Foundations of Financial Management

EIGHTEENTH EDITION

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FOUNDATIONS OF FINANCIAL MANAGEMENT, EIGHTEENTH EDITION

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Dedication

Our dear friend, colleague, and coauthor Stan Block passed away on July 11, 2021. Stan's influence on our textbook began when he created one of the first student-managed educational investment funds to give students a real-world experience. One of his favorite phrases was "I want the students to hit the ground running." Thanks to Stan, blending financial theory and practice continues to be the focus of our textbook and we think it gives our students a running start in the real world of finance.

Preface

Many years have passed since we began writing the first edition of this text, and many things have changed during that time including the author team.

First of all, the field of finance has become much more analytical, with the emphasis on decision-oriented approaches to problems rather than the old, descriptive approach. We have increased the use of analytical approaches to financial problems in virtually every chapter of the book. But we also have stayed with our basic mission of making sure students are able to follow us in our discussions throughout the text. While the 18th edition is considerably more sophisticated than the initial edition, it is still extremely "reader friendly." As the analytical skills demanded of students have increased, so has the authors' care in presenting the material.

The use of spreadsheets and calculators has become considerably more important, and this is also reflected in the 18th edition where we have added Excel tables and calculator keystroke solutions within key chapters. We offer Web Exercises at the end of every chapter, URL citations throughout the text, a library of course materials for students and faculty, computerized testing software and PowerPoint® for the faculty, *McGraw Hill Connect®*, an online assignment and assessment solution, and *SmartBook,* a truly innovative adaptive study tool and eBook.

One of the secrets to the longevity of this text is that it is a leader in bringing the real world into the classroom, and this has never been more apparent than in the 18th edition. Each chapter opens with a real-world vignette, and the Finance in Action boxes (found in virtually every chapter) describe real-world activities and decisions made by actual businesses. We are also up-to-date on the latest tax and financial reporting legislation.

The international world of finance has expanded with the creation of the European Union and the rise of China as a global economic power and enactment of world trade agreements across the globe. To reflect these changes, the text has expanded its international coverage. Where there is an international application for a financial issue, you are very likely to find it in this text.

Furthermore, the 18th edition continues to give modest coverage to the recession and liquidity crisis that engulfed the U.S. and world economies in the latter part of the 2000–2009 decade and, where appropriate, we have highlighted the effects of the COVID-19 pandemic on financial decisions. Special attention is given to the banking sector and the critical need for funding that almost all businesses face. The issue of changing regulations is also covered.

However, there is one thing that has not changed since the first edition, we still write the entire book and all of the problems ourselves! We believe our devotion of time, energy, and commitment over these years is the reason for our reputation for having produced a high-quality and successful text—edition after edition.

Reinforcing Prerequisite Knowledge

Employers of business graduates report that the most successful analysts, planners, and executives are both effective and confident in their financial skills. We concur. One of the best ways to increase your facility in finance is to integrate your knowledge from prerequisite courses. Therefore, the text is designed to build on your basic knowledge from courses in accounting and economics. By applying tools learned in these courses, you can develop a conceptual and analytical understanding of financial management.

We realize that for some students, time has passed since you have completed your accounting courses. Therefore, we have included Chapter 2, a thorough review of accounting principles, finance terminology, and financial statements. With a working knowledge of Chapter 2, you will have a more complete understanding of the impact of business decisions on financial statements. Online financial data sources provide a wealth of financial ratios, and after mastering the ratios and concepts in Chapter 3, the information provided by online sources such as FactSet and Standard and Poor's will be easy to understand. Furthermore, as you are about to begin your career, you will be much better prepared when called upon to apply financial concepts.

Content Improvements

In general, tables and figures with real-world numbers have been updated or replaced, and the discussions concerning those tables and figures have been rewritten accordingly.

Chapter-by-Chapter Changes

Chapter 1 This chapter has been substantially revised. Time value of money is now introduced here, and the future value of a single amount is calculated. Three new end-of-chapter problems reinforce this future value learning objective. The addition of these end-of-chapter problems offers the instructor an opportunity to assign a mathematical problem in the first week of class so that students can immediately begin doing finance-type problems. The end-of-chapter problems in the chapter are relatively simple so that students can focus on the homework process before more difficult material is introduced in Chapter 2. This feature should be particularly valuable for instructors who use the text's Connect resources and who want students to be able to navigate the Connect system independently.

The chapter also offers an overview of the job market for finance students and distinguishes between the two main subcategories of finance: corporate finance vs. investments. A new Finance in Action box discusses the purpose of the corporation in the context of social responsibility. The impact of the COVID-19 pandemic on corporate finance is discussed several times in this and other chapters.

Chapter 2 The introduction has been updated and all of the tables have been updated or revised. For the Kramer Corporation example, the number of common shares outstanding has been changed so that the earnings per share is not exactly $1. An EPS of $1 causes the firm's share price and P/E ratio to be identical, an equality that produced confusion for students. The new EPS value carries throughout the chapter examples. The subsection titled "Price-Earnings Ratios and Earnings per Share" has been rewritten for clarity. The financial statement impact of deducting R&D costs (rather than capitalizing them) is now discussed in the context of market-to-book ratios. A new Finance in Action box discusses tax competition between countries and states.

Chapter 3 The introduction comparing Colgate-Palmolive with Procter & Gamble has been updated. The comparison of Target to Walmart in the DuPont model has been updated using current financial statements. Table 3-2 updates this comparison with 2020 data. The discussion of liquidity ratios has been revised. Ratio trend analysis of Apple and IBM has been replaced with a comparison of Advanced Micro Devices and Intel Inc. The Finance in Action box has been replaced with a new box called "Are Ratios Good Predictors of a Company's Value?" The IBM Web Exercise has also been revised.

Chapter 4 The introduction has been updated as well as the Finance in Action box describing the interaction of Tesla's marketing and financial forecasting activities. Table 4-10 has been revised for clarity. The Web Exercise on Barnes & Noble has been replaced by a Web Exercise for Barnes and Noble Education.

Chapter 5 The introduction has been revised with an analogy between financial leverage and the leverage used by a child on a playground teeter-totter to lift a heavier parent off the ground. The introduction also includes a discussion of leverage in the airline industry. The Apple Finance in Action box has been updated. The United Airlines Web Exercise has been updated.

Chapter 6 A Finance in Action box has been replaced with a box highlighting Shopify's influence on small retailers. Seasonality is discussed using Harley Davidson sales as an example, rather than Briggs and Stratton, which filed for bankruptcy and is no longer a publicly traded company. Figure 6-2 now features Harley Davidson data and the discussion describes the cyclicality of the firm's sales. Figure 6-3, comparing seasonal sales and earnings per share of Macy's and Target, has been updated with new data, and the analysis is revised to be consistent with the new figure. All of the tables have been updated in an Excel format, and references to cell values by row and column identifiers make the analysis easier to follow. Figures 6-9 and 6-10 and the data and discussion about yield curves and interest rates have been updated, including the Web Exercise at the end of the problem set.

Chapter 7 The introduction has been revised to include the effects of the COVID-19 pandemic on current asset management. The Finance in Action box on working capital management has been replaced with "The Cloud, B2B, and Working Capital Management." Data on automated clearing houses and international funds transfers using SWIFT have been updated. Table 7-2 has been deleted and subsequent tables renumbered. Just-in-time inventory methods now include the impact of COVID-19 on how inventory management is affected by unexpected events. The Web Exercise at the end of the chapter is new and focuses on B2B using SAP-Ariba.

Chapter 8 The chapter introduction featuring YUM! Brands credit agreements has been revised to reflect new agreements. The section on bank credit includes how banks have coped with the COVID-19 pandemic compared to the financial crisis of 2007–2009. We revised the data on LIBOR as well as updating the transition to a new measure. The Finance in Action box on LIBOR—"What Will Replace LIBOR?"—is new. Figures 8-1 and 8-2 as well as Table 8-1 have been revised with new data and discussion of interest rates and commercial paper. The Finance in Action box about online credit has been updated.

Chapter 9 The Excel and Google Sheets content is expanded to give students a better understanding of how to use the TVM functions. The Finance in Action box has been rewritten to include the March 2019 Powerball jackpot winner of $768.4 million. The Web Exercise has been rewritten and improved.

Chapter 10 The introduction has been rewritten to feature DuPont de Nemours, AMETEK Inc., and Bio-Techne Corp. Tables 10-1 and 10-2 are updated as Excel spreadsheets. Material related to P/E ratios and valuation has been updated. Figure 10-4 has been revised to present Coca-Cola Company's stock quotation data as displayed in Yahoo Finance, a source easily accessed by students online. The Web Exercise featuring ExxonMobil has been revised to coincide with changes to the website.

Chapter 11 The information in Table 11-3 has been replaced with new data, and Table 11-4 on long-term debt has been updated. A new Finance in Action box on Green Bonds is included. The Web Exercise has been changed to be consistent with changes with Intel's website.

Chapter 12 The second half of the chapter has been significantly revised. The investment decision example has been updated with new values, and Tables 12-13 through 12-19 have been modified accordingly. Tables have been reformatted as Excel spreadsheets, and the textual material has been updated with clear references to individual Excel cells. The text in the "Replacement Decision" section has been completely rewritten with Excel-formatted tables. Material has been color-coded for clarity. The section on the NPV profile has been removed from the main chapter and placed in a new Appendix 12A. The Web Exercise featuring Texas Instruments has been updated.

Chapter 13 Apache Corporation's prices have been adjusted in the introduction. Table 13-2 has been changed to include a comparison of beta values over two time periods to demonstrate the lack of stability. The Finance in Action box on energy as a high-risk industry has been modified and revised. The Web Exercise at the end of the chapter has been updated.

Chapter 14 The introduction added the stock market's surprising reaction to the COVID-19 virus and work-from-home stocks. We mention that former president Trump renegotiated NAFTA and that Britain exited the European Union. Figure 14-1 has been updated to world market capitalizations of equity markets. Table 14-1 and Figure 14-2 were updated with new data. The discussion of the major exchanges was significantly revised to reflect the changing structure of the markets. Table 14-2 was added to show the major exchanges of ICE, CBOE, and NASDAQ and their respective ownership structure. Former Table 14-2 (now Table 14-3) was restructured and updated. The Finance in Action box was revised to explain the three different types of dark pools. Finally, the Web Exercise was revised to reflect changes in the NYSE website.

Chapter 15 New IPOs were added to the introduction for currency. Table 15-1 was revised with new companies. Table 15-2 was updated with new rankings of global investment bankers. Tables 15-3 and 15-4 were updated with 2020 data for banking leaders based on fees by products, regions, and industries. The section on debt versus equity offerings was updated with a revised Table 15-7 on global debt and equity bookrunner rankings. A Finance in Action box was added on SPACs: Special Purpose Acquisition Companies. A new Web Exercise on IPOs replaced the former exercise.

Chapter 16 The second half of the chapter has been extensively revised. In particular, the section on the bond refunding decision has been rewritten and six new Excel tables have been created. The tables are color-coded, and students will find the new exposition easier to follow. Other changes in the chapter include revision of the introductory text. Figures 16-1 and 16-3, along with related discussions, have been updated. Tables 16-1 and 16-3 have been revised, as has the text related to these tables. A new Finance in Action box related to negative interest rates has been added, and new Table 16-11 showing examples of Eurobonds replaces old Table 16-5.

Chapter 17 Tower Semiconductor data was updated in the introduction and Table 17-1 on institutional ownership was updated. We added Facebook, Alphabet, and Palantir as new examples of "founders' shares" with special voting rights. The Finance in Action box on corporate governance was significantly revised. Table 17-2 on rights offerings was revised and updated and Table 17-3 on depository receipts was updated. The Web Exercise on 3M was significantly revised to reflect changes in 3M's website and its new feature called "Interactive Analyst Center."

Chapter 18 The introduction was shortened, and Altria's data were updated. The table on corporate dividend policy was revised with new data and companies. The Finance in Action box on dividend-paying aristocrats was revised and now includes dividend kings as well as aristocrats. Figure 18-2 showing the trend of earnings and dividends was updated with commentary on how COVID-19 impacted corporate dividends. A new table showing taxes on long-term capital gains and qualified dividends replaced the old one. The example on dividend payment procedures was updated. Table 18-8 on billion-dollar stock repurchases was updated with new companies with 2021 information. We added a discussion of the banking industry and Federal Reserve guidelines on their ability to repurchase stock because of capital requirements caused by COVID-19 worries.

Chapter 19 Introductory material on BioMarin was updated. Table 19-1 was significantly revised and simplified. Information on the size of the convertible bond market was revised and convertible exchange-traded funds were added to the discussion. Table 19-2 was replaced by a new table listing the largest convertible bond issues of 2020 with familiar names like Wayfair and Uber. Table 19-3 was significantly revised with new companies and a new format. The warrant section was simplified by eliminating Table 19-5 and replacing it with Figure 19-3 showing an Occidental Petroleum warrant due in August 2027. Using the Occidental example, we are able to present all the concepts related to warrants with one example. The Web Exercise was revised to reflect changes in the CBOE website.

Chapter 20 The introduction highlights the Bristol Myers Squibb purchase of Celgene Corp. Table 20-1 replaced the old table with a list of the largest mergers and acquisitions worldwide, and this is followed up with a revision of Figure 20-1 showing the number and value of M&A in North America. Figure 20-3 was updated with current hostile takeover data. A new Finance in Action box on SPACs replaced the old one. The discussion of premium offers and stock price movements was revised and expanded and includes Figure 20-4 on premiums.

Chapter 21 We now cover the revision of the North America Free Trade Agreement and Britain leaving the E.U. Additionally, Figure 21-1 on exchange rates has been updated and Table 21-1 has been updated. Table 21-2 updated all four exchange rates for Canada, Switzerland, Japan, and Sweden. The section on cross rates has been significantly revised and Table 21-2 replaces the old table with cross rates by geographic regions. The Finance in Action box about Argentina was replaced by a new box on purchasing power parity using the "Big Mac Index." We discuss the merger of Overseas Private Investment Corporation (OPIC) into the Development Credit Authority of the U.S. Agency for International Development (USAID) and revised the Web Exercise by replacing the OPIC exercise with a similar exercise using the USAID.

Successful improvements from the previous editions that we have built on in the 18th edition include:

Functional Integration We have taken care to include examples that are not just applicable to finance students but also to marketing, management, and accounting majors.

Computational Integration Almost all of our calculations in the text are highlighted with calculator keystrokes and, in most cases, appear in a spreadsheet layout, many of which will be assignable content in Connect.

Small Business Since over two-thirds of the jobs created in the U.S. economy are from small businesses, we have continued to note when specific financial techniques are performed differently by large and small businesses.

Comprehensive International Coverage We have updated and expanded coverage of international companies, markets, and events throughout the text.

Contemporary Coverage The 18th edition continues to provide updated real-world examples, using companies easily recognized by students to illustrate financial concepts presented in the text.

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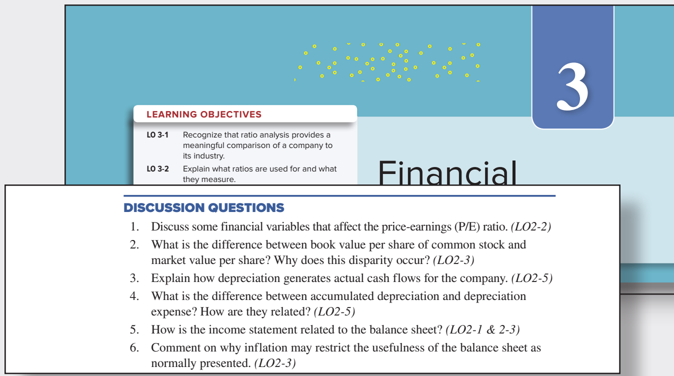
Distinguishing Features

Integration of Learning Objectives to Discussion Questions and Problems

The Learning Objectives (LOs) presented at the beginning of each chapter serve as a quick introduction to the material students will learn and should understand fully before moving to the next chapter. Every discussion question and problem at the end of each chapter refers back to the learning objective to which it applies.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Financial

LEARNING OBJECTIVES

LO 3-1 Recognize that ratio analysis provides a meaningful comparison of a company to its industry.

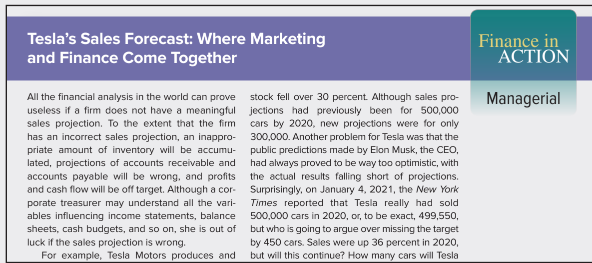
LO 3-2 Explain what ratios are used for and what they measure.

DISCUSSION QUESTIONS

1. Discuss some financial variables that affect the price-earnings (P/E) ratio. *(LO2-2)*
2. What is the difference between book value per share of common stock and market value per share? Why does this disparity occur? *(LO2-3)*
3. Explain how depreciation generates actual cash flows for the company. *(LO2-5)*
4. What is the difference between accumulated depreciation and depreciation expense? How are they related? *(LO2-5)*
5. How is the income statement related to the balance sheet? *(LO2-1 & 2-3)*
6. Comment on why inflation may restrict the usefulness of the balance sheet as normally presented. *(LO2-3)*

Expanded! Finance in Action Boxes

These boxed readings highlight specific topics of interest that relate to four main areas: managerial decisions, global situations, technology issues, and ethics. The inclusion of ethics is relevant given the many recent corporate scandals and the resulting governance issues. Web addresses are included in applicable boxes for easy access to more information on that topic or company.


Tesla's Sales Forecast: Where Marketing and Finance Come Together

Finance in ACTION

Managerial

All the financial analysis in the world can prove useless if a firm does not have a meaningful sales projection. To the extent that the firm has an incorrect sales projection, an inappropriate amount of inventory will be accumulated, projections of accounts receivable and accounts payable will be wrong, and profits and cash flow will be off target. Although a corporate treasurer may understand all the variables influencing income statements, balance sheets, cash budgets, and so on, she is out of luck if the sales projection is wrong.

For example, Tesla Motors produces and stock fell over 30 percent. Although sales projections had previously been for 500,000 cars by 2020, new projections were for only 300,000. Another problem for Tesla was that the public predictions made by Elon Musk, the CEO, had always proved to be way too optimistic, with the actual results falling short of projections. Surprisingly, on January 4, 2021, the *New York Times* reported that Tesla really had sold 500,000 cars in 2020, or, to be exact, 499,550, but who is going to argue over missing the target by 450 cars. Sales were up 36 percent in 2020, but will this continue? How many cars will Tesla

Pulling It Together with Color

Throughout the 18th edition, the authors make color an integral part of the presentation of finance concepts. Color is applied consistently across illustrations, text, and examples in order to enhance the learning experience. We hope that the color in this edition assists your understanding and retention of the concepts discussed.

Table 5-3 Volume–cost–profit analysis: Conservative firm

Units Sold	Total Variable Costs	Fixed Costs	Total Costs	Total Revenue	Operating Income (Loss)
0	$ 0	$12,000	$ 12,000	$ 0	$(12,000)
20,000	32,000	12,000	44,000	40,000	(4,000)
30,000	48,000	12,000	60,000	60,000	0
40,000	64,000	12,000	76,000	80,000	4,000
60,000	96,000	12,000	108,000	120,000	12,000
80,000	128,000	12,000	140,000	160,000	20,000
100,000	160,000	12,000	172,000	200,000	28,000

Excel, Calculator Solutions, and Formulas

In Chapters 9, 10, and 12, the authors have included discussions on how the examples are solved using Excel, financial calculators, and formulas. Newly formatted spreadsheet tables and screen captures detail the step-by-step method to solve the examples. The financial calculator keystrokes in the margins give instructors and students additional flexibility. The material can be presented using traditional methods without loss of clarity because the margin content supplements the prior content, which has been retained. The book and solutions manual provide Excel, calculator, and formula explanations for these very important calculations.

$$FV_A = \$1{,}000\left[\frac{(1+0.10)^4-1}{0.10}\right] = \$4{,}641$$

Because this problem involves an annuity rather than a single payment, when solving with a financial calculator, the value that we enter for the **PMT** key is –$1,000. Now we enter a zero for the **PV** key. As we computed earlier using the future value of an annuity equation, we find that when the interest rate is 10%, the future value of a 4-year, $1,000 annuity is $4,641.

Excel's **FV** function can also produce the future value of an annuity stream. The **FV** function assumes that each payment is at the end of a period as shown in the previous timeline. The annuity amount is entered as the **pmt** argument. The function in cell D1 uses cell references for the arguments in cells B1 to B4. The function in cell

FINANCIAL CALCULATOR

FV of Annuity

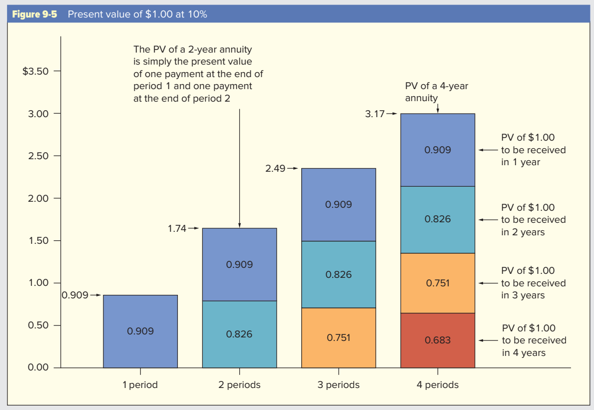
Enter	*Function*
4	N
10	I/Y
−1000	PMT
0	PV
Function	*Solution*

	A	B	C	D	E	F
1	rate	10.00%		=FV(B1,B2,B3,B4)		
2	nper	4.00		**FV**(rate, nper, pmt, [pv], [type])		
3	pmt	–1000		$4,641.00		
4	pv	0				
5				=+FV(0.1,4,–1000,0)		
6				**FV**(rate, nper, pmt, [pv], [type])		
7				$4,641.00		

Digital Illustrations of Time Value of Money (Chapter 9)

The concept of the "time value of money" is one of the most difficult topics in any financial management course for professors to communicate to students. We think we have created a visual method for teaching future value and present value of money that will help you understand the concept simply and quickly. The 18th edition includes interactive digital illustrations of four key figures in the text that visually relate future values and present values. We hope you agree that this visual presentation helps those students who are less comfortable with the math.

Figure 9-5 Present value of $1.00 at 10%



Practice Problems and Solutions

Two practice problems are featured at the end of each chapter. They review concepts illustrated within the chapter and enable the student to determine whether the material has been understood prior to completion of the problem sets. Detailed solutions to the practice problems are found immediately following each problem.

PRACTICE PROBLEMS AND SOLUTIONS

1. *a.* You invest $12,000 today at 9 percent per year. How much will you have after 15 years?
   b. What is the current value of $100,000 after 10 years if the discount rate is 12 percent?
   c. You invest $2,000 a year for 20 years at 11 percent. How much will you have after 20 years?

Future value
Present value
(LO9-2 & 9-3)

Comprehensive Problems

Several chapters have comprehensive problems that integrate and require the application of several financial concepts into one problem. Additional comprehensive problems are included in the Instructor's Manual for select chapters.

COMPREHENSIVE PROBLEM

Medical Research Corporation
(Marginal cost of capital and investment returns)
(LO11-5)

Medical Research Corporation is expanding its research and production capacity to introduce a new line of products. Current plans call for the expenditure of $100 million on four projects of equal size ($25 million each), but different returns. Project A is in blood clotting proteins and has an expected return of 18 percent. Project B relates to a hepatitis vaccine and carries a potential return of 14 percent. Project C, dealing with a cardiovascular compound, is expected to earn 11.8 percent, and Project D, an investment in orthopedic implants, is expected to show a 10.9 percent return.

The firm has $15 million in retained earnings. After a capital structure with $15 million in retained earnings is reached (in which retained earnings represent 60 percent of the financing), all additional equity financing must come in the form of new common stock.

Overall ratio analysis
(LO3-2)

22. The balance sheet for Revolution Clothiers is shown below. Sales for the year were $2,400,000, with 90 percent of sales sold on credit.

REVOLUTION CLOTHIERS
Balance Sheet 20X1

Assets		Liabilities and Equity	
Cash	$ 60,000	Accounts payable	$ 220,000
Accounts receivable	240,000	Accrued taxes	30,000
Inventory	350,000	Bonds payable (long-term)	150,000
Plant and equipment	410,000	Common stock	80,000
		Paid-in capital	200,000
		Retained earnings	380,000
Total assets	$1,060,000	Total liabilities and equity	$1,060,000

Compute the following ratios:

a. Current ratio
b. Quick ratio
c. Debt-to-total-assets ratio
d. Asset turnover
e. Average collection period

Debt utilization ratios
(LO3-2)

23. The Lancaster Corporation's income statement is given below.
a. What is the times-interest-earned ratio?
b. What would be the fixed-charge-coverage ratio?

LANCASTER CORPORATION

Sales	$246,000
Cost of goods sold	122,000
Gross profit	$124,000
Fixed charges (other than interest)	27,500
Income before interest and taxes	$ 96,500
Interest	21,800
Income before taxes	$ 74,700
Taxes (35%)	26,145
Income after taxes	$ 48,555

Excel Problems

Select chapters feature Excel problems, denoted with an icon, to provide practice for working with spreadsheets. **New to the 18th edition,** the Excel problems featured in the book will be available as assignable content within McGraw Hill Connect® using the Integrated Excel tool, providing assessment opportunities to facilitate mastery in working with Excel. Additional Excel problems are also available via Connect.

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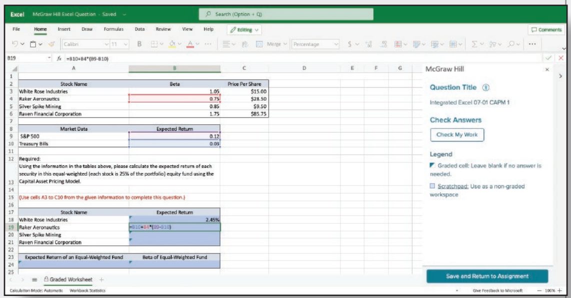

Supplements

Instructor Resources

The Connect Instructor Resource Library is your repository for additional resources to improve student engagement in and out of class. The following ancillaries are available for quick download and convenient access:

- **Instructor's Manual** Revised by author Geoff Hirt, the manual helps instructors integrate the graphs, tables, perspectives, and problems into a lecture format. Each chapter opens with a brief overview and a review of key chapter concepts. The chapter is then outlined in an annotated format to be used as an in-class reference guide by the instructor.
- **Solutions Manual** Updated by author Bart Danielsen, the manual includes detailed solutions to all of the questions and problems, set in a larger type font to facilitate their reproduction in the classroom. Calculator, Excel, and formula solutions are included for all relevant problems.
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- Add instructions and configure default settings.

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>
> \- Jordan Cunningham, Eastern Washington University

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Finance in ACTION

Global

List of Selected Global Examples and Boxes

Final PDF to printer

PART ONE

Introduction

CHAPTER 1
The Goals and Activities of Financial Management

1

The Goals and Activities of Financial Management

LEARNING OBJECTIVES

LO 1-1 List some of the concepts the field of finance covers.

LO 1-2 Recognize that a firm can have many different forms of organization.

LO 1-3 Describe how the relationship of risk to return is a central focus of finance.

LO 1-4 Explain the primary goal of financial managers.

LO 1-5 Recall that financial managers attempt to achieve wealth maximization through daily activities such as credit and inventory management and through longer-term decisions related to raising funds.

LO 1-6 Explain future and present value and how they relate to the time value of money.

When the COVID-19 pandemic struck in 2020, 3M Company rushed to set up new production lines for ventilator masks, respirators, and other personal protective equipment. The medical community, where 3M's products are highly regarded, appreciated these efforts. But 3M isn't just a medical products company. Most students have used 3M's Scotch tape and Post-It notes products. In fact, 3M sells over 55,000 different products in 26 different business lines. The company has always been known for its ability to create new products and markets, and, at times, as much as 35 percent of its sales have been generated from products developed in the previous five years. To accomplish these goals, 3M's research and development has to be financed, the design and production functions funded, and the products marketed and sold worldwide. This process involves all the functions of business.

Did you ever stop to think about the importance of the finance function for a $100 billion multinational company like 3M where 60 percent of sales are international? Someone has to manage the international cash flow, bank relationships, payroll, purchases of plant and equipment, and acquisition of capital. Financial decisions must be made concerning the feasibility and profitability of the continuous stream of new products developed through 3M's creative research and development efforts. The finance team needs to keep an eye on interest rates and foreign exchange rates.

To have a competitive and flexible multinational company, the financial team must manage 3M's global affairs and react quickly to changes in both product markets and financial markets. But what processes do companies use to make effective financial decisions? If you would like to do some research on 3M, you can access its home page at www.3m.com. If you would like to understand more about how businesses make good financial decisions, keep reading.

The Field of Finance

In a sense, the field of finance fits between the fields of economics and accounting. Economics provides a broad picture of the economic environment in which businesses operate. For example, economists consider how consumers and producers change their behaviors in response to price changes and other incentives. In fact, finance is so closely tied to economics that many of the best-known winners of the Nobel Prize for Economics were actually financial economists. These finance pioneers were primarily concerned with how investors might measure various risks and how these investors should set the price of stocks, bonds, and other assets (like options) once they understand the nature of those risks. Obviously, a financial manager needs to be concerned with issues like these.

Accounting is sometimes said to be the language of finance because it provides financial data through income statements, balance sheets, and the statement of cash flows. A financial manager needs to know how to interpret and use these statements to extract clues about how to allocate resources so that they generate the best return possible in the long run. Finance is so closely tied to accounting that the chief financial officer (CFO) at most large businesses is not only charged with financial planning, but is also responsible for the firm's accounting and tax systems.

One important difference between the finance function and accounting is that accounting generally measures the results of a business's past activities and conveys this information through financial statements to management, stockholders, regulators, and others. In contrast, finance is generally forward-looking. The future is still unknown and filled with risks and opportunities. Finance principles must be used to decide which path to choose from among many competing future investment options. After a path has been selected, the accounting function will record the results.

Investments vs. Corporate Finance

Finance is such a broad topic that the field is often divided into two general subcategories, **investments** and **corporate finance**. A somewhat simplistic way to distinguish between these two subcategories of finance is to consider who is most likely to practice each. Let's consider Apple, the large computer, phone, and technology company. Investors use investment principles to value the stock and bonds of many companies, including those of Apple. Then these investors choose which stocks and bonds to buy. They may choose to buy Apple stock, or Apple's bonds, or the stock and bonds of other companies. Actually, investors often invest in a **portfolio** of securities issued by multiple companies. Notice that these investors are not likely to be employees or even consultants to Apple. They operate completely outside of the corporate enterprise.

In contrast, corporate finance is of daily concern to many people who are employed by Apple. Corporate finance principles are used to determine which assets the firm should develop or buy, which securities Apple should issue (stocks vs. bonds), how management compensation should be structured, and other "inside the company" issues.

Most students of finance start out exploring corporate finance and later extend their studies to investments. Notice that this book is titled *Foundations of Financial Management*. The term **financial management** can be used interchangeably with *corporate finance.* Thus, true to its name, this text is primarily concerned with introductory corporate finance topics. However, financial managers can't work successfully while staying inside a bubble. They must also be familiar with various investments topics. It would be almost impossible to satisfy the firm's shareholders and bankers if management is unaware of how outside investors evaluate the company. Thus, you will be introduced to various investments-related topics as they are needed for the training of a novice financial manager.

The Value of Studying Finance

Many students approaching the field of finance for the first time might wonder what career opportunities exist. For those who develop the necessary skills and training, jobs include corporate financial officer, banker, stockbroker, financial analyst, portfolio manager, investment banker, financial consultant, or personal financial planner. As we progress through the text, you will become increasingly familiar with the important role of the various participants in the financial decision-making process. A financial manager addresses such varied issues as decisions on plant location, the raising of capital, or simply how to get the highest return on the firm's cash cushion between five o'clock this afternoon and eight o'clock tomorrow morning.

For students who have no intention of pursuing a job in the field of finance, an understanding of finance is still important. For students of management, you should be aware that the top management job in a business is held by the chief executive officer (CEO). The CEO reports directly to the board of directors and is responsible for managing the overall business. According to the international consulting firm McKinsey & Company, about a fifth of all CEOs of publicly traded companies in the United Kingdom and the United States once served as CFO. All other CEOs have almost certainly had some training in finance because managing a firm is almost impossible without it.

Over time, the field of marketing has also become more closely linked to finance. Marketing managers today are interested in the return on investment from money spent on marketing initiatives. Also, inputs provided by marketing specialists are often key variables used to assess the viability of various proposed projects. Financial analysts need to know what level of sales and revenue can be expected if a course of action is undertaken, and marketing professionals often take the lead in proposing new product lines. Moving a product from proposal to production requires an assessment that the product will be financially viable. No marketing professional wants to be uninformed about how their product's financial viability is being determined.

For many readers, the most personal reason that you will want to study finance is because you will be faced with important financial decisions in your own life. After graduation, some students will consider taking out a student loan to attend graduate school. Graduating with an advanced degree sometimes results in greater earning potential, but when the time comes to pay off the loan, what will the payments be? Will the student be able to look back on the borrowing decision as a good one? On a different note, once you begin a career, most businesses no longer provide pensions that guarantee a defined benefit for retiring employees. Instead, employers deposit funds into a 401(k) account, or some other defined contribution account. How much an employee can expect to receive in retirement benefits is dependent upon how well the funds are invested over the individual's career.

Throughout your life, you will be faced with financial decisions, and the more financially successful you become, the more financial decisions you will be asked to make, in both your personal life and your business life. Hopefully, you will find good mentors along the way. But for now, this text is a good place to begin your quest for financial literacy.

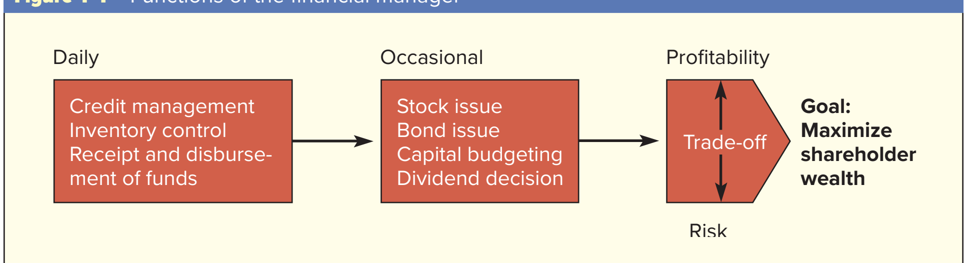
Activities of Financial Management

Financial managers perform a wide array of activities. Some of their responsibilities must be addressed virtually every day. Others are addressed quarterly or annually. On a daily basis, financial managers monitor cash balances, manage credit decisions to determine which customers should be allowed to purchase on credit, monitor inventory levels to ensure product is available to customers, and collect and distribute cash in the course of daily operations. Less routine functions encompass negotiations with banks for loans to finance business operations, the sale of stocks and bonds, and the establishment of capital budgeting and dividend plans. Some financial activities are so infrequent that they might only take place once in a financial manager's career. Helping to determine whether to sell a subsidiary or whether to take a private company public are two possible examples.

As indicated in Figure 1-1, all these functions are carried out while balancing the profitability and risk components of the firm.

The appropriate risk-return trade-off must be determined to maximize the market value of the firm for its shareholders. The risk-return decision will influence not only the operational side of the business (capital versus labor or Product A versus Product B) but also the financing mix (stocks versus bonds versus retained earnings).

Figure 1-1 Functions of the financial manager



Forms of Organization

The finance function may be carried out within a number of different forms of organizations. Of primary interest are the sole proprietorship, the partnership, and the corporation. There are many reasons to choose one of these forms of organization. The number of people in the organization is one factor. The liability of the owners is another. Other reasons are the complexity involved with state and federal regulations and how these organizations are taxed. This is borne out by the 2017 Tax Cuts and Jobs Act, which significantly modified taxation for all these forms of organizations.

Sole Proprietorship The **sole proprietorship** form of organization represents single-person ownership and offers the advantages of simplicity of decision making and low organizational and operating costs. Most small businesses with 1 to 10 employees are sole proprietorships. The major drawback of the sole proprietorship is that there is unlimited liability to the owner. In settlement of the firm's debts, the owner can lose not only the capital that has been invested in the business but also personal assets. This drawback can be serious, and you should realize that few lenders are willing to advance funds to a small business without a personal liability commitment.

The profits or losses of a sole proprietorship are taxed as though they belong to the individual owner. Thus, if a sole proprietorship makes $50,000, the owner will claim the profits on his or her tax return. (In the corporate form of organization, the corporation pays a tax on profits, and then the owners of the corporation pay a tax on any distributed profits.) Approximately 72 percent of the 30 million business firms in this country are organized as sole proprietorships.

Partnership The second form of organization is the **partnership**, which is similar to a sole proprietorship except there are two or more owners. Multiple ownership makes it possible to raise more capital and to share ownership responsibilities. Most partnerships are formed through an agreement between the participants, known as the **articles of partnership**, which specify the ownership interest, the methods for distributing profits, and the means for withdrawing from the partnership. For taxing purposes, partnership profits or losses are allocated directly to the partners, and there is no double taxation as there is in the corporate form.

Like the sole proprietorship, the partnership arrangement carries unlimited liability for the owners. While the partnership offers the advantage of *sharing* possible losses, it presents the problem of owners with unequal wealth having to absorb losses. If three people form a partnership with a $10,000 contribution each and the business loses $100,000, one wealthy partner may have to bear a disproportionate share of the losses if the other two partners do not have sufficient personal assets.

To circumvent this shared unlimited liability feature, a special form of partnership, called a **limited liability partnership**, can be utilized. Under this arrangement, one or more partners are designated general partners and have unlimited liability for the debts of the firm; other partners are designated limited partners and are liable only for their initial contribution. The limited partners are normally prohibited from being active in the management of the firm. You may have heard of limited partnerships in real estate syndications in which a number of limited partners are doctors, lawyers, and CPAs and there is one general partner who is a real estate professional. Not all financial institutions will extend funds to a limited partnership.

Corporation In terms of revenue and profits produced, the corporation is by far the most important type of economic unit. While only about 20 percent of U.S. business firms are corporations, they are dominated by large corporations like Apple, Microsoft, Amazon, Exxon, and Walmart. Approximately 80 percent of sales and 70 percent of profits can be attributed to the corporate form of organization. The **corporation** is unique—it is a legal entity unto itself. Thus, the corporation may sue or be sued, engage in contracts, and acquire property. A corporation is formed through **articles of incorporation**, which specify the rights and limitations of the entity.

A corporation is owned by shareholders who enjoy the privilege of limited liability, meaning their liability exposure is generally no greater than their initial investment.[1] A corporation also has a continual life and is not dependent on any one shareholder for maintaining its legal existence.

A key feature of the corporation is the easy divisibility of the ownership interest by issuing shares of stock. While it would be nearly impossible to have more than 10,000 or 20,000 partners in most businesses, a corporation may have several hundred thousand shareholders. For example, General Electric has 8.8 billion shares of common stock outstanding with 63.6 percent institutional ownership (pension funds, mutual funds, etc.), while Microsoft, with 7.6 billion shares outstanding, has 74 percent institutional ownership.

The shareholders' interests are ultimately managed by the corporation's board of directors. The directors may include key management personnel of the firm as well as directors from outside the firm. Directors serve in a fiduciary capacity for the shareholders and may be liable for the mismanagement of the firm. After the collapse of very large publicly traded corporations such as Enron and WorldCom due to fraud, the role of outside directors became much more important, and corporations were motivated to comply with more stringent corporate governance laws mandated by Congress. Outside directors may make a few thousand dollars per year for serving on the board of small companies, but directors serving on the boards of S&P 500 companies earn fees of more than $250,000 per year, on average. Directors serving on the audit and compensation committees are frequently paid additional fees.

Because the corporation is a separate legal entity, it reports and pays taxes on its *own* income. As previously mentioned, any remaining income that is paid to the shareholders in the form of dividends will require the payment of a second tax by the shareholders. One of the key disadvantages to the corporate form of organization is this potential double taxation of earnings. The company pays taxes on its income and, when stockholders receive their dividends, they pay a second tax. The federal tax on dividends ranges from 0 percent for low-income individuals to 15 percent and finally 23.8 percent for people in the highest tax bracket. States also tax dividends at various rates.

The federal corporate tax rate has changed over the years. Relatively recently, the 2017 Tax Cuts and Jobs Act cut the U.S. corporate tax rate from 35 percent to 21 percent. This put U.S. companies on a competitive footing with companies headquartered in other countries. Prior to this tax cut, several U.S.-based companies had moved their operations overseas to avoid the higher U.S. rate. Whether tax rates will rise or fall further is an open question. With more employees working online, the headquarters operations for most multinational companies can be placed almost anywhere. Recognizing this, countries around the world have slashed tax rates in an effort to attract and retain businesses. Most governments probably would like to increase corporate taxes, but they don't want to drive businesses out of their jurisdiction.

[1]An exception to this rule is made if shareholders buy their stock at less than par value. Then they would be liable for up to the par value.

There is a way for corporations to completely avoid corporate income taxes, and that is through formation of an S corporation. With an **S corporation**, the income is taxed as direct income to the stockholders and thus is taxed only once as normal income, similar to a partnership. Nevertheless, the shareholders receive all the organizational benefits of a corporation, including limited liability. The S corporation designation can apply to domestic corporations that have up to 100 stockholders and have only one class of stock with allowable shareholders being individuals, estates, and certain trusts.

The **limited liability company (LLC)** has become a popular vehicle for conducting business because of its highly flexible structure. An LLC is not technically a corporation, but like a corporation it provides limited liability for the owners. LLCs can be taxed as sole proprietorships, partnerships, corporations, or S corporations, depending upon elections made by the owners.

While the proprietorship, traditional partnership, and various forms of limited partnerships are all important, the corporation is given primary emphasis in this text. Because of the all-pervasive impact of the corporation on our economy, and because most growing businesses eventually become corporations, the effects of most decisions in this text are often considered from the corporate viewpoint.

Corporate Governance

As we learned in the previous section, the corporation is governed by the board of directors, led by the chairman of the board. In many companies, the chairman of the board is also the CEO, or chief executive officer. During the stock market collapse of 2000–2002, many companies went bankrupt due to mismanagement or, in some cases, financial statements that did not accurately reflect the financial condition of the firm because of deception as well as outright fraud. Companies such as WorldCom reported over $9 billion of incorrect or fraudulent financial entries on their income statements.

Enron also declared bankruptcy after it became known that its accountants kept many financing transactions "off the books." The company had more debt than most of its investors and lenders knew about. Many of these accounting manipulations were too sophisticated for the average analyst, banker, or board member to understand. In the Enron case, the U.S. government indicted its auditor, Arthur Andersen, and because of the indictment, the Andersen firm was dissolved. In response to these scandals and audit failures, in 2002 Congress passed the **Sarbanes–Oxley Act** which created new legally binding standards for public companies related to auditor independence and independence of the board of directors in their relationships with management. The major focus of the act was to make sure that publicly traded corporations accurately present their assets, liabilities, equity, and income on their financial statements.

Nevertheless, in the financial crisis in 2007–2009 it appeared that boards of directors of many large financial firms didn't understand the risk that their management had taken in extending mortgages to high credit risks. Even senior management didn't understand the risk embodied in some of the mortgage-backed securities that their organizations had bought for investments. This total lack of risk management oversight continued to put a focus on corporate governance issues. With these two events coming so close together, many questioned the ability of large companies and financial institutions to regulate themselves. Why didn't the boards of directors know what was going on and stop it? Why didn't they fire members of management and clean house? Why did they allow such huge bonuses and executive compensation when companies were performing so poorly? In response to the financial crisis, Congress passed the **Dodd–Frank Act**, officially known as the Wall Street Reform and Consumer Protection Act of 2010. Dodd–Frank was the first major financial regulatory change in the United States since the Great Depression. While the legislation is complex, its goal was to grant regulators more effective tools to identify and reduce systemic risks that might undermine the stability of the U.S. financial system. While Dodd–Frank outlines several broad goals and assigns regulatory responsibility, the actual rulemaking and implementation have been largely left to the different agencies charged with enforcement.

Many issues of corporate governance are really agency problems. **Agency theory** examines the relationship between the owners and the managers of the firm. In privately owned firms, management and owners are usually the same people. Management operates the firm to satisfy its own goals, needs, financial requirements, and the like. However, as a company moves from private to public ownership, management now represents all the owners. This places management in the agency position of making decisions that should be in the best interests of all shareholders. Because of diversified ownership interests, conflicts between managers' and shareholders' interests can arise. When the chairman is also the chief executive of the firm, stockholders recognize that the executive may act in his or her own best interests rather than those of the stockholders of the firm. In the prior bankruptcy examples, that is exactly what happened. Management filled their own pockets and left the stockholders with little or no value in the company's stock. In the WorldCom case, a share of common stock fell from the $60 range to eventually being worthless, and Bernie Ebbers, the CEO and chairman of the board, ended up in jail. Because of these potential conflicts of interest, many hold the view that the chairman of the board of directors should be from outside a company rather than an executive of the firm.

Because **institutional investors** such as pension funds and mutual funds own a large percentage of stock in major U.S. companies, these investors are having more to say about the way publicly owned corporations are managed. As a group they have the ability to vote large blocks of shares for the election of a board of directors. The threat of their being able to replace poorly performing boards of directors makes institutional investors quite influential. Since pension funds and mutual funds represent individual workers and investors, they have a responsibility to see that firms are managed in an efficient and ethical way.

The Time Value of Money

The most fundamental concept in all of finance is the **time value of money (TVM)**. This is the idea that a dollar received today is worth more than a dollar that we expect to receive at some date in the future. Similarly, a dollar that is received today can be invested so that it will grow in value over the course of time. Thus, the **future value** of a dollar is greater than a dollar. Today's dollar value is referred to as the **present value**. The relationship between future value and present value is given by the following formula:

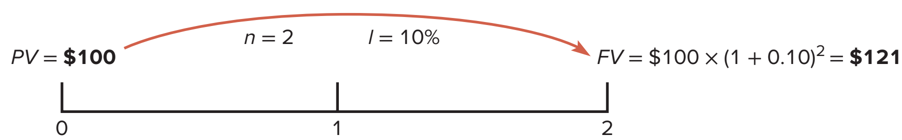
$$\mathrm{FV} = \mathrm{PV}(1 + i)^n \tag{1-1}$$

FV = Future value
PV = Present value
i = Interest rate
n = Number of periods

Here is a simple example. If \$100 can be invested for one year and grow at an interest rate of 10 percent, then the future value of that investment is \$110.

$$FV = \$100 \times (1 + 0.10)^1 = \$110$$

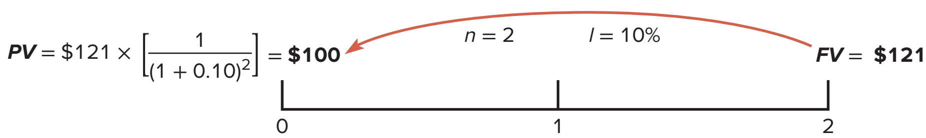
One hundred dollars today is worth the same thing as \$110 held one year from today. If the \$100 investment could earn 10 percent for 2 years, the future value of \$100 two years from today is \$121, as illustrated in the following timeline:



Future value equation (1-1) can also be reorganized as present value equation (1-2) as follows:

$$\mathrm{PV} = \mathrm{FV}\left[\frac{1}{(1 + i)^n}\right] \tag{1-2}$$

Thus, if an investor expects to receive \$121 in 2 years while interest rates are 10 percent, then the present value of the investment is \$100.



We will devote an entire chapter (Chapter 9) to exploring the complexities related to TVM. For now, the most important TVM idea for us to understand is that when an investment is expected to earn money at some date in the future, we can calculate the value of that investment today. Today's value is the present value.

The present value concept has many applications. For example, the value of an apartment building is based on the present value of all the future rents that the owner expects to receive from tenants. The value of a farm today is based on the present value of future crops that the farmer expects to raise and sell, and the value of a share of stock today is the present value of all future expected dividends that the stockholder will receive.

This insight is important for us to understand the financial goals of a business. We discuss the goals of financial management in the next section.

Goals of Financial Management

Let us look at several alternative goals for the financial manager as well as the other managers of the firm. One may suggest that the most important goal for financial management is to "earn the highest possible profit for the firm." Under this criterion, each decision would be evaluated on the basis of its overall contribution to the firm's profits. While this seems to be a desirable approach, there are some serious drawbacks to profit maximization as the primary goal of the firm.

First, a change in profit may also represent a change in risk. A conservative firm that earned a profit of $1.25 per share may be a less desirable investment if its earnings per share increase to $1.50, but the risk inherent in the operation increases even more.

A second possible drawback to the goal of maximizing profit is that it fails to consider the timing of the benefits. For example, if we could choose between the following two alternatives, we might be indifferent if our emphasis were solely on maximizing earnings.

	Earnings per Share		
	Period One	**Period Two**	**Total**
Alternative A	$1.50	$2.00	$3.50
Alternative B	2.00	1.50	3.50

Both investments would provide $3.50 in total earnings, but Alternative B is clearly superior because the larger benefits occur earlier. As we discussed in the prior section, a dollar received today is worth more than a dollar received next year. We could reinvest the difference in earnings for Alternative B one period sooner.

Finally, the goal of maximizing profit suffers from the almost impossible task of accurately measuring the key variable in this case: profit. As you will observe throughout the text, there are many different economic and accounting definitions of profit, each open to its own set of interpretations. Furthermore, problems related to inflation and international currency transactions complicate the issue. Constantly improving methods of financial reporting offer some hope in this regard, but many problems remain.

A simple example should convince you that maximizing current profits should not be the primary goal of management. Tesla Inc. was incorporated in 2003, but it never earned an accounting profit until 2020. By then, Tesla was one of the world's most valuable companies, with a market value of over $400 billion. If Elon Musk had prioritized current profits over long-run results, he would not have built the world's most valuable automotive company.

A Valuation Approach

While there is no question that profits are important, the key issue is how to use them in setting a goal for the firm. The ultimate measure of performance is not simply what the firm earns but how the earnings are valued by investors. This is why the time value of money concept is so important. Businesses are valued in the present (present value) even though most of the cash flows that a business produces will not be realized for many years. Shareholders are not simply interested in current profits; they are also interested in all of the firm's *future* earnings.[2] Investors want managers to adopt a long-term perspective because all of those future earnings are part of the firm's present value today. The firm's current overall value is really the present value of all the firm's future cash flows. When management considers a course of action, they can adopt a simple rule: If the decision increases the firm's overall value, it is acceptable from a financial viewpoint; otherwise, it should be rejected.

Maximizing Shareholder Wealth

Corporations have both shareholders and debtholders (banks or bondholders). Shareholders own the firm, and they control it. However, as a general rule, debtholders' claims, which are for a fixed amount, must be fully satisfied before the business can distribute cash to shareholders. The shareholders have a **residual claim**, meaning that the value of their claims is not fixed. Shareholders actually can claim everything that is left over after the debtholders are paid.

As a result, when managers maximize the value of the firm, they are also maximizing the wealth of the shareholders. The broad goal of the firm can be brought into focus if we say the financial manager should attempt to *maximize the wealth of the firm's shareholders* through achieving the highest possible value for the firm. For the most part, this means that managers should maximize the price of the firm's stock because the firm's stock price is really the present value of everything that shareholders expect to receive from the business over the long haul.

Shareholder wealth maximization is not a simple task because the financial manager cannot directly control the firm's stock price but can only act in a way that is consistent with the desires of the shareholders. Since stock prices are affected by expectations of the future as well as by the current economic environment, much of what affects stock prices is beyond management's direct control. Even firms with good earnings and favorable financial trends do not always perform well in a declining stock market over the short term.

The concern is not so much with daily fluctuations in stock value as with long-term wealth maximization. This can be difficult in light of changing investor expectations. In the 1970s and 1980s, investors tended to highly value lower-risk companies with steady earnings and high current dividend payments. By the late 1990s, investors valued companies very highly when the firms seemed to have opportunities for commercial applications on the new Internet. Some highly valued companies had a great story but no actual sales, yet their stock sold at extremely high prices. Some analysts in the financial community said that the old valuation models were dead, didn't work, and were out of date; earnings and cash flow didn't matter anymore. Alan Greenspan, then chairman of the Federal Reserve Board, made the now-famous remark that the high-priced stock market was suffering from "irrational exuberance." By late 2000, many

[2]Later in the text, we will learn that investors are actually interested in the firm's future cash flows, but for now we will assume that future earnings and future cash flows are the same thing.

of these companies turned out to be short-term wonders. A few years later, hundreds were out of business.

More recently, between 2009 and 2020, the stock market rose by almost 400 percent, even after suffering a setback from the global COVID-19 pandemic. During this period, large high-growth, but low-profit firms like Amazon and Tesla significantly outperformed the rest of the market, but no one knows how long investors will prefer firms with low current profits and big future prospects. As a historical warning, in 2013 ExxonMobil was the most valuable public company in the world. By 2020 the oil company had been dropped from the Dow Jones Industrial Average after only seven years of poor stock price performance.

Management and Stockholder Wealth

Does modern corporate management always follow the goal of maximizing shareholder wealth? Under certain circumstances, management may be more interested in maintaining its own tenure and protecting "private spheres of influence" than in maximizing stockholder wealth. For example, suppose the management of a corporation receives a tender offer to merge the corporation into a second firm; while this offer might be attractive to shareholders, it might be quite unpleasant to present management because their jobs might be eliminated.

Fortunately, several factors make managers of large public companies attentive to shareholder concerns, at least in the U.S. setting. First, management is usually aware that the best way to maintain its position over the long run is to be sensitive to shareholder concerns. Poor stock price performance relative to other companies often leads to undesirable takeovers and proxy fights for control. Second, boards of directors now try to align management's incentives with those of the shareholders. Often, companies grant managers stock options that ensure that managers get richer only if shareholders get richer. Third, powerful institutional investors now often control enough shares in large companies that they are able to influence the board enough to unseat managers who are not responsive to shareholders' interests.

Social Responsibility and Ethical Behavior

Is our goal of shareholder wealth maximization consistent with a concern for social responsibility for the firm? In most instances the answer is yes. By adopting policies that maximize values in the market, the firm can attract capital, provide employment, and offer benefits to its community. This is the basic strength of the private enterprise system.

Nevertheless, certain socially desirable actions such as pollution control, equitable hiring practices, and fair pricing standards may at times be inconsistent with achieving maximum valuation in the market, absent government mandates. For example, pollution control projects frequently offer a negative return. Therefore, pollution abatement and certain other cost-increasing activities may have to be mandatory rather than voluntary to ensure that the burden falls on the polluting firm. However, there is evidence that socially responsible behavior can often be profitable. For example, 3M estimates that its Pollution Prevention Pays (3P) program has had financial benefits as well as social benefits. This program has been in place for over 34 years and during this time has prevented the release of more than 3.8 billion pounds of pollutants and saved over $1.7 billion.

Finance in ACTION

Managerial

The Purpose of the Corporation

Ever since Nobel Prize–winning economist Milton Friedman proposed that the purpose of business was to maximize the profit of the firm for the benefit of the shareholders, this has been the focus of corporations. Financial textbooks propose that maximizing the value of the firm goes hand in hand with Friedman's statement. As late as 1997, the Business Roundtable agreed with this statement.

The Business Roundtable is an organization of over 200 chief executive officers (CEOs) representing almost every type of business from banking to transportation. You would recognize most of the companies such as Disney, Microsoft, Marriott, Mattel, Lockheed Martin, and Home Depot, to name a few. You might also recognize some CEOs like Tim Cook of Apple, Mary Barra of General Motors, and Jeff Bezos of Amazon. Here is a link to the members: www.businessroundtable.org/about-us/members.

Jamie Dimon, the chairman and CEO of JP Morgan Chase and the chairman of the Business Roundtable, had this to say about the state of business as the Business Roundtable proposed a revised purpose and focus for business on August 19, 2019:

> *The American dream is alive, but fraying. Major employers are investing in their workers and communities because they know it is the only way to be successful over the long term. These modernized principles reflect the business community's unwavering commitment to continue to push for an economy that serves all Americans.*

Dimon's statement was in reference to the Business Roundtable's adoption of a new set of principles to guide the focus of business. While it did not abandon the focus of maximizing the value of the firm through the emphasis on profits, it did say that the achievement of profit is connected with a responsibility to the community and employees where the company operates. Below is the complete statement that appears on the Business Roundtable webpage: https://opportunity.businessroundtable.org/ourcommitment.

Statement on the Purpose of a Corporation

Americans deserve an economy that allows each person to succeed through hard work and creativity and to lead a life of meaning and dignity. We believe the free-market system is the best means of generating good jobs, a strong and sustainable economy, innovation, a healthy environment and economic opportunity for all.

Businesses play a vital role in the economy by creating jobs, fostering innovation and providing essential goods and services. Businesses make and sell consumer products; manufacture equipment and vehicles; support the national defense; grow and produce food; provide health care; generate and deliver energy; and offer financial, communications and other services that underpin economic growth.

While each of our individual companies serves its own corporate purpose, we share a fundamental commitment to all of our stakeholders. We commit to:

- Delivering value to our customers. We will further the tradition of American companies leading the way in meeting or exceeding customer expectations.
- Investing in our employees. This starts with compensating them fairly and providing important benefits. It also includes supporting them through training and education that help develop new skills for a rapidly changing world. We foster diversity and inclusion, dignity and respect.
- Dealing fairly and ethically with our suppliers. We are dedicated to serving as good partners to the other companies, large and small, that help us meet our missions.
- Supporting the communities in which we work. We respect the people in our communities and protect the environment by embracing sustainable practices across our businesses.
- Generating long-term value for shareholders, who provide the capital that allows companies to invest, grow and innovate. We are committed to transparency and effective engagement with shareholders.

(continued)

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Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country.

Released: August 19, 2019

Signatures updated: September 2019, December 2019, February 2020, April 2020, June 2020, August 2020, September 2020, and October 2020.

Sources: www.businessroundtable.org/about-us/members, https://purpose.businessroundtable.org, https://opportunity.businessroundtable.org, https://opportunity.businessroundtable.org/ourcommitment, https://fortune.com/longform/business-roundtable-ceos-corporations-purpose (All accessed December 7, 2020).

Unethical and illegal financial practices on Wall Street by corporate financial "dealmakers" have made news headlines from the late 1980s until the present, and insider trading is a good example of both. **Insider trading** occurs when someone uses information that is not available to the public to profit from trading in a company's publicly traded securities. This practice is illegal and the Securities and Exchange Commission (SEC) works to protect investors from insider trading. Sometimes the insider is a company manager; other times it is the company's lawyer, its investment banker, or even the printer of the company's financial statements. Trading by insiders on private information serves no beneficial economic or financial purpose to the public. It could be argued that insider trading hurts the average shareholder's interests because it destroys confidence in the securities markets by making the playing field uneven for investors. If participants feel the markets are unfair, it could destroy firms' ability to raise capital or maximize shareholder value. The penalties for insider trading can be severe—there is a long history of insider traders who have gone to prison.

Ethics and social responsibility can take many different forms. Ethical behavior for a person or company is usually rewarded because it enhances the ethical party's reputation, and a good reputation gives a business or individual better earning prospects in the future. However, once that reputation is lost because of unethical behavior, it is very difficult to get back. Proof of this comes from insider trading cases against hedge funds that proved not to stand up in court, but nevertheless, the hedge funds went out of business because just the whiff of bad behavior forced them to close their doors. Some companies are more visible than others in their pursuit of these ethical goals, and most companies that do a good job in this area are profitable, save money, and are good citizens in the communities where they operate.

The Role of the Financial Markets

You may wonder how a financial manager knows whether he or she is maximizing shareholder value and how ethical (or unethical) behavior may affect the value of the company. This information is provided daily to financial managers through price changes determined in the financial markets. But what are the financial markets? **Financial markets** are the meeting place for people, corporations, and institutions that either need money or have money to lend or invest. In a broad context,

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the financial markets exist as a vast global network of individuals and financial institutions that may be lenders, borrowers, or owners of public companies worldwide. Participants in the financial markets also include national, state, and local governments that are primarily borrowers of funds for highways, education, welfare, and other public activities; their markets are referred to as **public financial markets**. Corporations such as Coca-Cola, Nike, and Ford, on the other hand, raise funds in the **corporate financial markets**.

Structure and Functions of the Financial Markets

Financial markets can be broken into many distinct parts. Some divisions such as domestic and international markets, or corporate and government markets, are self-explanatory. Others such as money and capital markets need some explanation. **Money markets** are markets dealing with short-term securities that have a life of one year or less. Securities in these markets include commercial paper sold by corporations to finance their daily operations and certificates of deposit with maturities of less than one year sold by banks. Examples of money market securities are presented more fully in Chapter 7.

Capital markets are generally defined as markets where securities have a life of more than one year. Although capital markets are long-term markets, as opposed to short-term money markets, it is common to break down the capital markets into intermediate markets (1 to 10 years) and long-term markets (greater than 10 years). The capital markets include securities such as common stock, preferred stock, and corporate and government bonds. Capital markets are fully presented in Chapter 14. Now that you have a basic understanding of the makeup of the financial markets, you need to understand how these markets affect corporate managers.

Allocation of Capital

A corporation relies on financial markets to provide funds for short-term operations and for new plant and equipment. A firm may go to the markets and raise financial capital either by borrowing money through a debt offering of corporate bonds or short-term notes or by selling ownership in the company through an issue of common stock. When a corporation uses financial markets to raise new funds, called an initial public offering, or IPO, the sale of securities is said to be made in the **primary market** by way of a new issue. After the securities are sold to the public (institutions and individuals), they are traded in the **secondary market** between investors. It is in the secondary market that prices are continually changing as investors buy and sell securities based on their expectations of a corporation's prospects. It is also in the secondary market that financial managers are given feedback about their firms' performance.

How does the market allocate capital to the thousands of firms that are continually in need of money? Let us assume that you graduate from college as a finance major and are hired to manage money for a wealthy family like the Waltons of Walmart. You are given $250 million to manage and you can choose to invest the money anywhere in the world. For example, you could buy common stock in Microsoft, the American software company, or in Nestlé, the Swiss food company, or in Cemex, the Mexican cement company; you could choose to lend money to the U.S. or Japanese government by purchasing its bonds; or you could lend money to ExxonMobil or BP. Of course, these are only some of the endless choices you would have.

How do you decide to allocate the $250 million so that you will maximize your return and minimize your risk? Some investors will choose a risk level that meets their objective and maximize return for that given level of risk. By seeking this risk-return objective, you will bid up the prices of securities that seem underpriced and have potential for high returns and you will avoid securities of equal risk that, in your judgment, seem overpriced. Since all market participants play the same risk-return game, the financial markets become the playing field, and price movements become the winning or losing score. Let us look at only the corporate sector of the market and 100 companies of equal risk. Companies with expectations for high return will have higher relative common stock prices than companies with poor expectations. Since the securities' prices in the market reflect the combined judgment of all the players, price movements provide feedback to corporate managers and let them know whether the market thinks they are winning or losing against the competition.

Those companies that perform well and are rewarded by the market with high-priced securities have an easier time raising new funds in the money and capital markets than their competitors. They are also able to raise funds at a lower cost. Go back to that $250 million you are managing. If Delta Airlines wants to borrow money from you at 5 percent and United Airlines is also willing to pay 5 percent but is riskier, to which company will you lend money? If you chose Delta, you are on your way to understanding finance. The competition between the two firms for your funds will eventually cause United to offer higher returns than Delta, or it will have to go without funds. In this way, the money and capital markets allocate funds to the highest-quality companies at the lowest cost and to the lowest-quality companies at the highest cost. In other words, firms pay a penalty for failing to perform competitively.

Internationalization of the Financial Markets

International trade is a growing trend that is likely to continue. Global companies are becoming more common, and international brand names like Sony, Coca-Cola, Nestlé, and Mercedes-Benz are known the world over. McDonald's hamburgers are eaten throughout the world, and McDonald's raises funds on most major international money and capital markets. The growth of the global company has led to the growth of global fund-raising as companies search for low-priced sources of funds.

In a recent annual report, Coca-Cola stated that it conducted business in 200 countries and 71 different currencies and borrowed money in yen, euros, and other international currencies.

This discussion demonstrates that the allocation of capital and the search for low-cost sources of financing are now an international game for multinational companies. As an exclamation point, consider all the non-U.S. companies that want to raise money in the United States. More and more foreign companies have listed their shares on the New York Stock Exchange, and hundreds of foreign companies have stock traded in the United States through American Depository Receipts (ADRs).

We live in a world where international events affect economies of all industrial countries and where capital moves from country to country faster than was ever thought possible. Computers interact in a vast international financial network, and markets are more vulnerable to the emotions of investors than they have been in the past. The corporate financial manager has an increasing number of external impacts to consider. Future financial managers will need sophistication to understand international capital flows, computerized electronic funds transfer systems, foreign currency hedging strategies, and many other functions.

Format of the Text

The material in this text is covered under six major headings. We will progress from the development of basic analytical skills in accounting and finance to the utilization of decision-making techniques in working capital management, capital budgeting, long-term financing, and other related areas. A total length of 21 chapters should make the text appropriate for one-semester coverage.

We aim to present a thorough grounding in financial theory in a highly palatable and comprehensive fashion—with careful attention to definitions, symbols, and formulas. The intent is to enable students to develop a thorough understanding of the basic concepts in finance.

Parts

1. Introduction This section examines the goals and objectives of financial management. The emphasis on decision making and risk management is stressed, with an update of significant events influencing the study of finance.

2. Financial Analysis and Planning First, we have the opportunity to review the basic principles of accounting as they relate to finance (financial statements and cash flow are emphasized). Understanding the material in Chapter 2 is a requirement for understanding the topics of working capital management, capital structure, cost of capital, and capital budgeting.

Additional material in this part includes a thorough study of ratio analysis, budget construction techniques, and development of comprehensive pro forma statements. The effect of heavy fixed commitments, in the form of either debt or plant and equipment, is examined in a discussion of leverage.

3. Working Capital Management The techniques for managing the short-term assets of the firm and the associated liabilities are examined. The material is introduced in the context of risk-return analysis. The financial manager must constantly choose between liquid, low-return assets (perhaps marketable securities) and more profitable, less liquid assets (such as inventory). Sources of short-term financing are also considered.

4. The Capital Budgeting Process The decision on capital outlays is among the most significant a firm will have to make. In terms of study procedure, we attempt to carefully lock down "time value of money" calculations, then proceed to the valuation of bonds and stocks, emphasizing present value techniques. The valuation chapter develops the traditional dividend valuation model and examines bond price sensitivity in response to discount rates and inflation. An appendix presents the supernormal dividend growth model, or what is sometimes called the "two-stage" dividend model. After careful study of valuation practice and theory, we examine the cost of capital and capital structure. The text then moves to the actual capital budgeting decision, making generous use of previously learned material and employing the concept of marginal analysis. The concluding chapter in this part covers risk-return analysis in capital budgeting, with a brief exposure to portfolio theory and a consideration of market value maximization.

5. Long-Term Financing Here we introduce you to U.S. financial markets as they relate to corporate financial management. We consider the sources and uses of funds in the capital markets—with warrants and convertibles covered, as well as the more conventional methods of financing. The guiding role of the investment banker in the distribution of securities is also analyzed. Furthermore, we encourage you to think of leasing as a form of debt.

6. Expanding the Perspective of Corporate Finance A chapter on corporate mergers considers external growth strategy and serves as an integrative tool to bring together such topics as profit management, capital budgeting, portfolio considerations, and valuation concepts. A second chapter on international financial management describes the growth of the international financial markets, the rise of multinational business, and the related effects on corporate financial management. The issues discussed in these two chapters highlight corporate diversification and risk reduction.

LIST OF TERMS

DISCUSSION QUESTIONS

1. What effect did the recession of 2007–2009 have on government regulation? *(LO1-3)*
2. What advantages does a sole proprietorship offer? What is a major drawback of this type of organization? *(LO1-2)*
3. What form of partnership allows some of the investors to limit their liability? Explain briefly. *(LO1-2)*
4. In a corporation, what group has the ultimate responsibility for protecting and managing the stockholders' interests? *(LO1-2)*
5. What document is necessary to form a corporation? *(LO1-2)*
6. What issue does agency theory examine? Why is it important in a public corporation rather than in a private corporation? *(LO1-4)*
7. Why are institutional investors important in today's business world? *(LO1-4)*
8. Why is profit maximization, by itself, an inappropriate goal? What is meant by the goal of maximization of shareholder wealth? *(LO1-4)*
9. When does insider trading occur? What government agency is responsible for protecting against the unethical practice of insider trading? *(LO1-1)*
10. In terms of the life of the securities offered, what is the difference between money and capital markets? *(LO1-5)*
11. What is the difference between a primary and a secondary market? *(LO1-5)*
12. Assume you are looking at many companies with equal risk. Which ones will have the highest stock prices? *(LO1-3)*
13. How is the time value of money concept related to the valuation of stocks? *(LO1-6)*

PRACTICE PROBLEMS AND SOLUTIONS

Future value
Present value
(LO1-6)

1. You invest $12,000 today at 9 percent per year. How much will you have after 15 years?
2. What is the current value of $100,000 after 10 years if the discount rate is 12 percent?

Solutions

1. $\text{FV} = \text{PV} \times (1 + i)^n$

   $\text{FV} = \$12{,}000 \times (1.09)^{15}$

   $\text{FV} = \$43{,}709.79$

2. $\text{PV} = \text{FV} \times \left(\frac{1}{(1+i)^n}\right)$

   $\text{PV} = \$100{,}000 \times \left(\frac{1}{(1.12)^{10}}\right)$

   $\text{PV} = \$32{,}197.32$

PROBLEMS

Connect Selected problems are available with Connect. Please see the preface for more information.

Basic Problems

Future value (*LO1-6*)

1. You invest \$3,000 for three years at 12 percent.
   a. What is the value of your investment after one year? Multiply \$3,000 × 1.12.
   b. What is the value of your investment after two years? Multiply your answer to part *a* by 1.12.
   c. What is the value of your investment after three years? Multiply your answer to part *b* by 1.12. This gives your final answer.
   d. Combine these steps using the formula $FV = PV \times (1 + i)^n$ to find the future value of \$3,000 in three years at 12 percent interest.

Future value (*LO1-6*)

2. If you invest \$9,000 today, how much will you have
   a. In 2 years at 9 percent?
   b. In 7 years at 12 percent?

Present value (*LO1-6*)

3. What is the present value of
   a. \$7,900 in 10 years at 11 percent?
   b. \$16,600 in 5 years at 9 percent?

WEB EXERCISE

1. Johnson & Johnson has been one of America's premier companies for decades and has exhibited a high level of social responsibility around the world. Go to the Johnson & Johnson website at www.jnj.com.
2. Scroll down the left-hand menu, and expand the dropdown under "About J&J." Then click on "Our Credo." Read the first two paragraphs and write a brief summary of the credo.
3. Return to the left-hand menu and expand the dropdown under "Investors." Then scroll down and click on "SEC Filings." To view the most recent annual form 10-K report, go to the heading "Groups" and choose "Annual Filings." The most recent form 10-K will be near the top of the list.
4. Scroll down the annual report until you see the "Consolidated Statements of Earnings" for the last few years.
5. Compute the percentage change between the last two years for the following (numbers are in millions of dollars):
   a. Sales to customers.
   b. Net earnings.
   c. Net earnings per share.
6. Generally speaking, is Johnson & Johnson growing by more or less than 10 percent per year?

Note: Occasionally a topic we have listed may have been deleted, updated, or moved into a different location on a website. If you click on the site map or site index, you will be introduced to a table of contents that should aid you in finding the topic you are looking for.

PART TWO

Financial Analysis and Planning

2

Review of Accounting

LEARNING OBJECTIVES

LO 2-1 Explain what an income statement measures.

LO 2-2 Recall the price-earnings ratio indicates the relative valuation of earnings.

LO 2-3 Understand that the balance sheet shows assets and the financing of those assets with debt and equity.

LO 2-4 Explain what the statement of cash flows indicates.

LO 2-5 Recognize that depreciation provides a tax reduction benefit that increases cash flow.

McDonald's does not show up on the "best restaurant" lists in many cities, but if you are looking for an inexpensive meal in a hurry, there is a good chance that you might pick Combo #1 at one of McDonald's 38,000 locations. No other restaurant chain has been more successful. The company serves more than 70 million meals around the world each day.

McDonald's is sometimes portrayed as a villain by activists for various causes. However, if you are an investor, you probably see the company in a kind light. McDonald's has raised its dividend from $0.40 per share in 2003 to $5.16 in 2021. This long-term growth has been powered by maintaining consistent food and restaurant quality across thousands of franchised stores. The payoff has been a dependable earnings stream of over $5 billion per year. Many businesses would like to copy the McDonald's formula for success.

Chipotle Mexican Grill is one firm that seemed to have copied the formula pretty well. That should not be a surprise, since Chipotle was a McDonald's subsidiary until 2006. Nevertheless, after Chipotle reported net income of over $475 million in 2015, food safety scares in 2016 drove Chipotle's net income down by 95 percent. Maintaining consistent quality in large-scale businesses turns out to be very difficult.

Net income is just one piece of accounting data that financial managers, investors, and bankers track. Without accounting data, these financial professionals would be flying blind. The same can be said for the data of IBM, Procter & Gamble, Microsoft, or any other major U.S. corporation.

The language of finance flows logically from accounting. To ensure that you are adequately prepared to study significant financial concepts, we must lock in the preparatory material from the accounting area. Much of the early frustration suffered by students who have difficulty with finance can be overcome if such concepts as retained earnings, shareholders' equity, depreciation, and historical/replacement cost accounting are brought into focus.

In this chapter, we examine the three basic types of financial statements—the income statement, the balance sheet, and the statement of cash flows—with particular attention paid to the interrelationships among these three measurement devices. As special preparation for finance students, we briefly examine income tax considerations affecting financial decisions.

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