or cash equivalents in the accounting period (*Figure 14.2*).

Figure 14.2 Statement of Cash Flows

Balancing the Statement of Cash Flows by hand.

Structure of the Statement of Cash Flows

The statement shows historical changes in cash and cash equivalents rather than **working capital**. It provides information about a company's borrowing and debt repayment activities, the company's sale and repurchase of its ownership securities, and other factors affecting the company's liquidity and solvency. It does not predict future cash flows.

In addition, the statement is used to assess the following: the company's ability to meet its obligations to service loans, pay dividends, etc.; the reasons for differences between reported and related cash flows; and the effect on its finances of major transactions in the year. The statement of cash flows lists all cash inflows and outflows during a reporting period from operating, investing and financing activities.

It has three primary categories from which cash flows derive:

Operating activities - principal revenue-producing activities of the company and other activities that are not investing or financing activities. Cash inflows include cash receipts from sales of goods or services; interest received from making loans; dividends received from investments in equity securities; and cash received from the sale of securities that were held for trading purposes, issued by other businesses. Securities that are held for trade are generally investments that a business holds for a very short period of time with the intent to sell for a quick gain.

Investing activities - the acquisition and disposal of long term assets and other investments not included in cash equivalents. Transactions include the sale and acquisition of property, plant, and equipment; the collection and granting of long-term loans to others; and the trading of available-for-sale and held-to-maturity securities of other businesses. Securities that are held-to-maturity are those

that a business plans to hold onto until the security's term is up. An available-for-sale security is an investment that does not qualify as "held-to-maturity" or "trading".

Financing activities - activities that result in changes in the size and composition of the equity capital and borrowings of the enterprise. Transactions include cash received by the company issuing its own capital stock and bonds, as well as any other short- or long-term borrowing it may do.

Section 2

Calculating Cash Flows

Preparation of the Statement of Cash Flows: Direct Method

Preparation of the Statement of Cash Flows: Indirect Method

https://www.boundless.com/accounting/detailed-review-of-the-statement-of-cash-flows/calculating-cash-flows/

Preparation of the Statement of Cash Flows: Direct Method

There is an indirect and a direct method for calculating cash flows from operating activities.

KEY POINTS

- In order to identify the inflows and outflows for operating activities, you need to analyze the components of the income statement.
- Under the direct method, adjustments are made to the "expense accounts" themselves.
- The direct method of preparing a cash flow statement results in a more easily understood report, as compared with the indirect method.
- The most common example of an operating expense that does not affect cash is a depreciation expense.

Calculating Cash Flows

Cash flows refer to inflows and outflows of cash from activities reported on an income statement. In short, they are elements of net income. Cash outflows occur when operational assets are acquired, and cash inflows occur when assets are sold. The resale of assets is normally reported as an investing activity unless it involves the purchase and sale of inventory, in which case it is reported as an operating activity. There are two different methods that can be used to report the cash flows of operating activities: the direct method and the indirect method (*Figure 14.3*).

Figure 14.3
Calculating Cash Flows
The two methods to calculate cash flows are the direct method and the indirect method

The Direct Method

For items that normally appear on the income statement, cash flows from operating activities display the net amount of cash that was received or disbursed during a given period of time. The direct method for calculating this flow involves deducting from cash sales only those operating expenses that consumed cash. In this method, each item on an income statement is converted directly to a cash

basis, and each cash effect is directly reported. To employ this direct method, use the following equation:

add net sales

add ending accounts receivable

subtract beginning accounts receivable

add ending assets (prepaid rent, inventory, et al)

subtract beginning assets (prepaid rent, inventory, et al)

subtract ending payables (tax, interest, salaries, accounts payable, et al.)

add ending payables (tax, interest, salaries, accounts payable, et al.)

Once the cash inflows and outflows from operating activities are calculated, they are added together in the "Operating Activities" section of the cash flow statement to obtain the net cash flow for a company's operating activities.

Indirect Method

In the indirect (addback) method for calculating cash flows, the accrual basis net income is established first. This net income is then indirectly adjusted for items that affected the reported net income but did not involve cash. The indirect method adjusts net income (rather than adjusting individual items in the income statement) for the following phenomena: changes in current assets (other than cash), changes in current liabilities, and items that were included in net income but did not affect cash.

EXAMPLE

The following is an example of using the direct method for calculating cash flows. For example, in order to find out the cash inflow from a customer we need to know the sales revenue, but the sales revenue is also affected by the accounts receivable account. So, if the sales revenue is 300, and the accounts receivable increases by 20, then the cash received from customers would be 280. In order to determine the cash paid to suppliers, you need to look at both the inventory and the accounts payable account, and then determine their effect on the cost of goods sold. For example, if the cost of goods sold was 220, and inventory increased by seven, and the accounts payable decreased by fifteen, the cash paid to suppliers would be 242. You add seven because the inventory increased, and you add fifteen because the accounts payable decreased, which means more money was paid.The cash paid for interest is determined by the bond interest expense and discount on the bonds payable. For example, if the interest expense is ten dollars, and the unamortized discount decreases by three dollars, then the cash paid for interest is seven dollars.

Preparation of the Statement of Cash Flows: Indirect Method

The indirect method starts with net-income while adjusting for non-cash transactions and from all cash-based transactions.

KEY POINTS

- The indirect method adjusts net income (rather than adjusting individual items in the income statement).
- The most common example of an operating expense that does not affect cash is depreciation expense.
- Depreciation expense must be added back to net income.

Calculating Cash Flows

There are two different methods that can be used to report the cash flows of operating activities. There is the direct method and the **indirect method** (*Figure 14.4*).

Indirect Method

The indirect method adjusts net income (rather than adjusting individual items in the income statement) for:

1. changes in current assets (other than cash) and current liabilities, and
2. items that were included in net income but did not affect cash.

Figure 14.4
Financial Reporting
Calculating Cash Flows

The indirect method uses net income as a starting point, makes adjustments for all transactions for non-cash items, then adjusts for all cash-based transactions. An increase in an asset account is subtracted from net income, and an increase in a liability account is added back to net income. This method converts accrual-basis net income (or loss) into cash flow by using a series of additions and deductions. The following rules can be followed to calculate cash flows from operating activities:

Decrease in non-cash current assets are added to net income;

Increase in non-cash current asset are subtracted from net income;

Increase in current liabilities are added to net income;

Decrease in current liabilities are subtracted from net income;

Expenses with no cash outflows are added back to net income (depreciation and/or amortization expense are the only operating items that have no effect on cash flows in the period);

Revenues with no cash inflows are subtracted from net income;

Non operating losses are added back to net income;

Non operating gains are subtracted from net income.

Under the indirect method, since net income is a starting point in measuring cash flows from operating activities, depreciation expenses must be added back to net income.

Direct Method Versus Indirect Method

Consider a firm reporting revenues of $125,000. During the reporting period, the firm's accounts receivables increased by

$36,000. Therefore, cash collected from these revenues was $89,000. Operating expenses reported during the period were $85,000, but accounts payable increased during the period by $5,000. Therefore, cash operating expenses were only $80,000. The net cash flow from operating activities, before taxes, would be:

Cash flow from revenue: 89,000

Cash flow from expenses: (80,000)

Net cash flow: 9,000

The indirect method would find these cash flows as follows.

Revenue: 125,000

Expenses: (85,000)

Net Income: 40,000

The adjustments for cash flow would then be made to this amount of net income. $36,000 would be subtracted due to the increase in accounts receivable, and $5,000 would be added due to the increase in accounts payable. This leaves us with the amount of $9,000 for net income.

Reporting and Analyzing Cash Flow Statements

Interpreting Overall Cash Flow

https://www.boundless.com/accounting/detailed-review-of-the-statement-of-cash-flows/calculating-cash-flows/

Interpreting Overall Cash Flow

Having positive and large cash flow is a good sign for any business, though does not by itself mean the business will be successful.

KEY POINTS

- The three types of cash flow are cash from from operations, investing, and financing.
- Having positive cash flows is important because it means that the company has at least some liquidity and may be solvent.
- A positive cash flow does not guarantee that the company can pay all of its bills, just as a negative cash flow does not mean that it will miss its payments.

What is a Cash Flow Statement?

In financial accounting, a cash flow statement (also known as statement of cash flows or funds flow statement) is a financial statement that shows how changes in balance sheet accounts and income affect cash and cash equivalents. The cash flow statement, as the name suggests, provides a picture of how much cash is flowing in and out of the business during the fiscal year.

The cash flow is widely believed to be the most important of the three financial statements because it is useful in determining whether a company will be able to pay its bills and make the necessary investments. A company may look really great based on the balance sheet and income statement, but if it doesn't have enough cash to pay its suppliers, creditors, and employees, it will go out of business. A positive cash flow means that more cash is coming into the company than going out, and a negative cash flow means the opposite.

Components of the Cash Flow Statement

The cash flow statement is made up of three different types of cash flows, which will be addressed in further detail in the coming sections:

1. Cash flow from operations: Cash received or expended as a result of the company's internal business activities, such as sales and purchasing supplies.
2. Cash flow from investing: Cash received from the sale of long-life assets or spent on capital expenditures.
3. Cash flow from financing: Cash received from the issue of debt and equity, paid out as dividends, share repurchases, or debt repayments.

The net cash flow for a company is the sum of the net cash flows of these three components.

Some transactions may be placed in different categories under different accounting systems (*Figure 14.5*), which makes it hard to do an apples-to-apples cash flow statement comparison between companies that operate under different standards.

Figure 14.5 GAAP vs. IFRS Cash Flow Classification

Transaction US GAAP	Classification	IFRS Classification
Interest Received	Operating	Operating or Investing
Dividends Received	Operating	Operating or Investing
Interest Paid	Operating	Financing or Operating
Dividends Paid	Financing	Financing or Operating
Income Taxes	Operating	Operating unless specifically associated with financing or investing activity

Some cash flows are characterized differently under GAAP and IFRS accounting standards.

Interpretation

An analyst looking at the cash flow statement will first care about whether the company has a net positive cash flow. Having a positive cash flow is important because it means that the company has at least some liquidity and may be solvent.

Regardless of whether the net cash flow is positive or negative, an analyst will want to know where the cash is coming from or going to (*Figure 14.6*). The three types of cash flows (operating, investing, and financing) will all be broken down into their various components and then summed. The company may have a positive cash flow from operations, but a negative cash flow from investing and financing. This sheds important insight into how the company is making or losing money.

Figure 14.6 Cash Flow Comparison

	Company A			Company B		
	Year 1	Year 2	year 3	Year 1	Year 2	year 3
Cash flow from operations	+20M	+21M	+22M	+10M	+11M	+12M
Cash flow from financing	+5M	+5M	+5M	+5M	+5M	+5M
Cash flow from investment	-15M	-15M	-15M	0M	0M	0M
Net cash flow	+10M	+11M	+12M	+15M	+16M	+17M

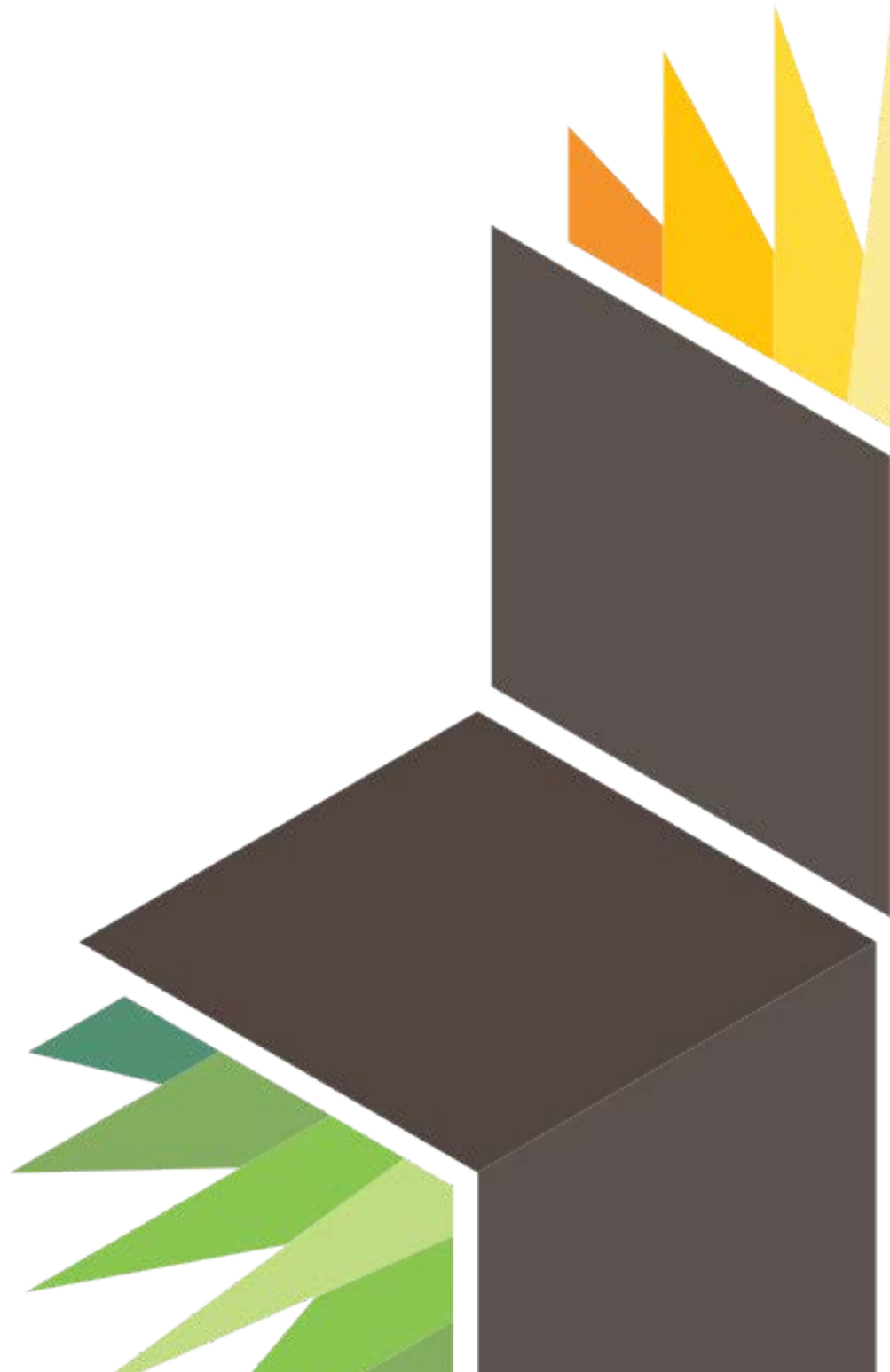
Company B has a higher yearly cash flow. However, Company A is actually earning more cash by its core activities and has already spent 45 million dollars in long-term investments, of which revenues will show up after three years.

The analyst will continue breaking down the cash flow statement in this manner, diving deeper and deeper into the specific factors that affect the cash flow.

Chapter 15

Special Topics in Accounting: Income Taxes, Pensions, Leases, Errors, and Disclosures

https://www.boundless.com/accounting/detailed-review-of-the-statement-of-cash-flows/calculating-cash-flows/



Section 1

Income Tax Accounting

Overview of Income Tax Accounting

https://www.boundless.com/accounting/special-topics-in-accounting-income-taxes-pensions-leases-errors-and-disclosures/income-tax-accounting/

Overview of Income Tax Accounting

There is a difference between Internal Revenue Service code and generally accepted accounting principles for reporting tax liability.

KEY POINTS

- Taxable income a company reports to the IRS may not be the same as the pre-tax profit reported on its financial statements.
- The actual amount of tax liability due to the IRS may not be the same as the income tax expense reported on the income statement.
- Temporary difference: the book income (income shown on the company financials) may be higher one year, but lower in future years. Thus, the cumulative profit will be the same for both.
- Permanent difference: Due to generally accepted accounting principles, treating items, such as income and expenses, differently than the IRS, the difference may never reverse.
- If a company realizes a net loss for tax purposes, the IRS allows the company to offset this loss against the prior year's taxable income (which could result in a refund of taxes paid in prior periods).

KEY POINTS (cont.)

- In the asset-liability method, deferred income tax amount is based on the expected tax rates for the periods in which the temporary differences reverse. It is a balance-sheet-oriented approach. This method is the only one accepted by GAAP.

Income Tax Reporting

In order to properly account for income taxes, it is important to understand that the Internal Revenue Service code that governs accounting for tax liability isn't the same as the generally accepted accounting principles (GAAP) for reporting tax liability on the financial statements (*Figure 15.1*).

Figure 15.1 Income Tax

Reporting income tax is complicated by the fact that IRS code differs from generally accepted accounting principles

The result is the taxable income a company reports to the IRS may not be the same as the pre-tax profit reported on its financial statements.

Also, the actual amount of tax liability due to the IRS may not be the same as the income tax expense reported on the income statement.

The differences in what is reported on the financials and what is reported to the IRS are divided into two classifications, temporary difference and permanent difference.

Temporary difference: The book income (income shown on the company financials) may be higher one year, but lower in future years. Thus, the cumulative profit will be the same for both.

Permanent difference: Due to generally accepted accounting principles treating items such as income and expenses differently than the IRS, the difference may never reverse.

Accounting for Deferred Taxes

Deferred Method

In this method, the deferred income tax amount is based on tax rates in effect when the temporary differences originated. The deferred method is an income-statement-oriented approach. This method seeks to properly match expenses with revenues in the period the temporary difference originated. Note this method is notacceptable under GAAP.

Asset-liability Method

In the asset-liability method, deferred income tax amount is based on the expected tax rates for the periods in which the temporary differences reverse. It is a balance-sheet-oriented approach. This method is the only one accepted by GAAP.

Future Taxable Amounts, Future Deductible Amounts and Net Operating Loss

Loss Carry Backs and Loss Carry Forwards

Under U.S. Federal income tax law, a net operating loss (NOL) occurs when certain tax-deductible expenses exceed taxable revenues for a taxable year.

If a company realizes a net loss for tax purposes, the IRS allows the company to offset this loss against prior year's taxable income (which could result in a refund of taxes paid in prior periods).

The company may carry those losses back three years. If the company doesn't have the sufficient taxable income in the past three years to absorb the loss, then it may carry the remaining losses forward for 15 years. This allows the company to **deduct** the loss against future taxable income.

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Pension Accounting

Overview of Pension Accounting

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Overview of Pension Accounting

A pension is a contract for a fixed sum to be paid regularly to a person, typically following retirement from service.

KEY POINTS

- The two most common are the defined benefit and the defined contribution plan.
- The employer (sponsor) reports pension expense on the income statement, and a pension liability which is the sum of two accounts, accrued/prepaid pension cost and additional liability, and an intangible asset-deferred pension cost (if required).
- In a defined contribution plan (such as a 401k), while the company makes contributions or matching contributions, it does not promise the future benefit to the employee.

Components of a Pension Plan

A pension is a contract for a fixed sum to be paid regularly to a person, typically following retirement from service.

Types of Pension Plans

While there are various pension plans in use today, the two most common are the defined benefit and the defined **contribution** plan.

With a defined benefit plan, an employee knows the terms of the benefit to be received upon retirement. So, the company must invest in a fund in order to meet its obligations to the employee. In this type of plan the company bears the investment risk.

In a defined contribution plan (such as a 401k), while the company makes contributions or matching contributions, it does not promise the future benefit to the employee. In such a plan, the employee bears the investment risk (*Figure 15.2*).

Figure 15.2 A 401k is a defined contribution plan

In a defined contribution plan the employees bear all the risk.

Pension Plan Accounting

Due to the nature of pension plans, accounting for them is rather complicated. The first complication is that pension benefits are payable to retirees in the far future, so it is hard to estimate the amount of future payments.

The second complication comes from the application of accrual accounting. Since, the actual cash flows are not counted each year; this means the annual pension expense is based on rules that attempt to capture changing assumptions about the future.

The last complication comes from the rules that require companies to prevent over/under stating the pension funds. This smoothing out of the account disguises the true position of the plan.

The employer (sponsor) reports pension expense on the income statement, and a pension liability which is the sum of two accounts, accrued/prepaid pension cost and additional liability, and an intangible asset-deferred pension cost (if required).

The employer is also required to maintain memo accounts for unrecognized prior service costs and unrecognized gains and losses.

How a Pension Plan Is Presented in the Financials

In addition to reporting the pension expense on the income statement companies should disclose the following information about the pension plan:

Plan description (including benefit formula, employee groups covered, funding policy. and types of assets held)

The amounts for the components of pension expense for the period

A reconciliation schedule relating the funding status of the plan

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Section 3

Lease Accounting

Overview of Lease Accounting

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Overview of Lease Accounting

There are two types of leases: capital leases and operating leases and each has a different accounting methodology.

KEY POINTS

- A lease allows a company to get a major piece of equipment with no large expenditure of cash.
- A capital lease is a form of debt-equity financing in which the lease acts like loan.
- An operating lease lets a company obtain equipment with virtually no upfront capital outlay and with the lease payments treated as a deductible cost of business.

What is a Lease

A lease is a contract calling for the lessee (user) to pay the lessor (owner) for use of an asset for a specified period.

Why Do Some Companies Lease

For many companies the decision is monetary. A lease allows a company to get a major piece of equipment with no large expenditure of cash. In addition, some companies who are in the financial position to buy equipment still prefer to lease because they would not benefit from the depreciation on the equipment (*Figure 15.3*).

Types of Leases

There are two types of leases capital leases and operating leases.

Figure 15.3 Equipment Lease An equipment lease allows a company to get a piece of equipment without a large expenditure.

Capital equipment is financed either with debt or equity. A **capital lease** is a form of debt-equity financing in which the lease acts like loan. To that end, a capital lease must be recorded as liability on the company's balance sheet, it is important to note that the IRS treats capital leases as a liability.

On the other hand, an operating lease lets a company obtain equipment with virtually no upfront capital outlay and with the lease payments treated as a deductible cost of business.

Accounting for the Lease-Leasee

Under an operating lease, the lessee records rent expense (debit) over the lease term, and a credit to either cash or rent payable. If an operating lease has scheduled changes in rent, normally the rent must be registered as an expense on a straight-line basis over its life, with a deferred liability or asset reported on the balance sheet for the difference between expense and cash outlay.

Under a capital lease, the lessee does not record rent as an expense. Instead, the rent is reclassified as interest and obligation payments, similarly to a mortgage (with the interest calculated each rental period on the outstanding obligation balance). At the same time, the asset is depreciated. If the lease has an ownership transfer or bargain purchase option, the depreciable life is the asset's economic life; otherwise, the depreciable life is the lease term. Over the life of the lease, the interest and depreciation combined will be equal to the rent payments.

Note: For both capital and operating leases, a separate footnote to the financial statements discloses the future minimum rental commitments, by year for the next five years, then all remaining years as a group.

Accounting for the Lease-Lessor

Under an operating lease, the **lessor** records rent revenue (credit) and a corresponding debit to either cash/rent receivable. The asset remains on the lessor's books as an owned asset. The lessor records depreciation expense over the life of the asset. Under a capital lease, the lessor credits owned assets and debits a lease-receivable account for the present value of the rents. The rents are an asset, which is broken out between current and long-term, the latter being the present value of rents due more than 12 months in the future. With each payment, cash is debited, the receivable is credited, and unearned (interest) income is credited.

Other Lease Items

Leasehold Improvements: Improvements made by the lessee. These are permanently affixed to the property and revert to the lessor at the termination of the lease. The value of the leasehold improvements should be capitalized and depreciated over the lesser of the lease life or the leasehold improvements life. If the life of the leasehold improvement extends past the life of the initial term of the lease and into an option period, normally that option period must be considered part of the life of the lease.

Lease Bonus: Prepayment for future expenses. Classified as an asset; amortized using the straight-line method over the life of the lease.

Security Deposits: Nonrefundable security deposits:deferred by the lessor as unearned revenue; capitalized by the lessee as a prepaid rent expense until the lessor considers the deposit earned. Refundable security deposits: treated as a receivable by the lessee; treated as a liability by the lessor until the deposit is refunded to the lessee.

Section 4

Making Changes and Correcting Errors

Overview of Statement Changes and Errors

https://www.boundless.com/accounting/special-topics-in-accounting-income-taxes-pensions-leases-errors-and-disclosures/making-changes-and-correcting-errors/

Overview of Statement Changes and Errors

Despite best efforts, occasionally an error is made on the financial statement and must be corrected.

KEY POINTS

- These errors are most usually caused by mathematical mistakes, mistakes in applying generally accepted accounting principles, or through the oversight of facts existing when the financial statements were prepared.
- In order to properly correct an error, it is necessary to retrospectively restate the prior period financial statements.
- A counterbalancing error occurs when an an error is made that cancels out another error.
- It makes no difference whether the books are closed or still open; a correcting journal entry is necessary.

Changes and Errors on the Financial Statements

Despite best efforts, occasionally an error is made on the financial statement. Most often, the error is in the recognition, measurement, presentation, or disclosure of an item in financial statements. These errors are usually caused by mathematical mistakes, mistakes in applying generally accepted accounting principles, or the oversight of facts existing when the financial statements were prepared (*Figure 15.4*).

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 15.4 The Balance Sheet
If an error is found on a previous year's financial statement, a correction must be made and the financials reissued.

Please note: an error correction is the correction of an error in previously issued financial statement; it is not an accounting change.

How to Correct an Error

In order to properly correct an error, it is necessary to **retrospectively** restate the prior period financial statements. In order to restate the financials the company must:

Reflect the **cumulative** effect of the error on periods prior to those presented in the carrying amounts of assets and liabilities as of the beginning of the first period presented; and

Make an offsetting adjustment to the opening balance of retained earnings for that period; and

Adjust the financial statements for each prior period presented, to reflect the error correction.

If the financial statements are only presented for a single period, then reflect the adjustment in the opening balance of retained earnings.

Counterbalancing vs. Non-counterbalancing Errors

A counterbalancing error has occurred when an error is made that cancels out another error. An example of a counterbalancing error is expenses charged to year X that should have been charged to year Y. The result is year X has an overstated expense and an understated profit and year Y has an expense understated and the profit overstated. Yet when retained earning for year Z is correct, because the two previous errors cancelled each other out. While the effects of the error are corrected over a period of two years, the yearly net income figures for year X and year Y were still misstated.

Accounting for a counterbalancing error is made by determining if the books for the current year are closed or not. If the current year books are closed-no entry is necessary if the error has already counterbalanced. If the error has not counterbalanced then an entry must be made to retained earnings.

If the books are not closed for the current year, the company is in the second year, and the error hasn't already counterbalanced then it is necessary to correct the current period and adjusted beginning retained earnings. If the error has not counterbalanced, an entry is necessary to adjusted beginning retained earnings and correct the current period.

Keep in mind the financial statements need to be re-run no matter what.

Non-counterbalancing errors are those that will not be automatically **offset** in the next accounting period. It makes no difference whether the books are closed or still open, a correcting journal entry is necessary.

Source: https://www.boundless.com/accounting/special-topics-in-accounting-income-taxes-pensions-leases-errors-and-disclosures/making-changes-and-correcting-errors/overview-of-statement-changes-and-errors/

Mechanics of a Disclosure

Mechanics of a Disclosure

https://www.boundless.com/accounting/special-topics-in-accounting-income-taxes-pensions-leases-errors-and-disclosures/additional-notes-on-disclosures/

Mechanics of a Disclosure

Disclosures provide additional information about the specific data on the company's financial statements.

KEY POINTS

- All relevant and material facts which affect the reliability and comparability of financial statements must be disclosed.
- The disclosures can be required by generally accepted accounting principles or voluntary per management decisions.
- Types of disclosures include, accounting changes, accounting errors, asset retirement, insurance contract modifications, and noteworthy events.

Purpose of Disclosures on the Financial Statement

While a company's financial statements contain all the relevant financial data about the company, that data is often in need of further explanation. That is where the disclosures on the financial statement come into play (*Figure 15.5*).

Financial statement disclosures provide internal and external business stakeholders with additional information regarding a company's financial operations. The disclosures can be required by generally accepted accounting principles or voluntary per management decisions.

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 15.5 The Balance Sheet

Financial statement disclosures provide internal and external business stakeholders with additional information regarding a company's financial operations

What Is Disclosed: Materiality and Impact

All relevant and material facts, which affect the reliability and comparability of financial statements, must be disclosed. This usually relates to accounting methods used, changes in accounting estimates, contingent liabilities, performance of business segments,

and any significant event subsequent to the end of the financial period.

Accounting Changes

If a company makes a significant change to their accounting policies, such as a change in inventory valuation, depreciation methods, or application of GAAP, they must disclose it. Such disclosures alert the financial statement's users as to why the company's financial information may suddenly look different.

Accounting Errors

Accounting errors can result for a variety of reasons including transposition, mathematical computation, and incorrect application of GAAP or failing to revalue assets using fair market value. When an error is discovered, it must be corrected. This often means correcting prior period financial statements. This information must be noted in the disclosure. Keep in mind, significant accounting errors can result in financial audits and possible bankruptcy by the company.

Asset Retirement

Companies retire assets once the asset provides no future benefits to the company. The procedure for retiring an asset requires the company to obtain both a fair market value and salvage value for the asset. Usually, the difference between the sale price and the asset's salvage value results in a net loss. The net loss is then included on the company's income statement, which is then explained via a disclosure.

Insurance Contract Modifications

Insurance contract modifications affect a company's balance sheet. Since companies use the balance sheet to determine the total economic value added by their company's operations. A financial disclosure is necessary to explain why the insurance contract was modified and what current or future implications may occur. Examples of insurance contracts include the business owner's life insurance policy or the general liability insurance for business operations.

Other items

Other items requiring disclosure are noteworthy events and transactions. These events are infrequent but made a significant impact on the current financial period (*Figure 15.6*).

Notes to financial statements can include information on debt, going concern criteria, accounts, contingent liabilities, or contextual information explaining the financial numbers (e.g., to indicate a lawsuit).

Figure 15.6 Credit Cards Represent Debt

Notes to financial statements can include information on debt, going concern criteria, accounts, contingent liabilities, or contextual information explaining the financial numbers (e.g., to indicate a lawsuit).

Methods of Making a Disclosure

Disclosures may be simple statements regarding the change or provide a lengthy explanation for the reason to change the company's accounting policies and procedures.

Voluntary disclosure in accounting is the provision of information by a company's management beyond requirements, such as generally accepted accounting principles and Securities and Exchange Commission rules, where the information is believed to be relevant to the decision making of users of the company's annual reports.

Voluntary disclosure benefits investors, companies, and the economy; for example, it helps investors make better capital allocation decisions and lowers firms' cost of capital, the latter of which also benefits the general economy. Chau and Gray (2002) also found support for the theory that voluntary disclosure helps reduce conflicts of interest in widely held firms. Firms, however, balance the benefits of voluntary disclosure against the costs, which may include the cost of procuring the information to be disclosed, and decreased competitive advantage.

Structure of disclosures

Disclosures can span several pages at the end of the financial statements.

Chapter 16

Analyzing Financial Statements

https://www.boundless.com/accounting/analyzing-financial-statements/

Section 1

Overview of Financial Statements Analysis

Using Financial Statements to Understand a Business

https://www.boundless.com/accounting/analyzing-financial-statements/overview-of-financial-statements-analysis/

Using Financial Statements to Understand a Business

Internal and external users rely on a company's financial statements to get an in-depth understanding of the company's financial position.

KEY POINTS

- By using a variety of methods to analyze the financial information included on the statements users can determine the risk and profitability of a company.
- Financial statement analysis consists of reformulating reported financial statement information and analyzing and adjusting for measurement errors.
- Two types of ratio analysis are performed, analysis of risk and analysis of profitability.
- Analysis of risk typically aims at detecting the underlying credit risk of the firm.
- Analysis of profitability refers to the analysis of return on capital.

The Role of Financial Statements

Internal and external users rely on a company's financial statements to get an in-depth understanding of the company's financial position. For internal users such as managers, the financial statements offer all the information necessary to plan, evaluate, and control operations. External users, such as investors and creditors, use the financial statements to gauge the future profitability and liquidity of a company (*Figure 16.1*).

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 16.1 The Balance Sheet
Internal and external users rely on the information from the financial statements to get an in-depth understanding of the company's financial position.

Financial Statement Analysis

By using a variety of methods to analyze the financial information included on the statements, users can determine the risk and profitability of a company. Ideally, the analysis consists of reformulating the reported financial statement information, analyzing the information, and adjusting it for measurement errors. Then the various calculations are performed on the reformulated and adjusted financial statements. Unfortunately, the two first steps are often dropped in practice. In these instances financial ratios are calculated on the reported numbers without thorough examination and questioning, though some adjustments might be made.

An example of a **reformulation** used on the income statement occurs when dividing the reported items into recurring or normal items and non-recurring or special items. This division separates the earning into normal earnings, also known as core earnings, and transitory earnings. The idea is that normal earnings are more permanent and therefore more relevant for prediction and valuation.

Normal earnings are also separated into net operational profit after taxes (NOPAT) and net financial costs. In this example the balance sheet is grouped in net operating assets (NOA), net financial debt, and equity.

Types of Analysis

Two types of ratio analysis are analysis of risk and analysis of profitability:

Risk Analysis: Analysis of risk detects any underlying credit risks to the firm. Risk analysis consists of liquidity and solvency analysis. Liquidity analysis aims at analyzing whether the firm has enough liquidity to meet its obligations. One technique used to analyze illiquidity risk is to focus on ratios such as the current ratio and interest coverage. Cash flow analysis is also useful in evaluating risk. Solvency analysis aims at determining whether the firm is financed in such a way that it will be able to recover from a loss or a period of losses.

Profitability analysis: Analyses of profitability refer to the analysis of return on capital. For example, return on equity (ROE), is defined as earnings divided by average equity. Return on equity could be furthered refined as:

ROE = (RNOA)+ (RNOA - NFIR) * NFD/E

RNOA is return on net operating assets, NFIR is the net financial interest rate, NFD is net financial debt and E is equity. This formula clarifies the sources of return on equity.

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Section 2

Standardizing Financial Statements

Income Statements

Balance Sheets

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Income Statements

Income statement is a company's financial statement that indicates how the revenue is transformed into the net income.

KEY POINTS

- Income statement displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write offs (e.g., depreciation and amortization of various assets) and taxes.
- The income statement can be prepared in one of two methods: The Single Step income statement and Multi-Step income statement.
- The income statement includes revenue, expenses, COGS, SG&A, depreciation, other revenues and expenses, finance costs, income tax expense, and net income.

Income Statement

Income statement (also referred to as profit and loss statement [P&L]), revenue statement, a statement of financial performance, an earnings statement, an operating statement, or statement of operations) is a company's financial statement. This indicates how the revenue (money received from the sale of products and services before expenses are taken out, also known as the "top line") is transformed into the net income (the result after all revenues and expenses have been accounted for, also known as "Net Profit" or the "bottom line"). It displays the revenues recognized for a specific period, and the cost and expenses charged against these revenues, including write offs (e.g., depreciation and amortization of various assets) and taxes. The purpose of the income statement is to show managers and investors whether the company made or lost money during the period being reported.

The important thing to remember about an income statement is that it represents a period of time. This contrasts with the balance sheet, which represents a single moment in time (*Figure 16.2*).

Two Methods

The Single Step income statement takes a simpler approach, totaling revenues and subtracting expenses to find the bottom line.

The Multi-Step income statement (as the name implies) takes several steps to find the bottom line, starting with the gross profit. It then calculates operating expenses and, when deducted from the gross profit, yields income from operations. Adding to income from operations is the difference of other revenues and other expenses. When combined with income from operations, this yields income before taxes. The final step is to deduct taxes, which finally produces the net income for the period measured.

XYZ Retailers

Income Statement

For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Figure 16.2
Income statement
Income statement shows gains or losses of a company during a period.

Operating Section

Revenue - cash inflows or other enhancements of assets of an entity during a period from delivering or producing goods, rendering services, or other activities that constitute the entity's ongoing major operations. It is usually presented as sales minus sales discounts, returns, and allowances. Every time a business sells a product or performs a service, it obtains revenue. This often is referred to as gross revenue or sales revenue.

Expenses - cash outflows or other using-up of assets or incurrence of liabilities during a period from delivering or producing goods, rendering services, or carrying out other activities that constitute the entity's ongoing major operations.

Cost of Goods Sold (COGS)/Cost of Sales - represents the direct costs attributable to goods produced and sold by a business (manufacturing or merchandizing). It includes material costs, direct labor, and overhead costs (as in absorption costing), and excludes operating costs (period costs), such as selling, administrative, advertising or R&D, etc.

Selling, General and Administrative expenses (SG&A or SGA) - consist of the combined payroll costs. SGA is usually understood as a major portion of non-production related costs, in contrast to production costs such as direct labour.

Selling expenses - represent expenses needed to sell products (e.g., salaries of sales people, commissions, and travel expenses; advertising; freight; shipping; depreciation of sales store buildings and equipment, etc.).

General and Administrative (G&A) expenses - represent expenses to manage the business (salaries of officers/executives, legal and professional fees, utilities, insurance, depreciation of office building and equipment, office rents, office supplies, etc.).

Depreciation/Amortization - the charge with respect to fixed assets/ intangible assets that have been capitalized on the balance sheet for a specific (accounting) period. It is a systematic and rational allocation of cost rather than the recognition of market value decrement.

Research & Development (R&D) expenses - represent expenses included in research and development.

Expenses recognized in the income statement should be analyzed either by nature (raw materials, transport costs, staffing costs, depreciation, employee benefit, etc.) or by function (cost of sales, selling, administrative, etc.).

Non-operating Section

Other revenues or gains - revenues and gains from other than primary business activities (e.g., rent, income from patents).

Other expenses or losses - expenses or losses not related to primary business operations, (e.g., foreign exchange loss).

Finance costs - costs of borrowing from various creditors (e.g., interest expenses, bank charges).

Income tax expense - sum of the amount of tax payable to tax authorities in the current reporting period (current tax liabilities/ tax payable) and the amount of deferred tax liabilities (or assets).

Irregular items - are reported separately because this way users can better predict future cash flows - irregular items most likely will not recur. These are reported net of taxes.

Bottom Line

Bottom line is the net income that is calculated after subtracting the expenses from revenue. Since this forms the last line of the income statement, it is informally called "bottom line." It is important to investors as it represents the profit for the year attributable to the shareholders.

Balance Sheets

A standard company balance sheet has three parts: assets, liabilities, and ownership equity; Asset = Liabilities + Equity.

KEY POINTS

- A balance sheet or statement of financial position is a summary of the financial balances of a sole proprietorship, a business partnership, a corporation, or other business organization, such as an LLC or an LLP.
- A standard company balance sheet has three parts: assets, liabilities, and ownership equity.
- Assets are followed by the liabilities. The difference between the assets and the liabilities is known as "equity" or the net assets or the net worth or capital of the company and according to the accounting equation, net worth must equal assets minus liabilities.

Balance sheet

In financial accounting, a balance sheet or statement of financial position is a summary of the financial balances of a **sole proprietorship**, a business partnership, a corporation or other business organization, such as an LLC or an LLP. Assets, liabilities and ownership equity are listed as of a specific date, such as the end of its financial year. A balance sheet is often described as a "snapshot of a company's financial condition." Of the four basic financial statements, the balance sheet is the only statement which applies to a single point in time of a business' calendar year.

A standard company balance sheet has three parts: assets, liabilities, and ownership equity. The main categories of assets are usually listed first, and typically in order of liquidity. Assets are followed by the liabilities. The difference between the assets and the liabilities is known as "equity" or the net assets or the net worth or the capital of the company and according to the accounting equation, net worth must equal assets minus liabilities (*Figure 16.3*).

Types

A balance sheet summarizes an organization or individual's assets, equity, and liabilities at a specific point in time. We have two forms of balance sheet. They are the report form and the account form. Individuals and small businesses tend to have simple balance sheets. Larger businesses tend to have more complex balance sheets, and these are presented in the organization's annual report. Large businesses also may prepare balance sheets for segments of their businesses. A balance sheet is often presented alongside one for a different point in time (typically the previous year) for comparison.

Balance Sheet		
As of Dec. 31, 2004 (000's)		
Assets	*2004*	*2003*
Cash and Equivalents	52,000	57,600
Accounts Receivable	402,000	351,200
Inventory	836,000	715,200
Total Current Assets	*1,290,000*	*1,124,000*
Plant & Equipment	527,000	491,000
Accumulated Depreciation	166,200	146,200
Net Fixed Assets	*360,800*	*344,800*
Total Assets	***1,650,800***	***1,468,800***
Liabilities and Owner's Equity		
Accounts Payable	175,200	145,600
Short-term Notes Payable	225,000	200,000
Other Current Liabilities	140,000	136,000
Total Current Liabilities	*540,200*	*481,600*
Long-term Debt	424,612	323,432
Total Liabilities	*964,812*	*805,032*
Common Stock	460,000	460,000
Retained Earnings	225,988	203,768
Total Shareholder's Equity	*685,988*	*663,768*
Total Liabilities and Owner's Equity	***1,650,800***	***1,468,800***

Figure 16.3
Balance sheet
Balance sheet shows financial position of a company.

Personal Balance Sheet

A personal balance sheet lists current assets, such as cash in checking accounts and savings accounts; long-term assets, such as common stock and real estate; current liabilities, such as loan debt and mortgage debt due; or overdue, long-term liabilities, such as mortgage and other loan debt. Securities and real estate values are listed at market value rather than at historical cost or cost basis. Personal net worth is the difference between an individual's total assets and total liabilities.

U.S. Small Business Balance Sheet

A small business balance sheet lists current assets, such as cash, accounts receivable, and inventory; fixed assets, such as land, buildings, and equipment; intangible assets, such as patents; and liabilities, such as accounts payable, accrued expenses, and long-term debt. Contingent liabilities, such as warranties are noted in the footnotes to the balance sheet. The small business's equity is the difference between total assets and total liabilities.

Public Business Entities Balance Sheet Structure

Guidelines for balance sheets of public business entities are given by the International Accounting Standards Board and numerous country-specific organizations/companies.

Balance sheet account names and usage depend on the organization's country and the type of organization. Government organizations do not generally follow standards established for individuals or businesses.

If applicable to the business, summary values for the following items should be included in the balance sheet: Assets are all the things the business owns, including property, tools, cars, etc.

Assets:

1. Current assets

Cash and cash equivalents

Accounts receivable

Inventories

Prepaid expenses for future services that will be used within a year

2. Non-current assets (fixed assets)

Property, plant, and equipment.

Investment property, such as real estate held for investment purposes.

Intangible assets.

Financial assets (excluding investments accounted for using the equity method, accounts receivables, and cash and cash equivalents).

Investments accounted for using the equity method

Biological assets, which are living plants or animals. Bearer biological assets are plants or animals which bear agricultural produce for harvest, such as apple trees grown to produce apples and sheep raised to produce wool.

Liabilities:

Accounts payable.

Provisions for warranties or court decisions.

Financial liabilities (excluding provisions and accounts payable), such as promissory notes and corporate bonds.

Liabilities and assets for current tax.

Deferred tax liabilities and deferred tax assets.

Unearned revenue for services paid for by customers but not yet provided.

Equity:

Issued capital and reserves attributable to equity holders of the parent company (controlling interest).

Non-controlling interest in equity.

Regarding the items in equity section, the following disclosures are required:

Numbers of shares authorized, issued and fully paid, and issued but not fully paid.

Par value of shares.

Reconciliation of shares outstanding at the beginning and the end of the period/

Description of rights, preferences, and restrictions of shares.

Treasury shares, including shares held by subsidiaries and associates.

Shares reserved for issuance under options and contracts.

A description of the nature and purpose of each reserve within owners' equity

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Ratio Analysis Overview

Classification

https://www.boundless.com/accounting/analyzing-financial-statements/ratio-analysis-overview/

Classification

Ratio analysis consists of calculating financial performance using five basic types of ratios: profitability, liquidity, activity, debt, and market.

KEY POINTS

- Ratio analysis consists of the calculation of ratios from financial statements and is a foundation of financial analysis.
- A financial ratio, or accounting ratio, shows the relative magnitude of selected numerical values taken from those financial statements.
- The numbers contained in financial statements need to be put into context so that investors can better understand different aspects of the company's operations. Ratio analysis is one method an investor can use to gain that understanding.

Classification

Financial statements are generally insufficient to provide information to investors on their own; the numbers contained in those documents need to be put into context so that investors can better understand different aspects of the company's operations. **Ratio analysis** is one of three methods an investor can use to gain that understanding (*Figure 16.4*).

Figure 16.4
Business Analysis and Profitability
Financial ratio analysis allows an observer to put the data provided by a company in context. This allows the observer to gauge the strength of different aspects of the company's operations.

Financial statement analysis is the process of understanding the risk and profitability of a firm through analysis of reported financial information. Ratio analysis is a foundation for evaluating and pricing credit risk and for doing fundamental company valuation. A financial ratio, or accounting ratio, is derived from a company's financial statements and is a calculation showing the relative magnitude of selected numerical values taken from those financial statements.

There are various types of financial ratios, grouped by their relevance to different aspects of a company's business as well as to their interest to different audiences. Financial ratios may be used internally by managers within a firm, by current and potential shareholders and creditors of a firm, and other audiences interested

in understanding the strengths and weaknesses of a company, especially compared to the company over time or compared to other companies.

Types of Ratios

Most analysts think of financial ratios as consisting of five basic types:

Profitability ratios measure the firm's use of its assets and control of its expenses to generate an acceptable rate of return.

Liquidity ratios measure the availability of cash to pay debt.

Activity ratios, also called efficiency ratios, measure the effectiveness of a firm’s use of resources, or assets.

Debt, or leverage, ratios measure the firm's ability to repay long-term debt.

Market ratios are concerned with **shareholder** audiences. They measure the cost of issuing stock and the relationship between return and the value of an investment in company’s shares.

Section 4

Using Financial Ratios for Analysis

Limitations of Financial Statement Analysis

Trend Analysis

Benchmarking

Industry Comparisons

Evaluating Financial Statements

Selected Financial Ratios and Analyses

https://www.boundless.com/accounting/analyzing-financial-statements/using-financial-ratios-for-analysis/

Limitations of Financial Statement Analysis

Financial statement analyses can yield a limited view of a company because of accounting, market, and management related limitations of such analyses.

KEY POINTS

- Ratio analysis is hampered by potential limitations with accounting and the data in the financial statements themselves. This can include errors as well as accounting mismanagement, which involves distorting the raw data used to derive financial ratios.
- Proponents of the stronger forms of the efficient-market hypothesis, technical analysts, and behavioral economists argue that fundamental analysis is limited as a stock valuation tool, all for their own distinct reasons.
- Ratio analysis can also omit important aspects of a firm's success, such as key intangibles, like brand, relationships, skills and culture. These are primary drivers of success over the longer term even though they are absent from conventional financial statements.

KEY POINTS (cont.)

- Other disadvantages of this type of analysis is that if used alone it can present an overly simplistic view of the company by distilling a great deal of information into a single number or series of numbers that may not provide adequate context or be comparable across time or industry.

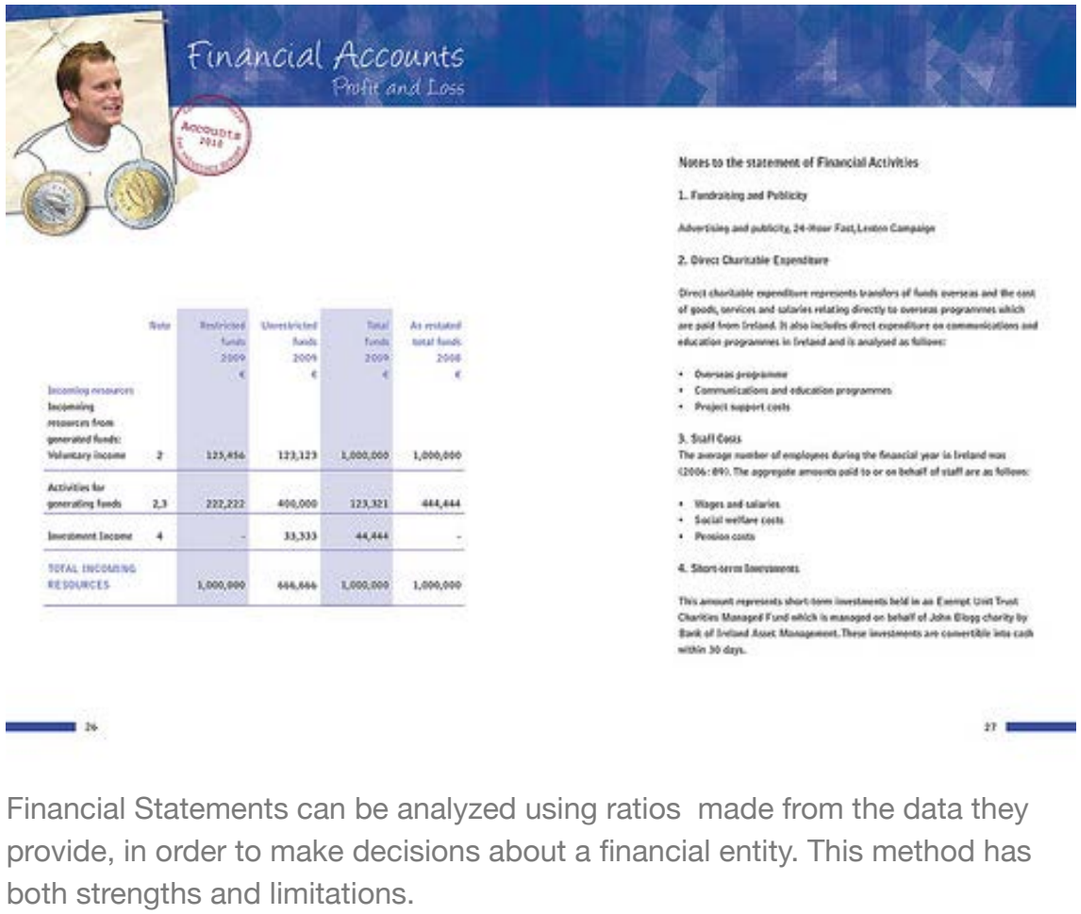
Limitations of Financial Statement Analysis

Ratio analysis using financial statements includes accounting, stock market, and management related limitations. These limits leave analysts with remaining questions about the company (*Figure 16.5*).

First of all, ratio analysis is hampered by potential limitations with accounting and the data in the financial statements themselves. This can include errors as well as accounting mismanagement, which involves distorting the raw data used to derive financial ratios. While accounting measures may have more external standards and oversights than many other ways of benchmarking companies, this is still a limit.

Ratio analysis using financial statements as a tool for performing stock valuation can be limited as well. The efficient-market hypothesis (EMH), for example, asserts that financial markets are "informationally efficient." In consequence of this, one cannot consistently achieve returns in excess of average market returns on

Figure 16.5 A sample page from a financial statement.



Financial Accounts
Profit and Loss

Accounts 2010

	Note	Restricted funds 2009 €	Unrestricted funds 2009 €	Total funds 2009 €	As restated total funds 2008 €
Incoming resources					
Incoming resources from generated funds:					
Voluntary income	2	123,456	123,123	1,000,000	1,000,000
Activities for generating funds	2,3	222,222	400,000	123,321	444,444
Investment income	4	-	33,333	44,444	-
TOTAL INCOMING RESOURCES		1,000,000	666,666	1,000,000	1,000,000

Notes to the statement of Financial Activities

1. Fundraising and Publicity

Advertising and publicity, 24-Hour Fast, Lenten Campaign

2. Direct Charitable Expenditure

Direct charitable expenditure represents transfers of funds overseas and the cost of goods, services and salaries relating directly to overseas programmes which are paid from Ireland. It also includes direct expenditure on communications and education programmes in Ireland and is analysed as follows:

- Overseas programme
- Communications and education programmes
- Project support costs

3. Staff Costs

The average number of employees during the financial year in Ireland was (2006: 89). The aggregate amounts paid to or on behalf of staff are as follows:

- Wages and salaries
- Social welfare costs
- Pension costs

4. Short-term Investments

This amount represents short-term investments held in an Exempt Unit Trust Charities Managed Fund which is managed on behalf of John Blogg charity by Bank of Ireland Asset Management. These investments are convertible into cash within 30 days.

26

27

Financial Statements can be analyzed using ratios made from the data they provide, in order to make decisions about a financial entity. This method has both strengths and limitations.

a risk-adjusted basis, given the information available at the time the investment is made. While the weak form of this hypothesis argues that there can be a long run benefit to information derived from fundamental analysis, stronger forms argue that fundamental analysis like ratio analysis will not allow for greater financial returns.

In another view on stock markets, technical analysts argue that sentiment is as much if not more of a driver of stock prices than is the fundamental data on a company like its financials. Behavioral economists attribute the imperfections in financial markets to a combination of cognitive biases such as overconfidence, overreaction, representative bias, information bias, and various other predictable human errors in reasoning and information processing. These audiences also see limits to ratio analysis as a predictor of stock market returns.

At the management and investor level, ratio analysis using financial statements can also leave out a number of important aspects of a firm's success, such as key intangibles, like brand, relationships, skills, and culture. These are primary drivers of success over the longer term even though they are absent from conventional financial statements.

Other disadvantages of this type of analysis is that if used alone it can present an overly simplistic view of the company by distilling a great deal of information into a single number or series of numbers. Also, changes in the information underlying ratios can hamper comparisons across time and inconsistencies within and across the industry can also complicate comparisons.

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/using-financial-ratios-for-analysis--2/limitations-of-financial-statement-analysis/

Trend Analysis

Trend analysis consists of using ratios to compare company performance on an indicator over time, often to forecast or inform future events.

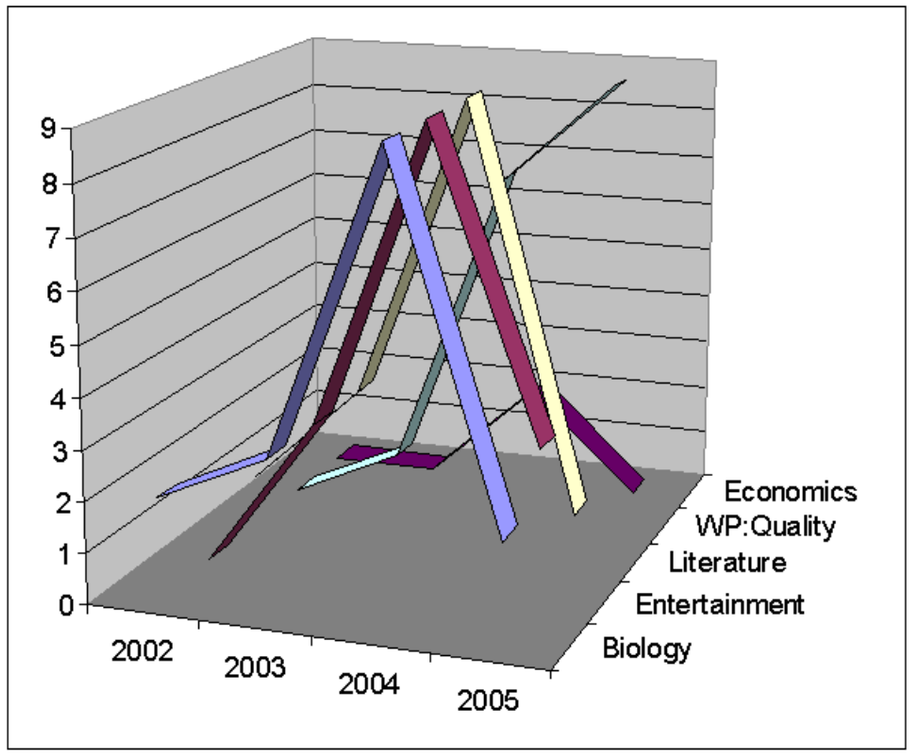
KEY POINTS

- Trend analysis is the practice of collecting information and attempting to spot a pattern or trend in the same metric historically, either by examining it in tables or charts. Often this trend analysis is used to predict or inform decisions around future events.
- Trend analysis can be performed in different ways in finance. Fundamental analysis relies on historical financial statement analysis, often in the form of ratio analysis.
- Trend analysis using financial ratios can be complicated by changes to companies and accounting over time. For example, a company may change its business model and begin to operate in a new industry or it may change the end of its financial year or the way it accounts for inventories.

In addition to using financial ratio analysis to compare one company with others in its peer group, ratio analysis is often used to compare the company's performance on certain measures over time. Trend analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. This often

involves comparing the same metric historically, either by examining it in tables or charts. Often this trend analysis is used to **forecast** or inform decisions around future events, but it can be used to estimate uncertain events in the past (*Figure 16.6*).

Figure 16.6 Trend Analysis



Determining the popularity and demand for specific subject over time through trend analysis.

Trend analysis can be performed in different ways in finance. For example, in technical analysis the direction of prices of a particular company's public stock is calculated through the study of past market data, primarily price, and volume. Fundamental analysis, on the other hand, relies not on **sentiment** measures (like technical analysis) but on financial statement analysis, often in the form of ratio analysis. Creditors and company managers also use ratio analysis as a form of trend analysis. For example, they may examine trends in liquidity or profitability over time.

Trend analysis using financial ratios can be complicated by the fact that companies and accounting can change over time. For example, a company may change its business model so that it begins to operate in a new industry or it may change the end of its financial year or the way it accounts for inventories. When examining historical trends in ratios, analysts will often make adjustments to the ratios for these reasons, perhaps performing some ratio analysis in which they segment out business segments that are not consistent over time or they separate recurring from non-recurring items.

Benchmarking

Comparing the financial ratios of a company to those of the top performer in its class is a type of benchmarking.

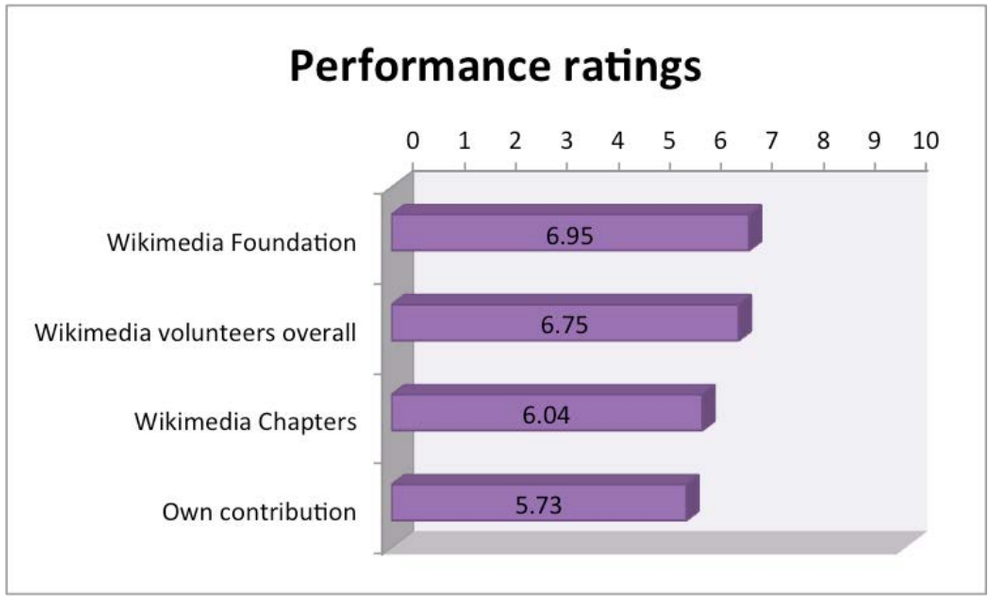
KEY POINTS

- Financial ratios allow for comparisons and, therefore, are intertwined with the process of benchmarking, comparing one's business to that of relevant others or of the same company at a different point in time processes on a specific indicator or series of indicators.
- Benchmarking can be done in many ways and ratio analysis is only one of these. One benefit of ratio analysis as a component of benchmarking is that many financial ratios are well-established calculations derived from verified data.
- Benchmarking using ratio analysis can be useful to various audiences; for example, investors and managers interested in incorporate quantitative comparisons of a company to peers.

Benchmarking

Financial ratios allow for comparisons and, therefore, are intertwined with the process of benchmarking, comparing one's business to that of others or of the same company at a different point in time. In many cases, benchmarking involves comparisons of one company to the best companies in a comparable peer group or the average in that peer group or industry. In the process of benchmarking, an analyst or manager identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied to one's own results and processes on a specific indicator or series of indicators (*Figure 16.7*).

Figure 16.7 Benchmarking Measures Performance



Ratios can be used to compare entities within the same industry.

Benchmarking can be done in many ways, and ratio analysis is only one of these. One benefit of ratio analysis as a component of benchmarking is that many financial ratios are well-established calculations derived from verified data. In benchmarking as a whole, benchmarking can be done on a variety of processes, meaning that definitions may change over time within the same

organization due to changes in leadership and priorities. The most useful comparisons can be made when metrics definitions are common and consistent between compared units and over time.

Benchmarking using ratio analysis can be useful to various audiences. From an investor perspective, benchmarking can involve comparing a company to peer companies that can be considered alternative investment opportunities from the perspective of an investor. In this process, the investor may compare the focus company to others in the peer group (leaders, averages) on certain financial ratios relevant to those companies and the investor's investment style. From a management perspective, benchmarking using ratio analysis may be a way for a manager to compare their company to peers using externally recognizable, quantitative data.

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/using-financial-ratios-for-analysis--2/benchmarking--2/

Industry Comparisons

While ratio analysis can be quite helpful in comparing companies within an industry, cross-industry comparisons should be done with caution.

KEY POINTS

- One of the advantages of ratio analysis is that it allows comparison across companies. However, while ratios can be quite helpful in comparing companies within an industry and even across some similar industries, cross-industry comparisons may not be helpful and should be done with caution.
- An industry represents a classification of companies by economic activity, but "industry" can be too broad or narrow a definition for ratio analysis comparison. When comparing ratios, companies should be comparable in terms of having similar characteristics in the statistics being analyzed.
- Valuation using multiples only reveals patterns in relative values. For multiples to be useful, the statistic involved must bear a logical, meaningful relationship to the market value observed, which is something that can vary across industry.

One of the advantages of ratio analysis is that it allows comparison across companies, an activity which is often called benchmarking. However, while ratios can be quite helpful in comparing companies

within an industry and even across some similar industries, comparing ratios of companies across different industries may not be helpful and should be done with caution (*Figure 16.8*).

Figure 16.8
Industry
Comparing ratios of companies within an industry can allow an analyst to make like to like (apples to apples) comparisons. Comparisons across industries may be like to unlike (apples to oranges) comparisons, and thus less useful.

An industry represents a classification of companies by economic activity. At a very broad level, industry is sometimes classified into three sectors: primary or extractive, secondary or manufacturing, and tertiary or services. At a very detailed level are classification systems like the ISIC (International Standard Industrial Classification).

However, in terms of ratio analysis and comparing companies, it is most helpful to consider whether the companies being compared are comparable in the financial metrics being evaluated in the ratios. Different businesses will have different ratios for different reasons. A peer group is a set of companies or assets which are selected as being sufficiently comparable to the company or assets being valued (usually by virtue of being in the same industry or by having similar characteristics in terms of earnings growth and return on investment). From the investor perspective, peers can include companies that are not only direct product competitors but are subject to similar cycles, suppliers, and other external factors.

Valuation using multiples involves estimating the value of an asset by comparing it to the values assessed by the market for similar or comparable assets in the peer group. A valuation multiple is simply an expression of market value of an asset relative to a key statistic that is assumed to relate to that value. To be useful, that statistic – whether earnings, cash flow, or some other measure – must bear a logical relationship to the market value observed; to be seen, in fact, as the driver of that market value. The price to earnings ratio, for example, is a common multiple but can differ across companies that

have different capital structures; this could make it difficult to compare this particular ratio across industries.

Additionally, there could be problems with the valuation of an entire industry, making ratio analysis of a company relative to an industry less useful. The use of multiples only reveals patterns in relative values, not absolute values such as those obtained from discounted cash flow valuations. If the peer group as a whole is incorrectly valued (such as may happen during a stock market "bubble"), then the resulting multiples will also be misvalued.

Evaluating Financial Statements

With a few exceptions, the majority of the data used in ratio analysis comes from evaluation of the financial statements.

KEY POINTS

- Ratio analysis is a tool for evaluating financial statements but also relies on the numbers in the reported financial statements being put into order to be used for comparison. With a few exceptions, the majority of the data used in ratio analysis comes from the financial statements.
- Prior to the calculation of financial ratios, reported financial statements are often reformulated and adjusted by analysts to make the financial ratios more meaningful as comparisons across time or across companies.
- In terms of reformulation, earnings might be separated into recurring and non-recurring items. In terms of adjustment of financial statements, analysts may adjust earnings numbers up or down when they suspect the reported data is inaccurate due to issues like earnings management.

Ratio analysis is a tool for evaluating financial statements but also relies on the numbers in the reported financial statements being put

into order to be used as ratios for comparison over time or across companies (*Figure 16.9*). Financial statements are used as a way to discover the financial position and financial results of a business. With a few exceptions, such as ratios involving stock price, the majority of the data used in ratio analysis comes from the financial statements. Ratios put this financial statement information in context.

Prior to the calculation of financial ratios, reported financial statements are often reformulated and adjusted by analysts to make the financial ratios more meaningful as comparisons across time or across companies. In terms of reformulation, one common reformulation is to divide reported items into recurring or normal items and non-recurring or special items. In this way, earnings could be separated into normal or core earnings and transitory earnings with the idea that normal earnings are more permanent and hence more relevant for prediction and valuation. In terms of adjustment of financial statements, analysts may adjust earnings numbers up or down when they suspect the reported data is inaccurate due to issues like **earnings management**.

Figure 16.9 Putting Numbers in Order

Evaluating financial statements involves getting the numbers in order and then using these figures to perform ratio analysis.

The evaluation of a company's financial statement analysis is a form of fundamental analysis that is bottoms up. While analysis of a company's prospects can include a number of factors, including understanding the economic situation or the industry or sentiment about the company or its products, ratio analysis of a company relies on the specific company financials.

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Selected Financial Ratios and Analyses

Financial ratios and their analysis provide information on a firm's profitability and allow comparisons between the firm and its industry.

KEY POINTS

- When using comparative financial statements, the calculation of dollar or percentage changes in the statement items or totals from one period to the next or for the timeframe presented is referred to as horizontal analysis.
- Vertical analysis performed on an income statement is especially helpful in analyzing the relationships between revenue and expense items, such as the percentage of cost of goods sold to sales.
- Financial ratios, which compare one value in relation to another value over a 12 month period, are computed using information from a company's financial statements. Ratios can identify various financial attributes, such as solvency and liquidity, profitability, and return on equity.

KEY POINTS (cont.)

- An example of a financial ratio is the current ratio, used to determine a company's liquidity, or its ability to meet its short term obligations. When comparing two companies, in theory, the entity with the higher current ratio is more liquid than the other.

Analyzing the Financial Statements

Analyzing a company's financial statements allows interested parties (investors, creditors and company management) to get an overall picture of the financial condition and profitability of a company. There are several ways to analyze a company's financial statements.

Horizontal vs. Vertical Analysis

Two main methods for analysis are horizontal and vertical analysis. When using comparative financial statements, the calculation of dollar or percentage changes in the statement items or totals over time is horizontal analysis. This analysis detects changes in a company's performance and highlights trends.

Vertical analysis is usually performed on a single financial statement (i.e., income statement): each item is expressed as a percentage of a significant total. Vertical analysis performed on an

income statement is especially helpful in analyzing the relationships between revenue and expense items, such as the percentage of cost of goods sold to sales (*Figure 16.10*).

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Figure 16.10 The Balance Sheet

The vertical method works best on a single financial statement.

Using Ratios

Financial ratios, which compare one value in relation to another value over a 12 month period, are computed using information from a company's financial statements. Ratios can identify various financial attributes of a company, such as solvency and liquidity, profitability (quality of income), and return on equity. A company's financial ratios can also be compared to those of their competitors to determine how the company is performing in relation to the rest of the industry.

Financial ratios may be used by managers within a firm, by current and potential shareholders (owners), and by a firm's creditors. For example, financial analysts compute financial ratios of public companies to evaluate their strengths and weaknesses and to identify which companies are profitable investments and which are not. Changes in financial ratios can impact a public company's stock price, depending on the effect the change has on the business. A publicly traded company's stock price can also be a variable used in the computation of certain ratios, such as the price/earnings ratio.

Examples of Ratios

The following are some examples of financial ratios that are used to analyze a company. For example, the quality of income ratio is computed by dividing cash flow from operating activities (CFOA) by net income:

Quality of income = CFOA / Net income

This ratio indicates the proportion of income that has been realized in cash. As with quality of sales, high levels for this ratio are desirable. The quality of income ratio has a tendency to exceed 100% because depreciation expense decreases net income and cash outflows to replace operating assets (part of cash flow from investing activities) is not subtracted when calculating the numerator.

Capital Acquisition Ratio = (cash flow from operations - dividends) / cash paid for acquisitions.

The capital acquisition ratio reflects the company's ability to finance capital expenditures from internal sources. A ratio of less than 1:1 (100 %) indicates that capital acquisitions are draining more cash from the business than they are generating revenues.

Current Ratio = Current Assets/Current Liabilities

The current ratio is used to determine a company's liquidity, or its ability to meet its short term obligations. When comparing two companies, in theory, the entity with the higher current ratio is more liquid than the other. However, it is important to note that determination of a company's solvency is based on various factors and not just the value of the current ratio.

Liquidity Ratios

Current Ratio

Quick, or Acid Test, Ratio

https://www.boundless.com/accounting/analyzing-financial-statements/liquidity-ratios/

Current Ratio

Current ratio is a financial ratio that measures whether or not a firm has enough resources to pay its debts over the next 12 months.

KEY POINTS

- The liquidity ratio expresses a company's ability to repay short-term creditors out of its total cash. The liquidity ratio is the result of dividing the total cash by short-term borrowings.
- The current ratio is a financial ratio that measures whether or not a firm has enough resources to pay its debts over the next 12 months.
- Current ratio = current assets / current liabilities.
- Acceptable current ratios vary from industry to industry and are generally between 1.5 and 3 for healthy businesses.

Liquidity Ratio

Liquidity ratio expresses a company's ability to repay short-term creditors out of its total cash. The liquidity ratio is the result of dividing the total cash by short-term borrowings. It shows the number of times short-term liabilities are covered by cash. If the value is greater than 1.00, it means it is fully covered (*Figure 16.11*).

Liquidity ratio may refer to:

Reserve requirement - a bank regulation that sets the minimum reserves each bank must hold.

Acid Test - a ratio used to determine the liquidity of a business entity.

Figure 16.11 Liquidity

A high liquidity means the company has the ability to meet its short term obligations.

The formula is the following:

LR = liquid assets / short-term liabilities

Current Ratio

The current ratio is a financial ratio that measures whether or not a firm has enough resources to pay its debts over the next 12 months. It compares a firm's current assets to its current liabilities. It is expressed as follows:

Current ratio = current assets / current liabilities

Current asset is an asset on the balance sheet that can either be converted to cash or used to pay current liabilities within 12 months. Typical current assets include cash, cash equivalents,

short-term investments, accounts receivable, inventory, and the portion of prepaid liabilities that will be paid within a year.

Current liabilities are often understood as all liabilities of the business that are to be settled in cash within the fiscal year or the operating cycle of a given firm, whichever period is longer.

The current ratio is an indication of a firm's market liquidity and ability to meet creditor's demands. Acceptable current ratios vary from industry to industry and are generally between 1.5 and 3 for healthy businesses. If a company's current ratio is in this range, then it generally indicates good short-term financial strength. If current liabilities exceed current assets (the current ratio is below 1), then the company may have problems meeting its short-term obligations. If the current ratio is too high, then the company may not be efficiently using its current assets or its short-term financing facilities. This may also indicate problems in **working capital management**.

Low values for the current or quick ratios (values less than 1) indicate that a firm may have difficulty meeting current obligations. However, low values do not indicate a critical problem. If an organization has good long-term prospects, it may be able to borrow against those prospects to meet current obligations. Some types of businesses usually operate with a current ratio less than one. For example, if inventory turns over much more rapidly than the accounts payable do, then the current ratio will be less than one. This can allow a firm to operate with a low current ratio.

If all other things were equal, a creditor, who is expecting to be paid in the next 12 months, would consider a high current ratio to be better than a low current ratio. A high current ratio means that the company is more likely to meet its liabilities which fall due in the next 12 months.

Quick, or Acid Test, Ratio

The Acid Test or Quick Ratio measures the ability of a company to use its assets to retire its current liabilities immediately.

KEY POINTS

- Quick Ratio = (Cash and cash equivalent + Marketable securities + Accounts receivable) / Current liabilities.
- Acid Test Ratio = (Current assets - Inventory) / Current liabilities.
- Ideally, the acid test ratio should be 1:1 or higher, however this varies widely by industry. In general, the higher the ratio, the greater the company's liquidity.

Quick ratio

In finance, the Acid-test (also known as quick ratio or liquid ratio) measures the ability of a company to use its near cash or quick assets to extinguish or retire its current liabilities immediately. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values. A company with a Quick Ratio of less than 1 cannot pay back its current liabilities.

Quick Ratio = (Cash and cash equivalent + Marketable securities + Accounts receivable) / Current liabilities.

Cash and cash equivalents are the most liquid assets found within the asset portion of a company's balance sheet. Cash equivalents are assets that are readily convertible into cash, such as money market holdings, short-term government bonds or **Treasury bills**, marketable securities, and commercial paper. Cash equivalents are distinguished from other investments through their short-term existence. They mature within 3 months, whereas short-term investments are 12 months or less and long-term investments are any investments that mature in excess of 12 months. Another important condition that cash equivalents need to satisfy, is the investment should have insignificant risk of change in value. Thus, common stock cannot be considered a cash equivalent, but preferred stock acquired shortly before its redemption date can be (*Figure 16.12*).

Acid test ratio

Acid test often refers to Cash ratio instead of Quick ratio: Acid Test Ratio = (Current assets - Inventory) / Current liabilities.

Note that Inventory is excluded from the sum of assets in the Quick Ratio, but included in the Current Ratio. Ratios are tests of viability for business entities but do not give a complete picture of the

Figure 16.12 Cash
Cash is the most liquid asset in a business.

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business' health. A business with large Accounts Receivable that won't be paid for a long period (say 120 days), and essential business expenses and Accounts Payable that are due immediately, the Quick Ratio may look healthy when the business could actually run out of cash. In contrast, if the business has negotiated fast payment or cash from customers, and long terms from suppliers, it may have a very low Quick Ratio and yet be very healthy.

The acid test ratio should be 1:1 or higher, however this varies widely by industry. The higher the ratio, the greater the company's liquidity will be (better able to meet current obligations using liquid assets).

Debt Management Ratios

Times-Interest-Earned Ratio

Total Debt to Total Assets

https://www.boundless.com/accounting/analyzing-financial-statements/debt-management-ratios/

Times-Interest-Earned Ratio

Times Interest Earned ratio (EBIT or EBITDA divided by total interest payable) measures a company's ability to honor its debt payments.

KEY POINTS

- Times interest earned (TIE) or Interest Coverage ratio is a measure of a company's ability to honor its debt payments. It may be calculated as either EBIT or EBITDA divided by the total interest payable.
- Interest Charges = Traditionally "charges" refers to interest expense found on the income statement.
- EBIT = Revenue – Operating expenses (OPEX) + Non-operating income.
- EBITDA = Earnings before interest, taxes, depreciation and amortization.
- Times Interest Earned or Interest Coverage is a great tool when measuring a company's ability to meet its debt obligations.

Times interest earned (TIE), or interest coverage ratio, is a measure of a company's ability to honor its debt payments. It may be calculated as either EBIT or EBITDA, divided by the total interest payable.

Times-Interest-Earned = EBIT or EBITDA / Interest charges

(*Figure 16.13*)

Figure 16.13
Interest
Times Interest Earned ratio indicates the ability of a company to cover its interest expenses using EBIT.

Times-Interest-Earned = EBIT or EBITDA / Interest charges

Interest Charges = Traditionally "charges" refers to interest expense found on the income statement.

EBIT = Earnings Before Interest and Taxes, also called operating profit or operating income. EBIT is a measure of a firm's profit that excludes interest and income tax expenses. It is the difference between operating revenues and operating expenses. When a firm does not have non-operating income, then operating income is sometimes used as a synonym for EBIT and operating profit.

EBIT = Revenue – Operating Expenses (OPEX) + **Non-operating income**.

Operating income = Revenue – Operating expenses.

EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization. The EBITDA of a company provides insight on the operational profitability of the business. It shows the profitability of a company regarding its present assets and operations with the products it produces and sells, taking into account possible provisions that need to be done.

If EBITDA is negative, then the business has serious issues. A positive EBITDA, however, does not automatically imply that the business generates cash. EBITDA ignores changes in Working Capital (usually needed when growing a business), capital expenditures (needed to replace assets that have broken down), taxes, and interest.

Times Interest Earned or Interest Coverage is a great tool when measuring a company's ability to meet its debt obligations. When the interest coverage ratio is smaller than 1, the company is not generating enough cash from its operations EBIT to meet its interest obligations. The Company would then have to either use cash on hand to make up the difference or borrow funds. Typically, it is a warning sign when interest coverage falls below 2.5x.

Total Debt to Total Assets

The debt ratio is expressed as Total debt / Total assets.

KEY POINTS

- The debt ratio measures the firm's ability to repay long-term debt by indicating the percentage of a company's assets that are provided via debt.
- Debt ratio = Total debt / Total assets.
- The higher the ratio, the greater risk will be associated with the firm's operation.

Financial Ratios

Financial ratios quantify many aspects of a business and are an integral part of the financial statement analysis. Financial ratios are categorized according to the financial aspect of the business which the ratio measures.

Financial ratios allow for comparisons:

Between companies

Between industries

Between different time periods for one company

Between a single company and its industry average

Ratios generally are not useful unless they are benchmarked against something else, like past performance or another company. Thus, the ratios of firms in different industries, which face different risks, capital requirements, and competition, are usually hard to compare.

Debt ratios

Figure 16.14 Debt
Debt ratio is an index of a business operation.

Debt ratios measure the firm's ability to repay long-term debt. It is a financial ratio that indicates the percentage of a company's assets that are provided via debt. It is the ratio of total debt (the sum of current liabilities and long-term liabilities) and total assets (the sum of current assets, fixed assets, and other assets such as 'goodwill').

Debt ratio = Total debt / Total assets

Or alternatively:

Debt ratio = Total liability / Total assets

The higher the ratio, the greater risk will be associated with the firm's operation. In addition, high debt to assets ratio may indicate low borrowing capacity of a firm, which in turn will lower the firm's financial flexibility. Like all financial ratios, a company's debt ratio should be compared with their industry average or other competing firms.

Total liabilities divided by total assets. The debt/asset ratio shows the proportion of a company's assets which are financed through debt. If the ratio is less than 0.5, most of the company's assets are financed through equity. If the ratio is greater than 0.5, most of the company's assets are financed through debt. Companies with high debt/asset ratios are said to be "highly leveraged," not highly liquid as stated above. A company with a high debt ratio (highly leveraged) could be in danger if creditors start to demand repayment of debt.

Profitability Ratios

Basic Earning Power (BEP) Ratio

Return on Common Equity

Return on Total Assets

Profit Margin

Operating Margin

https://www.boundless.com/accounting/analyzing-financial-statements/profitability-ratios/

Basic Earning Power (BEP) Ratio

The Basic Earning Power ratio (BEP) is Earnings Before Interest and Taxes (EBIT) divided by Total Assets.

KEY POINTS

- The higher the BEP ratio, the more effective a company is at generating income from its assets.
- Using EBIT instead of operating income means that the ratio considers all income earned by the company, not just income from operating activity. This gives a more complete picture of how the company makes money.
- BEP is useful for comparing firms with different tax situations and different degrees of financial leverage.

BEP Ratio

Another profitability ratio is the Basic Earning Power ratio (BEP). The purpose of BEP is to determine how effectively a firm uses its assets to generate income.

The BEP ratio is simply EBIT divided by total assets (*Figure 16.15*). The higher the BEP ratio, the more effective a company is at generating income from its assets.

This may seem remarkably similar to the **return on assets** ratio (ROA), which is operating income divided by total assets. EBIT, or earnings before interest and taxes, is a measure of how much money a company makes, but is not necessarily the same as operating income:

Figure 16.15 Basic Earnings Power Ratio

$$\frac{\text{EBIT}}{\text{Total Assets}}$$

BEP is calculated as the ratio of Earnings Before Interest and Taxes to Total Assets.

EBIT = Revenue – Operating expenses+ Non-operating income

Operating income = Revenue – Operating expenses

The distinction between EBIT and Operating Income is non-operating income. Since EBIT includes non-operating income (such as dividends paid on the stock a company holds of another), it is a more inclusive way to measure the actual income of a company. However, in most cases, EBIT is relatively close to Operating Income.

The advantage of using EBIT, and thus BEP, is that it allows for more accurate comparisons of companies. BEP disregards different tax situations and degrees of financial leverage while still providing an idea of how good a company is at using its assets to generate income.

BEP, like all profitability ratios, does not provide a complete picture of which company is better or more attractive to investors. Investors should favor a company with a higher BEP over a company with a lower BEP because that means it extracts more value from its assets, but they still need to consider how things like leverage and tax rates affect the company.

Return on Assets

Return on equity (ROE) measures how effective a company is at using its equity to generate income and is calculated by dividing net profit by total equity.

KEY POINTS

- ROE is net income divided by total shareholders' equity.
- ROE is also the product of return on assets (ROA) and financial leverage.
- ROE shows how well a company uses investment funds to generate earnings growth. There is no standard for a good or bad ROE, but a higher ROE is better.

Return on Equity

Return on equity (ROE) is a financial ratio that measures how good a company is at generating profit.

ROE is the ratio of net income to equity. From the fundamental equation of accounting, we know that equity equals net assets minus net liabilities. Equity is the amount of ownership interest in the company, and is commonly referred to as shareholders' equity, shareholders' funds, or shareholders' capital.

In essence, ROE measures how efficient the company is at generating profits from the funds invested in it. A company with a high ROE does a good job of turning the capital invested in it into profit, and a company with a low ROE does a bad job. However, like many of the other ratios, there is no standard way to define a good ROE or a bad ROE. Higher ratios are better, but what counts as "good" varies by company, industry, and economic environment.

ROE can also be broken down into other components for easier use (*Figure 16.16*). ROE is the product of the net margin (profit margin), asset turnover, and financial leverage. Also note that the product of net margin and asset turnover is return on assets, so ROE is ROA times financial leverage.

Figure 16.16 Return on Equity

$$\text{ROE} = \frac{\text{Net profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

The return on equity is a ratio of net income to equity. It is a measure of how effective the equity is at generating income.

Breaking ROE into parts allows us to understand how and why it changes over time. For example, if the net margin increases, every sale brings in more money, resulting in a higher overall ROE. Similarly, if the asset turnover increases, the firm generates more sales for every unit of assets owned, again resulting in a higher overall ROE. Finally, increasing financial leverage means that the firm uses more debt financing relative to equity financing. Interest payments to creditors are tax deductible, but dividend payments to shareholders are not. Thus, a higher proportion of debt in the firm's capital structure leads to higher ROE. Financial leverage benefits diminish as the risk of defaulting on interest payments increases. So if the firm takes on too much debt, the cost of debt rises as creditors demand a higher risk premium, and ROE decreases. Increased debt will make a positive contribution to a firm's ROE only if the matching return on assets (ROA) of that debt exceeds the interest rate on the debt.

Return on Total Assets

The return on assets ratio (ROA) measures how effectively assets are being used for generating profit.

KEY POINTS

- ROA is net income divided by total assets.
- The ROA is the product of two common ratios - profit margin and asset turnover.
- A higher ROA is better, but there is no metric for a good or bad ROA. An ROA depends on the company, the industry and the economic environment.
- ROA is based on the book value of assets, which can be starkly different from the market value of assets.

Return on Assets

The return on assets ratio (ROA) is found by dividing net income by total assets (*Figure 16.17*). The higher the ratio, the better the company is at using their assets to generate income. ROA was developed by DuPont to show how effectively assets are being used. It is also a measure of how much the company relies on assets to generate profit.

Figure 16.17 Return on Assets

$$\text{ROA} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}} = \frac{\text{Net income}}{\text{Total assets}}$$

The return on assets ratio is net income divided by total assets. That can then be broken down into the product of profit margins and asset turnover.

Components of ROA

ROA can be broken down into multiple parts (*Figure 16.17*). The ROA is the product of two other common ratios - profit margin and asset turnover. When profit margin and asset turnover are multiplied together, the denominator of profit margin and the numerator of asset turnover cancel each other out, returning us to the original ratio of net income to total assets.

Profit margin is net income divided by sales, measuring the percent of each dollar in sales that is profit for the company. Asset turnover is sales divided by total assets. This ratio measures how much each dollar in asset generates in sales. A higher ratio means that each dollar in assets produces more for the company.

Limits of ROA

ROA does have some drawbacks. First, it gives no indication of how the assets were financed. A company could have a high ROA, but still be in financial straits because all the assets were paid for through leveraging. Second, the total assets are based on the

carrying value of the assets, not the market value. If there is a large discrepancy between the carrying and market value of the assets, the ratio could provide misleading numbers. Finally, there is no metric to find a good or bad ROA. Companies that operate in capital intensive industries will tend to have lower ROAs than those who do not. The ROA is entirely contextual to the company, the industry and the economic environment.

Profit Margin

Profit margin measures the amount of profit a company earns from its sales and is calculated by dividing profit (gross or net) by sales.

KEY POINTS

- Profit margin is the profit divided by revenue.
- There are two types of profit margin: gross profit margin and net profit margin.
- A higher profit margin is better for the company, but there may be strategic decisions made to lower the profit margin or to even have it be negative.

Profit Margin

Profit margin is one of the most used profitability ratios. Profit margin refers to the amount of profit that a company earns through sales.

The profit margin ratio is broadly the ratio of profit to total sales times 100%. The higher the profit margin, the more profit a company earns on each sale.

Since there are two types of profit (gross and net), there are two types of profit margin calculations. Recall that gross profit is simply

the revenue minus the cost of goods sold (COGS). **Net profit** is the gross profit minus all other expenses. The gross profit margin calculation uses gross profit (*Figure 16.18*) and the net profit margin calculation uses net profit (*Figure 16.19*). The difference between the two is that the gross profit margin shows the relationship between revenue and COGS, while the net profit margin shows the percentage of the money spent by customers that is turned into profit.Companies need to have a positive profit margin in order to earn income, although having a negative profit margin may be advantageous in some instances (e.g. intentionally selling a new product below cost in order to gain market share).

$$\frac{Gross\ Profit}{Sales} * 100$$

Figure 16.18 Gross Profit Margin
The percentage of gross profit earned on the company's sales.

$$\frac{Net\ Profit}{Sales} * 100$$

Figure 16.19 Net Profit Margin
The percentage of net profit (gross profit minus all other expenses) earned on a company's sales.

The profit margin is mostly used for internal comparison. It is difficult to accurately compare the net profit ratio for different entities. Individual businesses' operating and financing arrangements vary so much that different entities are bound to have different levels of expenditure. Comparing one business' arrangements with another has little meaning. A low profit margin indicates a low margin of safety. There is a higher risk that a decline in sales will erase profits and result in a net loss or a negative margin.

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/profitability-ratios--2/profit-margin--2/

Operating Margin

The operating margin is a ratio that determines how much money a company is actually making in profit and equals operating income divided by revenue.

KEY POINTS

- The operating margin equals operating income divided by revenue.
- The operating margin shows how much profit a company makes for each dollar in revenue. Since revenues and expenses are considered 'operating' in most companies, this is a good way to measure a company's profitability.
- Although It is a good starting point for analyzing many companies, there are items like interest and taxes that are not included in operating income. Therefore, the operating margin is an imperfect measurement a company's profitability.

Operating Margin

The financial job of a company is to earn a profit, which is different than earning revenue. If a company doesn't earn a profit, their revenues aren't helping the company grow. It is not only important to see how much a company has sold, it is important to see how much a company is making.

The operating margin (also called the operating profit margin or return on sales) is a ratio that shines a light on how much money a company is actually making in profit. It is found by dividing **operating income** by revenue, where operating income is revenue minus operating expenses (*Figure 16.20*).

Figure 16.20 Operating Margin Formula

$$\text{Operating margin} = \left(\frac{\text{Operating income}}{\text{Revenue}}\right)$$

The operating margin is found by dividing net operating income by total revenue.

The higher the ratio is, the more profitable the company is from its operations. For example, an operating margin of 0.5 means that for every dollar the company takes in revenue, it earns $0.50 in profit. A company that is not making any money will have an operating margin of 0: it is selling its products or services, but isn't earning any profit from those sales.

However, the operating margin is not a perfect measurement. It does not include things like capital investment, which is necessary for the future profitability of the company. Furthermore, the operating margin is simply revenue. That means that it does not include things like interest and income tax expenses. Since non-operating incomes and expenses can significantly affect the financial well-being of a company, the operating margin is not the

only measurement that investors scrutinize. The operating margin is a useful tool for determining how profitable the operations of a company are, but not necessarily how profitable the company is as a whole.

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Market Value Ratios

Price/Earnings Ratio

Market/Book Ratio

https://www.boundless.com/accounting/analyzing-financial-statements/market-value-ratios/

Price/Earnings Ratio

Price to earnings ratio (market price per share / annual earnings per share) is used as a guide to the relative values of companies.

KEY POINTS

- P/E ratio = Market price per share / Annual earnings per share.
- The P/E ratio is a widely used valuation multiple used as a guide to the relative values of companies; for example, a higher P/E ratio means that investors are paying more for each unit of current net income, so the stock is more expensive than one with a lower P/E ratio.
- Different types of P/E include: trailing P/E or P/E ttm, trailing P/E from continued operations, and forward P/E or P/Ef.

Price/Earnings Ratio

In stock trading, the price-to-earnings ratio of a share (also called its P/E, or simply "multiple") is the market price of that share divided by the annual earnings per share (EPS).

The P/E ratio is a widely used valuation multiple used as a guide to the relative values of companies; a higher P/E ratio means that investors are paying more for each unit of current net income, so the stock is more "expensive" than one with a lower P/E ratio. The P/E ratio can be regarded as being expressed in years. The price is in currency per share, while earnings are in currency per share per year, so the P/E ratio shows the number of years of earnings that would be required to pay back the purchase price, ignoring inflation, earnings growth, and the **time value of money**.

P/E ratio = Market price per share / Annual earnings per share (*Figure 16.21*)

Figure 16.21 Price to Earnings Ratio
P/E ratio = market price per share/ annual earning per share

The price per share in the numerator is the market price of a single share of the stock. The earnings per share in the denominator may vary depending on the type of P/E. The types of P/E include the following:

Trailing P/E or P/E ttm: Here, earning per share is the net income of the company for the most recent 12 month period, divided by the weighted average number of common shares in issue during the period. This is the most common meaning of P/E if no other qualifier is specified. Monthly earnings data for individual companies are not available, and usually fluctuate seasonally, so the previous four quarterly earnings reports are used, and earnings per share are updated quarterly. Note, each company chooses its own financial year so the timing of updates will vary from one to another.

Trailing P/E from continued operations: Instead of net income, this uses operating earnings, which exclude earnings from discontinued operations, extraordinary items (e.g. one-off windfalls and write-downs), and accounting changes. Longer-term P/E data, such as Shiller's, use net earnings.

Forward P/E, P/Ef, or estimated P/E: Instead of net income, this uses estimated net earnings over the next 12 months. Estimates are typically derived as the mean of those published by a select group of analysts (selection criteria are rarely cited). In times of rapid economic dislocation, such estimates become less relevant as the situation changes (e.g. new economic data is published, and/or the basis of forecasts becomes obsolete) more quickly than analysts adjust their forecasts.

By comparing price and earnings per share for a company, one can analyze the market's stock valuation of a company and its shares relative to the income the company is actually generating. Stocks with higher (or more certain) forecast earnings growth will usually have a higher P/E, and those expected to have lower (or riskier) earnings growth will usually have a lower P/E. Investors can use the P/E ratio to compare the value of stocks; for example, if one stock has a P/E twice that of another stock, all things being equal (especially the earnings growth rate), it is a less attractive investment. Companies are rarely equal, however, and comparisons between industries, companies, and time periods may be misleading. P/E ratio in general is useful for comparing valuation of peer companies in a similar sector or group.

The P/E ratio of a company is a significant focus for management in many companies and industries. Managers have strong incentives to increase stock prices, firstly as part of their fiduciary responsibilities to their companies and shareholders, but also because their performance based remuneration is usually paid in the form of company stock or options on their company's stock (a form of payment that is supposed to align the interests of management with the interests of other stock holders). The stock price can increase in one of two ways: either through improved earnings, or through an improved multiple that the market assigns to those earnings. In turn, the primary driver for multiples such as

the P/E ratio is through higher and more sustained earnings growth rates.

Companies with high P/E ratios but volatile earnings may be tempted to find ways to smooth earnings and diversify risk; this is the theory behind building conglomerates. Conversely, companies with low P/E ratios may be tempted to acquire small high growth businesses in an effort to "rebrand" their portfolio of activities and burnish their image as growth stocks and thus obtain a higher P/E rating.

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Market/Book Ratio

The price-to-book ratio is a financial ratio used to compare a company's current market price to its book value.

KEY POINTS

- The calculation can be performed in two ways: 1) the company's market capitalization can be divided by the company's total book value from its balance sheet, 2) using per-share values, is to divide the company's current share price by the book value per share.
- A higher P/B ratio implies that investors expect management to create more value from a given set of assets, all else equal.
- Technically, P/B can be calculated either including or excluding intangible assets and goodwill.

Price/Book Ratio

The price-to-book ratio, or P/B ratio, is a financial ratio used to compare a company's current market price to its book value. The calculation can be performed in two ways, but the result should be the same either way.

In the first way, the company's market capitalization can be divided by the company's total book value from its balance sheet.

Market Capitalization / Total Book Value

The second way, using per-share values, is to divide the company's current share price by the book value per share (i.e. its book value divided by the number of outstanding shares).

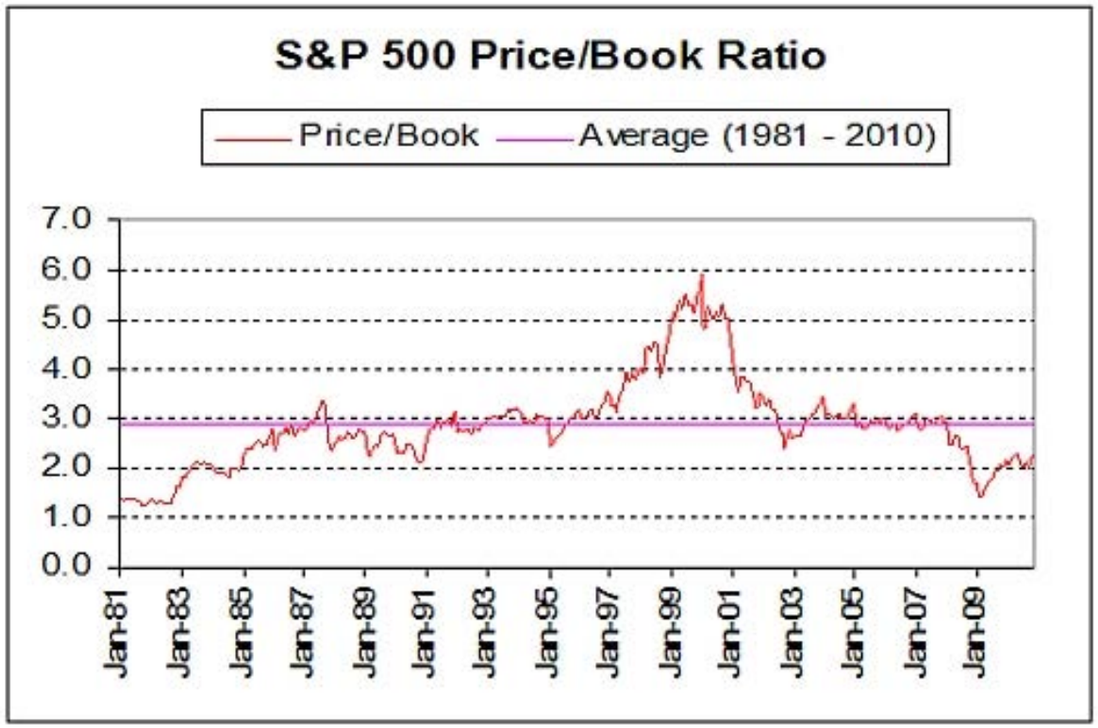
Share price / Book value per share

As with most ratios, it varies a fair amount by industry. Industries that require more infrastructure capital (for each dollar of profit) will usually trade at P/B ratios much lower than, for example, consulting firms. P/B ratios are commonly used to compare banks, because most assets and liabilities of banks are constantly valued at market values.

A higher P/B ratio implies that investors expect management to create more value from a given set of assets, all else equal (and/or that the market value of the firm's assets is significantly higher than their accounting value). P/B ratios do not, however, directly provide any information on the ability of the firm to generate profits or cash for shareholders (*Figure 16.22*).

This ratio also gives some idea of whether an investor is paying too much for what would be left if the company went bankrupt immediately. For companies in distress, the book value is usually calculated without the intangible assets that would have no resale value. In such cases, P/B should also be calculated on a "diluted"

Figure 16.22 S&P P/B ratio



A higher P/B ratio implies that investors expect management to create more value.

basis, because stock options may well vest on the sale of the company, change of control, or firing of management.

It is also known as the market-to-book ratio and the price-to-equity ratio (which should not be confused with the price-to-earnings ratio), and its inverse is called the book-to-market ratio.

Total Book Value vs Tangible Book Value

Technically, P/B can be calculated either including or excluding intangible assets and goodwill. When intangible assets and goodwill

are excluded, the ratio is often specified to be "price to tangible book value" or "price to tangible book".

Section 9

Considering Inflation's Distortionary Effects

Deflation

Disinflation

Impact of Inflation on Financial Statement Analysis

https://www.boundless.com/accounting/analyzing-financial-statements/considering-inflation-s-distortionary-effects/

Deflation

Deflation is a decrease in the general price level of goods and services and occurs when the inflation rate falls below 0%.

KEY POINTS

- In the IS/LM model (Investment and Saving equilibrium/ Liquidity Preference and Money Supply equilibrium model), deflation is caused by a shift in the supply-and-demand curve for goods and services, particularly a fall in the aggregate level of demand.
- In more recent economic thinking, deflation is related to risk: where the risk-adjusted return on assets drops to negative, investors and buyers will hoard currency rather than invest it. This can produce a liquidity trap.
- In monetarist theory, deflation must be associated with either a reduction in the money supply, a reduction in the velocity of money or an increase in the number of transactions. But any of these may occur separately without deflation.
- In mainstream economics, deflation may be caused by a combination of the supply and demand for goods and the supply and demand for money; specifically the supply of money going down and the supply of goods going up.

KEY POINTS (cont.)

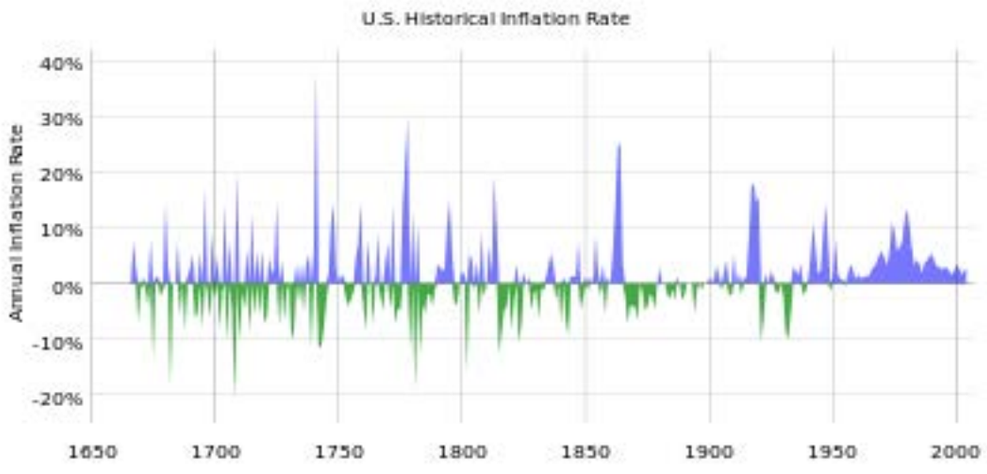
- The effects of deflation are: decreasing nominal prices for goods and services, increasing buying power of cash money and all assets denominated in cash terms, possibly decreasing investment and lending if cash holdings are seen as preferable, and benefiting recipients of fixed incomes.

In economics, deflation is a decrease in the general price level of goods and services. This occurs when the inflation rate falls below 0% (a negative inflation rate). Inflation reduces the real value of money over time; conversely, deflation increases the real value of money – the currency of a national or regional economy. In turn, this allows one to buy more goods with the same amount of money over time.

Economists generally believe that deflation is a problem in a modern economy because they believe it may lead to a deflationary spiral (*Figure 16.23*).

In the IS/LM model (Investment and Saving equilibrium/ Liquidity Preference and Money Supply equilibrium model), deflation is caused by a shift in the supply-and-demand curve for goods and services, particularly with a fall in the aggregate level of demand. That is, there is a fall in how much the whole economy is willing to buy, and the going price for goods. Because the price of goods is

Figure 16.23 US historical inflation rates



Annual inflation (in blue) and deflation (in green) rates in the United States from 1666 to 2004

falling, consumers have an incentive to delay purchases and consumption until prices fall further, which in turn reduces overall economic activity. Since this idles the productive capacity, investment also falls, leading to further reductions in aggregate demand. This is the deflationary spiral.

An answer to falling aggregate demand is stimulus, either from the central bank, by expanding the money supply; or by the fiscal authority to increase demand, and to borrow at interest rates which are below those available to private entities.

In more recent economic thinking, deflation is related to risk: where the risk-adjusted return on assets drops to negative, investors and buyers will hoard currency rather than invest it, even in the most solid of securities. This can produce a **liquidity trap**. A central bank cannot normally charge negative interest for money, and even charging zero interest often produces less stimulative effect than slightly higher rates of interest. In a closed economy, this is because charging zero interest also means having zero return on government securities, or even negative return on short maturities. In an open economy it creates a carry trade, and devalues the currency. A devalued currency produces higher prices for imports without necessarily stimulating exports to a like degree.

In monetarist theory, deflation must be associated with either a reduction in the money supply, a reduction in the velocity of money or an increase in the number of transactions. But any of these may occur separately without deflation. It may be attributed to a dramatic contraction of the money supply, or to adherence to a gold standard or to other external monetary base requirements.

In mainstream economics, deflation may be caused by a combination of the supply and demand for goods and the supply and demand for money, specifically: the supply of money going down and the supply of goods going up. Historic episodes of deflation have often been associated with the supply of goods going up (due to increased productivity) without an increase in the supply of money, or (as with the Great Depression and possibly Japan in the early 1990s) the demand for goods going down combined with a

decrease in the money supply. Studies of the Great Depression by Ben Bernanke have indicated that, in response to decreased demand, the Federal Reserve of the time decreased the money supply, hence contributing to deflation.

The effects of deflation are thus: decreasing nominal prices for goods and services, increasing buying power of cash money and all assets denominated in cash terms, possibly decreasing investment and lending if cash holdings are seen as preferable (aka hoarding), and benefiting recipients of fixed incomes.

Disinflation

Disinflation is a decrease in the inflation rate; a slowdown in the rate of increase of the general price level of goods, services.

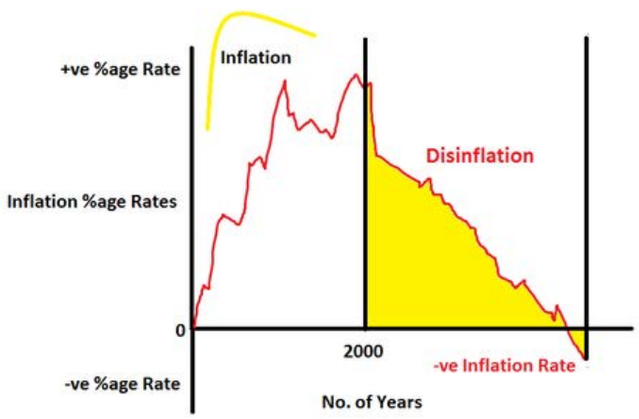
KEY POINTS

- Disinflation occurs when the increase in the "consumer price level" slows down from the previous period when the prices were rising. Disinflation is the reduction in the general price level in the economy but for a very short period of time.
- The causes of disinflation may be a decrease in the growth rate of the money supply. If the central bank of a country enacts tighter monetary policy, the supply of money reduces, and money becomes more upscale and the demand for money remains constant.
- Disinflation may result from a recession. The central bank adopts contractionary monetary policy, goods, and services are more expensive. Even though the demand for commodities fall, the supply still remains unaltered.Thus, the prices would fall over a period of time leading to disinflation.

Disinflation is a decrease in the rate of inflation–a slowdown in the rate of increase of the general price level of goods and services in a nation's gross domestic product over time. Disinflation occurs when the increase in the "consumer price level" slows down from the

previous period when the prices were rising. Disinflation is the reduction in the general price level in the economy but for a very short period of time. Disinflation takes place only when an economy is suffering from **recession** (*Figure 16.24*).

Figure 16.24 Disinflation



Disinflation is a decrease in the rate of inflation as illustrated in the yellow region of this graph.

If the inflation rate is not very high to start with, disinflation can lead to deflation–decreases in the general price level of goods and services. For example if the annual inflation rate for the month of January is 5% and it is 4% in the month of February, the prices disinflated by 1% but are still increasing at a 4% annual rate. Again, if the current rate is 1% and it is -2% for the following month, prices disinflated by 3% (i.e., 1%-[-2]%) and are decreasing at a 2% annual rate.

The causes of disinflation are either a decrease in the growth rate of the money supply, or a **business cycle** contraction (recession). If the central bank of a country enacts tighter monetary policy, (i.e., the government start selling its securities) this reduces the supply of money in an economy. This contraction of the monetary policy is known as a "quantitative tightening technique." When the government sell its securities in the market, the supply of money reduces, and money becomes more upscale and the demand for money remains constant. During a recession, competition among businesses for customers becomes more intense, and so retailers are no longer able to pass on higher prices to their customers. The main reason is that when the central bank adopts contractionary monetary policy, its becomes expensive to annex money, which leads to the fall in the demand for goods and services in the economy. Even though the demand for commodities fall, the supply of commodities still remains unaltered. Thus the prices fall over a period of time leading to disinflation.

When the growth rate of unemployment is below the natural rate of growth, this leads to an increase in the rate of inflation; whereas, when the growth rate of unemployment is above the natural rate of growth it leads to a decrease in the rate of inflation also known as disinflation. This happens when people are jobless, and they have a very small portion of money to spend, which indirectly implies reduction in the supply of money in an economy.

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/considering-inflation-s-distortionary-effects--2/disinflation--2/

Impact of Inflation on Financial Statement Analysis

General price level changes creates distortions in financial statements. Inflation accounting is used in countries with high inflation.

KEY POINTS

- Many of the historical numbers appearing on financial statements are not economically relevant because prices have changed since they were incurred.
- Since the numbers on financial statements represent dollars expended at different points of time and, in turn, embody different amounts of purchasing power, they are simply not additive.
- Reported profits may exceed the earnings that could be distributed to shareholders without impairing the company's ongoing operations.
- Future earnings are not easily projected from historical earnings. Future capital needs are difficult to forecast and may lead to increased leverage, which increases the risk to the business.
- The asset values for inventory, equipment and plant do not reflect their economic value to the business.

Inflation's Impact on Financial Statements

In most countries, primary financial statements are prepared on the **historical cost basis** of accounting without regard either to changes in the general level of prices. Accountants in the United Kingdom and the United States have discussed the effect of inflation on financial statements since the early 1900s (*Figure 16.25*).

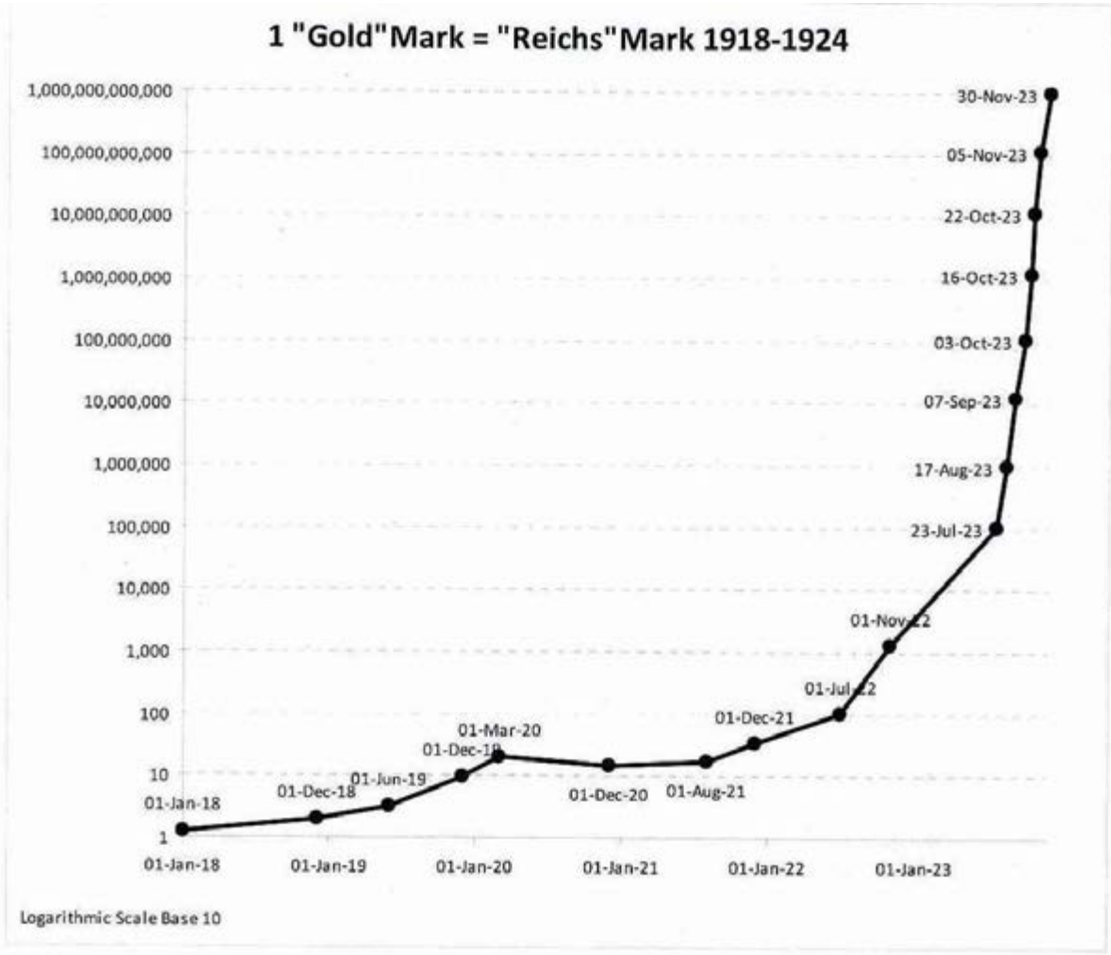
General price level changes in financial reporting creates distortions in financial statements such as:

Many of the historical numbers appearing on financial statements are not economically relevant because prices have changed since they were incurred.

Since the numbers on financial statements represent dollars expended at different points of time and, in turn, embody different amounts of purchasing power, they are simply not additive. Hence, adding cash of $10,000 held on December 31, 2002, with $10,000 representing the cost of land acquired in 1955 (when the price level was significantly lower) is a dubious operation because of the significantly different amount of purchasing power represented by the two identical numbers.

Reported profits may exceed the earnings that could be distributed to shareholders without impairing the company's ongoing operations.

Figure 16.25 Hyperinflation Graph



Note: 1 "Gold"Mark value in grammes of fine gold (1913) = 0.35842g;
"Reichs"Mark = Currency not tied to the goldstandard in 1918 to 1924.

Source: Law about the Revaluation of Mortgages and other Claims (Revaluation Act 1925), issued the 16th of July, 1925 (Aufwertungsgesetz, Reichsgesetzblatt, Teil I, 1925, p.133-135) and Author's calculations.

German Hyperinflation Data

The asset values for inventory, equipment and plant do not reflect their economic value to the business.

Future earnings are not easily projected from historical earnings.

The impact of price changes on monetary assets and liabilities is not clear.

Future capital needs are difficult to forecast and may lead to increased leverage, which increases the risk to the business.

When real economic performance is distorted, these distortions lead to social and political consequenses that damage businesses (examples: poor tax policies and public misconceptions regarding corporate behavior).

Inflation accounting, a range of accounting systems designed to correct problems arising from historical cost accounting in the presence of inflation, is a solution to these problems. This type of accounting is used in countries experiencing high inflation or **hyperinflation**. For example, in countries such as these the International Accounting Standards Board requires corporate financial statements to be adjusted for changes in purchasing power using a price index.

Section 10

The DuPont Equation, ROE, ROA, and Growth

Assessing Internal Growth and Sustainability

Dividend Payments and Earnings Retention

Relationships between ROA, ROE, and Growth

The DuPont Equation

ROE and Potential Limitations

https://www.boundless.com/accounting/analyzing-financial-statements/the-dupont-equation-roe-roa-and-growth--2/

Assessing Internal Growth and Sustainability

Sustainable-- as opposed to internal-- growth gives a company a better idea of its growth rate while keeping in line with financial policy.

KEY POINTS

- The internal growth rate is a formula for calculating the maximum growth rate a firm can achieve without resorting to external financing.
- Sustainable growth is defined as the annual percentage of increase in sales that is consistent with a defined financial policy.
- Another measure of growth, the optimal growth rate, assesses sustainable growth from a total shareholder return creation and profitability perspective, independent of a given financial strategy.

Internal Growth and Sustainability

The true benefit of a high return on equity arises when retained earnings are reinvested into the company's operations. Such reinvestment should, in turn, lead to a high rate of growth for the company. The internal growth rate is a formula for calculating maximum growth rate that a firm can achieve without resorting to external financing. It's essentially the growth that a firm can supply by reinvesting its earnings.

Figure 16.26 Internal Growth Rate

$$Internal\ Growth\ Rate = ROA\ -\ Retention\ Rate$$

The internal growth rate is equal to return on assets minus the retention rate.

We find the internal growth rate by dividing net income by the amount of total assets (or finding return on assets) and subtracting the rate of earnings **retention**. However, growth is not necessarily favorable. Expansion may strain managers' capacity to monitor and handle the company's operations. Therefore, a more commonly used measure is the **sustainable growth rate**.

Sustainable growth is defined as the annual percentage of increase in sales that is consistent with a defined financial policy, such as target debt to equity ratio, target dividend payout ratio, target profit margin, or target ratio of total assets to net sales.

Figure 16.27 Sustainable Growth Rate

$$Sustainable\ Growth\ Rate = ROE\ -\ Retention\ Rate$$

The sustainable growth rate is equal to return on equity minus retention rate.

We find the sustainable growth rate by dividing net income by shareholder equity (or finding return on equity) and subtracting the rate of earnings retention. While the internal growth rate assumes no financing, the sustainable growth rate assumes you will make some use of outside financing that will be consistent with whatever financial policy being followed. In fact, in order to achieve a higher growth rate, the company would have to invest more equity capital, increase its financial leverage, or increase the target profit margin.

Optimal Growth Rate

Another measure of growth, the optimal growth rate, assesses sustainable growth from a total shareholder return creation and profitability perspective, independent of a given financial strategy. The concept of optimal growth rate was originally studied by Martin Handschuh, Hannes Lösch, and Björn Heyden. Their study was based on assessments on the performance of more than 3,500 stock-listed companies with an initial revenue of greater than 250 million Euro globally, across industries, over a period of 12 years from 1997 to 2009.

Due to the span of time included in the study, the authors considered their findings to be, for the most part, independent of specific economic cycles. The study found that return on assets, return on sales and return on equity do in fact rise with increasing revenue growth of between 10% to 25%, and then fall with further increasing revenue growth rates. Furthermore, the authors attributed this profitability increase to the following facts (*Figure 16.28*):

1. Companies with substantial profitability have the opportunity to invest more in additional growth, and
2. Substantial growth may be a driver for additional profitability, whether by attracting high performing young professionals, providing motivation for current employees, attracting better business partners, or simply leading to more self-confidence.

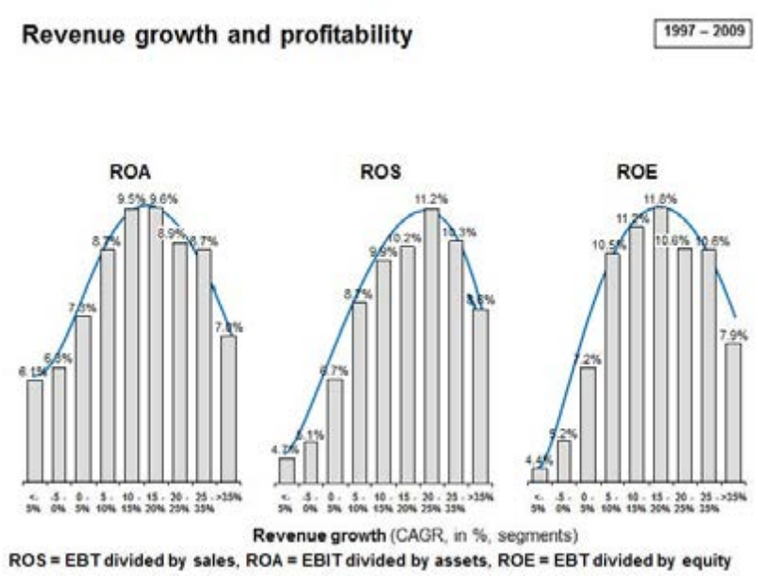


Figure 16.28 Revenue Growth and Profitability

ROA, ROS and ROE tend to rise with revenue growth to a certain extent.

However, according to the study, growth rates beyond the "profitability maximum" rate could bring about circumstances that

reduce overall profitability because of the efforts necessary to handle additional growth (i.e., integrating new staff, controlling quality, etc).

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/the-dupont-equation-roe-roa-and-growth/assessing-internal-growth-and-sustainability--2/

Dividend Payments and Earnings Retention

The dividend payout and retention ratios offer insight into how much of a firm's profit is distributed to shareholders versus retained.

KEY POINTS

- Many corporations retain a portion of their earnings and pay the remainder as a dividend.
- Dividends are usually paid in the form of cash, store credits, or shares in the company.
- Cash dividends are a form of investment income and are usually taxable to the recipient in the year that they are paid.
- Dividend payout ratio is the fraction of net income a firm pays to its stockholders in dividends.
- Retained earnings can be expressed in the retention ratio.

Dividend Payments and Earnings Retention

Dividends are payments made by a corporation to its shareholder members. It is the portion of corporate profits paid out to stockholders. On the other hand, retained earnings refers to the portion of net income which is retained by the corporation rather

than distributed to its owners as dividends. Similarly, if the corporation takes a loss, then that loss is retained and called variously retained losses, accumulated losses or accumulated deficit. Retained earnings and losses are cumulative from year to year with losses offsetting earnings. Many corporations retain a portion of their earnings and pay the remainder as a dividend.

A dividend is allocated as a fixed amount per share. Therefore, a shareholder receives a dividend in proportion to their shareholding. Retained earnings are shown in the shareholder equity section in the company's balance sheet–the same as its issued share capital.

Public companies usually pay dividends on a fixed schedule, but may declare a dividend at any time, sometimes called a "special dividend" to distinguish it from the fixed schedule dividends. Dividends are usually paid in the form of cash, store credits (common among retail consumers' cooperatives), or shares in the company (either newly created shares or existing shares bought in the market). Further, many public companies offer dividend reinvestment plans, which automatically use the cash dividend to purchase additional shares for the shareholder.

Cash dividends (most common) are those paid out in currency, usually via electronic funds transfer or a printed paper check. Such dividends are a form of investment income and are usually taxable to the recipient in the year they are paid. This is the most common method of sharing corporate profits with the shareholders of the company. For each share owned, a declared amount of money is distributed. Thus, if a person owns 100 shares and the cash dividend is $0.50 per share, the holder of the stock will be paid $50. Dividends paid are not classified as an expense but rather a deduction of retained earnings. Dividends paid do not show up on an income statement but do appear on the balance sheet (*Figure 16.29*).

Stock dividends are those paid out in the form of additional stock shares of the issuing corporation or another corporation (such as its subsidiary corporation). They are usually issued in proportion to shares owned (for example, for every 100 shares of stock owned, a 5% stock dividend will yield five extra shares). If the payment involves the issue of new shares, it is similar to a stock split in that it increases the total number of shares while lowering the price of each share without changing the market capitalization, or total value, of the shares held.

Dividend Payout and Retention Ratios

Dividend payout ratio is the fraction of net income a firm pays to its stockholders in dividends:

The part of the earnings not paid to investors is left for investment to provide for future earnings growth. These retained earnings can

Figure 16.29 Example Balance Sheet

XYZ Company Balance Sheet As at 30 June 2010		
Current Assets		
Cash at bank	30,000	
Inventory	250,000	
Debtors	75,000	
Total current assets		355,000
Non - Current Assets		
Buildings	550,000	
Plant & equipment	250,000	
Vehicles	120,000	
Total non-current assets		920,000
Total Assets		**1,275,000**
Current Liabilities		
Credit cards	15,000	
Creditors	110,000	
Tax Payable	25,000	
Total current liabilities		150,000
Non-current Liabilities		
Long term loans		700,000
Total Liabilities		**850,000**
Owners Equity		
Capital	100,000	
Retained earnings	250,000	
Current earnings	75,000	
Total Owners Equity		**425,000**

Retained earnings can be found on the balance sheet, under the owners' (or shareholders') equity section.

be expressed in the retention ratio. Retention ratio can be found by subtracting the dividend payout ratio from one, or by dividing retained earnings by net income (*Figure 16.30*).

Figure 16.30 Dividend Payout Ratio

$$\text{Dividend payout ratio} = \frac{\text{Dividends}}{\text{Net Income for the same period}}$$

The dividend payout ratio is equal to dividend payments divided by net income for the same period.

Source:https://www.boundless.com/finance/analyzing-financial-statements--2/the-dupont-equation-roe-roa-and-growth/dividend-payments-and-earnings-retention--2/
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Relationships between ROA, ROE, and Growth

Return on assets is a component of return on equity, both of which can be used to calculate a company's rate of growth.

KEY POINTS

- Return on equity measures the rate of return on the shareholders' equity of common stockholders.
- Return on assets shows how profitable a company's assets are in generating revenue.
- In other words, return on assets makes up two-thirds of the DuPont equation measuring return on equity.
- Capital intensity is the term for the amount of fixed or real capital present in relation to other factors of production. Rising capital intensity pushes up the productivity of labor.

Return On Assets Versus Return On Equity

In review, return on equity measures the rate of return on the ownership interest (shareholders' equity) of common stockholders. Therefore, it shows how well a company uses investment funds to generate earnings growth. Return on assets shows how profitable a company's assets are in generating revenue. Return on assets is equal to net income divided by total assets (*Figure 16.31*).

$$\text{ROA} = \frac{\text{Net Income}}{\text{Mode Of Total Assets}}$$

Figure 16.31
Return On Assets
Return on assets is equal to net income divided by total assets.

This percentage shows what the company can do with what it has (i.e., how many dollars of earnings they derive from each dollar of assets they control). This is in contrast to return on equity, which measures a firm's efficiency at generating profits from every unit of shareholders' equity. Return on assets is, however, a vital component of return on equity, being an indicator of how profitable a company is before leverage is considered. In other words, return on assets makes up two-thirds of the DuPont equation measuring return on equity.

ROA, ROE, and Growth

In terms of growth rates, we use the value known as return on assets to determine a company's internal growth rate. This is the maximum growth rate a firm can achieve without restoring to external financing. We use the value for return on equity, however, in determining a company's sustainable growth rate, which is the

maximum growth rate a firm can achieve without issuing new equity or changing its debt-to-equity ratio.

Capital Intensity and Growth

Return on assets gives us an indication of the capital intensity of the company. "Capital intensity" is the term for the amount of fixed or real capital present in relation to other factors of production, especially labor. The use of tools and machinery makes labor more effective, so rising capital intensity pushes up the productivity of labor. While companies that require large initial investments will generally have lower return on assets, it is possible that increased productivity will provide a higher growth rate for the company. Capital intensity can be stated **quantitatively** as the ratio of the total money value of capital equipment to the total potential output. However, when we adjust capital intensity for real market situations, such as the discounting of future cash flows, we find that it is not independent of the distribution of income. In other words, changes in the retention or dividend payout ratios can lead to changes in measured capital intensity.

EXAMPLE

A company has net income of 500,000. It has total assets valued at 3,000,000. Its retention rate is 80%, and its shareholder equity is equal to $1,500,000. What is the company's ROA and internal growth rate? What is the company's ROE and sustainable growth rate? ROA = 500,000/3,000,000 = 17% Internal growth rate = 17% x 80% = 13% ROE = 17% x (3,000,000/1,500,000) = 34% Sustainable growth rate = 34% x 80% = 27.2%

The DuPont Equation

The DuPont equation is an expression which breaks return on equity down into three parts: profit margin, asset turnover, and leverage.

KEY POINTS

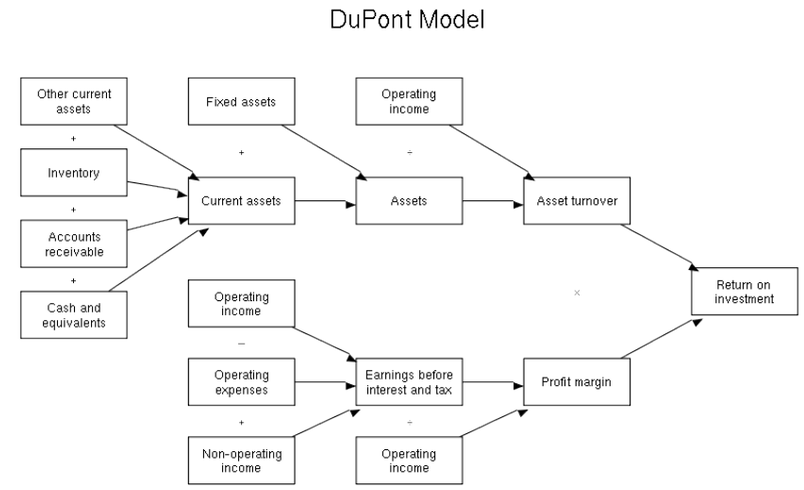
- By splitting ROE into three parts, companies can more easily understand changes in their returns on equity over time.
- As profit margin increases, every sale will bring more money to a company's bottom line, resulting in a higher overall return on equity.
- As asset turnover increases, a company will generate more sales per asset owned, resulting in a higher overall return on equity.
- Increased financial leverage will also lead to an increase in return on equity, since using more debt financing brings on higher interest payments, which are tax deductible.

The DuPont Equation

The DuPont equation is an expression which breaks return on equity down into three parts. The name comes from the DuPont Corporation, which created and implemented this formula into their business operations in the 1920s. This formula is known by many other names, including DuPont analysis, DuPont identity, the DuPont model, the DuPont method, or the strategic profit model (*Figure 16.32*).

Under DuPont analysis, return on equity is equal to the profit margin multiplied by asset turnover multiplied by financial leverage. By splitting ROE (return on equity) into three parts, companies can more easily understand changes in their ROE over time (*Figure 16.33*).

Figure 16.32 DuPont Model



A flow chart representation of the DuPont Model.

Components of the DuPont Equation: Profit Margin

Profit margin is a measure of profitability. It is an indicator of a company's pricing strategies and how well the company controls costs. Profit margin is calculated by finding the net profit as a percentage of the total revenue. As one feature of the DuPont equation, if the profit margin of a company increases, every sale will

Figure 16.33 The DuPont Equation

$$\text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Average Shareholder Equity}}$$

In the DuPont equation, ROE is equal to profit margin multiplied by asset turnover multiplied by financial leverage.

bring more money to a company's bottom line, resulting in a higher overall return on equity.

Components of the DuPont Equation: Asset Turnover

Asset turnover is a financial ratio that measures how efficiently a company uses its assets to generate sales revenue or sales income for the company. Companies with low profit margins tend to have high asset turnover, while those with high profit margins tend to have low asset turnover. Similar to profit margin, if asset turnover increases, a company will generate more sales per asset owned, once again resulting in a higher overall return on equity.

Components of the DuPont Equation: Financial Leverage

Financial leverage refers to the amount of debt that a company utilizes to finance its operations, as compared with the amount of equity that the company utilizes. As was the case with asset turnover and profit margin, Increased financial leverage will also lead to an increase in return on equity. This is because the increased use of debt as financing will cause a company to have higher interest payments, which are tax deductible. Because dividend payments are not tax deductible, maintaining a high proportion of debt in a company's capital structure leads to a higher return on equity.

The DuPont Equation in Relation to Industries

The DuPont equation is less useful for some industries, that do not use certain concepts or for which the concepts are less meaningful. On the other hand, some industries may rely on a single factor of the DuPont equation more than others. Thus, the equation allows analysts to determine which of the factors is dominant in relation to a company's return on equity. For example, certain types of high turnover industries, such as retail stores, may have very low profit margins on sales and relatively low financial leverage. In industries such as these, the measure of asset turnover is much more important.

High margin industries, on the other hand, such as fashion, may derive a substantial portion of their **competitive advantage** from selling at a higher margin. For high end fashion and other luxury brands, increasing sales without sacrificing margin may be critical. Finally, some industries, such as those in the financial sector, chiefly rely on high leverage to generate an acceptable return on equity. While a high level of leverage could be seen as too risky from some perspectives, DuPont analysis enables third parties to

compare that leverage with other financial elements that can determine a company's return on equity.

EXAMPLE

A company has sales of 1,000,000. It has a net income of 400,000. Total assets have a value of 5,000,000, and shareholder equity has a value of 10,000,000. Using DuPont analysis, what is the company's return on equity? Profit Margin = 400,000/1,000,000 = 40%. Asset Turnover = 1,000,000/5,000,000 = 20%. Financial Leverage = 5,000,000/10,000,000 = 50%. Multiplying these three results, we find that the Return on Equity = 4%.

ROE and Potential Limitations

[Return on equity measures the rate of return on the ownership interest of a business and is irrelevant if earnings are not reinvested or distributed.

KEY POINTS

- Return on equity is an indication of how well a company uses investment funds to generate earnings growth.
- Returns on equity between 15% and 20% are generally considered to be acceptable.
- Return on equity is equal to net income (after preferred stock dividends but before common stock dividends) divided by total shareholder equity (excluding preferred shares).
- Stock prices are most strongly determined by earnings per share (EPS) as opposed to return on equity.

Return On Equity

Return on equity (ROE) measures the rate of return on the ownership interest or shareholders' equity of the common stock owners. It is a measure of a company's efficiency at generating profits using the shareholders' stake of equity in the business. In

other words, return on equity is an indication of how well a company uses investment funds to generate earnings growth. It is also commonly used as a target for executive compensation, since ratios such as ROE tend to give management an incentive to perform better. Returns on equity between 15% and 20% are generally considered to be acceptable.

The Formula

Return on equity is equal to net income, after preferred stock dividends but before common stock dividends, divided by total shareholder equity and excluding preferred shares.

$$\text{ROE} = \frac{\text{Net Income(After Tax)}}{\text{Shareholder Equity}}$$

Figure 16.34 Return On Equity
ROE is equal to after-tax net income divided by total shareholder equity.

Expressed as a percentage, return on equity is best used to compare companies in the same industry. The decomposition of return on equity into its various factors presents various ratios useful to companies in **fundamental analysis**.

Figure 16.35 ROE Broken Down

$$\text{ROE} = \frac{\text{Net profit}}{\text{Equity}} = \frac{\text{Net profit}}{\text{Pretax profit}} \times \frac{\text{Pretax profit}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

This is an expression of return on equity decomposed into its various factors.

The practice of decomposing return on equity is sometimes referred to as the "DuPont System."

Potential Limitations of ROE

Just because a high return on equity is calculated does not mean that a company will see immediate benefits. Stock prices are most strongly determined by earnings per share (EPS) as opposed to return on equity. Earnings per share is the amount of earnings per each outstanding share of a company's stock. EPS is equal to profit divided by the weighted average of common shares.

Figure 16.36 Earnings Per Share

$$\text{Earnings Per Share} = \frac{\text{Profit}}{\text{Weighted Average Common Shares}}$$

EPS is equal to profit divided by the weighted average of common shares.

The true benefit of a high return on equity comes from a company's earnings being reinvested into the business or distributed as a dividend. In fact, return on equity is presumably irrelevant if earnings are not reinvested or distributed.

Asset Management Ratios

Fixed Assets Turnover Ratio

Total Assets Turnover Ratio

Days Sales Outstanding

Inventory Turnover Ratio

https://www.boundless.com/accounting/analyzing-financial-statements/asset-management-ratios/

Fixed Assets Turnover Ratio

Fixed-asset turnover is the ratio of sales to value of fixed assets, indicating how well the business uses fixed assets to generate sales.

KEY POINTS

- Fixed asset turnover = Net sales / Average net fixed assets.
- The higher the ratio, the better, because a high ratio indicates the business has less money tied up in fixed assets for each unit of currency of sales revenue. A declining ratio may indicate that the business is over-invested in plant, equipment, or other fixed assets.
- Fixed assets, also known as a non-current asset or as property, plant, and equipment (PP&E), is a term used in accounting for assets and property that cannot easily be converted into cash.

Fixed Assets

Fixed assets, also known as a non-current asset or as property, plant, and equipment (PP&E), is a term used in accounting for assets and property that cannot easily be converted into cash. This can be compared with current assets, such as cash or bank accounts, which are described as liquid assets. In most cases, only tangible assets are referred to as fixed.

Moreover, a fixed/non-current asset also can be defined as an asset not directly sold to a firm's consumers/end-users. As an example, a baking firm's current assets would be its inventory (in this case, flour, yeast, etc.), the value of sales owed to the firm via credit (i.e., debtors or accounts receivable), cash held in the bank, etc. Its non-current assets would be the oven used to bake bread, motor vehicles used to transport deliveries, cash registers used to handle cash payments, etc. Each aforementioned non-current asset is not sold directly to consumers.

These are items of value that the organization has bought and will use for an extended period of time; fixed assets normally include items, such as land and buildings, motor vehicles, furniture, office equipment, computers, fixtures and fittings, and plant and machinery. These often receive favorable tax treatment (depreciation allowance) over short-term assets. According to International Accounting Standard (IAS) 16, Fixed Assets are assets which have future economic benefit that is probable to flow into the entity and which have a cost that can be measured reliably.

The primary objective of a business entity is to make a profit and increase the wealth of its owners. In the attainment of this objective, it is required that the management will exercise due care and diligence in applying the basic accounting concept of “Matching

Concept." Matching concept is simply matching the expenses of a period against the revenues of the same period.

The use of assets in the generation of revenue is usually more than a year–that is long term. It is, therefore, obligatory that in order to accurately determine the net income or profit for a period depreciation, it is charged on the total value of asset that contributed to the revenue for the period in consideration and charge against the same revenue of the same period. This is essential in the prudent reporting of the net revenue for the entity in the period.

Fixed-asset Turnover

Fixed-asset turnover is the ratio of sales (on the profit and loss account) to the value of fixed assets (on the balance sheet). It indicates how well the business is using its fixed assets to generate sales (*Figure 16.37*).

Fixed asset turnover = Net sales / Average net fixed assets

Generally speaking, the higher the ratio, the better, because a high ratio indicates the business has less money tied up in fixed assets for each unit of currency of sales revenue. A declining ratio may indicate that the business is over-invested in plant, equipment, or other fixed assets.

Figure 16.37 Turn Tables

Turn tables should help you remember turnover. Fixed-asset turnover indicates how well the business is using its fixed assets to generate sales.

Source: https://www.boundless.com/finance/analyzing-financial-statements--2/asset-management-ratios--2/fixed-assets-turnover-ratio--2/

Total Assets Turnover Ratio

Total asset turnover is a financial ratio that measures the efficiency of a company's use of its assets in generating sales revenue.

KEY POINTS

- Total assets turnover = Net sales revenue / Average total assets.
- Net sales are operating revenues earned by a company for selling its products or rendering its services.
- Anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value is considered an asset.
- Companies with low profit margins tend to have high asset turnover, while those with high profit margins have low asset turnover.

Total assets turnover

This is a financial ratio that measures the efficiency of a company's use of its assets in generating sales revenue or sales income to the company (*Figure 16.38*).

Companies with low **profit margins** tend to have high asset turnover, while those with high profit margins have low asset turnover. Companies in the retail industry tend to have a very high turnover ratio due mainly to cut-throat and competitive pricing.

Figure 16.38
Assets
Asset turnover measures the efficiency of a company's use of its assets in generating sales revenue or sales income to the company.

Total assets turnover = Net sales revenue / Average total assets

"Sales" is the value of "Net Sales" or "Sales" from the company's income statement".

Average Total Assets" is the average of the values of "Total assets" from the company's balance sheet in the beginning and the end of the fiscal period. It is calculated by adding up the assets at the beginning of the period and the assets at the end of the period, then dividing that number by two.

Net sales

In bookkeeping, accounting, and finance, Net sales are operating revenues earned by a company for selling its products or rendering its services. Also referred to as revenue, they are reported directly on the income statement as Sales or Net sales.

In financial ratios that use income statement sales values, "sales" refers to net sales, not gross sales. Sales are the unique transactions that occur in professional selling or during marketing initiatives.

Total assets

In financial accounting, assets are economic resources. Anything tangible or intangible that is capable of being owned or controlled to produce value, and that is held to have positive economic value, is considered an asset. Simply stated, assets represent value of ownership that can be converted into cash (although cash itself is also considered an asset).

The balance sheet of a firm records the monetary value of the assets owned by the firm. It is money and other valuables belonging to an individual or business.

Two major asset classes are tangible assets and intangible assets.

Tangible assets contain various subclasses, including current assets and fixed assets. Current assets include inventory, while fixed assets include such items as buildings and equipment.

Intangible assets are non-physical resources and rights that have a value to the firm because they give the firm some kind of advantage in the market place.

EXAMPLE

Examples of intangible assets are goodwill, copyrights, trademarks, patents, computer programs, and financial assets, including such items as accounts receivable, bonds and stocks.

Days Sales Outstanding

Days sales outstanding (also called DSO or days receivables) is a calculation used by a company to estimate their average collection period.

KEY POINTS

- Days sales outstanding is a financial ratio that illustrates how well a company's accounts receivables are being managed.
- DSO ratio = accounts receivable / average sales per day, or DSO ratio = accounts receivable / (annual sales / 365 days).
- Generally speaking, higher DSO ratio can indicate a customer base with credit problems and/or a company that is deficient in its collections activity. A low ratio may indicate the firm's credit policy is too rigorous, which may be hampering sales.

Days Sales Outstanding

In accountancy, days sales outstanding (also called DSO or days receivables) is a calculation used by a company to estimate their average collection period. It is a financial ratio that illustrates how well a company's accounts receivables are being managed. The days sales outstanding figure is an index of the relationship between outstanding receivables and credit account sales achieved over a given period.

Typically, days sales outstanding is calculated monthly. The days sales outstanding analysis provides general information about the number of days on average that customers take to pay invoices. Generally speaking, though, higher DSO ratio can indicate a customer base with credit problems and/or a company that is deficient in its collections activity. A low ratio may indicate the firm's credit policy is too rigorous, which may be hampering sales.

Days sales outstanding is considered an important tool in measuring liquidity. Days sales outstanding tends to increase as a company becomes less risk averse. Higher days sales outstanding can also be an indication of inadequate analysis of applicants for open account credit terms. An increase in DSO can result in cash flow problems, and may result in a decision to increase the creditor company's bad debt reserve (*Figure 16.39*).

A DSO ratio can be expressed as:

DSO ratio = accounts receivable / average sales per day, or

DSO ratio = accounts receivable / (annual sales / 365 days)

For purposes of this ratio, a year is considered to have 365 days.

Days sales outstanding can vary from month to month and over the course of a year with a company's seasonal business cycle. Of interest, when analyzing the performance of a company, is the trend

Figure 16.39 Days Sales Outstanding

A low ratio may indicate the firm's credit policy is too rigorous, which may be hampering sales.

in DSO. If DSO is getting longer, customers are taking longer to pay their bills, which may be a warning that customers are dissatisfied with the company's product or service, or that sales are being made to customers that are less credit worthy or that sales people have to offer longer payment terms in order to generate sales. Many financial reports will state Receivables Turnover defined as Net Credit Account Sales / Trade Receivables; divide this value into the time period in days to get DSO.

However, days sales outstanding is not the most accurate indication of the efficiency of accounts receivable department. Changes in sales volume influence the outcome of the days sales outstanding calculation. For example, even if the overdue balance stays the same, an increase of sales can result in a lower DSO. A better way to measure the performance of credit and collection function is by looking at the total overdue balance in proportion of the total accounts receivable balance (total AR = Current + Overdue), which is sometimes calculated using the days' delinquent sales outstanding (DDSO) formula.

Inventory Turnover Ratio

Inventory turnover is a measure of the number of times inventory is sold or used in a time period, such as a year.

KEY POINTS

- Inventory turnover = Cost of goods sold/Average inventory.
- Average days to sell the inventory = 365 days /Inventory turnover ratio.
- A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort.
- Conversely, a high turnover rate may indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low.

Inventory Turnover

In accounting, the Inventory turnover is a measure of the number of times inventory is sold or used in a time period, such as a year. The equation for inventory turnover equals the cost of goods sold divided by the average inventory. Inventory turnover is also known as inventory turns, stockturn, stock turns, turns, and stock turnover.

Inventory Turnover Equation

The formula for inventory turnover:

Inventory turnover = Cost of goods sold/Average inventory

The formula for average inventory:

Average inventory = (Beginning inventory + Ending inventory)/2

The average days to sell the inventory is calculated as follows:

Average days to sell the inventory = 365 days / Inventory turnover ratio

Application in Business

A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort. However, in some instances a low rate may be appropriate, such as where higher inventory levels occur in anticipation of rapidly rising prices or expected market shortages (*Figure 16.40*).

Conversely, a high turnover rate may indicate inadequate inventory levels, which may lead to a loss in business as the inventory is too low. This often can result in stock shortages.

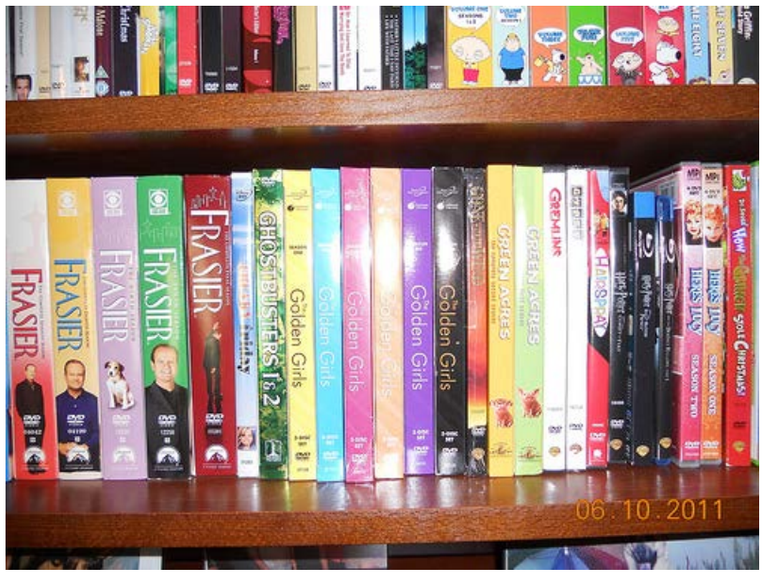


Figure 16.40
Inventory
A low turnover rate may point to overstocking, obsolescence, or deficiencies in the product line or marketing effort.

Some compilers of industry data (e.g., Dun & Bradstreet) use sales as the numerator instead of cost of sales. Cost of sales yields a more realistic turnover ratio, but it is often necessary to use sales for purposes of comparative analysis. Cost of sales is considered to be more realistic because of the difference in which sales and the cost of sales are recorded. Sales are generally recorded at market value (i.e., the value at which the marketplace paid for the good or service provided by the firm). In the event that the firm had an exceptional year and the market paid a premium for the firm's goods and services, then the numerator may be an inaccurate measure. However, cost of sales is recorded by the firm at what the firm actually paid for the materials available for sale. Additionally, firms may reduce prices to generate sales in an effort to cycle inventory.

In this article, the terms "cost of sales" and "cost of goods sold" are synonymous.

An item whose inventory is sold (turns over) once a year has a higher **holding cost** than one that turns over twice, or three times, or more in that time. Stock turnover also indicates the briskness of the business. The purpose of increasing inventory turns is to reduce inventory for three reasons.

Increasing inventory turns reduces holding cost. The organization spends less money on rent, utilities, insurance, theft, and other costs of maintaining a stock of good to be sold.

Reducing holding cost increases net income and profitability as long as the revenue from selling the item remains constant.

Items that turn over more quickly increase responsiveness to changes in customer requirements while allowing the replacement of obsolete items. This is a major concern in fashion industries.

When making comparison between firms, it's important to take note of the industry, or the comparison will be distorted. Making comparison between a supermarket and a car dealer, will not be appropriate, as a supermarket sells fast moving goods, such as sweets, chocolates, soft drinks, so the stock turnover will be higher. However, a car dealer will have a low turnover due to the item being

a slow moving item. As such, only intra-industry comparison will be appropriate.

Other Distortions

Extraordinary Gains/Losses

Discrepancies

https://www.boundless.com/accounting/analyzing-financial-statements/other-distortions/

Extraordinary Gains/Losses

Extra gains or losses are nonrecurring, onetime, unusual, non-operating gains or losses that are recorded by a business during the period.

KEY POINTS

- Extra gains or losses are nonrecurring, onetime, unusual, non-operating gains or losses that are recorded by a business during the period.
- No items may be presented in the income statement as extraordinary items under IFRS regulations, but are permissible under US GAAP. (IAS 1.87) The amount of each of these gains or losses, net of the income tax effect, is reported separately in the income statement.
- Examples of extraordinary items are casualty losses, losses from expropriation of assets by a foreign government, gain on life insurance, gain or loss on the early extinguishment of debt, gain on troubled debt restructuring, and write-off of an intangible asset.

Extraordinary Gains and Losses

Extraordinary items are both unusual (abnormal) and infrequent, for example, unexpected natural disaster, expropriation, prohibitions under new regulations. It is notable that a natural disaster might not qualify depending on location (e.g., frost damage would not qualify in Canada but would in the tropics).

Extra gains or losses are the result of unforeseen and atypical events. They are nonrecurring, onetime, unusual, **non-operating** gains, or losses that are recorded by a business during the period.

No items may be presented in the income statement as **extraordinary items** under IFRS regulations, but are permissible under US GAAP (*Figure 16.41*). (IAS 1.87) The amount of each of these gains or losses, net of the income tax effect, is reported separately in the income statement. Net income is reported before and after these gains and losses. As a result, extraordinary gains or losses don't skew the company's regular earnings. These gains and losses should not be recorded very often but, in fact, many businesses record them every other year or so, causing much consternation to investors. In addition to evaluating the regular stream of sales and expenses that produce operating profit, investors also have to factor into their profit performance analysis the perturbations of these irregular gains and losses reported by a business.

Examples of extraordinary items are casualty losses, losses from expropriation of assets by a foreign government, gain on life insurance, gain or loss on the early extinguishment of debt, gain on troubled debt restructuring, and write-off of an intangible asset.

Figure 16.41 Income statement in accordance with IFRS

Income tax expense	(1,678.6)	(3,510.5)	(1,789.9)
Profit (or loss) from associates, *net of tax*	(20.8)	0.1	(37.3)
Profit (or loss) from non-controlling interest, *net of tax*	(5.1)	(4.7)	(3.3)
Profit (or loss) from continuing operations	**$ (7,348.7)**	**$ 5,263.8**	**$ 2,651.0**
Profit (or loss) from discontinued operations, *net of tax*	(1,090.3)	(802.4)	164.6
Profit (or loss) for the year	***$ (8,439.0)***	***$ 4,461.4***	***$ 2,815.6***

This income statement is a very brief example prepared in accordance with IFRS; no extraordinary items are presented.

Write down and write off of receivables and inventory are not extraordinary, because they relate to normal business operational activities.They would be considered extraordinary, however, if they resulted from an Act of God (e.g., casualty loss arising from an earthquake) or governmental expropriation.

Discrepancies

A discrepancy is an accounting error that was not caused intentionally, meaning the books don't properly match.

KEY POINTS

- At the end of each month when you get your bank or credit card statement, you will need to reconcile each account in your accounting program against the statement.
- You will want to double check that you entered the correct starting and ending balances for the account, and if you did, go back through all the transactions until you find the problem. Then correct it and you can proceed with your reconciliation.
- In accounting, reconciliation refers to a process that compares two sets of records (usually the balances of two accounts) to make sure they are in agreement.
- It depends on the type of discrepancies, most accounting discrepancies are due to the lack of accuracy (decimal places) when breaking down a large figure. Although more decimal places in your calculations can help solve discrepancies it can look rather unsightly on a report.

At the end of each month when you get your bank or credit card statement, you will need to reconcile each account in your

accounting program against the statement. This process double checks everything you entered for the month, making sure you didn't miss any transactions, enter duplicate transactions, or enter the wrong amount for a transaction. It also marks the checks that cleared that month as such, so you know how many **outstanding checks** you have floating out in the world.

A discrepancy is an accounting error that was not caused intentionally. An accounting error can include discrepancies in dollar figures, or might be an error in using accounting policy incorrectly (i.e., a compliance error). Discrepancies should not be confused with fraud, which is an intentional error in an accounting item, usually to hide or alter data for personal gain. A discrepancy just means something doesn't match. You will have the option to go back and locate the discrepancy, or to reconcile anyway. Unless the discrepancy is very small you should go back and correct the problem. You will want to double check that you entered the correct starting and ending balances for the account, and if you did, go back through all the transactions until you find the problem. Then correct it and you can proceed with your **reconciliation**.

In accounting, reconciliation refers to a process that compares two sets of records (usually the balances of two accounts) to make sure they are in agreement. Reconciliation is used to ensure that the money leaving an account matches the actual money spent, this is done by making sure the balances match at the end of a particular accounting period. Well reconciliations refers to two sets of records (what is being put in the well compared to what actual costs are being spent). The two numbers are compared to assure that they balance at the end of the accounting cycle. There is usually a difference. A robust reconciliation process improves the accuracy of the financial reporting function and allows the Finance Department to publish financial reports with confidence "(*Figure 16.42*)."

Figure 16.42 Reconciliation of discrepancies

Bank reconciliation statement on 31 August 2009 (Previous month)

		£	£
Balance as per bank statement			12200
Outstanding deposit:			2100
Total			**14300**
Outstanding cheques:	No: 100	2200	
	No: 106	740	
	No: 109	540	(3480)
Total			**10820** (Opening balance for cash book)

Bank reconciliation statement

It depends on the type of discrepancies, most accounting discrepancies are due to the lack of accuracy (decimal places) when breaking down a large figure. Although more decimal places in your calculations can help solve discrepancies it can look rather unsightly on a report.

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Section 13

Next Steps in Financial Statement Analysis

Interpreting Ratios and Other Sources of Company Information

https://www.boundless.com/accounting/analyzing-financial-statements/next-steps-in-financial-statement-analysis/

Interpreting Ratios and Other Sources of Company Information

Financial statement analysis uses comparisons and relationships of data to enhance the utility or practical value of accounting information.

KEY POINTS

- In financial statement analysis, comparisons and relationships can be shown in the following ways: vertical analysis, horizontal analysis, trend percentages, and ratios.
- The vertical method is used on a single financial statement, such as an income statement, and involves each item being expressed as a percentage of a significant total.
- The horizontal method is comparative, and shows the same company's financial statements for one or two successive periods in side-by-side columns. The side-by-side display reveals changes in a company's performance and highlights trends.
- Trend percentages make comparisons to a selected base year or period. Trend percentages are useful for comparing financial statements over several years, because they disclose changes and trends occurring through time.

KEY POINTS (cont.)

- Ratios are expressions of logical relationships between items in the financial statements from a single period. A ratio can show a relationship between two items on the same financial statement or between two items on different financial statements (e.g.balance sheet and income statement).

Financial Statement Analysis

Financial statement analysis, also known as financial analysis, is the process of understanding the risk and profitability of a company through the analysis of that company's reported financial information. This information includes annual and quarterly reports, such as income statements, balance sheets, and statements of cash flows.

All financial analysis relies on comparing or relating data in a way that enhances the utility or practical value of the information. For example, when analyzing a particular company, it is helpful to know that they had a net income of $100,000 for the year, but it is even more helpful to know that, in a previous year, they only had $25,000 in net income. As more information is added, such as the total amount of sales, the number of assets, and the cost of goods sold, the initial information becomes increasingly valuable, and a

more complete picture of a company's financial activity can be derived.

In financial statement analysis, comparisons and relationships can be shown in the following ways:

Absolute increases and decreases for an item from one period to the next

Percentage increases and decreases for an item from one period to the next

Percentages of single items to an aggregate total

Trend percentages

Ratios

Methods for Financial Statement Analysis

There are four methods for making these types of comparisons: vertical **analysis**, horizontal analysis, ratios, and trend percentages.

The vertical method is used on a single financial statement, such as an income statement. In a vertical analysis, each item is expressed as a percentage of a significant total. This type of analysis is

XYZ Retailers
Income Statement
For the year ended 30 June 2011

REVENUE	$	$
Sales		250,000
Cost of Goods Sold		
Opening inventories (as at 1 July 2010)	40,000	
Add purchases	100,000	
Add freight-in and customs duty	10,000	
Less closing inventory (as at 30 June 2011)	60,000	
Less Cost of Goods Sold		90,000
Gross Profit		160,000
Add other operating revenue		
Rent received	3,000	
Commission received	2,000	
Total Revenue		165,000
LESS OTHER OPERATING EXPENSES		
Selling & Distribution expense		
Advertising	5,000	
Public Relations	2,000	
Website marketing	7,500	
General and Administrative expenses		
Depreciation	10,000	
Electricity	1,500	
Insurance	1,000	
Rent expense	30,000	
Wages & salaries	46,500	
Financial expenses		
Bad debts	1,500	
Total expenses		105,000
NET PROFIT (EBIT)		60,000

Figure 16.43
Analyzing the Income Statement
Analyzing the Income Statement

especially helpful in analyzing income statement data (*Figure 16.43*).

The horizontal method is a comparative, and presents the same company's financial statements for one or two successive periods in side-by-side columns. This comparative display shows dollar changes or percentage changes in the statement items or totals

across given periods of time. Horizontal analysis detects changes in a company's performance and highlights various other trends.

The trend percentages method is the same as horizontal analysis, except that in the former, comparisons are made to a selected base year or period. Trend percentages are useful for comparing financial statements over several years, because they reveal changes and trends occurring over time.

Ratios are expressions of logical relationships between items in financial statements from a single period. It is possible to calculate a number of ratios from the same set of financial statements. A ratio can show a relationship between two items on the same financial statement or between two items on different financial statements (e.g.balance sheet and income statement). The only limiting factor in choosing ratios is that the items used to construct a ratio must have a logical relationship to one another.
