THIRD EDITION
Second Printing

FINANCIAL ACCOUNTING FOR MANAGERS

AN INTERACTIVE USER-ORIENTED PRIMER

David W. Young, D.B.A.

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Third Edition, Second Printing

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INTRODUCTION

This *Primer* is designed to provide an introductory level of instruction to students who are studying financial accounting for the first time. Its purpose is to provide a user oriented approach to accounting concepts and techniques to help prepare you for work in an environment where understanding financial accounting is important to success. Exhibit 1 lists the *Primer's* specific learning objectives.

Exhibit 1. LEARNING OBJECTIVES

Upon completing this *Primer,* you should know:

- The difference between accrual accounting and cash flows
- The importance of a cash budget
- The nature of the information on the income statement, the balance sheet, and the statement of cash flows
- The meaning of some of the more frequently used terms on a set of financial statements, such as depreciation, prepaid expenses, and allowances for doubtful accounts
- The nature of accounting for inventories
- The nature of accounting for bonds
- The nature of accounting for shareholders' equity
- The role of profit as a source of financing
- Some of the important financing considerations that organizations face
- The distinction between accounting issues and financial management issues
- How ratios can be used to help analyze an organization's financial statements
- Some other techniques than can be used to analyze financial statements to help determine an organization's financial viability

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GENERAL APPROACH TO THE MATERIAL

The assumption that underlies the *Primer* is that readers have no prior knowledge of accounting. Students completing the *Primer* successfully will be knowledgeable about both the uses and the limitations of financial accounting from the perspectives of managers, analysts, shareholders, creditors, governmental bodies, and regulatory agencies. To accomplish this, the *Primer* places minimal emphasis on the technical aspects of preparing accounting information, covering only those technical matters that are essential to understanding the information. Most of the attention in the *Primer* is focused on the meaning and utility of the information to managers and other users.

Why Use this *Primer*

This is a nontraditional text in five important respects: user orientation, interactive learning process, length, organizational focus, and emphasis on the case method of instruction.

User Orientation. While it would be nice if a user orientation could be achieved without working through some of the details of accounting, that is not the goal. However, accounting details are discussed only to the extent they are needed to understand the concepts and techniques used in most organizations. The term *used in most* is key in this regard. In general, the text does not cover exceptions to the rules or some of the possible variations on the traditional themes. Of course, the instructor can discuss these matters in class if he or she wishes to do so, supplementing the text, where necessary, with additional readings or exercises.

Interactive Learning Process. The *Primer* includes problems and mini-tests within the chapters. The idea is to shorten the "feedback loops" in the learning process. Rather than waiting until the end of a chapter to answer questions or analyze problems, students are asked to do so immediately following the discussion of a particular topic. Sometimes, if the discussion of a topic is lengthy, there are problems and mini-tests during the discussion. Despite this emphasis, some students may be tempted to shortcut this

process, especially toward the end of the course. The instructor may need to remind the class at regular intervals of the importance of continuing the interactive learning process.

Length. The *Primer* is only nine chapters long. As such, it is ideally suited for a half-semester course where, on average, a single chapter can be covered in one to two class sessions. Most of the chapters contain enough substance, however, that each could be covered at a more reasonable pace over two to three class sessions, and thus the *Primer* could be used rather easily in a one-semester course. If this approach is followed, students would have more time to digest the material in each chapter, and the instructor would be able to supplement the text with additional readings.

Organizational Focus. Many texts use manufacturing examples to illustrate accounting concepts and principles. This *Primer* uses both manufacturing and non-manufacturing examples. Many examples are of service organizations. As students will see, most accounting concepts are universal; thus, the type of organization used to illustrate a point is relatively unimportant. Service and nonprofit organizations are used as examples in recognition of their growing importance in the economy, and to help students see the universal applicability of the concepts.

Case Method of Instruction. Increasingly, accounting educators are recognizing the importance of using the case method in the teaching of accounting. Its value is that it puts students in the middle of the action, and requires them to be analytical—to apply principles rather than just memorize them. As such, it prepares students for work in a world where analysis, judgment, and attention to nuances increasingly are required for success.

The practice cases are all quite short, and might even be thought of as extended problems. The distinction between an extended problem and a case is not always clear, but a case usually is considered to be a situation where there is no right answer. With most of the cases, there are right answers, although as students will see, there is sometimes more room for judgment than they might initially imagine. Thus, what may seem like a problem frequently has some of the flavor of a more traditional case.

Several practice cases are good candidates for a relatively simple spreadsheet analysis, and students should be encouraged to use spreadsheet software in preparing their analyses of those cases.

THE LEARNING PROCESS

In general, the learning process consists of developing new skills, which only can be acquired by practice. Learning financial accounting is a bit like learning about a new city. If another person took you on many drives around a new city, you would learn very little about where landmarks are located and how to get from one place to another. If you took a single drive by yourself, however, you would learn a great deal about the city—far more than you would learn on dozens of trips as a passenger.

In this *Primer* you are the driver rather than the passenger. You are expected to practice (and learn) accounting while you read a chapter rather than after you finish it. You do so by preparing answers to problems, and mini-tests that appear throughout the chapter, and by analyzing a practice case study at the end of the chapter.

Your learning process will be compromised if you do not attempt to answer the problems, and mini-tests to the best of your ability before looking at the solution, or if you do not analyze a practice case thoroughly before looking at a solution. Please do not shortcut this feature of the *Primer.*

Minimal Memorization Needed

Mastering financial accounting requires understanding how the accounting system works, and does not require much memorization. Inasmuch as the accounting system is somewhat counterintuitive initially, however, most students find that they must work with it for a while until they see how all its parts fit together. This is not something that can be accomplished in a single sitting; rather, it requires constant "chipping away" in the form of regular preparation and discussion of the material. Moreover, the discussion in each chapter assumes that you understand the material covered in the prior chapters, so you should work through the chapters in order.

The Interactive Learning Feature

A distinctive feature of this *Primer* is its interactive approach to the learning process. You are regularly asked to stop reading and either (a) work out the solution to a short problem, or (b) take a mini-test.

Please do not attempt to shortcut the learning process by looking at the solution before solving the problem or completing the mini-test to the best of your ability. The learning process can be quite seductive. If you look at a solution before working out the answer, you generally will find yourself in agreement with it, saying something like "That's how I would have done it if I had done it." But, in fact, actually working through a problem and arriving at a solution generally is more difficult than it may seem.

In short, to learn accounting, you must struggle through the process of arriving at solutions yourself, even if you make mistakes. You can best prepare for this by having a pencil, a calculator and a blank sheet of paper next to you while you are reading a chapter. A problem begins with a dotted line like the one below.

Problem: It is in smaller type font like this, and ends with a pencil, like the following:

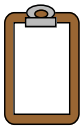
Immediately following the pencil is a space that should be sufficient for you to work out a solution, followed by another dotted line.

Answer: The answer to the problem, also in smaller type font, immediately follows this second dotted line, and ends with another dotted line.

You should use the sheet of paper to cover the answer, and work out the solution in the space provided. Then compare your solution and your associated reasoning to the answer. before continuing.

Mini-tests are similar, except that they are a bit longer and more complicated. Like a problem, they begin with a dotted line, followed by the words "Mini-Test" and a clipboard, as follows:

Mini-Test #1



Immediately following the clipboard, in the smaller type font, is the test and a space that should be sufficient for you to work out a solution, followed by another dotted line.

Answers to the Mini-Tests are contained in the Appendix at the end of the chapter. You should compare your solution and your associated reasoning to the answer.

With both problems and mini-tests, when you compare your solution to the answer, if you were right, you should continue reading. If you had the wrong answer, you should spend as much time as you need to figure out where you went wrong. This may require rereading the section of the chapter immediately preceding the problem or mini-test.

Deceptively Short Chapters

The chapters may seem rather short. Unlike chapters in some other texts, however, they are not meant to be read quickly. That is, because of the interactive nature of the learning process, you should move through each chapter at a relatively slow pace. Depending on your own speed of mastering the material, your coverage of a chapter could take several hours.

You should not try to cram the learning process into less time, since you need to digest the material as you go along. If you believe you understand the material in a particular section, and do not need to read that section, you should prepare solutions to the problems, and mini-tests contained in it to verify your understanding.

Practice Case Studies

In addition to solving the problems and mini-tests contained in the body of each chapter, you also are asked to prepare an analysis of a practice case study at the end of each chapter. Solutions to these practice cases are contained in the Appendix at the end of the chapter.

As with the problems and mini-tests, you should analyze a practice case to the best of your ability before looking at the solution. Ordinarily, the practice case will cover several of the concepts discussed in the chapter, and thus will give you an opportunity to test your knowledge of the chapter's content.

In short, engaging in the interactive activities in each chapter is a critical aspect of the learning process. Learning financial accounting can be frustrating unless the information is assimilated slowly. Thus, when you are asked to write an answer to a problem or take a mini-test before reading further, you should stop and do so. Although you occasionally will be tempted to shortcut this feature of the *Primer,* please do not succumb to temptation.

TO THE INSTRUCTOR

This *Primer* has been written principally for a one-semester, user-oriented course in financial accounting, using the case method of instruction. Each chapter is designed to be covered in a one to two weeks, ideally over two or three classes of 1.5 to 2 hours each. Clearly, a great deal depends on the amount of depth that you wish to pursue and/or how quickly or slowly you wish to move through the material.

The *Primer* also has been used in a half-semester course on financial accounting for MBA students. Here, each chapter was covered in one to two class meetings of 2 hours each.

Students' preparation for the first class session associated with a given chapter should include reading the chapter, engaging in the interactive activities in the chapter, and analyzing the practice case at the end of the chapter. Please bear in mind that the interactive nature of the chapters means that students will need considerably more time to read them than in a more traditional text. They also will need to spend time analyzing the practice cases.

In this regard, it sometimes is useful to have an open class discussion following the students' reading of each chapter and preparation of the practice case. This discussion can serve to clarify the chapter's concepts, and to deal with any difficulties the students are having with them.

After this class session, each remaining class for a given chapter can focus on a case study that requires students to use chapter concepts and techniques. This way, the concepts are first clarified and then used in the analysis of case situations.

If you wish help in selecting cases for your course, you should contact The Crimson Press Curriculum Center at ***www.TheCrimsonGroup.org.*** The Center has some 300 cases.

ORGANIZATION OF THE *PRIMER*

Each chapter is discussed below. The Table of Contents shows the major headings of each chapter.

Chapter 1. Introduction to Financial Accounting

This chapter provides a very brief introduction to financial accounting. It describes the balance sheet, some specific assets and liabilities, and discusses three of the nine fundamental accounting concepts. The chapter also provides some guidance to students in undertaking their first analysis of a set of financial statements. It concludes with a discussion of the operating and financing cycles.

Chapter 2. The Accounting System and Transaction Analysis

The financial accounting process moves in a regular rhythm, called the "accounting cycle." This chapter discusses that cycle, and also devotes some attention to the technique of "transaction analysis," i.e. the analysis of economic events that have an impact on an organization's financial statements, and a determination of the accounting entries associated with them. The chapter also discusses three more of the fundamental accounting concepts, and introduces several new techniques and concepts.

Chapter 3. The Income Statement

In the first two chapters, the focus is on preparing a balance sheet, either via expanding upon the basic accounting equation of Assets = Liabilities + Equity, or via the use of transactions. With knowledge of the techniques for analyzing transactions presented in Chapter 2, students are ready to prepare an income statement. The purpose of this chapter is to discuss the income statement, and to provide some guidance in preparing one. By the time they have completed this chapter, students should be ready to analyze some relatively simple economic events and do the accounting needed to prepare a balance sheet and an income statement. The chapter also discusses the last three of the nine fundamental accounting concepts.

Review of Chapters 1-3

The first three chapters cover a lot of territory. This review is an opportunity for students to take a breath, and to make sure they are clear on the various concepts, terms, and analytical techniques that they have learned so far. They are asked to briefly describe the nine fundamental accounting concepts, and to define several other concepts and terms covered in the first three chapters. Once they have solidified these concepts, they are ready to move on.

Chapter 4. Some Additional Concepts and Accounts

This chapter discusses several accounts and concepts that, for pedagogical purposes, were omitted in the first three chapters. The topics include prepaid expenses, unearned revenue, accumulated depreciation, bad debts, extraordinary items, dividends, and accelerated depreciation. With the basic conceptual understanding developed in the first three chapters, students should be ready to deal with these new topics.

Chapter 5. Inventories and Fixed Assets

This chapter discusses the various kinds of inventories that can exist in an entity, placing most of the emphasis on manufacturing inventories, and demonstrating how the cost of goods sold can be calculated for a manufacturing company. It also discusses different methods for inventory evaluation, leases, and several other common fixed assets, such as land and intangibles.

Chapter 6. Liabilities and Shareholders' Equity

This chapter discusses several new accounts and concepts related to liabilities and stockholders' equity. These topics include bonds, different types of stock, stock splits, treasury stock, and dividends. With the basic conceptual understanding developed in the first three chapters, students should have a relatively easy time seeing how these new topics fit into an accounting system.

Chapter 7. The Statement of Cash Flows

The third statement needed for a complete set of financial statements is the Statement of Cash Flows (SCF). The SCF can be somewhat difficult to understand, so a full discussion of it is deferred until students have attained some initial mastery of the financial accounting material. Students are shown how to prepare a relatively simple SCF, and the meaning and use of the SCF are discussed at some length. Additionally, this chapter discusses the importance of cash, and some of the issues involved in managing an organization's cash.

Chapter 8. Financial Statement Analysis Part I: Ratio Analysis

This chapter discusses financial ratios, by far the most common technique used to analyze a set of financial statements. By comparing the relationship between two or more items (i.e. a ratio) on one or more of an organization's financial statements, an analyst can obtain a great deal of insight about how the organization is managing its financial activities. The chapter discusses some of the more common ratios, classifying them into four categories: profitability, liquidity, asset management, and long-term solvency. It shows how the ratios are calculated, and how they can be interpreted.

Chapter 9. Financial Statement Analysis Part II: Accounting and Financial Management Issues

By combining the statement of cash flows, ratio analysis, and a general understanding of the contents of a set of financial statements, students can learn a great deal about how an organization has managed its financial affairs. This chapter discusses a general approach that students can take to perform an analysis of a company's financial statements, including the important distinction between accounting and financial management issues. It also looks in some depth at the concept of leverage and the role of profit.

ACKNOWLEDGMENTS

I am grateful to several people for assistance in preparing this *Primer*. Alfred Nanni of Babson College allowed me to use two of his cases as practice cases (in Chapter 6). Students in several courses in Boston University's MBA Program and Undergraduate Program provided detailed and valuable feedback on the *Primer*. Gregory Dorf, a graduate of BU's MBA Program in Public Management, did the research for many of the accounting vignettes that appear throughout the text. Leslie Breitner, of McGill University provided numerous suggestions and additions. Bethany Bailey, a junior in BU's Undergraduate Program, undertook a thorough editing of the document. Sheila McCarthy, a graduate of BU's MBA Program, also provided valuable feedback. I am most thankful to these people for their assistance.

Comments on the text are welcomed. They should be sent to *CrimsonCenter@TheCrimsonGroup.org*. To avoid having your E-mail classified as SPAM, you should use "Financial Accounting Primer" as the subject.

While I am most appreciative of the assistance I received from all of these individuals, I also recognize that responsibility for the final product, including any errors that were missed by the various reviewers, students, colleagues, and editors, is all mine.

David W. Young
Cambridge, Massachusetts
April 2018

Chapter 1. Introduction to Financial Accounting

Financial accounting is concerned principally with monetary information prepared for distribution outside an organization. This chapter contains an introduction to financial accounting and briefly describes the statements used to present financial accounting information. It also provides some guidance to you in undertaking your first analysis of a set of financial statements. The learning objectives for this chapter are contained in Exhibit 1.

Exhibit 1. LEARNING OBJECTIVES

Upon completing this chapter, you should know about:

- The balance sheet and what it measures, including definitions of assets, liabilities, and owners' equity, the nature of an account, the distinction between current and non-current items, and the current ratio.
- The creation of owners' equity, and the basis for changes in it.
- Some specific assets and liabilities, including, cash, inventory, equipment, accounts payable, and loans payable.
- Three of the nine fundamental accounting concepts: entity, dual aspect, and money measurement.[1]
- Some basic accounting and finance concepts including, levels and flows, working capital, leverage, and unmeasured value.
- The definition of revenues and expenses.
- Some basic techniques for financial statement analysis.
- Some of the distinctions between financial accounting and financial management, including the operating cycle and the financing cycle.

ROLE OF FINANCIAL ACCOUNTING

Financial accounting information plays an important role in an economy. It is used by managers, investors, financial analysts, creditors, regulators, and even employees and customers on occasion. All of these people need to understand both the current financial status of an organization, as well as the events that caused a change in that status from some prior point in time.

A Brief History

Accounting's roots can be traced to the Italian Renaissance and its then-emerging city states. At that time, as commerce among the city states was becoming increasingly significant, merchants began to recognize the need for improved record keeping, both to avoid mistakes in keeping track of financial data, and to provide them with better information on the performance of their businesses.

The breakthrough came when a Franciscan monk, Fra. Luca Pacioli, devised the system of double-entry bookkeeping that remains the cornerstone of accounting today. Fra. Pacioli, a mathematician, reasoned that if instead of making a single entry to the accounts each time a transaction took place, a bookkeeper made two entries in two different accounts, there could be a system of checks and balances. His insight gave rise to the *dual aspect concept* of accounting, which we will examine later in this chapter.

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[1] The six remaining concepts are going concern, cost, conservatism, materiality, realization, and matching. They will be discussed in subsequent chapters.

The Fundamental Financial Accounting Statements

The purpose of an accounting system is to collect, summarize, and report information concerning the impact of various business events on an organization's *financial status* and *financial performance*. Organizations periodically report their financial status as of a certain date, and their financial performance for some period of time preceding that date, called the *accounting period*. They do this on four separate financial statements: the balance sheet, the income statement, the statement of retained earnings, and the statement of cash flows.

The *balance sheet* is a financial status report prepared as of the last day of the accounting period. The *income statement* is a financial performance report for the accounting period. The *statement of retained earnings* explains the changes that took place in owners' (as opposed to lenders') claims on the organization. The *statement of cash flows,* or *SCF,* explains in an organized way the reasons for any change in the organization's cash during the accounting period.

STANDARDS AND STANDARD SETTERS

For financial accounting information to be useful to readers of financial statements, it must be collected and presented in a reasonably similar fashion by all organizations. As a result, the accounting profession uses a set of standards, called *Generally Accepted Accounting Principles,* or *GAAP*. The goal of these principles is to try to assure financial statement users that a particular item means essentially the same thing on the financial statements of any organization doing business in any industry. As we will see, this is a tricky proposition, and despite the presence of GAAP, most organizations have considerable latitude in the way they interpret information and present it on their financial statements. Indeed, as the financial scandals in the first few years of the 21st century demonstrated, sometimes the latitude extends beyond a legitimate choice in the application of GAAP to a serious misrepresentation or downright fraud.

The U.S. Financial Accounting Standards Board

In the United States, the development of the standards needed to implement accounting principles is the responsibility of the *Financial Accounting Standards Board,* or the *FASB*. The FASB is a private sector body with seven full-time board members and a large staff. It has an annual budget of about $24 million, which is contributed by a variety of organizations, including public accounting firms.[2]

In setting accounting standards, the FASB works closely with the accounting profession, especially the American Institute of Certified Public Accountants, or AICPA. Prior to issuing a new standard, the FASB issues discussion papers, solicits testimony from interested parties, and, in general, follows an open process. Nevertheless, many of its pronouncements concerning accounting standards are highly controversial.

The International Accounting Standards Board

Outside the U.S., international accounting standards (IAS) are developed by the *International Accounting Standards Board* (IASB). The IASB is an independent board, overseen by a "geographically and professionally diverse body of trustees." It was incorporated in 2001 as a tax-exempt organization, and is supported by an external advisory council, an Accounting Standards Advisory Forum of national standard-setters, and an IFRS (International Financial Reporting Standards) Interpretations Committee. The committee offers guidance where there is a divergence in practice.[3]

The Role of Auditors

In the United States, any company wishing to have its stock traded publicly, i.e., on a stock market, must have its financial statements audited by a certified public accountant (CPA), often called a "char-

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2 For additional details, go to fasb.org

3 For additional details, go to ifrs.org

tered public accountant" outside the U.S. Many CPAs work independently or in small- to medium-sized public accounting firms. Others work for one of the four large international public accounting firms.[4]

Although an audit could be conducted by a single CPA, most audits are conducted by audit teams. An audit team usually consists of one of the firm's partners, who is in charge of the audit, and several other members of the firm who, while CPAs, have not yet achieved partnership status.

The auditors' role is to determine if an organization—their client—followed GAAP in the preparation of its financial statements. At the conclusion of its audit, the auditors issue an *opinion letter,* usually signed by the firm itself, not by the individuals who conducted the audit. The opinion letter states that the auditors conducted all reasonable tests to ascertain whether the company's accountants followed GAAP in preparing the financial statements.[5]

If the auditors believe that the company followed GAAP, and that there were no material errors or omissions, they give the company a *clean opinion*. If, in the auditors' judgment, the company did not follow GAAP, or if the auditors believe there were material errors or omissions, they give the company a *qualified opinion*. In giving a qualified opinion, the auditors indicate that the accuracy of the financial statements is subject to question in certain areas, which they specify in their opinion letter

Public Company Accounting Oversight Board

In the U.S., following the accounting scandals of the early 2000s, the U.S. Congress passed the Sarbanes-Oxley bill, which was signed into law in 2004. The Sarbanes-Oxley law mandates several actions in an attempt to create a more arms-length relationship between a company and its auditors. Among other steps, it restricted the provision of non-audit services by an organization's auditing firm, mandated the rotation of the lead auditor from the firm conducting the audits, and instituted a one-year "cooling off" period between the time a partner resigned from his or her firm and when he or she could be employed by the client. In addition, the law created the Public Company Accounting Oversight Board (called "the Board"), which was charged with monitoring the provisions of the act.[6]

According to the act, the Board is to have five full-time "financially literate" members, appointed for five-year terms. The members are to be appointed by the Securities and Exchange Commission (SEC). The head of the SEC is to "consult" with the Chairman of the Federal Reserve Board and the Secretary of the Treasury prior to making the appointment. The SEC may remove any of these members at any time "for good cause."

In an attempt to assure the board's independence as well as a focus that is broader than just accounting, per se, the Act requires that two of the members must be or have been certified public accountants, but that the remaining three members *must not be and cannot have been* certified public accountants (CPAs). The Chair may be held by one of the CPA members, provided that he or she has not been engaged as a practicing CPA for five years. In addition, during their service on the Board, the members may not share in any of the profits of, or receive payments from, a public accounting firm (other than fixed continuing payments, such as retirement payments).

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[4] The four firms are PricewaterhouseCoopers (PwC), Deloitte & Touche, Ernst & Young, and KPMG. In 2017, the first two had revenues of about $77 billion; the second two had revenues of about $57 billion. Each of the four firms had between 197,000 and 264,000 employees. The fifth largest firm, BDO International, had revenues of about $8.1 billion and employed almost 74,000 people. Some consolidation among the firms took place in the past to create these four. Further consolidation is always a possibility.

[5] Note that the financial statements are *prepared* by the *company's* (client's) accountants. The underlying information and accounting practices that went into the statements are the subject of the *audit*. This is the case in most medium-sized and large organizations. In small organizations, the statements may be prepared by the auditors, who also audit the underlying information and records they used to prepare them.

[6] A more complete summary of the Sarbanes-Oxley Act of 2004 can be found at aicpa.org/info/sarbanes_oxley_summary.htm The full text of the Act itself may be found at http://news.findlaw.com/hdocs/docs/gwbush/sarbanesoxley072302.pdf. To learn about the Board, go to pcaob.org.

The Internal Revenue Service

In the U.S., the Internal Revenue Service (IRS) has accounting standards that differ from the FASB's. For this reason, an organization usually must prepare two sets of financial statements: one according to the FASB standards, and one for tax purposes. There is nothing illegal or unethical about this; rather, there are two sets of standards and guidelines that are not always consistent with each other. In general, we will not be concerned with tax accounting in this book, although in later chapters we will see how the guidelines for tax accounting affect the financial statements prepared according to GAAP.

Nonprofit and Governmental Organizations

Nonprofit and governmental organizations march to the beat of yet a different drummer. Many nonprofit organizations use something called *fund accounting,* and the financial statements of most governmental organizations differ considerably from financial statements prepared according to GAAP. Moreover, the standard setting organization for state and local government organizations in the U.S. is not the FASB, but the *GASB* (for *Government Accounting Standards Board).*[7] The GASB is similar to the FASB (and is located in the same building), but it has a smaller staff and budget, and has not been in operation as long as the FASB. Many GASB standards are applied internationally as well as in the U.S.

LEVELS AND FLOWS

Much of what we do financially is built around the idea of levels and flows. If, for example, we wish to determine whether someone is wealthy, we might look at how much that person owns as of a given *point in time*, such as cash in a bank account, an automobile, a house, or other property. Alternatively, we might look at how much the person accumulated during a given *period of time,* such as his or her salary for a year, less his or her personal expenses for that year. If we look at what a person owns as of a point in time, we are concerned with the *level* of his or her resources, sometimes called *assets*. If we look at accumulation during a period of time, we are concerned with the *flow* of resources.

In accounting, resource inflows are called *revenues* and resource outflows are called *expenses*. (There are some exceptions to these generalizations which we will discuss later.) Revenues arise from the sale of an organization's goods or services to its customers. Expenses are incurred by the organization in the course of earning its revenues. An example of an expense is the rent a company pays for its offices.

The difference between revenues and expenses is called *income*. Income can have many modifiers, such as *operating* income, *before tax* income, and *net* income. All of these will be discussed in later chapters.[8] As we also will see in later chapters, revenues and expenses pose some conceptual problems in terms of their relationship to cash. This is because revenue *earned* is not necessarily cash *received,* and *expenses incurred* are not necessarily cash *paid out*. This somewhat counter intuitive aspect of accounting will be discussed in later chapters.

Relationship Between Levels and Flows

Levels and flows are related. For example, if your salary during a given period of time exceeds your personal expenses, you add to the level of your wealth. To illustrate, assume that as of December 31, 2012, you had the following personal asset:

Cash in checking account	$6,000

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[7] For a brief treatment of financial accounting in nonprofit and governmental organizations, see David W. Young, *Note on Financial Accounting in Nonprofit Organizations,* or David W. Young, *Note on GAAP in Nonprofit and Governmental Organizations*. Both are available from the Crimson Press Curriculum Center *(www.TheCrimsonGroup.org)*..

[8] In practice, we occasionally encounter some confusing terminology. For example, some people use the term *income* to mean what accountants call *revenue*.

The $6,000 is the beginning *level* of your asset, cash. During 2013 you earned $40,000 and had expenses of $38,000. These are your *flows*. You deposit the $40,000 in your checking account, and you write checks for $38,000. Therefore, as of December 31, 2013, you had the following asset:

Cash in checking account	$8,000

The level of your personal asset increased by $2,000 as a result of the *net inflow* of resources from your salary minus your personal expenses. Since you had a beginning level of $6,000 and net inflows of $2,000, you had an ending level of $8,000.

The Nature of an Account

The above activities describe the nature of an *account*. All of financial accounting uses this basic building block. Everything that appears on a set of financial statements is derived from an organization's accounts, and each account behaves in exactly the same way. Specifically:

- It has a beginning level, called the *beginning balance*.
- It is increased with inflows and decreased with outflows.
- It has an ending level, called the *ending balance*.

To illustrate, the behavior of your checking account was as follows:

Beginning Balance	$ 6,000
Inflows	40,000
Outflows	(38,000)
Ending Balance	$ 8,000

Organizations have many different accounts in their accounting systems. Regardless of the number of accounts, however, each always behaves in exactly the same way: it has a beginning balance, is increased with inflows, decreased with outflows, and the result is an ending balance. The accountant's task is to determine the accuracy of the balances and the amounts of the inflows and outflows. As we will see, while simple sounding, this task can become quite complicated in practice.

THE BALANCE SHEET

As discussed above, the financial statement that shows an organization's levels (or status) as of a particular date is called the *balance sheet*. A balance sheet should always indicate the relevant ending date, i.e., the effective date of the ending balances. In this regard, it is important to understand that a balance sheet is prepared *as of* a particular date. This does not mean that it was prepared *on* that date. Thus, a balance sheet for December 31, 2016 would have been prepared in early 2017.

To illustrate how a balance sheet works, assume that you have decided to form a company that will purchase toys from manufacturers and distribute them to retailers. You have decided to call your company Toys FR' Kids. To begin your company, you must engage in a variety of activities. Many of these will affect your ability to be profitable, but will not appear directly on your financial statements. Others will show up in some form on your financial statements. Among these latter activities are the following:

- You plan to purchase some special equipment for storing, packing, and shipping the toys.
- You plan to purchase some toys from manufacturers in preparation for sales to retailers.
- You plan to pay salaries, rent, utilities, and other expenses.

Assume that the amounts associated with the above items are as follows:

• Purchase of special equipment:	$240,000
• Purchase of toys:	200,000
• Annual salaries:	300,000
• Annual rent, utilities, and other expenses:	180,000

The special equipment and toys you will need to purchase immediately. The salaries and other expenses, by contrast, will occur fairly evenly throughout your first year of operations. Let's assume that you would like to have enough cash on hand after buying the equipment and toys, to pay for two months of salaries and other expenses, plus a $10,000 cushion for unanticipated needs. Therefore, to begin your business, you will need to have the following amount of cash:

To purchase special equipment	$240,000
To purchase toys	200,000
To pay two months of salaries (300,000÷12= $25,000 per month; $25,000 per month x 2 months) =	50,000
To pay two months of other expenses (180,000÷12 = $15,000 per month; $15,000 per month x 2 months) =	30,000
Cushion	10,000
Total	$530,000

This means that before you can even begin operations, you must have a total of $530,000 in cash. Where do you get it?

There are only two sources for this cash: investors and lenders. Investors are individuals who will provide you with resources (generally cash) in return for some ownership in your company. Lenders will provide resources (usually cash) without expecting ownership; instead, they expect to have their loans repaid with interest.

The Entity Concept

You may decide to be an investor in your own company. This happens all the time. When it does, accountants must distinguish between two entities: you as an individual and your company. Your company may be a sole proprietorship, a partnership, or a corporation. In a sole proprietorship, there is only one owner (and investor)—you. A partnership, by contrast, has two or more owners (who generally, although not necessarily always, also are investors). A corporation also has two or more owners, generally many. Unlike a partnership, however, it is an entity that is legally distinct from its owners.[9]

Regardless, of the organizational form chosen, the entity concept requires that, for accounting purposes, the organization be treated *separately* from its owners. As such, if you decide to form a corporation (by far, the most common business form), you as an individual can lend money to your corporation—the accountants treat you and your corporation as two separate entities, and keep separate accounting records for each. Let's see how the entity concept works for Toys FR' Kids.

To get the business off the ground, you decide to invest some of your own funds in it. You remove some cash from your savings account, and take out a second mortgage on your home. When you are all finished, you have amassed $200,000, which you invest in your newly formed corporation. You expect that, over time, this investment will grow in value as the corporation earns profits.

How do you account for what is yours and what is the corporation's? To help resolve this question, we need to distinguish between the two different entities: you and your corporation. For example, the fact that you have borrowed on a second mortgage to obtain some of the cash that you invested in the corporation is of no consequence to the entity called Toys FR' Kids (the corporation). The mortgage is related to the entity "You." This is the *entity concept*.

The discussion in the remainder of this chapter will focus on the entity *Toys FR' Kids,* or TFK. The goal will be to help you understand how a variety of economic events affects the financial status of TFK. Let's begin with some of the steps you would take to create your new entity. First, since you have raised only $200,000 of the $530,000 that is required to get started, you must find some additional cash.

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[9] There are a few other organizational forms, such as limited liability corporations (LLCs) and Subchapter S corporations. Other countries use different terms, such as "Limited," or "Sociedad Anónima" (anonymous society)

Let's assume that you convince a friend to invest $200,000, and a bank to lend you the remaining $130,000 on a one-year note (or loan) at an interest rate of 9.6 percent (per year). On January 2, 2013, having completed the necessary legal work to form the corporation, you put the $530,000 into a bank account in the name of the corporation, Toys FR' Kids.

So far, TFK has purchased no toys for resale, has sold nothing, and has no employees. But it does have $530,000 in cash in a bank account. This $530,000 was received from investors (totaling $400,000) and lenders ($130,000). For financial accounting purposes, the entity must be able to reflect its status as of January 2, 2013. This is the purpose of the balance sheet.

Problem: How would you set up the balance sheet for Toys FR' Kids? Prepare your own analysis below before looking at the answer that follows. Do so using your intuition of how you might set up the information so that someone else could make sense out of it

It is extremely important that you write out your own answer before looking at the one given.
Please do not shortcut this feature of the learning process.
If you have not written an answer yet, please do so *before* you continue reading.

Answer: The accounting answer relies on the fact that all transactions must be represented by at least two separate items. For example, take the investment of $400,000 ($200,000 of which is yours and $200,000 of which is your friend's). The result was the creation of $400,000 in cash in a bank account and the creation of *ownership* of $400,000, called *contributed capital*. Similarly, the $130,000 loan led to an additional $130,000 in cash, and the creation of a *bank loan* (*debt)* of $130,000. The result is a *balance sheet* (so named because its two sides must balance) that might look as follows:

Toys FR' Kids
Balance Sheet
As of January 2, 2013

Cash	$530,000	Bank loan	$130,000
		Contributed capital	400,000
Total	$530,000	Total	$530,000

Note that we have not distinguished between the portion of cash in the bank account that came from lenders and the portion that came from investors. We don't need to, since the distinction is shown on the other portion of the balance sheet. We also don't identify on the balance sheet the number of owners or the amount each owns, although this information would be kept in the company's records. Indeed, a corporation must keep this information so that it can provide its owners with information about the company, pay dividends on their investments, and work with other items (such as stock splits) which will be discussed in later chapters.

In financial accounting, the left side of the balance sheet is called *assets*, and the right side is called *liabilities and equity*. Because of the dual aspect of accounting, *assets must always equal liabilities and equity*. This is not an empirical proposition; it is true by definition. Whatever happens in financial accounting—whatever entries the accountant makes to the system, whatever purchases, sales, etc. that take

place by the company—cannot change this fundamental equality. As a result, the basic accounting equation is

ASSETS = LIABILITIES + EQUITY

Dual Aspect Concept

This equality is known as the *dual aspect concept* of accounting. *Assets* are those things an entity owns or has claim to, *liabilities* represent obligations of the entity to outsiders, and *equity* represents the funds provided to the entity by its shareholders (owners) plus the net earnings (profits less dividends) of the company over its history. Under these circumstances, when an organization increases its assets, it does so either by (a) borrowing the funds from outsiders, (b) obtaining the funds from its shareholders, or (c) earning an excess of revenue over expenses that exceeds the dividends paid to its shareholders.

Every accounting-related event that takes place in an organization can be analyzed in terms of its effect on this equation. If an asset account increases, the amount of its increase must be matched by (a) a decrease of an equal amount in one or more other asset accounts, (b) an increase of an equal amount in one or more liability accounts, (c) an increase of an equal amount in one or more equity accounts, or (d) some combination of the above. At the end of the process, the equation must balance even though the overall totals may have changed.

Let's now look at the pieces that comprise the dual aspect concept in TFK.

Assets. Currently, TFK has only one asset: cash. Later we will change the composition of its assets.

Liabilities. Recall that liabilities result from resources that are provided to the entity by individuals and groups other than its investors. If a manufacturer sells us some toys and lets us wait for, say, 30 days before we must pay for them in cash, that manufacturer has provided us with a resource—the toys—for which we have not had to pay any cash; instead, we have a 30-day loan, called an *account payable*. This is a liability—we owe the money to the manufacturer.

The bank that lent us $130,000 also has provided us with a resource—cash—in exchange for a liability: a one-year loan. We have a liability because we owe the money to the bank. In general, the individuals or entities other than owners that provide funds to us are called our *creditors*. That is, they have extended us credit.

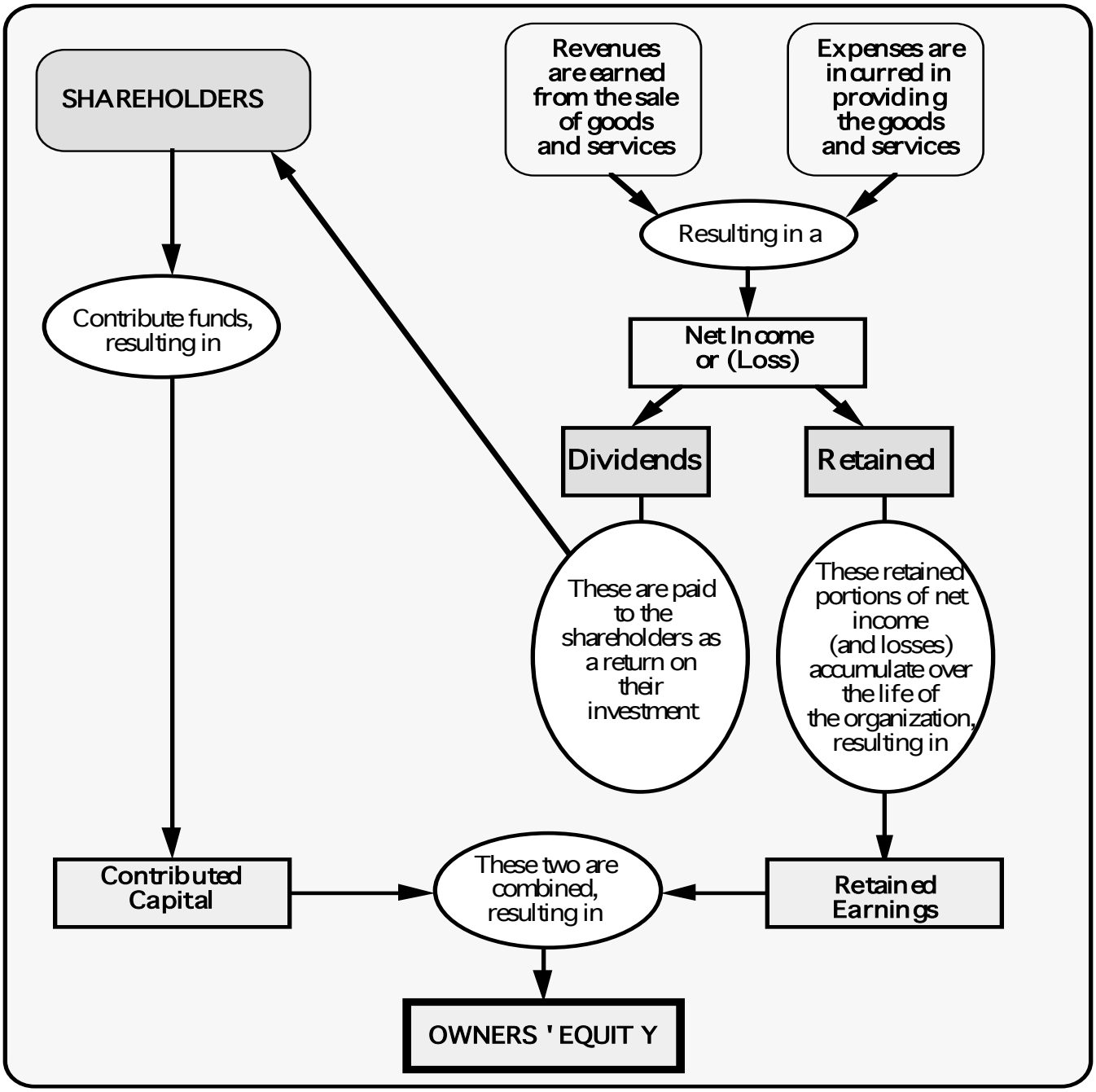
Equity. Equity (sometimes called “Owners' Equity” or “Shareholders’ Equity”) consists of two parts, shown schematically in Exhibit 2. As this exhibit indicates, one part of equity is provided by investors, and the other is earned by the entity during the course of doing business. *Contributed capital* consists of contributions that have been made to the company by investors in exchange for a share of ownership, whereas *retained earnings,* the second part of equity, are the lifetime sum of a company’s inflows (from revenues) and outflows (from expenses), less all dividend payments that have been made to the investors. A positive difference between revenues and expenses is called *net income* or *profit;* a negative difference is called a *loss*. As you will see later, dividends are not considered to be an expense, and thus are not included in computing net income. They do reduce retained earnings, however.

Revenues are received from the sale of an organization's goods or services. Expenses are those resources that are consumed in the course of carrying out the organization's activities and earning revenue. Revenues, expenses, and dividends are discussed in detail in Chapter 3. As we will see then, and in later chapters, the measurement of both revenue and expenses can be tricky at times.

As Exhibit 2 shows, an organization's net income (or loss), less any dividends paid to its owners, accumulates over time. That is, the net income or loss shown on the income statement for any given accounting period, less dividends, results in a change in the *retained earnings* account on the balance sheet. These retained earnings are combined with *contributed capital*. The resulting total of these two is *owners’ equity*.

Since TFK is a brand new organization on January 2, 2013, it cannot have any retained earnings. So far, it has only contributed capital.

Exhibit 2. SOURCES OF OWNERS' EQUITY



Structure of the Balance Sheet

The balance sheet for an organization reflects the basic accounting equation. Usually, the left side (sometimes the top) of the balance sheet contains a listing of the organization's asset accounts and their amounts, and the right side (sometimes the bottom) lists the liability and equity accounts and their amounts.[10] All accounting-related activities in an organization could be depicted solely through the use of the balance sheet. That is, an accounting-related activity will always affect some combination of asset, liability, and equity accounts.

[10] This structure is different in some countries, but the fundamental equation is still present. For example, in some countries, instead of A = L +E,, the format is set up as A - L = E.

Let's now recast the intuitive balance sheet shown above into its more formal structure.

Toys FR' Kids
Balance Sheet
As of January 2, 2013

Assets		**Liabilities & Equity**	
Cash	$530,000	Bank loan	$130,000
Total current assets	$530,000	Total current liabilities	$130,000
		Non-current liabilities	0
Non-current assets	0	Total liabilities	$130,000
		Owners' equity:	
		Contributed capital	$400,000
		Retained earnings	0
Total assets	$530,000	Total liabilities and equity	$530,000

There are three items worth highlighting on this balance sheet: (1) the nature of assets, liabilities, and equity, (2) the relationship between specific asset accounts and specific liability or equity accounts, and (3) the concept of current and non-current accounts. Let's look at each separately.

Nature of Assets, Liabilities, and Equity. Recall that assets are resources that are owned by an entity or to which the entity has a claim. Liabilities and equity can be viewed most easily as the ways the entity has *financed* its assets. Importantly, however, there rarely is a one-to-one correspondence between a given asset account and a given liability or equity account. Rather, the liability and equity accounts allow us to see how much of the *total assets* have been financed with debt (liabilities) and how much with the organization's own funds (equity). This is important because, as mentioned above, debt generally must be repaid while equity need not be.

Relationship Between Accounts on the Two Sides of the Balance Sheet. Note that we can see a rather clear relationship between the amount in the cash account and the portion of that amount that came from each provider (i.e., the bank and the owners). Over time, as the balance sheet becomes more complex, we will lose our ability to establish that one-to-one relationship between a given asset and a given liability. All we will know is that total assets are equal to the sum of liabilities and equity.

Current versus Non-Current. The distinctions shown above between current and non-current assets, and current and non-current liabilities are important ones in accounting. A current asset is either cash or near cash (such as a money market fund), or is an asset that we would expect to use up or convert into cash within a year. We will discuss current assets in detail later on. Similarly, a current liability is a liability that we need to pay off in cash within a year. Since the bank loan is a one-year loan, it is considered to be a current liability.

Non-current items do not have this one-year-convertability characteristic. As you will see in subsequent chapters, the distinction between current and non-current items is an important one when we analyze an organization's financial statements. For the moment, however, consider the following:

Problem: If an organization had current liabilities that exceeded its current assets by $100,000, would you be concerned about its financial health? If so, why? If not, why not? Please write your answer below before looking at the answer that follows.

Answer. Yes. If current assets are convertible into cash within one year and current liabilities are payable in cash within a year, then we would hope that, unless some very special circumstances existed (and they do for some companies) our current assets would at least be equal to our current liabilities. Otherwise we might not have the cash on hand to pay off the liabilities when they come due.

Obviously timing differences within the year can affect the relationship between current assets and current liabilities. That is, some current assets will be collected fairly early in the year, and others will be created and collected during the year, while some current liabilities may not be due until near the end of the year. Nevertheless, if current liabilities exceeded current assets, we at least would be somewhat concerned.

Analyzing the Relationship Between Current Assets and Current Liabilities

There are two relatively easy ways to analyze the relationship between current assets and current liabilities: the current ratio and working capital. The current ratio is computed by dividing current assets by current liabilities. Working capital is computed by subtracting current liabilities from current assets.

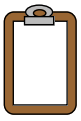
Problem: Compute the current ratio and working capital for TFK.

Answer. The current ratio is current assets ÷ current liabilities, or $530,000 ÷ $130,000 = 4.1. This generally is regarded as a healthy current ratio. Although there are exceptions, a current ratio of 2.0 or better generally is considered to be reasonable.

Working capital is current assets - current liabilities, or $530,000 - $130,000 = $400,000. This means that Toys FR' Kids could pay off all of its current liabilities and still have $400,000 in cash left over.

Now, try testing yourself to make sure you understand the concepts discussed so far.

Mini-Test #1



In each of the four situations described below, write out your answer on the balance sheet on the next page before looking at the answers given in the Appendix. Assume that all of these events took place on January 3, such that your next balance sheet will be as of the close of business on January 3, 2013.

Situation #1. Additional Loan

TFK decides that it needs some more cash. Instead of asking the investors to contribute more or seeking additional investors, it approaches the bank that made it the $130,000 loan originally. The bank agrees to lend TFK an additional $160,000 on a two-year loan. The interest rate is 9.6 percent. The interest payment is due on the last day of each month, but the full amount of the loan itself is not due for two years. No interim principal payments on the loan are required.

How would this event change the balance sheet? Write your answer on the balance sheet, changing the account balances where necessary, and adding new accounts if needed. Then go on to Situation #2. **Do not look at the answer yet.**

Toys FR' Kids
Balance Sheet
As of January 3, 2013

Assets		Liabilities & Equity	
Cash	$530,000	Bank loan	$130,000
		Total current liabilities	$
		Non-current liabilities	
Total current assets	$		
		Total liabilities	$
Non-current assets			
		Owners' equity:	
		Contributed capital	$ 400,000
		Retained earnings	
Total assets	$	Total liabilities & equity	$

Situation #2. Purchase Merchandise Inventory

TFK purchases $60,000 of toys for resale, and pays its vendors in cash. These toys will be classified as Merchandise Inventory, which is a current asset on the balance sheet.

How would this event change the balance sheet? Write your answer on the balance sheet, changing the account balances where necessary, and adding new accounts if needed. Then go on to Situation #3. **Do not look at the answer yet.**

Situation #3. Accounts Payable

TFK purchases $140,000 more of toys for resale. This time, the vendors of these toys tell TFK that it can wait for 30 days before paying for them. Therefore, there is an account payable on the balance sheet.

How would this event change the balance sheet? Write your answer on the balance sheet, changing the account balances where necessary, and adding new accounts if needed. Then go on to Situation #4. **Do not look at the answer yet.**

Situation #4. Purchase equipment

TFK purchases $240,000 of equipment for cash. The equipment will appear as a non-current asset on the balance sheet.

How would this event change the balance sheet? Write your answer on the balance sheet, changing the account balances where necessary, and adding new accounts if needed.

●●

Now look at the answer in the Appendix.
Spend some time comparing your solution with the one given.
If there are differences make sure you understand why they exist.
An explanation for each item follows the completed balance sheet.

IMPORTANT CONCEPTS

There are several important concepts that underlie this Mini-Test. They are discussed below.

Asset Exchanges

When we use cash to purchase an asset, such as inventory, we do not affect either liabilities or owners' equity. We simply exchange one asset for another. In the case of Situation #2, we exchanged some cash (one type of asset) for some inventory (another type of asset). Nothing else changed. The same is true for the purchase of equipment in Situation #4.

Leverage

When we borrow from the bank or from our vendors (or other creditors), we give ourselves the ability to purchase more assets than we could if we had only cash from contributed capital. For example, if we had not borrowed from the bank, our beginning balance sheet would have shown only $400,000 in cash and $400,000 in contributed capital. There would have been no bank loan.

If we did not borrow from the bank or have our vendors extend credit to us, we could not have purchased both $200,000 of inventory *and* $250,000 of equipment, since the sum of these two items ($450,000) exceeds the $400,000 provided by investors. By borrowing from the bank and from our vendors, we gave ourselves the ability to purchase not only the $200,000 of inventory and the $240,000 of equipment, but to have $390,000 left in our cash account after these purchases had been made.

The idea of using liabilities to finance asset acquisition is known as *leverage*. In effect, we use our liabilities as a "lever" to increase the amount of assets above what would have been possible if we had used only equity.

As we will see in subsequent chapters, leverage can be very helpful but it also has some drawbacks. The most significant drawback is that liabilities ordinarily have defined repayment schedules. Vendors usually want to be paid in 30 days, for example. Similarly, the bank wants its $130,000 loan to be paid in one year and its $160,000 loan to be paid in two years. We will need cash for these repayments.

Money Measurement Concept

Financial accounting always measures items for the balance sheet (and other financial statements) in terms of money. This is called the *money measurement concept*. To illustrate, assume that your inventory consisted of 1,000 electronic games at a cost of $20 each, and a competitor's inventory consisted of 2,000 dolls at a cost of $10 each. Physically, the two inventories would look as follows:

Number of	**TFK**	**Competitor**
Electronic games	1,000 games	0
Dolls	0	2,000 dolls

While it might be helpful for you to know this about your competitor (and for your competitor to know it about you), you will not be able to see this distinction on your balance sheets.

Problem: How would the merchandise inventory account look on the two balance sheets?

TFK

Competitor

Answer: Each merchandise inventory would be $20,000 on the company's balance sheet:

TFK	$20,000	(1,000 games at $20 each)
Competitor	$20,000	(2,000 dolls at $10 each)

The Double Entry Approach

The double-entry approach requires that every accounting-related event must result in at least two entries to the accounting system. Only in this way will it be possible to maintain the basic equation of Assets = Liabilities + Equity. A single entry would destroy the equality of the relationship. Note that each of the above four situations required two changes to the balance sheet. Sometimes, three or more changes can take place, but in all cases, the result must be one in which assets remain equal to liabilities plus equity.

Unmeasured Value

There are many items of value to TFK that do not appear as assets on its balance sheet. For example, if you, the chief executive officer of TFK, have a great deal of experience in the toy business, you are of considerable value to the company. You know what kinds of toys children enjoy, which retail stores have the highest volume sales, which manufacturers have the best quality and best prices, and so forth. But this value does not appear anywhere on the balance sheet. As we will see in subsequent chapters, there are many items of value to a company that financial accounting does not measure. In general, these are called "intangible assets," and, with only a few exceptions, are not shown on the organization's balance sheet.[11]

The Role of Cash

As we will see in later chapters, cash is critical to the financial viability of an organization. Nevertheless, as we saw with Situation #3 in the Mini-Test, for financial accounting purposes, some activities recorded on an organization's financial statements do not involve cash. As a result, the change in cash between two balance sheets frequently says very little about the profitability of an entity. As indicated earlier, the statement of cash flows (SCF) explains the reasons for a change in cash between two balance sheets. The SCF is discussed in detail in Chapter 7.

One of the most difficult aspects of financial accounting for beginning students is accepting the fact that revenues do not necessarily correspond to cash received, and expenses do not necessarily correspond to cash paid out. Students typically require some practice with problems and cases before they fully understand this idea.

Basis for Equity Changes

Note that, although a fair amount of activity took place between the balance sheets of January 2 and January 3, none of that activity affected owners' equity. As discussed above, owners' equity can be affected in one of only two ways: changes to contributed capital or changes to retained earnings.

Contributed capital increases if investors (either existing or new ones) make additional contributions, and decreases if the company repurchases some of its outstanding shares of stock. The retained earnings account changes when the company earns revenue, incurs expenses, or pays dividends to its investors. Since TFK has not begun operating yet, it has had no opportunity to either earn revenue or incur expenses; it therefore has no retained earnings. These matters are discussed in greater detail in Chapter 3. Further information on shareholders' equity, including dividends, is contained in Chapter 6.

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[11] There is considerable work underway to develop ways to report on intangible assets, but nothing formal has emerged yet. Much of the more serious work is taking place in the European Community. For more some basic information, go to: http://financial-dictionary.thefreedictionary.com/intangible+asset. For more complete and detailed information, go to: http://ec.europa.eu/internal_market/accounting/docs/consolidated/ias38_en.pdf

In this regard, it is important to emphasize that the *purchase* of merchandise (an increase in inventory) is not an expense. It simply is an exchange of assets. TFK will incur the expense (and earn revenue) when it *sells* the merchandise, not before (unless there is an unusual event such as a fire that destroys the inventory). We thus leave Toys FR' Kids poised for action. We will return to it in Chapter 2.

PRACTICING WITH THE CONCEPTS

To practice with these concepts, you should now work through the Practice Case, *Homeworks, Inc*. A solution is contained in the Appendix. You should work your way through the case completely before looking at the solution.

****

You should prepare the Homeworks case before reading further

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The Homeworks case allows us to see most of the above concepts operationalized:

1. **Dual Aspect Concept.** Throughout the case, the *Assets* side of the Balance Sheet remained equal to the *Liabilities + Equity* side. The totals changed, but the two sides always remained equal.

2. **The Balance Sheet.** The balance sheet is the financial statement that we used to depict all the activity of the organization. Note that it has the asset accounts on the left and the liability and equity accounts on the right. We will examine the income statement in Chapter 3.

3. **Nature of Asset, Liability and Equity Accounts.** At the end of the activities in the case, we see that the organization owns or controls some cash, supply inventory, and equipment. These assets total $18,400. We also see that it has financed these assets with $10,000 of contributed capital ,$8,000 of debt (or liabilities), and $400 of retained earnings. $3,000 of the debt is owed to the organization's suppliers and $5,000 to the bank.

4. **Double-Entry.** Notice that each accounting-related event resulted in at least two entries to the accounts. For example, the initial contribution of capital resulted in an increase in the asset account *Cash* and an equal increase in the owners' equity account *Contributed Capital*. Similarly, the borrowing event resulted in an increase of $5,000 in the asset *Cash* and an equal increase in the liability *Loan Payable*. The purchase of supply inventory on January 12 resulted in an increase of $3,000 in the asset *Supply Inventory* and an increase of $3,000 in the liability *Accounts Payable*. By contrast, the purchase of inventory on January 20 resulted in an increase of $2,000 in the asset *Supply Inventory* but an equal decrease in the asset *Cash*.

5. **Equity Creation.** Equity was created in two ways, corresponding to the two sources shown in Exhibit 2. First, $10,000 of contributed capital came from the owners, who are the shareholders, (they now hold shares of stock in Homeworks, Inc.). Second, there is $400 of retained earnings. This is because Homeworks earned $400 during the accounting period—a result of the receipt of $8,250 ($3,750 + $4,500) in revenue (from customer payments), less the payment of $7,850 ($1,750 + $2,000 + $2,100 + $2,000) in expenses (wages to the service staff and salary of the president).

   As a result of these two sources, the Owners' *Equity* account increased to $10,400; this is shown on the final balance sheet. Note that contributed capital is shown separately from retained earnings.

   With Homeworks, the measurement of revenue and expenses was quite easy, since all items were in cash. What may be less clear at this point is why the supply inventory and equipment purchases were considered to be assets rather than expenses. Although the reason for this will become clear as you work your way through the remaining chapters, you nevertheless should note that when both were purchased, there was no impact on equity. That is, when we bought the equipment we simply exchanged *cash* (an asset) for *equipment* (another asset). Similarly, when we purchased the supplies on January 12, we increased *supply inventory* (an asset) by $3,000 and increased *accounts payable* (a liability) by $3,000. In neither instance did the organization's equity change.

An expense comes about through the *using up* of a resource—it is this that reduces equity. Thus, as the equipment depreciates with use, or as the supply inventory is consumed in the course of doing business, Homeworks will incurs expenses. For reasons of simplicity, we do not see that happening here. What we do see, however, is labor being consumed, which is an expense.

6. **Non-Cash Activities.** Note that when the organization bought $3,000 of supplies on January 12, none of the $3,000 was paid in cash; the entire amount was on credit. This is an example of an activity that did not involve the use of cash and yet is relevant for financial accounting purposes.

FINANCIAL STATEMENT ANALYSIS

The last question asked in the Homeworks case provides us with an opportunity to begin to think about the process of financial statement analysis. One of the major questions that all organizations must ask themselves is how much debt they should have on their balance sheet, and what the term of that debt should be, i.e., how long the payment period should be.

Homeworks has two kinds of debt on its balance sheet: (1) accounts payable, or debt owed to its vendors, and (2) a bank loan, or debt owed to a bank. We know that the account payable is due on February 10. When is the bank loan due? Unless we know this, we cannot say with certainty whether Homeworks has too much debt.

Problem: Why is it important to know the term of the bank loan? Please write your answer below before looking at the answer that follows.

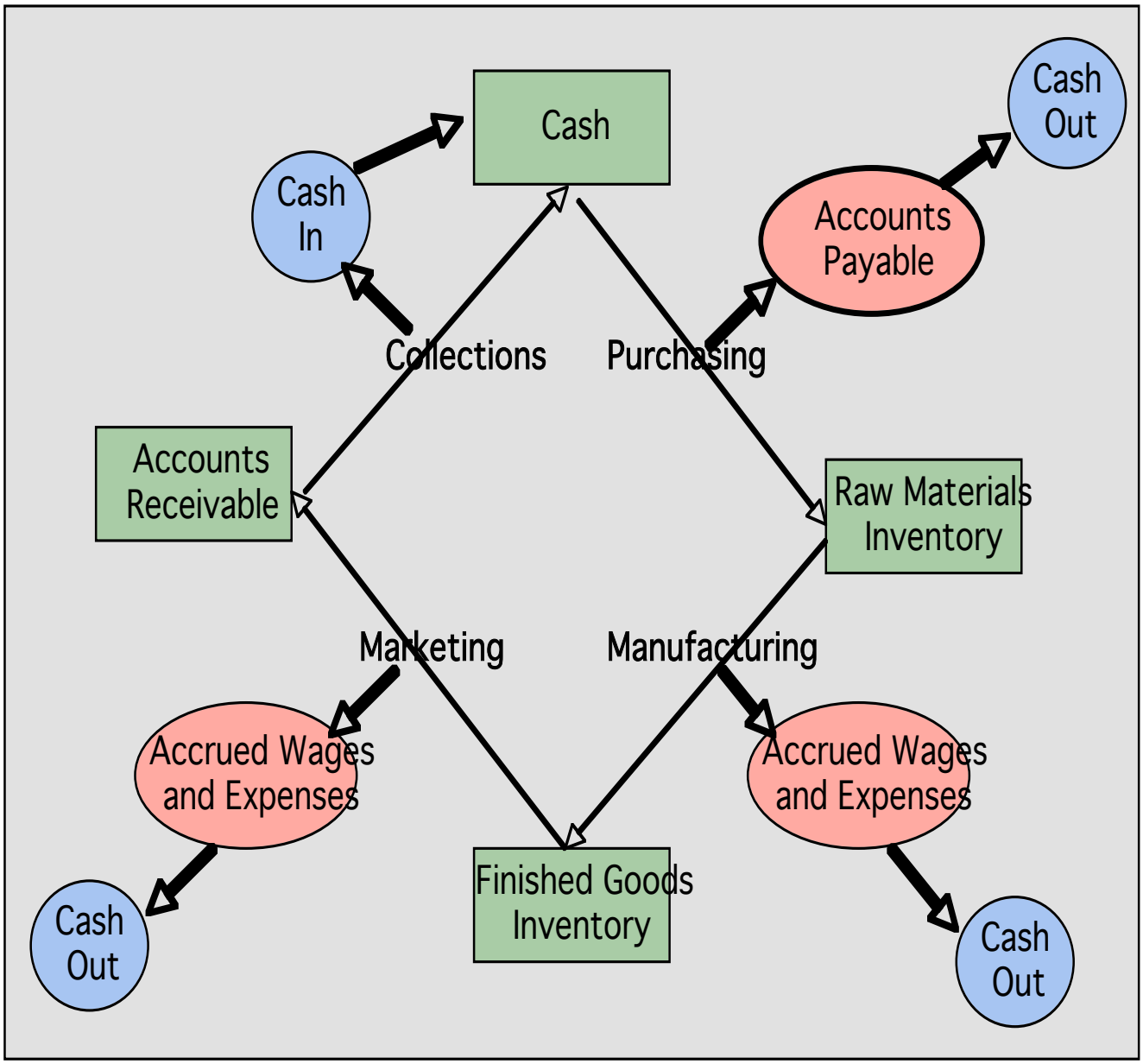
Answer: The answer to this question will become apparent as you progress through the remaining chapters, but for the moment, one important issue we must address for this organization is whether it will have enough cash on hand to meet its future obligations. That is, while the accounting process is indifferent with regard to cash, per se (i.e., a given transaction need not involve cash), managers are extremely concerned with cash. If an organization runs out of cash, it is in serious trouble. Among other things, employees and vendors cannot be paid, which jeopardizes the organization's financial viability.

The amount of cash on hand is affected by two cycles: the operating cycle and the financing cycle. Let's look at each separately.

The Operating Cycle

As indicated earlier, a transaction need not involve cash to be included on the financial statements. Nevertheless, as indicated above, it is important to have enough cash on hand to pay bills, meet payroll, and provide for many other operating expenses. This need gives rise to the concept of the operating cycle, which is the cycle that all organizations must manage to assure that there will be sufficient cash on hand to meet operating needs. The operating cycle is shown schematically in Exhibit 3.

Exhibit 3. THE OPERATING CYCLE



As this exhibit indicates, in a startup situation, operations begin with the purchase of some inventory. In a manufacturing organization, this ordinarily results in an inventory of raw materials. If we were manufacturing textbooks, for example, we would purchase paper, ink, glue for binding, and heavy stock for the covers.

Inventories differ in merchandising organizations (such as a retail store or TFK), where no manufacturing takes place, and in service organizations (such as a law firm), where no products are sold. Even service organizations typically need an inventory of supplies, however.

Generally, vendors will not require cash on delivery of the materials, such that an Account Payable is created (or is increased). As a result, the asset *Inventory* increases by the same amount as the liability *Accounts Payable*. Eventually, however, the organization's Accounts Payable must be paid in cash. Thus, there will be some "Cash Out," i.e., cash that is paid to the vendors.

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Accounting Vignette
Occidental Petroleum

The cash manager at Occidental Petroleum, with annual check disbursements in excess of $10 billion, learned that some suppliers were being paid early. He developed a series of measures to better monitor payments, and discovered that some payments for large invoices were being mailed out 10 to 12 days in advance of the due date. By changing the system to make payments on the due date by wire or with an automated clearinghouse (ACH) credit transaction, the cash manager was able to better manage one aspect of the company's operating cycle.[12]

****

In a manufacturing organization, the raw materials inventory is used up in the course of producing the products, resulting in a finished goods inventory, which subsequently is shipped to customers. This, of course, requires some marketing and sales activities.

In carrying out its manufacturing and marketing activities, the organization incurs some expenses, such as wages for its employees, most of which are not paid out *immediately* in cash—some employees are paid biweekly, and others are paid monthly, for example. This gives rise to an account called *Accrued Wages*—the employee equivalent of an account payable. The manufacturing and marketing activities also give rise to some other expenses that do not result in immediate cash payments. These will result in some *Accrued Expenses*. Eventually, these too must be paid out in cash. Of course, expenses such as rent and utilities are paid in cash at about the same time they are incurred.

Similar activities take place in merchandising and service organizations. Goods are sold (in a merchandising organization), or services are delivered to customers (in a service organization). Although the inventories are not transformed as they are in a manufacturing organization, they nevertheless must be paid for in cash, which usually happens before they are used up in the course of doing business.

Once the goods and/or services are delivered, the organization recognizes its revenue. However, many organizations sell on credit, meaning that the revenue is not received in cash immediately. Instead it takes the form of an *Account Receivable*. Only when these Accounts Receivable are collected, does the organization receive cash. At that point, the operating cycle begins again.

Problem: Acton Manufacturing Company (AMC) purchases leather, plastic, and rawhide, and uses these raw materials to manufacture briefcases. It sells the briefcases to retail outlets.

The company began operations on January 1, when it purchased $100,000 of raw materials. Its vendors gave it until February 1 to pay. During January, its employees earned $50,000. Because of the timing of paydays, only $40,000 of this amount was paid in January; the remaining $10,000 will be paid in early February. AMC also incurred $35,000 in other expenses, such as advertising and rent. Again, because of timing in payments, only $30,000 was paid in January; the remaining $5,000 will be paid in February.

During January, the company used up all its raw materials, and manufactured a total of 1,000 briefcases, all of which it sold to its outlets for $250 each. Its customers did not pay cash in January, however, but all promised to pay by February 28. What happened to AMC's cash account during January? If it discontinues operations completely (including laying off its entire labor force) as of January 31, what will happen to its cash account in February?

January

February

[12] Pisapia, R J., "The Cash Manager's Expanding Role: Working Capital," *Journal of Cash Management,* 10: 7, Nov/Dec 1990.

Answer: In January, cash declined by $70,000: $40,000 that was paid to manufacturing employees, and $30,000 in other expenses. All other cash payments were deferred until February. There were no cash inflows during January.

In February, cash increased by the $250,000 payment for the briefcases. It decreased by the $100,000 paid to vendors for the raw materials, by the $10,000 paid to manufacturing employees, and by the $5,000 for other expenses—a total of $115,000. The net increase thus was $135,000 ($250,000 - $115,000), which more than offsets the $70,000 decrease in January.

The key point is that the operating cycle can show wide variations in the amount of cash that flows into and out of the organization. This cycle must be carefully managed so that the organization does not run out of cash. We will explore issues related to the operating cycle in more detail in later chapters.

Accounting Vignette
The Haggar Apparel Company

Haggar Apparel Company's *Haggar Order Transmission (HOT) Quick Response System* assisted some 100 major merchants, representing about 26,000 stores, to better manage their operating cycles by reducing the amount of inventory they needed to carry. The system allowed a retailer to use a software package to scan its inventory and produce orders in a relatively inexpensive way. This assisted the retailer to order the merchandise it needed quickly and to keep inventories down.[13]

The Financing Cycle

Cash is paid out for activities other than operations. When, as happened in Homeworks, an organization purchases some equipment, it ordinarily must make the payment in cash. Sometimes, an organization will *finance* these acquisitions with borrowings, such as bank loans or bonds. Eventually, however, the borrowing must be repaid, and generally some interest payments must be made as well. The sum of the payments to reduce the debt (called principal payments) and the interest payments (which represent the expense associated with using the creditor's funds) is called *debt service*. These relationships are shown in Exhibit 4.

As this exhibit indicates, borrowing can increase an organization's cash (as can the receipt of contributed capital). Although, as Exhibit 3 indicated, some borrowing can consist of accounts payable and accrued wages, we usually include only more formal debt in the category called *borrowing*. This category includes bonds, mortgages, and other forms of bank loans or *notes*.

The resulting cash is used to purchase non-current (or fixed) assets, such as plant and equipment, and on occasion it is used to purchase inventory (a current asset). The fixed assets are used by the organization in the manufacture and/or merchandising of its products, or in the delivery of its services. Even a small organization that produces, say, quarterly newsletters usually needs a computer, and it may also purchase some photocopying equipment. These are all fixed assets.

As Exhibit 3 indicated, sale of the company's products and services provides revenue, but usually in the form of Accounts Receivable, which eventually are collected in cash. The cash received from collecting accounts receivable then is used to make debt service payments—both principal and interest.

Managing this cycle is one of the most difficult tasks facing an organization. Senior management must make sure that there is enough cash on hand to purchase the fixed assets needed to produce the organization's products or deliver its services. But senior management also must worry about the timing of the cash inflows from the sale of products and services as compared to the timing of the required debt-service payments. Having a debt-service payment due before the cash is available to make it, can put an organization in serious difficulty with its lenders.[14]

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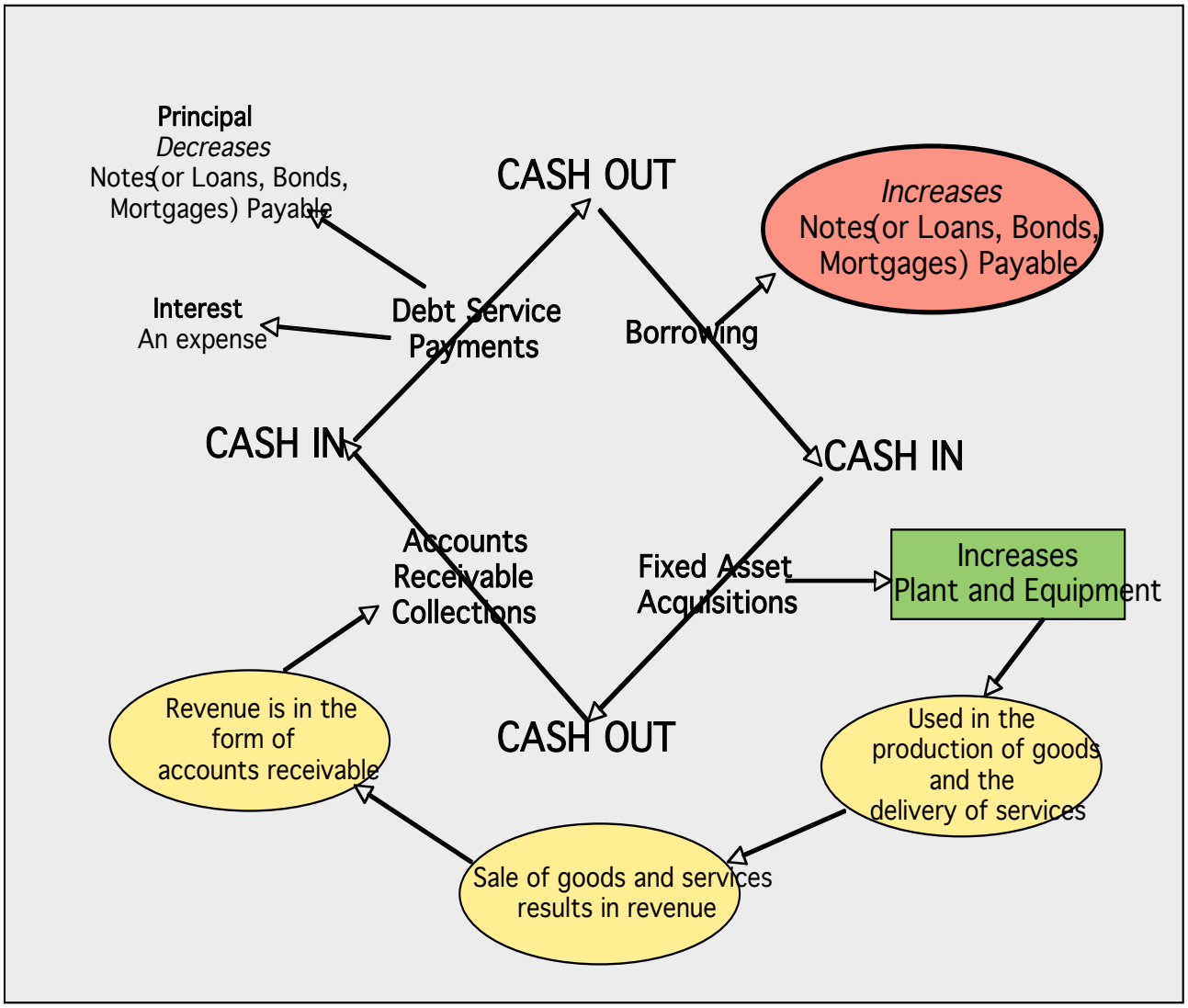
[13] "Haggar Makes the Modular Move in Slacks Production," *Bobbin,* Vol. 33, Issue 10, June 1992.

[14] For a fictional, but plausible and entertaining description of what happens when a company does not manage its financing cycle well, see Tom Wolfe, *A Man in Full,* New York, Bantam Books, 1999, Chapter 2.

Exhibit 4. THE FINANCING CYCLE



Accounting Vignette
Zale Corporation

In December 1991, in the midst of a severe recession, Zale Corporation, the world's largest retail jewelry chain was counting on brisk Christmas sales to help it avoid bankruptcy.

The problem was the chain's heavy debt load coupled with operating losses and a lack of cash to meet its debt-service obligations. Zale's 1990 operating loss was $54 million on sales of $1.3 billion. Its second-quarter 1991 loss of $85 million meant the company could not pay its bank credit lines, and was in default. Then, in early December, with debt of $1.2 billion, it missed a $52 million interest payment on its junk bonds.

The bondholders granted Zale a 30-day grace period, but without substantial Christmas sales, it would be unable to pay them by December 31. Some of its larger institutional bondholders were threatening to put the company into bankruptcy.[15] Zale clearly was having a difficult time managing its financing cycle.

[15] "Anything Under Zale's Tree?" *Business Week,* December 23, 1991.

Financial Accounting versus Financial Management

Although liabilities (such as an account payable) can delay the *outflow* of cash, and accounts receivable delay the *inflow* of cash, eventually (with some minor exceptions that are not important at this stage of your learning process) all activities in the organization have an impact on cash. Although financial accounting measures the inflows and outflows of resources regardless of whether they are in cash, the organization's managers must pay careful attention to the associated cash flows. We will discuss this cash management activity in greater detail later. As we will see then, making sure there is enough cash on hand is not as easy as it might seem at first.

Recognizing the existence of an operating cycle and a financing cycle, and developing expectations for the amount of cash needed to make one complete rotation through each, is an important managerial task. By using some of the techniques discussed later, you will have an ability to measure managerial performance against these expectations. In large part, financial statement *analysis* consists of just this—comparing the financial performance of an organization against some set of standards that will allow us to make a judgment about the quality of its *financial management* activities.

SUMMARY OF FUNDAMENTAL ACCOUNTING CONCEPTS COVERED

Three fundamental accounting concepts were discussed in this chapter:

Entity	In financial accounting, records are kept and financial statements prepared for the organizational entity, as distinct from its owners. The owners may choose to have financial statements prepared for themselves, but when they do so, they are functioning as a different entity from the organization itself.
Dual-Aspect	Assets = Liabilities + Equity.
Money-Measurement	Items that appear on financial statements (as well as the accounting records that underlie them) are expressed exclusively in monetary terms. Items that can be counted must be expressed in monetary terms, and anything that cannot be measured in monetary terms is excluded from the financial statements.

SUMMARY OF THE CHAPTER

The role of financial accounting is to prepare monetary information principally for distribution outside an organization. The four basic financial statements are the balance sheet, the income statement, the statement of retained earnings, and the statement of cash flows. This chapter discussed those statements briefly, and explained three of the nine fundamental accounting concepts. The chapter also discussed some concepts and ideas that are important to understanding a set of financial statements, such as the distinction between the two sides of the balance sheet, the nature of asset, liability and equity accounts, the notion of asset exchanges, the double entry approach, and the basis for equity changes.

The chapter also distinguished between financial accounting and financial management. With regard to financial management, we looked at two cycles of concern to managers: the operating cycle and the financing cycle. Managing these cycles so that an organization has sufficient cash on hand to meet its operating needs and debt service obligations is one of the biggest challenges managers face in all organizations.

PRACTICE CASE. HOMEWORKS, INC.

Homeworks, Inc. was a small corporation that provided home repair services in the Town of Ellington. Its services included chores, minor repairs, painting, snow shoveling, and gardening. It charged $30 per hour to its clients, and paid its service staff $14 per hour.

Homeworks began operations in January 2013. During the month of January, the following events occurred:

January 2	Homeworks' investors contributed a total of $10,000 in cash.
January 3	Homeworks' took out a $5,000 loan from a local bank to help finance its activities.
January 5	$5,200 of equipment (e.g. carpentry tools, snow shovels, etc.) was purchased for cash. Equipment is a fixed (non-current) asset.
January 12	$3,000 of supplies (e.g. paint) were purchased from a local hardware store. Payment was not due until February 10. These were put into the supply inventory.
January 14	Clients paid for 125 hours of work that were completed during the first half of the month.
January 15	Service staff was paid for the 125 hours of work that was completed.
January 16	The president was paid $2,000 for one-half month of work.
January 20	$2,000 of additional supplies were purchased. Payment was made in cash.
January 28	Clients paid for 150 hours of work that were completed during the second half of the month.
January 29	Service staff was paid for the 150 hours of work that was completed.
January 31	The president was paid $2,000 for the second half of the month.

Questions

1. Prepare a balance sheet for Homeworks as of January 31, 2013. To do so, draw up a balance sheet, and make entries to the appropriate accounts for each event described above. Leave sufficient space below each asset, liability, and equity account to make several entries.

2. By how much did Homeworks' equity increase during January 2013? Why?

3. How has Homeworks financed its assets? Is this good or bad?

APPENDIX TO CHAPTER 1

Mini-Test #1

A balance sheet with the correct entries is shown below. The entries are numbered to correspond to the four situations that were given you. A brief description of each answer follows the balance sheet:

Toys FR' Kids
Balance Sheet
As of January 3, 2013

Assets			**Liabilities & Equity**		
Cash			Bank loan		
Beginning balance	$530,000		Beginning balance	$130,000	
From new bank loan (1)	+160,000		Changes	0	
To purchase inventory (2)	-60,000		Ending balance		$130,000
To purchase equip.(4)	-240,000				
Ending balance		$390,000			
Merchandise inventory			Accounts payable		
Beginning balance	$ 0		Beginning balance	$ 0	
Purchase for cash (2)	+60,000		For inv'tory purchase (3)	+140,000	
Purchase on credit (3)	+140,000		Ending balance		140,000
Ending balance		200,000			
Total current assets		$590,000	Total current liabilities		$270,000
Non-current assets			Non-current liabilities		
Equipment			Bank loan payable		
Beginning balance	$ 0		Beginning balance	0	
Purchase (4)	+240,000		Additional loan (1)	+160,000	
Ending balance		240,000	Ending balance		160,000
			Total liabilities		$430,000
			Owners' equity:		
			Contributed capital	$400,000	
			Retained earnings	0	400,000
Total assets		$830,000	Total liabilities & equity		$830,000

Situation #1. Additional Loan

The bank loan increases cash by $160,000. Because it is not due for two years, it is a non- current liability. Note that the amount of interest due is not recorded. We will deal with the interest expense in Chapter 2 when we prepare our next balance sheet.

Situation #2. Purchase Inventory

Since TFK pays its vendors in cash, it uses up $60,000 of cash in this transaction. In effect, we have exchanged one asset for another: cash for inventory.

Situation #3. Accounts Payable

Inventory increases by $140,000. Note that it does not matter whether the inventory was purchased for cash or on account. In both instances, it increases by the amount of the purchase. This time, however, since vendors tell TFK that it can wait for 30 days before paying for them, an account payable is created as a liability on the balance sheet, i.e. $140,000 is owed to the vendors.

Situation #4. Purchase equipment

TFK purchases $240,000 of equipment. The equipment will appear as a non-current asset on the balance sheet. As with the inventory purchase in Situation #2, this is simply the exchange of one asset for another: cash for equipment.

Formal Balance Sheet

The formal balance sheet looks as follows. Note that accounts payable is listed before the bank loan payable. It is customary to list current liabilities in the order in which they will become due. Since the accounts payable are all due in one month, they are due before the bank loan payable.

Toys FR' Kids
Balance Sheet
As of January 3, 2013

Assets		**Liabilities & Equity**		
Cash	$390,000	Accounts payable		$140,000
Merchandise Inventory	200,000	Bank loan payable		130,000
Total current assets	$590,000	Total current liabilities		$270,000
Non-current assets:		Non-current liabilities:		
Equipment	$240,000	Bank loan payable		$160,000
		Total liabilities		$430,000
		Owners' equity:		
		Contributed capital	$400,000	
		Retained earnings	0	400,000
Total assets	$830,000	Total liabilities & equity		$830,000

CHAPTER 1 PRACTICE CASE. HOMEWORKS, INC.

Question 1

The accounts for the balance sheet and the appropriate entries are shown on the next page. The numbers in parentheses indicates the dates of the transactions.

Question 2

Homeworks' equity increased by $10,400. $10,000 of this was from contributed capital, and the remainder from retained earnings. In the retained earnings category, it received a total of $8,250 ($3,750 + $4,500) from selling its services, which increased its retained earnings. It paid $3,850 ($1,750 + $2,100) to its service staff and $4,000 ($2,000 + $2,000) to its executive director; these payments decreased retained earnings by a total of $7,850.

Note that the increase in cash is $8,200, which is quite different from the increase in equity. Although cash was increased by $10,400 as a result of the increase in equity ($10,000 contributed capital plus $400 retained earnings), it also was increased by the loan and decreased by the purchases of equipment and supplies. As you will see later, cash rarely increases by the same amount as the increase in equity.

Homeworks, Inc.
Balance Sheet
As of January 31, 2013

ASSETS				LIABILITIES		EQUITY	
Cash		**Equipment**		**Loan Payable**		**Contrib. Cap.**	
(2)	+10,000	(5)	+ 5,200	(3)	+5,000	(2)	+10,000
(3)	+ 5,000		5,200		5,000		10,000
(5)	- 5,200						
(14)	+ 3,750					**Ret. Earngs**	
(15)	- 1,750					(14)	+ 3,750
(16)	- 2,000					(15)	- 1,750
(20)	- 2,000	**Supply Inventory**		**Accounts Payable**		(16)	- 2,000
(28)	+ 4,500	(12)	+ 3,000	(12)	+ 3,000	(28)	+ 4,500
(29)	- 2,100	(20)	+ 2,000		3,000	(29)	- 2,100
(31)	- 2,000		5,000			(31)	- 2,000
	8,200						400

Total Assets = $18,400 Total Liabilities+Equity = $18,400

Notes:
1. 14 January increase in Retained Earnings calculated as follows: 125 hours @ $30/hour = $3,750.
2. 15 January decrease in Retained Earnings calculated as follows: 125 hours @ $14/hour = $1,750.
3. 28 January increase in Retained Earnings calculated as follows: 150 hours @ $30/hour = $4,500.
4. 29 January decrease in Retained Earnings calculated as follows: 150 hours @ $14/hour = $2,100.

Question 3

Assets of $18,400 have been financed by a combination of $8,000 in liabilities and $10,400 in equity. The liabilities consist of a $5,000 loan from a bank and $3,000 in accounts payable to a hardware store. See the “Financial Statement Analysis" portion of the text for a discussion of whether this is good or bad.

Chapter 2. The Accounting System and Transaction Analysis

Chapter 1 discussed the operating and financing cycles—two accounting-related cycles of importance to accountants and managers. This chapter discusses a third cycle: the accounting cycle. As you will be see, the accounting system follows a rhythmical process that can be described by this cycle. Moreover, the financial events that take place in an organization are all recorded at various points during this cycle, giving rise to the technique known as "transaction analysis." In transaction analysis, each financial event (or transaction) that takes place in an organization is analyzed in terms of the accounts that it effects. The resulting changes, called "entries," are then made in those accounts.

The learning objectives for the chapter are contained in Exhibit 1 below.

Exhibit 1. LEARNING OBJECTIVES

Upon completing this chapter, you should know about:

- The precise definition of an asset
- The nature and meaning of several different types of assets, including accounts receivable, notes receivable, goodwill, and patents
- Three more fundamental accounting concepts: going concern, cost, and materiality
- Some additional techniques and concepts, including the accounting cycle, revenues and expenses, net resource inflows and outflows, the distinction between principal and interest on a loan, depreciation, and amortization
- The accounting system, including the chart of accounts, accounting transactions, including those with and without supporting documents, the journal, the ledger, the role of debits and credits

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THE GOING CONCERN CONCEPT

Bankruptcies are a reality in any market economy. For a variety of reasons, some organizations simply do not survive when subjected to the discipline of the marketplace. Their products or services may not be what consumers want, or they may not control their costs effectively, or they may be badly managed in other ways. In addition, many organizations may be merged with or acquired by other organizations.

Financial accounting essentially ignores the *possibility* of bankruptcies, mergers, or acquisitions (it does account for them once they have occurred, however). It ignores these possibilities by means of what is called the *going concern concept*. According to this concept, an organization's financial statements are prepared with the underlying assumption that the entity will continue in existence indefinitely.

This concept has more powerful implications than you might first imagine. The most important of these is that a company's assets ordinarily are not shown at their market value; rather they are shown at their *historical cost*.[1] (As we will see in a subsequent chapter, there is an exception to this rule, but it is a very conservative one.) Similarly, a company's liabilities are shown at the amount due, not at what the vendor, bank, or other creditor might receive if the company were to go out of business.

If the auditors believe that a company is approaching bankruptcy, they can signal this fact to readers of the financial statements in their opinion letter. As discussed in Chapter 1, an opinion letter always precedes a set of audited financial statements, and contains the auditors' opinion as to whether the entity has satisfied generally accepted accounting principles, which include the nine fundamental accounting concepts. If the auditors believe that the going concern concept may be in danger of violation, their opinion letter would include a sentence or more to that effect. This is known as a "going concern qualifi-

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[1] In some instances, international accounting standards permit an organization to show its assets at assessed market value.

cation." Similar qualifications can be included for all nine fundamental accounting concepts, as well as other generally accepted accounting principles.

Let's look at the going concern concept by means of an example. Suppose Toys FR' Kids has the following balance sheet as of January 3, 2013:

Toys FR' Kids
Balance Sheet
As of January 3, 2013

Assets		**Liabilities & Equity**		
Cash	$390,000	Accounts payable		$140,000
		Bank loan payable		130,,000
Merchandise Inventory	200,000			
Total current assets	$590,000	Total current liabilities		$270,000
Non-current assets:		Non-current liabilities:		
Equipment	$240,000	Bank loan payable		$160,000
		Total liabilities		$430,000
		Owners' equity:		
		Contributed capital	$400,000	
		Retained earnings	0	400,,000
Total assets	$830,000	Total liabilities & equity		$830,000

This, you will recall, is the balance sheet that was developed in Chapter 1.

Suppose that on January 4, Toys FR' Kids purchased an additional $500,000 of highly specialized equipment for use in the packing, storage, and delivery of its toys. It did so by using $300,000 of its cash and borrowing an additional $200,000 on its bank loan (the current liability).

Problem: What would the balance sheet for Toys FR' Kids look like as of close of business on January 4, 2013? To prepare your answer, cross out the appropriate asset, liability, and equity amounts in the January 3, 2013 balance sheet, and write in the new amounts. Then calculate revised totals for all accounts.

Answer: As of the close of business on January 4, 2013, the balance sheet would look as follows. The changes are shown in **bold faced type.**

Toys FR' Kids
Balance Sheet
As of January 4, 2013

Assets			**Liabilities & Equity**		
Cash			Accounts payable		$140,000
Beginning balance	$390,000		Bank loan payable		
For equip. purchase	**-300,000**		Beginning balance	$130,000	
Ending balance		$90,000	**Increase in loan**	**+ 200,000**	
Merchandise Inventory		200,000	Ending balance		330,000
Total current assets		$290,000	Total current liabilities		$470,000
Non-current assets:			Non-current liabilities:		
Equipment			Bank loan payable		$160,000
Beginning balance	$240,000				
Purchase	**+500,000**		Total liabilities		$630,000
Ending balance		740,000			
			Owners' equity:		
			Contributed capital	$400,000	
			Retained earnings	0	400,000
Total assets		$1,030,000	Total liabilities & equity		$1,030,000

Problem: Note that, although the equipment asset increased by $500,000, cash fell by only $300,000. Why is this? Write your answer below before continuing.

Answer: The reason is that TFK used $200,000 of debt (the bank loan) to help purchase the new equipment. This is what we called *leverage* in Chapter 1. TFK therefore added $500,000 to its equipment asset but only needed to reduce its cash by $300,000.

Problem: What is your assessment of the ability of Toys FR' Kids to continue as a going concern? How, if at all, does the due date for the bank loan (the current liability) affect your reasoning? Write your answer below before continuing.

Answer: As part of your answer, you should have addressed the following question:

Problem: What is TFK's current ratio? How much working capital does it have?

Current Ratio

Working Capital

Answer: TFK has current assets of $290,000 and current liabilities of $470,000. It thus has a current ratio of .6 and *negative* working capital of $180,000.

If you have forgotten how to make these calculations, you should return to the appropriate section of Chapter 1.

Answer to the going-concern question: With a current ratio below 1.0, i.e., negative working capital, there is some doubt about the ability of Toys FR' Kids to continue to function as a going concern. Remember, current liabilities must be paid within a year, and current assets are either cash or assets that will be converted to cash within a year. Moreover, only $90,000 of the current assets are cash, and $140,000 of the current liabilities are accounts payable, which probably are due rather soon (vendors rarely like to wait for more than a month or so to get paid). If the bank loan also is due fairly soon (which is why the date is important), it is doubtful that the company will have the cash that it needs to repay it.

In short, if the company does not start operating soon and receiving some cash from its sales, or if it does not find some additional cash from investors or, perhaps, from selling its equipment (which would take a while since much of it is highly specialized), it will not be able to meet its cash obligations. If this happens, it quite likely will cease to be a going concern.

If this situation were confronted by the company's auditors, they might insert a *going concern qualification* into their opinion letter. The qualification effectively would state that Toys FR' Kids was in danger of violating the going concern concept.

THE COST CONCEPT

Our analysis above rested on the assumption that the assets would not be liquidated; this, too, is part of the going concern concept. That is, we assume an organization purchases assets for operating purposes, and not so they can be liquidated (sold) to help meet current obligations. Of course, certain assets, such as merchandise inventory, are purchased with the idea that they will be resold. Ordinarily, this is not the case for fixed assets, such as equipment, however (unless the company is in the business of buying and selling equipment).

But what if we could liquidate our inventory, and even resell our equipment. What are those assets worth? If, for example, TFK had purchased a custom-fitted delivery van for $25,000 on January 3, for how much could it be sold on January 4? Probably something less than $25,000. Yet it will appear on the balance sheet (as part of the equipment account) at $25,000. Is this realistic? Similarly, the inventory on the balance sheet is shown at its cost of $200,000, and yet we plan to sell it for much more.

These differences are due to the *cost concept,* which states that, with only a few exceptions (discussed in later chapters), assets are recorded at their original (or *historical)* cost. We do not see their estimated market values on the balance sheet.

There are several reasons for using historical cost rather than market value to record assets:[2]

- Market value is sometimes very difficult to ascertain, whereas cost is not. The cost is what the organization paid for the asset. It exists in company records and is easily verifiable.
- Even if market value were easy to ascertain, an organization would need to spend considerable time and effort to determine it for each asset each time it prepared a set of financial statements.
- Since most assets will be used in the course of an organization's operations, their market value is of little relevance. Effectively, with the exception of inventory (the sale of which is part of our normal course of operations), the going concern concept says that we will not resell our assets, but rather use them until they wear out.

Problem: Blue Company was established in 1910. At that time, its board of directors decided to purchase some land in a metropolitan area. They paid $30,000 for it. The land was not used for buildings, but for an employee park and playground instead. This is the only land that the company owns.

In 2013, the company received an offer for the land of $2 million from Brown Company, a local developer. The offer was in writing, with a guarantee by a local bank that Brown Company had the necessary cash in its bank account. The company's board turned down the offer because they estimated that the market value of the land was $3.5 million.

The accountants are preparing Blue Company's financial statements for 2013. As of December 31, 2013 how much should be shown on the balance sheet for the asset called "Land?" Why?

Answer: The amount reported on the balance sheet is $30,000. The cost concept dictates that the land be recorded at cost, even though an objective market value can be determined.

Problem: Suppose Blue Company sold its land to Brown Company in December, 2013, for $2 million. At that point, the land asset would be removed from the Blue Company's financial statements, and would appear on Brown Company's financial statements.

The accountants are preparing *Brown Company's* financial statements for 2013. As of December 31, 2013 how much should be shown on the Brown Company's balance sheet for the asset called "Land?" Why?

Answer: The amount reported on the balance sheet is $2 million, i.e., *Brown Company's* cost.

DEFINITION OF AN ASSET

The above discussion gives rise the question of what an asset actually is, and how it is treated for purposes of financial accounting. Assets were discussed briefly in Chapter 1. We now look at them in greater detail.

[2] The use of historical cost versus current value is a subject of considerable debate within the U.S. accounting profession. Sound arguments can be made for the use of current value. For the moment, however, the proponents of historical cost have prevailed. Some other countries adjust for market value.

An asset is defined as an item (either a *thing* of some sort, or a *claim to a thing* of some sort) that meets three requirements:

1. It is owned by the organization.
2. It has current or future value to the organization.
3. It has been acquired at a cost that can be easily measured.

Let's look at the question of what constitutes an asset by means of some examples:

Problem: Scientists in the research and development (R&D) department at Audiotronics work on a variety of projects each year. As a result of their efforts, they have developed a new type of hearing aid that is completely free from noise distortion. The company has applied for and been given a patent for the device. The company's accountants estimate that approximately $500,000 in salaries and other expenses were spent to develop the device, and that its profit potential to the company over the next 17 years (the life of the patent) is $300 million.

Should the patent be reported on the balance sheet? Why or why not? If yes, at what amount?

Answer: The patent ordinarily would not be reported on the balance sheet. It meets requirements #1 and #2 above, but does not meet requirement #3. Since it was developed by the company's employees, and since there could be speculation about the development cost, the cost is not considered to be measurable.

Problem: Audiotronics sells its patent to Oidomation for $5 million. Should the patent be reported on the balance sheet of Oidomation? Why or why not? If yes, at what amount?

Answer: The patent would be reported on Oidomation's balance sheet at an amount of $5 million. It meets all three of the above requirements. Note that neither its estimated cost to Audiotronics, nor Audiotronics' estimate of its future potential are recorded anywhere on the financial statements.

Problem: Dr. Ellen Terra, working in her garage, has developed a new type of hearing aid that is completely free from noise distortion. She has applied for and been given a patent for the device. She estimates that the device's worth (in terms of future profits for the company that produces it) is $300 million over the next 17 years (the life of the patent).

Dr. Terra decides to form a company— called Hearing Works (HW)—to sell the device. Although she has no cash to invest, she finds some business people to invest in her company. The investors agree to give Dr. Terra shares of stock worth $2 million in exchange for the rights to the patent.

Should the patent be reported on the balance sheet of HW? Why or why not? If yes, at what amount?

Answer: The patent would be reported on the balance sheet at $2 million. It meets all three of the above requirements. Note that, by virtue of the "arm's-length" transaction between Dr. Terra and her investors, a measurable cost has been determined. Note also that the entity concept allows us to distinguish between Dr. Terra and Hearing Works as separate entities.

Problem: Toys FR' Kids has signed a one-year rental agreement with its landlord for the warehouse it will use to store its toys. The rental agreement gives TFK the right to use the warehouse in exchange for a monthly payment of $3,000, or a total of $36,000 for the year the agreement is in effect.

Should the warehouse be reported as an asset on the balance sheet of TFK? Why or why not? If yes, at what amount?

Answer: The warehouse would not be reported on the balance sheet. It fails to meet requirement #1 above. TFK does not own it.

Problem: Toys FR' Kids has been operating for three years, and has developed a reputation for selling only high quality toys. It has a no-questions-asked return policy that distinguishes it in the industry from all of its competitors. The management of TFK estimates that this reputation adds approximately $1 million each year to the profits of the company.

Should TFK's reputation be reported as an asset on its balance sheet? Why or why not? If yes, at what amount?

Answer: The reputation would not be reported on the balance sheet. It fails to meet requirement #3 above. TFK did not acquire its reputation at a measurable cost.

Problem: Toys FR' Kids has been operating for three years, and has developed a reputation for selling only high quality toys. It has a no-questions-asked return policy that distinguishes it in the industry from all of its competitors.

TFK is purchased by Goodies FR' Grabbers (GFG), another toy company. Because of TFK's excellent reputation, GFG agrees to pay $1 million more for it than the difference between TFK's assets and its liabilities as shown on its balance sheet (i.e., its equity). That is, if TFK's equity was, say, $700,000, GFG agreed to pay $1,700,000 to buy TFK.

Should the extra $1 million be reported on the balance sheet of GFG? Why or why not?

Answer: The amount would be reported on GFG's balance sheet. It meets all three requirements. The asset would be called *Goodwill*. It arises only when one company is acquired by another, and reflects the difference between the equity of the purchased company and the purchase price. Goodwill goes on the financial statements of the *purchasing* company as a non-current asset.

Problem: There was severe water damage to several of the toys in the warehouse of Toys FR' Kids. As a result, $10,000 of toys in the inventory cannot be sold, even at a discount. They must be discarded.

Should these toys be reported as part of the inventory on the balance sheet of TFK? Why or why not? If yes, at what amount?

Answer: The $10,000 of toys would not be reported on the balance sheet. They fail to meet requirement #2. They have no value to the company.

Problem: Toys FR' Kids has sold $100,000 of toys to one of its best customers (a store), but has not yet received payment. The customer always pays within 30 days.

Should the amount the customer owes TFK be reported on TFK's balance sheet? Why or why not? If yes, at what amount?

Answer: The amount would be reported on the balance sheet. It meets all three requirements. TFK owns the right to the money that the customer owes, the amount is of value to TFK, and the cost is measurable (it is the amount for which the toys were sold).

Accounts Receivable

The above asset is called an account receivable. As indicated earlier, accounts receivable consist of amounts owed to a company by its customers. In general, no document is signed when the customer purchases some goods, other than the bill of lading signifying the receipt of the goods by the customer. Rather, the company has a general agreement with each customer (sometimes signed by both parties) that the customer will pay its bills within some predetermined time period, usually a month.

Accounts receivable typically do not have an interest charge. Indeed, sometimes a company will offer its customers a reduction in the amount due in exchange for timely payment. For example, a bill sent by Toys FR' Kids to one of its customers might say something like "2% 10, net 30." This means that if the bill is paid within 10 days, the customer may deduct 2 percent from the amount due. Otherwise, the entire amount is due within 30 days.

Notes Receivable

A note receivable is an asset that is like an account receivable, but it consists of a signed document between the company and its customer, and it ordinarily includes interest. The document usually specifies a payment schedule and the interest rate.

THE ACCOUNTING CYCLE

You now have sufficient knowledge to take Toys FR' Kids through one entire *accounting cycle*. An accounting cycle is the sequence of events that takes an organization from one balance sheet to the next. At this stage of the game, we will go through a somewhat oversimplified cycle. As you will see in later chapters, the cycle becomes somewhat more complicated than what you will see here, but its essential characteristics remain unchanged.

During its accounting cycle, a company can engage in several accounting-related activities:

- purchase or sell assets
- incur or pay off liabilities
- increase or decrease equity

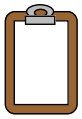
  To do the latter, it can either (refer to Exhibit 2 in Chapter 1):

  - increase or decrease *contributed capital* by selling more stock or repurchasing some outstanding stock, or
  - increase or decrease *retained earnings*.

During the accounting cycle, these various activities are measured so they can be reported on the company's financial statements. In Chapter 1, TFK engaged in a variety of activities that added to the assets and the liabilities on its balance sheet. In so doing, it technically moved through an accounting cycle. However, it did not actually sell toys to its customers, as it would do under normal circumstances. Rather it built up some inventory and purchased some equipment.

Now test your knowledge of what you have learned so far by taking Toys FR' Kids through several steps in its accounting cycle. Mini-Test #1 is contained below.

Mini-Test #1



Ignore the $500,000 equipment purchase discussed at the beginning of the chapter. Use the balance sheet below, and assume that during the month of January the events listed below it take place:

1. TFK sells toys to its customers for $300,000. All customers pay in cash. This is called *revenue,* and should be recorded as an increase in the organization's equity. Specifically, it will increase the account called "Retained earnings."
2. The toys that were sold cost TFK $150,000. That is, they were recorded in TFK's inventory at a cost of $150,000. This cost of the goods that were sold is called an *expense,* and should be recorded as a decrease in retained earnings.
3. TFK paid the bank $2,320 in interest on the two loans. The interest payment was calculated as follows: Total loans outstanding are $290,000 ($130,000 +$160,000). The interest rate on each loan is 9.6 percent. Therefore, the annual interest is $27,840 ($290,000 x .096). The monthly interest is 1/12 of the annual amount, or $2,320 ($27,840 ÷ 12). Interest also is an expense, and should be recorded as a decrease in retained earnings.

What does the balance sheet for Toys FR' Kids look like as of January 31, 2013?

To prepare your answer, work with each of the three above events. For each, cross out the appropriate asset, liability, and/or equity amounts on the balance sheet below, and write in the new amounts. Remember the dual aspect concept, i.e.,

you need to maintain the *Assets = Liabilities + Equity* relationship. Check your work by calculating revised totals for all accounts, including total assets and total liabilities + equity. Make sure that total assets equals the total of liabilities + equity.

Use the January 3, 2013 balance sheet below. Change the appropriate amounts and enter new amounts. Then compute the new amounts for total assets and total liabilities & equity. This also will serve as a check to make sure you have followed the dual aspect concept. Do all of this before looking at the answer in the Appendix at the end of the chapter.

Toys FR' Kids
Balance Sheet
As of January 3, 2013

Assets		**Liabilities & Equity**		
Cash	$390,000	Accounts payable		$140,000
Merchandise Inventory	200,000	Bank loan payable		130,000
Total current assets	$590,000	Total current liabilities		$270,000
Non-current assets:		Non-current liabilities:		
Equipment	$240,000	Bank loan payable		$160,000
		Total liabilities		$430,000
		Owners' equity:		
		Contributed capital	$400,000	
		Retained earnings	0	400,000
Total assets	$830,000	Total liabilities & equity		$830,000

Now look at the answer in the Appendix at the end of the chapter. Spend some time comparing your solution with the one given. If there are differences make sure you understand why they exist.

IMPORTANT POINTS

There are several points that should be noted about the transactions in Mini-Test #1.

Cash versus Retained Earnings

The cash received from sales was identical to the increase in retained earnings. This is not always the case. As we will see in subsequent chapters, retained earnings is increased by the amount that is *earned* from the sale of a entity's products or services. This is sometimes results in an increase in accounts receivable rather than cash. As indicated above, the amount earned from the sale is called *revenue*.

Reductions in Retained Earnings

The reduction in retained earnings that accompanied the sale is based on the cost of the items that were sold. Note that, in accordance with the cost concept, inventory was maintained on the balance sheet at cost. Thus, when the items are sold, retained earnings decreases by the cost of those items. As discussed above, this decrease is called an *expense*. It is called "Cost of Goods Sold," and is discussed in Chapter 3.

Interest versus Principal

The interest expense did not change the amount of the loan that is due. The amount of the loan that is due is called the *principal*. Interest is the expense TFK incurs in exchange for the right to use the bank's money Unless otherwise indicated (as is the case with some credit cards), interest is always expressed on an annual basis. If an interest payment is made for a portion of a year, the amount would be adjusted accordingly.

The Dual Aspect Concept

The dual aspect concept was maintained throughout. That is, the increase of $300,000 in the asset account *cash,* associated with the sale, was accompanied by an increase of $300,000 in the equity account *retained earnings* (transaction #1). The decrease of $150,000 in the asset account *inventory,* associated with the sale, was accompanied by a decrease in the equity account *retained earnings* (transaction #2). The decrease of $2,320 in the asset account *cash,* associated with the interest, was accompanied by a decrease in the equity account *retained earnings* (transaction #3).

Spend a few minutes to verify all of this.
Trace each transaction through, and make sure you understand what is happening with it.

Earnings Inflows and Outflows

The above transactions are examples of the part of the accounting cycle that is associated with retained earnings. An *earnings inflow* leads to an *increase* in retained earnings, and an *earnings outflow* to a *decrease* in retained earnings. For example:

- When TFK sold toys for $300,000, there was an *earnings inflow*. The increase in cash was *not* accompanied by either a decrease in another asset (such as accounts receivable) or an increase in a liability (such as accounts payable).
- When TFK paid interest of $2,320, there was an *earnings outflow*. The decrease in cash was *not* accompanied by either an increase in another asset (such as inventory) or a decrease in a liability (such as accounts payable).

Although the above examples use cash, earnings inflows and outflows do not need to involve increases or decreases in cash. Indeed, they frequently do not. We will see in later chapters how there can be an *earnings inflow* (i.e., an increase in retained earnings) without a corresponding increase in cash, and how there can be an *earnings outflow* (i.e., a decrease in retained earnings) without a corresponding decrease in cash. For the moment, however, it is sufficient to see how earnings inflows and outflows can affect cash.

***This is a tricky concept. It will become clearer as you work your way through the* Primer.**
For the moment, you should relate these paragraphs to the following one.

Changes in Cash Without Earnings Inflows or Outflows. Changes in cash can take place without an earnings inflow or outflow. For example, an increase in cash *without* an earnings inflow took place in Chapter 1, when TFK borrowed $130,000 from the bank. Cash increased by $130,000, but so did the current liability called "Bank loan." The Retained Earnings account was not affected.

Problem: Assume that, in addition to the three transactions in Mini-Test #1, the following two transactions took place at TFK during the month of January. How would these items affect the balance sheet for Toys FR' Kids as of close of business on January 31, 2013?

4. The company used cash to purchase an additional $250,000 of inventory
5. The company used cash to pay off $10,000 of its bank loan (current)

To prepare your answer, cross out the appropriate asset, liability, and equity amounts in the balance sheet for Mini-Test #1 shown in the Appendix, and write in the new amounts. Then calculate revised totals for all accounts.

Answer: As of the close of business on January 31, 2013, the balance sheet would look as shown below. The changes are numbered to correspond to the items above, and are shown in **bold faced type.**

In both instances, there were decreases in cash *without* a change in retained earnings, i.e., no earnings outflow.

Toys FR' Kids
Balance Sheet
As of January 31, 2013

Assets			**Liabilities & Equity**		
Cash			Accounts payable		$140,000
Beginning balance	$390,000		Bank loan payable		
From sales (1)	+300,000		Beginning balance	$130,000	
For interest payment (3)	-2,320		**Payment (5)**	**-10,000**	
Inventory purchases (4)	**-250,000**		Ending balance		120,000
Bank loan payment (5)	**-10,000**		Total current liabilities		$260,000
Ending balance		$427,680	Non-current liabilities:		
Merchandise Inventory			Bank loan payable		160,000
Beginning balance	$200,000		Total liabilities		$420,000
Sold (2)	-150,000		Owners' equity:		
Purchases (4)	**+250,000**		Contributed capital		400,000
Ending balance		300,000	Retained earnings		
Total current assets		$727,680	Beginning balance	0	
Non-current assets			From sales (1)	+300,000	
Equipment		240,000	Inventory sold (2)	-150,000	
			Interest payment (3)	-2,320	
			Ending balance		147,680
Total assets		$967,680	Total liabilities & equity		$967,680

Problem: Now that $10,000 of principal has been paid on the loan, there is a $120,000 balance on the short term loan, plus a $160,000 balance on the long-term loan. Assuming the interest rate remains at 9.6%, how much interest will be due for the rest of the year. Careful, this is a little tricky.

Answer: At 9.6%, the annual interest for a $280,000 loan is $26,880. However, there are only 11 months left in the year. Thus, the amount due for the rest of the year will be 11/12 of $26,880, or $24,640.

DEPRECIATION

Thus far, we have not done anything with the non-current asset called *Equipment* other than record it as an asset at the time we purchased it. Recall that this equipment is for the storage, packing, and delivery of toys to our customers. It is highly specialized equipment, suggesting that, if we tried to sell it, its market value would probably be below its cost. Nevertheless, because of the cost concept, it remains on the balance sheet at its cost.

As we operate our business, the equipment gradually will deteriorate and its *book value* (as opposed to *market value,* which we do not know) will decline. The average amount of book value lost each year is known as *depreciation*. Depreciation is the expense to TFK of using its equipment. Eventually, after several years of depreciating the equipment, it will become "fully depreciated," and will be removed from the balance sheet. In the meantime, it remains on the balance sheet at its *book value,* i.e., its cost less the amount of depreciation that has accumulated.

Economic Life and Residual Value

Unlike inventory, where we could physically count what was used up to derive the associated expense, the amount of equipment that was used up during an accounting period cannot be determined with much precision. Instead, the depreciation expense relies on two estimates: economic life and residual value. Let's look at how the calculation process works.

As indicated above, the equipment does not become fully depreciated on a single day. Rather, it depreciates over several years. This time period is known as its *economic life,* or *service life*.

An asset's economic life is not always the same as its *physical life*. As technology changes, for example, the asset may become obsolete, and will need to be replaced if the firm is to remain competitive. When this happens, it may be possible for the firm to find a buyer for the obsolete equipment. If this is the case, the old equipment has what is called a *residual value*. Since, at the time of purchase, we do not know what the residual value will be, we must estimate it.

Computation of Depreciation with No Residual Value. Let's assume, for simplicity, that TFK's equipment asset has an economic life of 10 years and no residual value.

Problem: On average, how much of the equipment's $240,000 cost is lost each year of its economic life?

Answer: The cost of the equipment was $240,000. Its residual value is zero. Its economic life is 10 years. Therefore, we can make the calculation as follows:

Cost	$240,000
Less: residual value	0
Equals amount to be depreciated	$240,000
Divide by economic life	10 years
Equals annual depreciation expense	$24,000

As a result of this depreciation expense, TFK's accountants will decrease the amount of the equipment asset shown on the balance sheet by $24,000 each year, and decrease retained earnings by the same amount.

Problem: How would the above depreciation expense, plus the interest for the rest of 2013 that you calculated previously, affect the balance sheet for Toys FR' Kids as of close of business on December 31, 2013?

To prepare your answer, cross out the appropriate asset, liability, and equity amounts on the January 31, 2013 balance sheet shown above, and write in the new amounts. Finally, calculate revised totals for all accounts. You may assume that TFK took a full year's worth of depreciation.

Remember the dual aspect concept

Answer: As of the close of business on December 31, 2013, the balance sheet would look as shown below. The changes associated with depreciation are numbered (6); those for interest are numbered (7). Both are shown in **bold faced type.**

Toys FR' Kids
Balance Sheet
As of December 31, 2013

Assets			**Liabilities & Equity**		
Cash			Accounts payable		$140,000
Beginning balance	$390,000		Bank loan payable		
From sales (1)	+300,000		Beginning balance	$130,000	
For interest payment #1 (3)	-2,320		Principal payment (5)	-10,000	
For interest pymt #2 (7)	**-24,640**		Ending balance		120,000
Inventory purchases (4)	-250,000		Total current liabilities		$260,000
Bank loan principal pymt. (5)	-10,000		Non-current liabilities:		
Ending balance		$403,040	Bank loan payable		160,000
Merchandise Inventory			Total liabilities		$420,000
Beginning balance	$200,000		Owners' equity:		
Sold (2)	-150,000		Contributed capital		$400,000
Purchases (4)	+250,000		Retained earnings		
Ending balance		300,000	Beginning balance	0	
Total current assets		$703,040	From sales (1)	+300,000	
Non-current assets			Inventory sold (2)	-150,000	
Equipment			Interest payment #1 (3)	-2,320	
Beginning balance	240,000		**Depreciation (6)**	**-24,000**	
Depreciation (6)	**-24,000**		**Interest pymt #2 (7)**	**-24,640**	
Ending balance		216,000	Ending balance		99,040
Total assets		$919,040	Total liabilities & equity		$919,040

Note that the depreciation expense reduced the asset, *Equipment*, with a corresponding reduction in *Retained Earnings*, but it had no effect on cash. This is an example of an earnings decrease with no reduction in cash. In this regard, it is important to remember that depreciation is *always* a non-cash expense. We will need to use this fact in the remaining chapters of the book, especially in Chapter 7, when we prepare the statement of cash flows.

Computation with Residual Value. Let's now look at how a residual value would affect the computations.

Problem: Assume that we purchased a piece of equipment for $100,000. We estimate that we will use if for 5 years, and that at the end of 5 years we will be able to sell it for $20,000. What is the annual depreciation expense?

Answer: To calculate the depreciation expense, we would use the following approach:

Purchase price	$ 100,000
Less residual value	-20,000
Equals amount to be depreciated	$ 80,000
Divided by economic life	5 years
Equals annual depreciation expense	$ 16,000

Effectively, this approach first calculates the *net cost* of the piece of equipment, i.e. its purchase price less what we expect to sell it for at the end of its economic life. Remember, incidentally, that the economic life (five years in this instance) is not necessarily the *physical life* of the equipment. As discussed above, economic life frequently will differ from physical life because of changes in technology that render a piece of equipment obsolete even though it is in relatively good condition.

The second step in the process is to calculate the equipment's *average cost* for each year of its economic life; this amount becomes the depreciation expense for each of those years.

Some Caveats

There are several caveats that should be borne in mind with regard to depreciation:

1. The depreciation expense is only an estimate, and depends on projections of the economic life and residual value, both of which might be inaccurate.
2. The depreciation expense is an average, yet the equipment might lose a great deal more of its value than $16,000 in the first years of its life, and less in later years. Consider, for example, the case of an automobile, which loses about 25 percent of its value the moment it leaves the dealer's showroom.[3]
3. Some assets (like buildings) actually *appreciate* while they are being depreciated.
4. Because of the first three points above, the book value of an asset frequently bears little if any relationship to the asset's "market value," i.e. the amount for which we can sell it.

[3] The use of *accelerated depreciation* helps to recognize this fact. However, accelerated depreciation is more of a tax-saving incentive than an attempt to match the depreciation expense to the actual loss of an asset's value. Accelerated depreciation will be discussed in Chapter 4.

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Accounting Vignette
Chambers Development Company

According to an article in *Business Week,* Chambers Development Company improved its net income considerably by depreciating its landfills for much longer than their actual life. "Nobody is certain…how long a landfill takes to fill up with trash. That gives accountants plenty of wiggle room in deciding how long to allow a company to depreciate landfills. The longer the period, the smaller the hit to annual earnings." When Chambers re-computed its annual earnings based on changes to its estimated economic life for landfills, plus some other changes to what the article called "aggressive interpretations of accounting rules," its earnings for the year dropped from 83¢ per share to 3¢ per share. The company's stock price fell by more than half in a single day.[4]

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THE MATERIALITY CONCEPT

Although accountants pay considerable attention to the proper recording of assets, liabilities, and equity on the balance sheet, they also ignore some items. Consider the following:

Problem: Francesca's, an upscale Northern Italian restaurant, prepares its financial statements on a monthly basis. Each month it records the revenue it has earned from the sale of meals, and the expenses it incurs for food, beverages, payroll, rent, and other operating activities. One such expense is broken glassware. Each month, several glasses of various types are broken.

Should Francesca's attempt to keep track of each broken glass so that it can properly record the breakage expense as a reduction in retained earnings each month?

Think about this for a moment before reading further. What are the advantages of doing so? What are the disadvantages?

Advantages

Disadvantages

Answer: Keeping track of each broken glass has the advantage of accurately recording a reduction in retained earnings when it happens. The disadvantage is that trying to keep track of all broken glasses would be a record-keeping nightmare. Instead, Francesca's keeps track of *boxes* of glasses. Each time a box is opened and the new glasses it contains are put out for use, Francesca's records this an an expense (i.e., a reduction in retained earnings), even though technically no expense is incurred until a glass is broken.

An approach of this sort is permitted under what accountants call the *materiality concept*. According to this concept, if an amount is not significant (i.e., it is *immaterial*) but entails a great deal of record keeping, a simplifying approach is taken in the name of practicality. The expensing of glasses at Francesca's is an example of this. By contrast, the accountants must make an effort to thoroughly disclose all aspects of an organization's financial statements that are of significance (i.e., that *are material).*

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[4] "Burying Trash in Big Holes—on the Balance Sheet," *Business Week,* May 11, 1992.

In practice, the materiality concept can be difficult to apply since it frequently requires considerable judgment. There are no unambiguous rules to follow to determine which items are material and which are not. Because of this, different accountants may treat the same item quite differently, i.e., their judgment will differ.

For purposes of this* Primer*, you should plan to treat everything as if it were material.

Accounting Vignette
Rockwell International

Several years ago, Rockwell International did not reveal the amount of losses associated with a computer-leasing activity that allegedly involved some fraud. Rockwell claimed that the losses were "immaterial." The company's accounting firm was reported as stating that losses totaling less than 10 percent of the company's $2.2 billion in shareholder equity were not material.

Although both Rockwell and its accounting firm insisted that the comment concerning materiality was taken out of context, it nevertheless highlighted the *possibility* that Rockwell did not need to disclose the reasons for any loss of $220 million or less. The problem, according to several observers, was with the vague interpretation that both the accounting profession and the courts had given materiality.[5]

THE ACCOUNTING SYSTEM

In the problems you have completed so far, you have used the dual aspect concept to make several entries to the balance sheet for TFK. In completing these entries, you effectively have been working with the *accounting system* for TFK. This system relies on several key features that we will now examine: the concept of an account, the chart of accounts, accounting transactions, the journal, and the ledger.

The Concept of an Account

As Chapter 1 indicated, the basic building block for all of financial accounting is the *account*. Every line on a balance sheet is, in reality, an account. Moreover, every account behaves in exactly the same way during a given *accounting period:* it begins with a certain amount in it, called a *beginning balance;* it can have amounts added to it or deducted from it during the accounting period; and, at the end of the accounting period, it has an *ending balance*.

To illustrate this idea, think of a checkbook, which is a familiar account to almost everyone. In an accounting system, this account ordinarily would be called *cash*.

Problem: Assume that at of the beginning of April your checkbook had a balance of $200. During April, you received a paycheck for $1,000 and paid bills totaling $700. What is the ending balance in your checkbook?

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5 Laura Saunders, "Too Little is Not Enough," *Forbes,* November 7, 1983.

Answer: The answer is calculated as follows:

Beginning balance	$ 200
Additions (inflows)	+1,000
Reductions (outflows)	- 700
Ending balance	$ 500

The Chart of Accounts

Taking the concept of an account one step further leads us to the *Chart of Accounts*. An organization developing a financial accounting system must determine the accounts that will be on its balance sheets (and other financial statements). Will it, for example, have only one account for cash, or will it have separate accounts for cash in checking accounts and cash in savings accounts? Will it have a separate account for each bank? The result of these decisions and other similar ones is a list of all of the accounts in the system, or the *Chart of Accounts*. The book (or, generally, the computer file) with an organization's chart of accounts is called the *ledger.*

Establishing a chart of accounts is an important step, for while the accountants can rather easily summarize several separate accounts into a single line for purposes of presentation on the financial statements, a single account cannot be subdivided into two or more accounts without a great deal of effort. Therefore, determining the level of detail in the chart of accounts is a key decision, and one that should involve both an organization's managers as well as its accountants. Managers need to involve themselves in this decision since, to a great extent, it will govern the kind of information that will be available both to them and to readers of the organization's financial statements.

The key question, then, is "what level of detail do we want to have available for preparing the financial statements?" The answer to that question will dictate much of the decision making that gives rise to the content of the chart of accounts.

Accounting Transactions

Once we have set up our chart of accounts, the next step is to record information in the accounts. This happens in two ways: via transactions for which there is a document, and via transactions for which there is no document.

Transactions with Documents. Many of the financial activities in an organization are represented on paper (or, increasingly, on electronic documents), such as invoices, receipts, and paychecks. To understand this more fully, let's return to the Homeworks case from Chapter 1.

Problem: Noe review the transactions in the Homeworks case (the practice case at the end of Chapter 1). For each transaction, write the document or documents that might have been available to provide the information.

Date	Event	Document
Jan 2	Investors contributed cash	
Jan 3	Took out a loan	
Jan 5	Equipment purchase	
Jan 12	Supply purchase	
Jan 14	Client payments	
Jan 15	Staff paid	
Jan 16	President paid	
Jan 20	Supply purchase	
Jan 28	Client payments	
Jan 29	Staff paid	
Jan 31	President paid	

Answer: Each event had a document of some sort associated with it, as follows:

Date	Event	Document
Jan 2	Investors contributed cash	Stock certificates or signed agreements
Jan 3	Took out a loan	Loan agreement
Jan 5	Equipment purchase	Receipt
Jan 12	Supply purchase	Invoice
Jan 14	Client payments	Checks received
Jan 15	Staff paid	Payroll register (i.e., the list of paychecks)
Jan 16	President paid	Payroll register
Jan 20	Supply purchase	Receipt
Jan 28	Client payments	Checks received
Jan 29	Staff paid	Payroll register
Jan 31	President paid	Payroll register

One of the documents is used as a basis for determining the accounts that are affected by each transaction. In all instances at least two accounts are affected (the dual aspect concept). As we will see shortly, there also are a variety of transactions that are not represented by documents. Although they too affect the accounts, it is more difficult to determine what these transactions should be since there is no document to use as the basis for analysis.

When there are documents representing each transaction, the accounting process is rather simple. On a daily basis, the bookkeeping staff records each transaction in terms of the accounts it affects, indicating (in a manner described below) whether the transaction increased or decreased each account. Remember: no matter which accounts are affected, we must preserve the equality of the basic relationship:

$$Assets = Liabilities + Equity$$

The Journal and the Ledger. The book (or computer file) in which transactions are recorded is called the *journal*. It contains a chronological listing of the accounting-related events that have taken place, and the accounts they have affected. Periodically, either manually or electronically, the journal is "posted" to the ledger. That is, the amount shown for each account on each line in the journal is transferred to the appropriate account in the ledger.

Let's use the Homeworks case as an example of how this process works. For pedagogical purposes, we will use a somewhat cumbersome approach at the moment, which will be simplified later in the chapter. With this approach, the journal might look as follows:

Date	Event	Asset Accounts =		Liability + Equity Accounts	
January 2	Investors' contribution	Cash	+10,000	Contributed capital	+10,000
January 3	Took out a loan	Cash	+5,000	Loan Payable	+5,000
January 5	Equipment purchase	Equipment	+ 5,200		
		Cash	- 5,200		
January 12	Supply purchase	Supplies Inv.	+ 3,000	Account Payable	+ 3,000
January 14	Client payments	Cash	+3,750	Retained earnings	+ 3,750
January 15	Staff paid	Cash	-1,750	Retained earnings	-1,750
January 16	President paid	Cash	-2,000	Retained earnings	-2,000
January 20	Supply purchase	Supplies Inv.	+2,000		
		Cash	-2,000		
January 28	Client payments	Cash	+4,500	Retained earnings	+4,500
January 29	Staff paid	Cash	-2,100	Retained earnings	-2,100
January 31	President paid	Cash	-2,000	Retained earnings	-2,000

Note that each transaction affected two accounts, and after each transaction, the equation *Assets = Liabilities + Equity* remained intact.

Posting to the Ledger. The ledger would have the following accounts, with the journal entries posted into them as shown below (the number in parentheses is the date of the transaction). Again, this illustration is a bit cumbersome, and will be simplified later.

ASSETS

Cash

(2)	+10,000
(3)	+ 5,000
(5)	- 5,200
(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(20)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	8,200

Equipment

(5)	+ 5,200
	5,200

Supplies Inventory

(12)	+ 3,000
(20)	+ 2,000
	5,000

LIABILITIES + EQUITY

Loan Payable

(3)	+5,000
	5,000

Accounts Payable

(12)	+ 3,000
	3,000

Contrib. Cap.

(2)	+10,000
	10,000

Ret. Earngs

(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	400

You should spend some time reviewing the relationship between the journal and the ledger. Note, for instance, that although both documents contain exactly the same information, the journal is chronological whereas the ledger is by account. Most people would agree that the ledger provides the information in a more useful form than the journal. This is because it allows us to see in a summarized way how the various transactions affected the accounts. The ledger also corresponds quite closely to the financial statements themselves. Assets total $18,400 (8,200 + 5,200 + 5,000) and liabilities + equity also total $18,400 (5,000 + 3,000 + 10,000 + 400). That is, the basic equality of *Assets = Liabilities + Equity* exists in the ledger.

Transactions without Documents. As indicated above, there are a variety of transactions that take place in an organization that are not represented by paperwork of any sort, or at least by the normal flow of documents across the bookkeeper's desk. Yet, if we are to accurately measure the resources received and consumed during any given accounting period— which is one of the fundamental goals of financial accounting—we must identify and record these transactions, which are called *adjusting entries*. The Homeworks ledger above can assist us to identify two of the most common adjusting entries: supply usage and depreciation.

Supply usage. So far, our ledger shows that there is $5,000 in the Supplies Inventory account. This is because we purchased $3,000 of supplies on January 12, and another $2,000 on January 20. It would be quite unusual if we had not used up any of these supplies during the course of the month, since they are needed for some of the repair and other work that we do. Indeed, we must determine the dollar amount of supplies that were used because they were an expense of doing business. Therefore, the used supplies must be deducted from the Retained Earnings account.

Problem: How might we do this? Specifically, how might we use the Supplies Inventory account as a basis for measuring the supplies we actually used during the month?

Answer: To determine the amount of supplies used, we begin with the basic concept of an account. Using the format given earlier, we have the following information:

Beginning balance	$ 0
Additions	+5,000
Reductions	- ?
Ending balance	$?

Note that while the ledger above indicates that the balance in the Supply Inventory account is $5,000, we know that cannot be the case unless we have used no supplies. If we have used some supplies, the balance must be less than $5,000.

There are two ways to determine reductions to the account (i.e., supplies used). We could use a requisition system so that someone must fill out a requisition every time some supplies are used. This approach would give us documentation, but it usually is not used unless the units in the supply inventory are large and/or costly. If each unit is relatively small and/or the unit cost is not very much, management usually considers a requisition system to be too cumbersome and time consuming, and therefore does not use it. Instead, at the end of the month, we count how much is left in the supply inventory, which gives us the ending balance. The usage can then be derived.

To illustrate, assume we counted the supplies in inventory and found a total of $4,000. The account would then look as follows:

Beginning balance	$ 0
Additions	+5,000
Reductions	- ?
Ending balance	$ 4,000

It then is relatively easy to determine that $1,000 of supplies have been used up, such that the account looks as follows:

Beginning balance	$ 0
Additions	+ 5,000
Reductions	- 1,000
Ending balance	$ 4,000

If we had been using a requisition system, the process would be reversed, but we still most likely would count what was left in inventory. Indeed, doing so allows us to identify what is called *shrinkage,* i.e. inventory losses due to spoilage, waste, theft, etc. Suppose, for example, that our requisition system indicated that $800 in supplies had been used during January, but that a count of the inventory indicated that there were $4,000 of supplies still on hand. We would then have the following discrepancy:

With Requisitions		**Without Requisitions**	
Beginning balance	$ 0	Beginning balance	$ 0
Additions	+5,000	Additions	+5,000
Reductions	- 800	Reductions	- 1,000
Ending balance	$ 4,200	Ending balance	$ 4,000

The $200 difference between what inventory *should be* according to requisitions and what it *is* according to a physical count of the supplies is the *shrinkage*. Sometimes shrinkage is identified separately in the financial accounting system and sometimes it is not. In either case, it is important information since it permits management to determine whether it needs to exercise greater control over inventory.

An inventory that is based on requisitions is called a *perpetual inventory;* one that is not is called a *periodic inventory*. Generally, if feasible, managers prefer a perpetual inventory, since it permits them to

identify shrinkage, but, as indicated above, sometimes it is not feasible to use requisitions, and hence the only possibility is a periodic inventory. With a periodic inventory, the accounting system does not give us the ability to determine shrinkage.

Problem: Assume that Homeworks is using a periodic inventory, and finds that $1,000 has been used up during the month. Using the format given above, what would the journal show?

Answer: The journal would show something like the following:

Date	**Assets**	=	**Liabilities + Equity**
Jan 31	Supply Inventory -1,000		Retained Earnings -1,000

We will return to the ledger once we have completed the discussion of depreciation.

Depreciation. Homeworks' ledger shows $5,200 in equipment (carpentry tools, snow shovels, etc.) purchased on January 5. We know that this equipment will not last forever, and that eventually we will need to replace it. As we saw in some earlier problems, the financial accounting system uses depreciation in an attempt to measure how much of this equipment is "used up" during each accounting period.

Assume that the equipment has a 5 year life, at the end of which it can be sold for $700. Also, assume it was purchased on the first day of the month.

Problem: What are the annual and monthly depreciation expense amounts for Homeworks?

Answer: The amounts can be calculated as follows:

Purchase price	$ 5,200
Less residual value	- 700
Equals amount to be depreciated	$ 4,500
Divided by economic life	5 years
Equals annual depreciation expense	$ 900
Divide by 12 months in year	12
Equals monthly depreciation expense	$ 75

We're now ready to make the appropriate journal entry for January's depreciation:

Problem: What is the journal entry for January?

Date	Event	Asset Accounts	=	Liability + Equity Accounts

Answer: The journal entry would be as follows:

Date	Event	Asset Accounts		=	Liability + Equity Accounts	
January 31	Depreciation expense	Equipment	- 75		Retained Earnings	- 75

Amortization. Amortization is an expense that is quite similar to depreciation, and is a term that will appear on many financial statements. In general, it refers to the using up of *intangible* assets, such as patents, whereas depreciation (sometimes considered to be a special form of amortization) is used for *tangible* or physical assets, such as buildings and equipment. Intangible assets are discussed in greater detail in Chapter 5.

The amortization process works in a fashion almost identical to depreciation, except that intangible assets ordinarily have a zero residual value. Therefore, to calculate the annual amortization expense for, say, a patent, we would need to divide the initial cost of the patent by 17 years (its legal life).

Effects on the Ledger. When the journal entries for the supply expense and the equipment depreciation are posted to the ledger, we get the results shown below (new items are in **bold face**). Note that our assets now equal $17,325 (8,200 + 5,125 + 4,000), and that liabilities and equity total the same amount (5,000 + 3,000 + 10,000 - 675).

ASSETS

Cash	
(2)	+10,000
(3)	+ 5,000
(5)	- 5,200
(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(20)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	8,200

Equipment	
(5)	+ 5,200
	5,200
(31b)	**- 75**
	5,125

Supplies Inventory	
(12)	+ 3,000
(20)	+ 2,000
	5,000
(31a)	**- 1,000**
	4,000

LIABILITIES + EQUITY

Loan Payable	
(3)	+5,000
	5,000

Accounts Payable	
(12)	+ 3,000
	3,000

Contrib. Cap.	
(2)	+10,000
	10,000

Ret. Earngs	
(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	400
(31a)	**- 1,000**
(31b)	**- 75**
	(675)

There are several important issues associated with these last two transactions:

- The supply inventory is now $4,000, as we determined by the inventory count at the end of January. Even if we have a perpetual inventory, we need to make the adjustment to reflect the actual count.
- The book value of the equipment is now $5,125, reflecting the reduction of $75 that came about with the depreciation expense for the month of January.

- The retained earnings account has been reduced by these two expenses, and now has a negative ending balance of $675.
- Even though retained earnings has fallen by $1,075 with these two transactions, there has been no change in cash; it remains at $8,200. This will be true of all adjusting entries (except the one that reconciles cash to the bank statement)—they are always non-cash expenses, i.e. they reduce (or, sometimes, increase) retained earnings but do not affect cash.

THE USE OF DEBITS AND CREDITS

The process of making journal entries and transferring them to the ledger is simplified by the use of a well-established convention in accounting called *debits and credits*. To understand this convention, return first to the ledger, and think of every account as having two sides: left and right. The cash account thus might be thought of as follows (which, because of its shape, generally is referred to as a *T Account)*:

Cash	

In accounting, the left side of a T Account is called the *debit* side, and the right side is called the *credit* side. These terms have no meaning other than that; they do not convey worth, nor are they pejorative. Debit often is abbreviated as "Dr." and credit as "Cr".

With all *asset* accounts, a debit entry is an increase, and a credit entry is a decrease. To increase cash, we would debit the account, and to decrease it, we would credit it. An increase of $15,000 and a decrease of $5,000 are shown below in the T Account for Cash:

Cash	
15,000	5,000

Thus, the *debit* entry increased the account by $15,000 and the *credit* entry decreased it by $5,000. The balance in the account now is $10,000, which is a *debit* balance. We would expect this since Cash is an asset account.

With *liability and equity accounts,* the process is exactly the opposite: a credit entry (which always is on the right side of the T account) increases the account and a debit entry (always on the left) decreases it. An increase of $15,000 and a decrease of $5,000 therefore would be shown as follows in the T Account for loan payable:

Loan Payable	
5,000	15,000

Thus, the credit entry increased the account by $15,000 and the debit entry decreased it by $5,000. The balance in the account now is $10,000, but, unlike Cash, where the balance is a *debit* balance, the balance in the Loan Payable account is a *credit* balance. This is the case because Loan Payable is a liability account.

Double Entry

Recall that the dual aspect concept requires a double-entry process; that is, each transaction requires at least two entries: one is a debit and the other a credit. Sometimes there are more, but in all instances, if the relationship of *Assets = Liabilities + Equity* is to be maintained, *the debit entries for a given transaction must equal the credit entries*. To see the reason for this rule, let's return to the Homeworks case, but now use the debit/credit process to record the transactions. As you will see, the result is the same as before, but the process is more streamlined.

Journal Entries. As before, all entries can be journalized, but now the journal needs to contain only four columns: (1) the date, (2) the account name, (3) the debit entry, and (4) the credit entry. To illustrate this, first examine the journal entries as they were made originally:

HOMEWORKS — ORIGINAL ENTRIES

Date	Event	Asset Accounts		=	Liability + Equity Accounts	
January 2	Investors' contribution	Cash	+10,000		Contributed capital	+10,000
January 3	Took out a loan	Cash	+5,000		Loan Payable	+5,000
January 5	Equipment purchase	Equipment	+ 5,200			
		Cash	- 5,200			
January 12	Supply purchase	Supplies Inv.	+ 3,000		Account Payable	+ 3,000
January 14	Client payments	Cash	+3,750		Retained earnings	+ 3,750
January 15	Staff paid	Cash	-1,750		Retained earnings	-1,750
January 16	President paid	Cash	-2,000		Retained earnings	-2,000
January 20	Supply purchase	Supplies Inv.	+2,000			
		Cash	-2,000			
January 28	Client payments	Cash	+4,500		Retained earnings	+4,500
January 29	Staff paid	Cash	-2,100		Retained earnings	-2,100
January 31	President paid	Cash	-2,000		Retained earnings	-1,000
January 31a	Inventory usage	Inventory	-1,000		Retained Earnings	-2,000
January 31b	Depreciation	Equipment	-75		Retained Earnings	-75

And now as they are made under the double-entry process, using debits and credits:

Event	Date	Account	Debit	Credit
Investors' contribution	January 2	Cash	10,000	
		Contributed Capital		10,000
Took out a loan	January 3	Cash	5,000	
		Loan Payable		5,000
Equipment purchase	January 5	Equipment	5,200	
		Cash		5,200
Supply purchase	January 12	Supplies Inventory	3,000	
		Account Payable		3,000
Client payments	January 14	Cash	3,750	
		Retained Earnings		3,750
Staff paid	January 15	Retained Earnings	1,750	
		Cash		1,750
President paid	January 16	Retained Earnings	2,000	
		Cash		2,000
Supply purchase	January 20	Supplies Inventory	2,000	
		Cash		2,000
Client payments	January 28	Cash	4,500	
		Retained Earnings		4,500
Staff paid	January 29	Retained Earnings	2,100	
		Cash		2,100
President paid	January 31	Retained Earnings	2,000	
		Cash		2,000
Inventory = $4,000	January 31a	Retained Earnings	1,000	
		Inventory		1,000
Depreciation	January 31b	Retained Earnings	75	
		Equipment		75

Note that where cash had been shown with a **+**, it now is shown as a debit and where it had a **-**, it is shown as a credit. The same is true for all asset accounts. That is, debit entries increase asset accounts and credit entries decrease them. Similarly, note that where the loan payable had been shown with a **+**, it now is shown as a credit, and where it had a **-**, it now is shown as a debit. The same is true for all liability and equity accounts; that is, credit entries increase them, and debit entries decrease them.

Be sure you compare each of the transactions in the above example to those in the prior one
Doing so will allow you to verify the relationship between

+/- and debit/credit in asset accounts, and
+/- and credit/debit in liability and equity accounts.

This relationship is tricky to grasp initially.
Making the above comparisons will greatly facilitate your learning.

Posting to the Ledger. With T Accounts, the debit/credit process can becarried forward to the ledger. Throughout, a debit entry is to the left side of the account and a credit entry is to the right, regardless of whether it is an asset, liability, or equity account. Exhibit 2 shows how this works. It compares the ledger shown earlier (with the adjusting entries added) with a ledger using T accounts. For the asset accounts, each **+** is a debit entry and each **-** a credit entry. For the liability and equity accounts, each **+** is a credit and each **-** a debit .

Spend a few minutes comparing these two ledgers to verify the relationship between them.
Again, doing so will greatly facilitate your learning.

Note that the ending balances in the T accounts are the same as they were in the accounts from the earlier ledger, and that total assets remain $17,325 (8,200+5,125+4,000), as do liabilities + equity (5,000+3,000+10,000-675).

Exhibit 2 COMPARISON OF THE TWO LEDGERS

First Ledger (Includes Adjusting Entries)

ASSETS

Cash

(2)	+10,000
(3)	+ 5,000
(5)	- 5,200
(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(20)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	8,200

Equipment

(5)	+ 5,200
	5,000
(31b)	- 75
	5,125

Supplies Inventory

(12)	+ 3,000
(20)	+ 2,000
	5,000
(31a)	- 1,000
	4,000

LIABILITIES + EQUITY

Loan Payable

(3)	+5,000
	5,000

Accounts Payable

(12)	+ 3,000
	3,000

Contrib. Capital

(2)	+10,000
	10,000

Ret. Earngs

(14)	+ 3,750
(15)	- 1,750
(16)	- 2,000
(28)	+ 4,500
(29)	- 2,100
(31)	- 2,000
	400
(31a)	- 1,000
(31b)	- 75
	(675)

Second Ledger (Using T Accounts)

ASSETS

Cash

(2)	10,000	5,200 (5)	
(3)	5,000	1,750 (15)	
(14)	3,750	2,000 (16)	
(28)	4,500	2,000 (20)	
		2,100 (29)	
		2,000 (31)	
	8,200		

Equipment

(5)	5,200	75 (31b)	
	5,125		

Supply Inventory

(12)	3,000	1,000 (31a)	
(20)	2,000		
	4,000		

LIABILITIES + EQUITY

Bank Loan Payable

		5,000 (3)	

Accounts Payable

		3,000 (12)	

Contributed Capital

		10,000 (2)	

Retained Earnings

(15)	1,750	3,750 (14)	
(16)	2,000	4,500 (28)	
(29)	2,100		
(31)	2,000		
(31a)	1,000		
(31b)	75		
	675		

Rule of Thumb

A rule of thumb to remember how the entries work is shown schematically in Exhibit 3.

Exhibit 3. RULE OF THUMB

ASSETS	**=**	**LIABILITIES**	**+**	**EQUITY**
Cash (or other asset)		Bank Loan (or other liability)		Contributed Capital (or other Equity)
Dr. —> **+** | Cr. —> **–**		Dr. —> **–** | Cr. —> **+**		Dr.—> **–** | Cr.—> **+**

As this exhibit indicates:

For Increases in the Accounts

If an account is on the left side of the balance sheet (i.e. an asset account), it is increased with an entry on the left side of its T Account (i.e. a debit).

If an account is on the right side of the balance sheet (i.e. a liability or equity account), it is increased with an entry on the right side of its T Account (i.e. a credit).

Decreases are just the opposite. That is,

If an account is on the left side of the balance sheet (i.e. an asset account), it is decreased with an entry on the right side of its T Account (i.e. a credit).

If an account is on the right side of the balance sheet (i.e. a liability or equity account), it is decreased with an entry on the left side of its T Account (i.e. a debit).

Note that, in all instances, a Dr. is on the left side of the account and a Cr. is on the right. The only difference is that a Dr. increases an asset account and decreases a liability or equity account. Similarly, a Cr. decreases an asset account and increases a liability or equity account.

PRACTICE CASE

To test your understanding of the above concepts, you now should work through the practice case, *The Opera Workshop*. As with the practice case in Chapter 1, the solution is in the Appendix, but you should work your way through the case completely before looking at the solution.

****

You should do that now. The discussion that follows assumes you have completed it.

****

As in Chapter 1, the practice case includes some new issues and concepts, which are reviewed below.

Beginning Balances

The first new idea is the need to enter beginning balances in the accounts. Recall that, except for a startup situation, or a situation where a new account is being introduced, every balance sheet account has a beginning balance. This amount is followed by any necessary additions and reductions during the accounting period, resulting in an ending balance at the end of the accounting period.

This is a significant conceptual point. Recall that the balance sheet represents the status of an organization as of a *given point in time*. To prepare the balance sheet, therefore, we must start from where we left off the last time (i.e., the balance sheet as of the end of the last accounting period) and adjust the various accounts in accordance with the accounting events that took place during the current accounting period.

The income statement, by contrast, represents earning inflows and outflows during a *given accounting period*. As such, we must begin with zero balances in all its accounts so that we can measure the effects of the period's activities. This is discussed more fully in Chapter 3.

On the balance sheet, the beginning balance for asset accounts is always a debit amount. For liability and equity accounts, the beginning balance is always a credit amount unless, as we saw with Homeworks, the retained earnings account is negative because earning outflows exceeded earning inflows. (There are a few exceptions to these rules which will be covered in subsequent chapters.)

Interest Expense

Because the Opera Workshop has some debt, there is a need to calculate an interest expense. Interest ordinarily is expressed as an annual amount. Thus, the 12 percent figure given in the case is for the entire year. Therefore the interest for the year is $1,200 ($10,000 x .12). If for some reason we wished to calculate a monthly interest amount, we would divide this amount by 12, but we are not asked for this calculation.

Accrued Interest

A new concept is *accrued* interest, which arises because the interest expense has been *incurred* (i.e., the year has ended and the bank has earned its interest of $1,200). If the time period were one month instead of one year, the bank would have earned $100. If the time period were 6 months, the bank would have earned $600.

In all cases, the relevant issue for financial accounting purposes is that the bank has earned its interest, which means that the Opera Workshop has incurred the expense. Even though the Workshop has not paid the interest in cash, we still must include the expense in the computation of retained earnings. The result is an adjusting entry, leading to an account called “interest payable” (sometimes called “accrued interest”).

Accounts Receivable

The Opera Workshop needs an *accounts receivable* account. As discussed above, this is because revenue has been earned but not all the cash associated with it has been received. For financial accounting purposes, revenue is deemed to have been earned when the product or service has been delivered, and when there is reasonable certainty that the relevant cash will be collected. It is not necessary to have the cash in hand, however. In the case of the Opera Workshop, revenue has been earned because (a) people have taken the tickets, indicating that they intend to pay for them, (b) the Workshop has good reason to believe that they will pay, and (c) the opera has been performed (i.e. the service has been delivered).

Wages Payable

The *Wages payable* account functions like an account receivable. In the case of an account receivable, the revenue has been earned, but the cash has not yet been collected. In the case of wages payable, salaries have been earned, i.e., the expense has been incurred, but cash has not yet been paid out. Since the wage expense was incurred, but was not paid in cash, an adjusting entry is necessary, resulting in *wages payable* (or, sometimes, *accrued wages)* account.

Paying off Accounts Payable

The Opera Workshop has made a payment on its *accounts payable*. Here, a cash payment has been made but no expense has been incurred.

You should review these items to make sure you understand the accounting for each one.

SUMMARY OF FUNDAMENTAL ACCOUNTING CONCEPTS COVERED

The three new fundamental accounting concepts discussed in this chapter are the following:

Going Concern We assume that an entity will continue operating indefinitely. All decisions about how to record information are made on this basis; nothing is ever accounted for under the assumption that the entity is either about to go out of business, be merged with another company, or be sold.

Cost Items are shown on the balance sheet on the basis of their cost, not their market value.

Materiality In general, financial accounting is unconcerned with relatively insignificant items. This is not to say that small amounts are excluded from the financial statements, but rather that little time and effort is expended in worrying about the accuracy of small amounts. On the other hand, an auditor of financial statements is obligated to fully disclose any items that are of a material nature.

SUMMARY OF THE CHAPTER

This completes the preliminary discussion of the balance sheet and some basic accounting techniques and concepts. You now have the ability to record a relatively simple set of transactions on a balance sheet via the use of debits and credits, and thereby to update the organization's balance sheet periodically. We will consider some additional concepts, techniques, and accounts in later chapters, but before doing so, we must first discuss the income statement. This is the subject of Chapter 3.

PRACTICE CASE. THE OPERA WORKSHOP

The Opera Workshop was a small organization that was dedicated to advancing the public's knowledge of operatic works as well as providing support and training for aspiring artists. The Workshop had a small part-time paid staff and a large group of unpaid students who performed four times a year in minor operas.

The Workshop had been in existence for two years. Its balance sheet as of the end of 2016 (its second year of operations) is shown in Exhibit 1. During 2017, the following events occurred (in summarized form):

1. On January 1, the Workshop took out a $10,000 loan from a local bank to finance its activities. The entire amount of the loan was due on January 1, 2018, including interest at a rate of 12% for all of 2017.
2. It purchased $1,000 worth of supplies and materials for constructing its sets, and paid the entire amount in cash.
3. It sold $18,000 worth of tickets for its four productions. $17,000 of this was received in cash. The remaining $1,000 was for tickets that had been sold to a local opera club; the amount was due on January 5, 2018. The Workshop expected that the entire amount would be paid on time.
4. Its part-time paid staff earned a total of $12,000 for the year. Of this amount, $500 would still be owed to the Executive Director as of the end of 2017. The Workshop expected to pay her this amount in early January, 2018.
5. It paid off the accounts payable shown on its balance sheet (Exhibit 1). No accounts payable were owed as of the end of 2017.
6. As of the end of 2017, an inventory showed that $300 of the supplies and materials still remained on hand. The sets had been discarded after the final performance of each opera.
7. The equipment shown on the balance sheet consisted of audio equipment used for performances. It had been purchased in January 2015 for $10,000 in cash, and had an estimated useful life of 10 years, after which it could be sold for approximately $1,000.
8. It incurred interest on its loan for all of 2017. No cash payments had been made, however.

Assignment

1. Set up the balance sheet in Exhibit 1 as a series of T Accounts, place the beginning balance in the appropriate place in each account.

2. Prepare journal entries for all relevant 2017 items. It may be necessary to create some new T Accounts.

3. Post the journal entries to the ledger (i.e. the T Accounts). Calculate ending balances for the T Accounts. Check to make sure that Assets = Liabilities + Equity. If not, try to find out where you have made your error before looking at the solution.

4. Prepare a balance sheet as of December 31, 2017.

5. What is your assessment of the financial condition of the Opera Workshop?

THE OPERA WORKSHOP
Exhibit 1. Balance Sheet
As of December 31, 2016

ASSETS		**LIABILITIES + EQUITY**	
Cash	$ 500	Accounts payable	$ 4,500
Supply and material inventory	2,000		
Total current assets	$ 2,500	Total current liabilities	$ 4,500
Equipment (net)[1]	8,200	Contributed capital	2,000
		Retained earnings	4,200
Total Assets	$10,700	Total liabilities and equity	$10,700

Note 1:

Equipment (net) is calculated as follows:

Purchase price	$10,000	
Less: salvage value	(1,000)	
Amount to be depreciated	$9,000	
Economic life	10 years	
Annual depreciation	$ 900	($9,000 ÷ 10)
Depreciation for first two years (i.e. 2015 and 2016)	$1,800	($900 x 2)
Book value of equipment (net)	$8,200	($10,000 - 1,800)

APPENDIX TO CHAPTER 2

This appendix contains solutions to the mini-tests, the practice case, and a solution to the practice case.

Mini-Test #1

At the close of business on January 31, 2013, the balance sheet would look as shown below. The changes are numbered to correspond to the items given in the test, and are shown in **bold faced type.**

Toys FR' Kids
Balance Sheet
As of January 31, 2013

Assets			**Liabilities & Equity**		
Cash			Account payable		$140,000
Beginning balance	$390,000		Bank loan payable		130,000
From sales (1)	**+300,000**		Total current liabilities		$270,000
For interest (3)	**-2,320**				
Ending balance		$687,680	Non-current liabilities		
			Bank loan payable		160,000
Inventory			Total liabilities		$430,000
Beginning balance	$200,000				
Sold (2)	**-150,000**		Owners' equity:		
Ending balance		50,000	Contributed capital		400,000
Total current assets		$737,680	Retained earnings		
			Beginning balance	0	
Non-current assets			**From sales (1)**	**+300,000**	
Equipment		240,000	**For inventory (2)**	**-150,000**	
			For interest (3)	**-2,320**	
			Ending balance		147,680
Total assets		$977,680	Total liabilities & equity		$977,680

THE OPERA WORKSHOP
SOLUTION

Question 1

The initial T accounts should look as follows:

ASSETS	LIABILITIES	EQUITY
Cash	**Accounts Payable**	**Contributed Capital**
500 |	| 4,500	| 2,000
|	|	|
Supply & Material Inven.		**Retained Earnings**
2,000 |		| 4,200
|		|
Equipment (net)		
8,200 |		
|		

Question 2

The journal entries are as follows:

Number	Account	Debit	Credit
1	Cash	10,000	
	Loan payable		10,000
2	Supply and material inventory	1,000	
	Cash		1,000
3	Cash	17,000	
	Accounts receivable	1,000	
	Retained earnings		18,000
4	Retained earnings (salaries and wages)	12,000	
	Cash		11,500
	Salaries and wages payable		500
5	Accounts payable	4,500	
	Cash		4,500
6	Retained earnings (supplies and materials)[1]	2,700	
	Supply and material inventory		2,700
7	Retained earnings (depreciation)[2]	900	
	Equipment (net)		900
8	Retained earnings (interest)[3]	1,200	
	Interest payable		1,200

Notes to the journal entries:

1.

BB	$2,000
+	1,000
-	?
EB	300

Therefore supply expense (i.e. use) is $2,000 + $1,000 - $300 = $2,700

2. See case Exhibit 1 for calculation of annual depreciation expense.
3. $10,000 x .12 = $1,200.

Question 3

The T accounts with the journal entries posted are shown on the next page:

ASSETS **LIABILITIES** **EQUITY**

Cash

500	1,000 (2)
(1) 10,000	11,500 (4)
(3) 17,000	4,500 (5)
10,500	

Accounts Payable

(5) 4,500	4,500
0	

Contributed Capital

	2,000
2,000	

Accounts Receivable

(3) 1,000	
1,000	

Salaries & Wages Payable

	500 (4)
500	

Retained Earnings

(4) 12,000	4,200
(6) 2,700	18,000 (3)
(7) 900	
(8) 1,200	
5,400	

Supply & Material Inven.

2,000	2,700 (6)
(2) 1,000	
300	

Interest Payable

	1,200 (8)
1,200	

Equipment (net)

8,200	900 (7)
7,300	

Loan Payable

	10,000 (1)
10,000	

Question 4

The balance sheet as of December 31, 2017 is as follows:

THE OPERA WORKSHOP
Balance Sheet
As of December 31, 2017

ASSETS		LIABILITIES + EQUITY	
Cash	$ 10,500	Salaries and wages payable	$ 500
Accounts receivable	1,000	Interest payable	1,200
Supply and material inventory	300	Loan payable	10,000
Total current assets	$ 11,800	Total current liabilities	$ 11,700
Equipment (net)	7,300	Contributed capital	2,000
		Retained earnings	5,400
Total Assets	$19,100	Total liabilities and equity	$19,100

Question 5

At first glance, the Opera Workshop seems to be a viable entity. Its retained earnings increased by $1,200 ($5,400 - $4,200) during 2017 and its cash increased by $10,000 ($10,500 - $500). However, there are several areas of concern, some of which are not apparent from the balance sheet:

- In the two prior years, retained earnings had increased by $4,200 (they began at zero), which is an average of $2,100 a year. Thus, this year was not as profitable as the two prior ones.
- Although cash has increased by $10,000, the entire loan is due on January 1, i.e. tomorrow, after which cash will be only $500 again.
- Also on January 1, the Workshop will owe $1,200 in interest, but it will have only $500 in cash. Unless the $1,000 owed to it by the local opera club is received before January 5 (its due date), the Workshop will not be able to make the interest payment.
- Assuming the $1,000 is received from the opera club and the interest payment is made, the Workshop will have only $300 in cash ($500 + $1,000 - $1,200). Unless some additional cash is found, it will not be able to pay the Executive Director the $500 it owes her in early January.