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BRIEF

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EIGHTH EDITION

Principles of Managerial Finance BRIEF

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Pearson

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Dedicated to our good friend and mentor,

Dr. Lawrence J. Gitman,

who trusted us as coauthors and successors

of Principles of Managerial Finance, Brief Edition.

CJZ

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Preface

NEW TO THIS EDITION

Finance is a dynamic discipline, as illustrated on this book's cover by the evolution of payment methods from coins and paper currency to bitcoin. Technology is rapidly reshaping finance, just as it has other industries. For example, in September 2017 Google introduced a new payment technology in India. Tez, a method of transferring money using sounds to connect two devices, was downloaded by millions of consumers in a matter of days. As we made plans to publish the eighth edition, we were mindful of changes in managerial finance practices that have taken hold in recent years. We carefully assessed feedback from users of the seventh edition as well as instructors not currently using our text about content changes that would improve this teaching and learning tool.

In every chapter, our changes were designed to make the material more up to date and more relevant for students. A number of new topics have been added at appropriate places, and new features appear in each chapter:

- We have rewritten all of the *Focus on Ethics* boxes, using new examples to highlight situations in which businesses or individuals have engaged in unethical behavior. The boxes explore the consequences of ethical lapses and the ways in which markets and governments play a role in enforcing ethical standards.
- New in this edition are Chapter Introduction Videos and animations. In the introduction videos the authors explain the importance of the chapter content within the context of managerial finance. The animations for select in-chapter figures and examples allow students to manipulate inputs to determine outputs in order to illustrate concepts and reinforce learning. MyLab Finance also offers new and updated Solution Videos that allow students to watch a video of the author discussing or solving in-chapter examples. We have also updated the financial calculator images that appear in the book to better match the financial calculator available on MyLab Finance.
- The chapter-ending Spreadsheet Exercises as well as select end-of-chapter problems in the text are now offered in MyLab Finance as auto-graded Excel Projects. Using proven, field-tested technology, auto-graded Excel Projects allow instructors to seamlessly integrate Microsoft Excel content into their course without having to manually grade spreadsheets. Students have the opportunity to practice important finance skills in Excel, helping them to master key concepts and gain proficiency with the program.
- We added new problems to each chapter, many of which require students to use real-world data to reach a solution.

The chapter sequence is essentially unchanged from the prior edition, but there are some noteworthy changes within each chapter. This edition contains fifteen chapters divided into seven parts. Each part is introduced by a brief overview, which is intended to give students an advance sense for the collective value of the chapters included in the part.

Part 1 contains two chapters. Chapter 1 provides an overview of the role of managerial finance in a business enterprise. It contains new, expanded content focusing on the goal of the firm and the broad principles that financial managers use in their pursuit of that goal. Chapter 2 describes the financial market context in which firms operate, with new coverage focusing on the transactions costs investors face when trading in secondary markets.

Part 2 contains three chapters focused on basic financial skills such as financial statement analysis, cash flow analysis, and time-value-of-money calculations. Chapter 3 provides an in-depth ratio analysis using real data from Whole Foods just prior to its acquisition by Amazon. The ratios provide opportunities for interesting discussion about some of the possible motives for that acquisition. We reorganized the flow of material in Chapter 4 to emphasize first the broad goals of strategic and operational financial planning and then the importance of cash flow within any financial plan. In Chapter 5, we rewrote much of the discussion to make time-value-of-money concepts simpler and more intuitive. We also added new coverage of growing perpetuities.

Part 3 focuses on bond and stock valuation. We placed these two chapters just ahead of the risk and return chapter to provide students with exposure to basic material on bonds and stocks that is easier to grasp than some of the more theoretical concepts in the next part. New in Chapter 6 is a discussion of the negative interest rates prevailing on government bonds in Japan and some European countries, as well as an expanded discussion of the tendency of the yield curve to invert prior to a recession. Chapter 7 offers new coverage of the use of price-to-earnings multiples to value stocks.

Part 4 contains the risk and return chapter as well as the chapter on the cost of capital. We believe that following the risk and return chapter with the cost of capital material helps students understand the important principle that the expectations of a firm's investors shape how the firm should approach major investment decisions (which are covered in Part 5). In other words, Part 4 is designed to help students understand where a project "hurdle rate" comes from before they start using hurdle rates in capital budgeting problems. Updates to Chapter 8 include new historical data on stocks, bonds, and Treasury bills, as well as examples and problems featuring real data on companies such as Apple, Google, Coca-Cola, and Wal-Mart. Chapter 9 contains new material on the use of market-value-based weights in the cost of capital calculation featuring actual data on the capital structure of Netflix. Throughout the chapter we have revised examples and problems to reflect today's low interest rate environment and the correspondingly low after-tax cost of debt faced by most public companies.

Part 5 contains two chapters on various capital budgeting topics. The first chapter focuses on capital budgeting methods such as payback and net present value analysis. A new feature of this chapter is an updated discussion of economic value added using data from Exxon Mobil Corp. The second chapter in this part explains how financial analysts construct cash flow projections, which are a required component of net present value analysis. It also describes how firms analyze the risks associated with capital investments.

Part 6 deals with the topics of capital structure and payout policy. These two chapters contain updated material on trends in firms' use of leverage and their payout practices. Chapter 12 provides a new *Focus on Practice* box discussing how Qualcomm's highly skilled labor force turns what often is thought of as a variable cost into a fixed cost and thereby creates operating leverage.

The chapter also contains new expanded coverage of the role that expected bankruptcy costs play in capital structure decisions. A new discussion in Chapter 13 highlights how and why companies have shifted their payout policies away from dividends and toward share repurchases over time.

Part 7 contains two chapters centered on working capital issues. A major development in business has been the extent to which firms have found new ways to economize on working capital investments. The first chapter in Part 7 explains why and how firms work hard to squeeze resources from their investments in current assets such as cash and inventory. The second chapter in this part focuses more on management of current liabilities.

Although the text content is sequential, instructors can assign almost any chapter as a self-contained unit, enabling instructors to customize the text to various teaching strategies and course lengths.

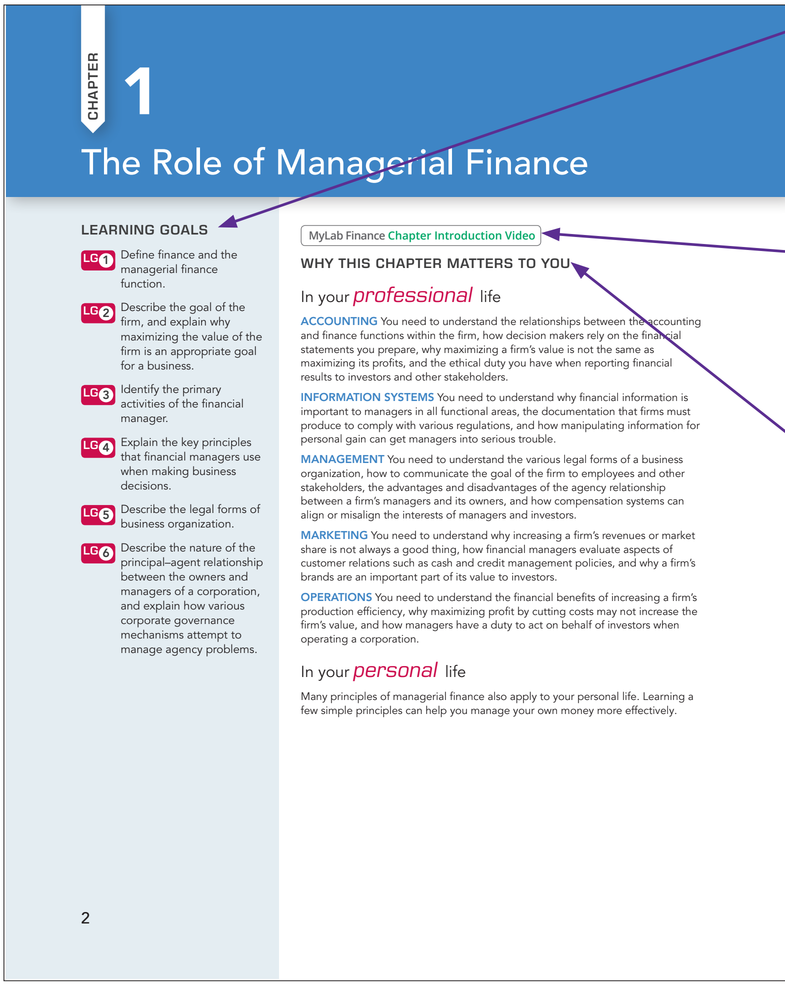
Like the previous editions, the eighth edition incorporates a proven learning system, which integrates pedagogy with concepts and practical applications. It concentrates on the knowledge that is needed to make keen financial decisions in an increasingly competitive business environment. The strong pedagogy and generous use of examples—many of which use real data from markets or companies—make the text an easily accessible resource for in-class learning or out-of-class learning, such as online courses and self-study programs.

SOLVING TEACHING AND LEARNING CHALLENGES

The desire to write *Principles of Managerial Finance, Brief Edition* came from the experience of teaching the introductory managerial finance course. Those who have taught the introductory course many times can appreciate the difficulties that some students have absorbing and applying financial concepts. Students want a book that speaks to them in plain English and explains how to apply financial concepts to solve real-world problems. These students want more than just description; they also want demonstration of concepts, tools, and techniques. This book is written with the needs of students in mind, and it effectively delivers the resources that students need to succeed in the introductory finance course.

Courses and students have changed since the first edition of this book, but the goals of the text have not changed. The conversational tone and wide use of examples set off in the text still characterize *Principles of Managerial Finance, Brief Edition*. Building on those strengths, eight editions, numerous translations, and well over half a million U.S. users, *Principles* has evolved based on feedback from both instructors and students, from adopters, nonadopters, and practitioners. In this edition, we have worked to ensure that the book reflects contemporary thinking and pedagogy to further strengthen the delivery of the classic topics that our users have come to expect. Below are descriptions of the most important resources in *Principles* that help meet teaching and learning challenges.

Users of *Principles of Managerial Finance, Brief Edition* have praised the effectiveness of the book's **Teaching and Learning System**, which they hail as one of its hallmarks. The system, driven by a set of carefully developed learning goals, has been retained and polished in this eighth edition. The "walkthrough" on the pages that follow illustrates and describes the key elements of the Teaching and Learning System. We encourage both students and instructors to acquaint themselves at the start of the semester with the many useful features the book offers.



CHAPTER 1

The Role of Managerial Finance

LEARNING GOALS

LG1 Define finance and the managerial finance function.

LG2 Describe the goal of the firm, and explain why maximizing the value of the firm is an appropriate goal for a business.

LG3 Identify the primary activities of the financial manager.

LG4 Explain the key principles that financial managers use when making business decisions.

LG5 Describe the legal forms of business organization.

LG6 Describe the nature of the principal–agent relationship between the owners and managers of a corporation, and explain how various corporate governance mechanisms attempt to manage agency problems.

MyLab Finance Chapter Introduction Video

WHY THIS CHAPTER MATTERS TO YOU

In your *professional* life

ACCOUNTING You need to understand the relationships between the accounting and finance functions within the firm, how decision makers rely on the financial statements you prepare, why maximizing a firm's value is not the same as maximizing its profits, and the ethical duty you have when reporting financial results to investors and other stakeholders.

INFORMATION SYSTEMS You need to understand why financial information is important to managers in all functional areas, the documentation that firms must produce to comply with various regulations, and how manipulating information for personal gain can get managers into serious trouble.

MANAGEMENT You need to understand the various legal forms of a business organization, how to communicate the goal of the firm to employees and other stakeholders, the advantages and disadvantages of the agency relationship between a firm's managers and its owners, and how compensation systems can align or misalign the interests of managers and investors.

MARKETING You need to understand why increasing a firm's revenues or market share is not always a good thing, how financial managers evaluate aspects of customer relations such as cash and credit management policies, and why a firm's brands are an important part of its value to investors.

OPERATIONS You need to understand the financial benefits of increasing a firm's production efficiency, why maximizing profit by cutting costs may not increase the firm's value, and how managers have a duty to act on behalf of investors when operating a corporation.

In your *personal* life

Many principles of managerial finance also apply to your personal life. Learning a few simple principles can help you manage your own money more effectively.

2

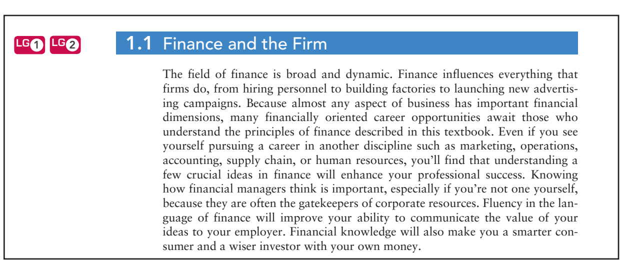
Six **Learning Goals** at the start of the chapter highlight the most important concepts and techniques in the chapter. Students are reminded to think about the learning goals while working through the chapter by strategically placed **learning goal icons**.

To help students understand the relevance of a chapter within the overarching framework of managerial finance, every chapter has available in **MyLab Finance** a short chapter introduction video by an author.

Every chapter opens with a feature, titled **Why This Chapter Matters to You**, that helps motivate student interest by highlighting both professional and personal benefits from achieving the chapter learning goals.

Its first part, **In Your Professional Life**, discusses the intersection of the finance topics covered in the chapter with the concerns of other major business disciplines. It encourages students majoring in accounting, information systems, management, marketing, and operations to appreciate how financial acumen will help them achieve their professional goals.

The second part, **In Your Personal Life**, identifies topics in the chapter that will have particular application to personal finance. This feature also helps students appreciate the tasks performed in a business setting by pointing out that the tasks are not necessarily different from those that are relevant in their personal lives.



LG1 LG2

1.1 Finance and the Firm

The field of finance is broad and dynamic. Finance influences everything that firms do, from hiring personnel to building factories to launching new advertising campaigns. Because almost any aspect of business has important financial dimensions, many financially oriented career opportunities await those who understand the principles of finance described in this textbook. Even if you see yourself pursuing a career in another discipline such as marketing, operations, accounting, supply chain, or human resources, you'll find that understanding a few crucial ideas in finance will enhance your professional success. Knowing how financial managers think is important, especially if you're not one yourself, because they are often the gatekeepers of corporate resources. Fluency in the language of finance will improve your ability to communicate the value of your ideas to your employer. Financial knowledge will also make you a smarter consumer and a wiser investor with your own money.

Learning goal icons tie chapter content to the learning goals and appear next to related text sections and again in the chapter-end summary, end-of-chapter problems and exercises, and supplements such as the *Test Bank* and MyLab.

THE ROLE OF BUSINESS ETHICS

business ethics
Standards of conduct or moral judgment that apply to persons engaged in commerce.

Business ethics are the standards of conduct or moral judgment that apply to persons engaged in commerce. Violations of these standards involve a variety of actions: "creative accounting," earnings management, misleading financial forecasts, insider trading, fraud, excessive executive compensation, options backdating, bribery, and kickbacks. The financial press has reported many such violations in recent years, involving such well-known companies as Wells Fargo, where employees opened new accounts without authorization from customers, and Volkswagen, where engineers set up elaborate deceptions to get around pollution controls. In these and similar cases, the offending companies suffered various penalties, including fines levied by government agencies, damages paid to plaintiffs in lawsuits, or lost revenues from customers who abandoned the firms because of their errant behavior. Most companies have adopted formal

For help in study and review, boldfaced **key terms** and their definitions appear in the margin where they are first introduced. These terms are also boldfaced in the book's index and appear in the end-of-book glossary.

MATTER OF FACT

Finance Professors Aren't Like Everyone Else

Professionals who advise individual investors know that many people are more willing to invest in the stock market if it has been rising in the recent past and are less willing to do so if it has been falling. Such "trend-chasing" behavior often leaves investors worse off than if they had invested consistently over time. Classical finance theory suggests that past performance of the stock market is a very poor predictor of future performance, and therefore individuals should not base investment decisions on the market's recent history. A survey found that at least one group of investors did not fall prey to trend chasing in the stock market. When deciding whether to invest in stocks, finance professors were not influenced by the market's recent trend, presumably because they know that past performance does not predict the future. That's just one of the lessons in this book that can help you make better choices with your own money.

Source: Hibbert, Lawrence, and Prakash, 2012, "Do finance professors invest like everyone else?" *Financial Analysts Journal*.

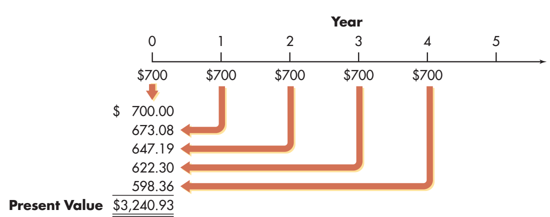
Matter of Fact boxes provide interesting empirical facts, usually featuring recent data, that add background and depth to the material covered in the chapter.

IRF **EXAMPLE 5.10**

MyLab Finance Animation

In Example 5.8 involving Braden Company, we found the present value of Braden's $700, 5-year ordinary annuity discounted at 4% to be $3,116.28. We now assume that Braden's $700 annual cash in flow occurs at the *start* of each year and is thereby an annuity due. The following timeline illustrates the new situation.

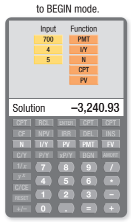
Timeline for present value of an annuity due ($700 beginning-of-year cash flows, discounted at 4%, over 5 years)



We can calculate its present value using a calculator or a spreadsheet.

MyLab Finance Financial Calculator

Note: Switch calculator to BEGIN mode.



Calculator use Before using your calculator to find the present value of an annuity due, you must either switch it to BEGIN mode or use the DUE key, depending on the specifics of your calculator. Then, using the inputs shown at the left, you will find the present value of the annuity due to be $3,240.93 (*Note:* Because we nearly always assume end-of-period cash flows, be sure to switch your calculator back to END mode when you have completed your annuity-due calculations.)

Spreadsheet use The following spreadsheet shows how to calculate the present value of the annuity due.

MyLab

	A	B
1	PRESENT VALUE OF AN ANNUITY DUE	
2	Annual annuity payment	$700
3	Annual rate of interest	4%
4	Number of years	5
5	Present value	–$3,240.93

Entry in Cell B5 is =PV(B3,B4,B2,0,1).
The minus sign appears before the $3,240.93 in B5 because the annuity's present value is a cost and therefore a cash outflow.

Examples are an important component of the book's learning system. Numbered and clearly set off from the text, they provide an immediate and concrete demonstration of how to apply financial concepts, tools, and techniques. Many of these feature real-world data.

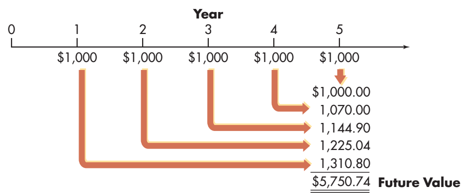
Examples illustrating time-value-of-money techniques often show the use of time lines, equations, financial calculators, and spreadsheets (with cell formulas). For instructors who prefer to use tables with interest rate factors, an IRF icon appearing with some examples indicates that the example can be solved using the interest rate factors. The reader can access the *Interest Rate Factor Supplement* in MyLab Finance. The *Interest Rate Factor Supplement* is a self-contained supplement that explains how the reader should use the interest rate factors and documents how the in-chapter examples can be solved by using them.

MyLab Finance contains additional resources to demonstrate the examples. The MyLab Financial Calculator reference indicates that the reader can use the finance calculator tool in MyLab Finance to find the solution for an example by inputting the keystrokes shown in the calculator screenshot. The MyLab Finance Solution Video reference indicates that the reader can go to MyLab Finance to watch a video of the author discussing or solving the example. The MyLab Finance Video reference indicates that the reader can watch a video on related core topical areas.

IRF **PERSONAL FINANCE EXAMPLE 5.7** Fran Abrams wishes to determine how much money she will have after 5 years if she chooses annuity A, the ordinary annuity. She will deposit the $1,000 annual payments that the annuity provides at the end of each of the next 5 years into a savings account paying 7% annual interest. This situation is depicted on the following timeline.

MyLab Finance Animation

Timeline for future value of an ordinary annuity ($1,000 end-of-year deposit, earning 7%, after 5 years)



MyLab Finance Financial Calculator

As the figure shows, after 5 years, Fran will have $5,750.74 in her account. Note that because she makes deposits at the end of the year, the first deposit will earn

Personal Finance Examples demonstrate how students can apply managerial finance concepts, tools, and techniques to their personal financial decisions.

$$PV_0 = CF_1 \div r \qquad (5.7)$$

Key Equations appear in green boxes throughout the text to help readers identify the most important mathematical relationships.

→ **REVIEW QUESTIONS** MyLab Finance Solutions

5–10 What is the difference between an ordinary annuity and an annuity due? Which is more valuable? Why?

5–11 What are the most efficient ways to calculate the present value of an ordinary annuity?

5–12 How can the formula for the future value of an annuity be modified to find the future value of an annuity due?

5–13 How can the formula for the present value of an ordinary annuity be modified to find the present value of an annuity due?

5–14 What is a perpetuity? Why is the present value of a perpetuity equal to the annual cash payment divided by the interest rate? Why doesn't this chapter provide an equation showing you how to calculate the future value of a perpetuity?

→ **EXCEL REVIEW QUESTIONS** MyLab Finance Solutions

5–15 Because tax time comes around every year, you smartly decide to make equal contributions to your IRA at the end of every year. Using the information provided at MyLab Finance, calculate the future value of your IRA contributions when you retire.

5–16 You have just graduated from college and begun your new career, and now it is time to buy your first home. Using the information provided at MyLab Finance, determine how much you can spend for your new dream home.

Review Questions appear at the end of each major text section. These questions challenge readers to stop and test their understanding of key concepts, tools, techniques, and practices before moving on to the next section.

NEW! Some sections have dedicated **Excel Review Questions** that ask students to demonstrate their ability to solve a financial problem using Excel.

FOCUS ON ETHICS *in practice*

Was the Deal for Manhattan a Swindle?

Most schoolchildren marvel when hearing Manhattan was purchased for a song in 1626. As the story goes, Peter Minuit of the Dutch West India Company gave the Lenape Native about 787 Euros today after adjusting for inflation. Based on the recent exchange rate between the Euro and the U.S. dollar, that translates to about $871. Now, the deal looks a bit to today, the sum would grow to roughly *4 trillion* guilders or $2 trillion. Based on New York City's Department of Finance property tax assessments, $2 trillion is roughly twice the

FOCUS ON PRACTICE *in practice*

Qualcomm's Leverage

Qualcomm Inc., one of the largest semiconductor companies in the United States, designs and sells wireless telecommunications chips. Unlike some other chip manufacturers, such as Intel, Qualcomm is largely a *fabless* company, meaning that it does not own and operate its own fabrication (i.e., manufacturing) plants, but rather outsources the production of the devices it sells to third parties. This strategy makes Qualcomm's fixed costs lower than those of other firms that manufacture their own products.

Even so, some of Qualcomm's costs are fixed. The company invests heavily in research and development, and it incurs those costs well before it knows what the demand for new devices will be. In addition, Qualcomm's labor force, numbering roughly 30,000 employees, is highly skilled. Many of the company's workers have advanced degrees in technical fields such as electrical engineering. Although we often think of labor as a variable cost, most companies do not lay off their most skilled workers due to a temporary decline in sales. Thus, at least some of Qualcomm's payroll is best considered a fixed cost, at least in the short run.

To what extent do Qualcomm's fixed costs give the company operating leverage? As demonstrated in the following table, the company experienced sales increases in every year from 2011 to 2014, but the percentage increase in EBIT was significantly greater than the gain in sales only in 2011. From 2012 to 2014, Qualcomm's degree of operating leverage hovered at or below 1.0, prompting some Wall Street analysts to question why the company was not able to increase its profits faster during a period of rapid sales gains. In 2015 and 2016, Qualcomm fell behind the leading edge of technology, and some of its core chips for cell phones were no longer competitive. As a result, sales fell in 2 consecutive years, and EBIT fell even faster. In 2015 and 2016, Qualcomm's degree of operating leverage roughly doubled what it had been in the previous 4 years. Qualcomm experienced the downside of operating leverage in 2015 and 2016 without benefiting from it in the previous years when sales were on the rise.

▸ *Summarize the pros and cons of operating leverage.*

Item	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Sales revenue (millions)	$14,566	$19,121	$24,866	$26,487	$25,281	$23,554
EBIT (millions)	$4,882	$5,705	$7,561	$8,034	$7,212	$6,269
(1) Percent change in sales	32.4%	31.4%	30.0%	6.5%	−4.6%	−6.8%
(2) Percent change in EBIT	48.6%	16.8%	32.5%	6.2%	−10.2%	−13.1%
DOL [(2) ÷ (1)]	1.5	0.5	1.1	1.0	2.2	1.9

In Practice boxes offer insights into important topics in managerial finance through the experiences of real companies, both large and small. There are two categories of In Practice boxes:

Focus on Ethics boxes help readers understand and appreciate important ethical issues and problems related to managerial finance. Nearly all of these boxes are brand new in this edition, and those that are not brand new have been substantially revised.

Focus on Practice boxes take a corporate focus that relates a business event or situation to a specific financial concept or technique.

Both types of In Practice boxes end with one or more *critical thinking questions* to help readers broaden the lesson from the content of the box.

SUMMARY

FOCUS ON VALUE

The time value of money is an important tool that financial managers and other market participants use to compare cash inflows and outflows occurring at different times. Because firms routinely make investments that produce cash inflows over long periods of time, the effective application of time-value-of-money techniques is extremely important. These techniques enable financial

REVIEW OF LEARNING GOALS

LG 1 **Discuss the role of time value in finance, the use of computational tools, and the basic patterns of cash flow.** Financial managers and investors use time-value-of-money techniques when assessing the value of expected cash flow streams. Alternatives can be assessed by either compounding to find future value or discounting to find present value. Financial managers rely primarily on present-value techniques. Financial calculators and electronic spreadsheets

The end-of-chapter **Summary** consists of two sections. The first section, **Focus on Value**, explains how the chapter's content relates to the firm's goal of maximizing owner wealth. This feature helps reinforce understanding of the link between the financial manager's actions and share value.

The second part of the Summary, the **Review of Learning Goals**, restates each learning goal and summarizes the key material that was presented to support mastery of the goal. This review provides students with an opportunity to reconcile what they have learned with the learning goal and to confirm their understanding before moving forward.

SELF-TEST PROBLEMS (Solutions in Appendix)

LG2 LG5 IRF

ST5–1 **Future values for various compounding frequencies** Delia Martin has $10,000 that she can deposit in any of three savings accounts for a 3-year period. Bank A compounds interest on an annual basis, bank B compounds interest twice each year, and bank C compounds interest each quarter. All three banks have a stated annual interest rate of 4%.

a. What amount would Ms. Martin have after 3 years, leaving all interest paid on deposit, in each bank?
b. What effective annual rate (EAR) would she earn in each of the banks?
c. On the basis of your findings in parts **a** and **b**, which bank should Ms. Martin deal with? Why?
d. If a fourth bank (bank D), also with a 4% stated interest rate, compounds interest continuously, how much would Ms. Martin have after 3 years? Does this alternative change your recommendation in part **c**? Explain why or why not.

Self-Test Problems, keyed to the learning goals, give readers an opportunity to strengthen their understanding of topics by doing a sample problem. For reinforcement, solutions to the Self-Test Problems appear in the appendix at the back of the book. An IRF icon indicates that the Self-Test Problem can be solved using the interest rate factors. The reader can access the Interest Rate Factor Supplement in MyLab Finance.

WARM-UP EXERCISES All problems are available in MyLab Finance.

LG2 E5–1 Assume that a firm makes a $2,500 deposit into a short-term investment account. If this account is currently paying 0.7% (yes, that's right, less than 1%!), what will the account balance be after 1 year?

LG2 LG5 E5–2 If Bob and Judy combine their savings of $1,260 and $975, respectively, and deposit this amount into an account that pays 2% annual interest, compounded monthly, what will the account balance be after 4 years?

Warm-Up Exercises follow the Self-Test Problems. These short, numerical exercises give students practice in applying tools and techniques presented in the chapter.

PROBLEMS All problems are available in MyLab Finance. The X MyLab icon indicates problems in Excel format available in MyLab Finance.

LG2 P4–1 **Depreciation** On March 20, 2019, Norton Systems acquired two new assets. Asset A was research equipment costing $17,000 and having a 3-year recovery period. Asset B was duplicating equipment with an installed cost of $45,000 and a 5-year recovery period. Using the MACRS depreciation percentages in Table 4.2, prepare a depreciation schedule for each of these assets.

LG2 P4–2 **Depreciation** In early 2019, Sosa Enterprises purchased a new machine for $10,000 to make cork stoppers for wine bottles. The machine has a 3-year recovery period and is expected to have a salvage value of $2,000. Develop a depreciation schedule for this asset using the MACRS depreciation percentages in Table 4.2.

LG5 P4–20 **Integrative: Pro forma statements** Red Queen Restaurants wishes to prepare financial plans. Use the financial statements and the other information provided below to prepare the financial plans.

Comprehensive Problems, keyed to the learning goals, are longer and more complex than the Warm-Up Exercises. In this section, instructors will find multiple problems that address the important concepts, tools, and techniques in the chapter.

New! Excel templates for many end-of-chapter problems are available in MyLab Finance. These templates do not solve problems for students, but rather help students reach a solution faster by inputting data for them or by organizing facts presented in problems in a logical way.

A short descriptor identifies the essential concept or technique of the problem. Problems labeled as Integrative tie together related topics.

Personal Finance Problem

LG 4 P4–11 **Preparation of cash budget** Sam and Suzy Sizeman need to prepare a cash budget for the last quarter of 2020 to make sure they can cover their expenditures during the period. Sam and Suzy have been preparing budgets for the past several years and have been able to identify the percentage of their income that they pay for most of

LG 1 P4–22 ETHICS PROBLEM The SEC is trying to get companies to notify the investment community more quickly when a "material change" will affect their forthcoming financial results. In what sense might a financial manager be seen as "more ethical" if he or she follows this directive and issues a press release indicating that sales will not be as high as previously anticipated?

Personal Finance Problems specifically relate to personal finance situations and Personal Finance Examples in each chapter. These problems will help students see how they can apply the tools and techniques of managerial finance in managing their own finances.

All exercises and problems are available in MyLab Finance.

SPREADSHEET EXERCISE

You have been assigned the task of putting together a statement for the ACME Company that shows its expected inflows and outflows of cash over the months of July 2020 through December 2020.

Every chapter includes a **Spreadsheet Exercise**. This exercise gives students an opportunity to use Excel software to create one or more spreadsheets with which to analyze a financial problem. The spreadsheet to be created is often modeled on a table or Excel screenshot located in the chapter. Students can access working versions of the Excel screenshots in MyLab Finance.

MyLab FINANCE

Reach Every Student by Pairing This Text with MyLab Finance

MyLab is the teaching and learning platform that empowers you to reach *every* student. By combining trusted author content with digital tools and a flexible platform, MyLab personalizes the learning experience and improves results for each student. Learn more about MyLab Finance at www.pearson.com/mylab/finance.

Deliver Trusted Content

You deserve teaching materials that meet your own high standards for your course. That's why Pearson partners with highly respected authors to develop interactive content and course-specific resources that you can trust—and that keep your students engaged.

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Each student learns at a different pace. Personalized learning pinpoints the precise areas where each student needs practice, giving all students the support they need—when and where they need it—to be successful.

Teach Your Course Your Way

Your course is unique. So whether you'd like to build your own assignments, teach multiple sections, or set prerequisites, MyLab gives you the flexibility to easily create *your* course to fit *your* needs.

Improve Student Results

When you teach with MyLab, student performance improves. That's why instructors have chosen MyLab for over 15 years, touching the lives of over 50 million students.

MyLab opens the door to a powerful Web-based tutorial, testing, and diagnostic learning system designed specifically for the Zutter/Smart, *Principles of Managerial Finance, Brief Edition*. With MyLab, instructors can select an adaptable preconfigured course or create their own. Both options allow instructors to create, edit, and assign online homework, quizzes, and tests and track all student progress in the downloadable online gradebook. MyLab allows students to supplement and reinforce their in-class learning by taking advantage of a progress-driven Study Plan or self-selected practice problems, quizzes, and tests. For example, all end-of-chapter problems are assignable by instructors or selectable by students in MyLab, and because the problems have algorithmically generated values, no student will have the same homework as another or work the same problem twice; there is an unlimited opportunity for practice and testing. Students get the help they need, when they need it, from the robust tutorial options, including "View an Example" and "Help Me Solve This," which breaks the problem into steps and links to the relevant textbook page.

This fully integrated online system gives students the hands-on tutorial, practice, and diagnostic help they need to ensure they are effectively learning finance in the most efficient manner. Utilization of the resources available in MyLab Finance saves instructors time by enabling students to more effectively learn on their own and providing instructors with a full account of student progress, auto grading, and an online gradebook that can seamlessly link with a Learning Management System (e.g., Blackboard Learn, Brightspace by D2L, Canvas, or Moodle) or be downloaded to Excel.

The Multimedia Library in MyLab Finance provides students with access to a variety of chapter resources all intended to reinforce their learning and understanding of the textbook content. For example, students can access a Chapter Introduction Video for every chapter and dozens of Solution Videos for select in-chapter examples. Students can also access dynamic animations for select figures and examples throughout the book that provide them with the ability to control inputs and drive outputs to better understand the concepts.

The auto-graded Excel feature in MyLab Finance allows instructors to assign all Spreadsheet Exercises and select end-of-chapter problems without having to manually grade spreadsheets. Students have the opportunity to practice important finance skills in Excel and instructors have the ability to assess their learning without the hassle of time-consuming grading. Students simply download a spreadsheet, solve a finance problem in Excel, and then upload the file back to MyLab Finance. Students will receive personalized feedback on their work within minutes that allows them to pinpoint where they went wrong on any step of the problem.

Chapter Cases with automatically graded assessment are also provided in MyLab Finance. These cases have students apply the concepts they have learned to a more complex and realistic situation. These cases help strengthen practical application of financial tools and techniques.

MyLab also has Group Exercises that students can work together in the context of an ongoing company. Each group creates a company and follows it through the various managerial finance topics and business activities presented in the textbook.

MyLab Finance has an Interest Rate Factor Supplement that explains how to use the interest rate factors in time-value-of-money problems and works seamlessly with the textbook. The student can go directly to the IRF Supplement and see the in-chapter example solved using the interest rate factors. All examples that appear in the IRF Supplement are indicated in the text with an IRF icon.

Advanced reporting features in MyLab also allow you to easily report on AACSB accreditation and assessment in just a few clicks.

An online glossary, digital flashcards, financial calculator tutorials, videos, Spreadsheet Use examples from the text in Excel, and numerous other premium resources are available in MyLab.

DEVELOPING EMPLOYABILITY SKILLS

For students to succeed in a rapidly changing job market, they should be aware of their career options and how to go about developing a variety of skills. In this book and in MyLab Finance, we focus on developing these skills in a variety of ways.

Excel modeling skills—Each chapter contains a Spreadsheet Exercise that asks students to build an Excel model to help solve a business problem. Many chapters provide screenshots showing completed Excel models designed to solve in-chapter examples. Many chapters contain Excel Review Questions that prompt students to practice using Excel to solve specific types of problems. In addition, students can access the working Excel screenshots and solutions to the Excel Review Questions in MyLab Finance to further reenforce their learning and understanding. Also, in MyLab students will find dozens of Excel templates, marked in the text with a special icon, that help them model select end-of-chapter problems so they can reach a solution faster and with a deeper understanding of the underlying concepts. Finally, as mentioned above, every Excel Spreadsheet Exercise and select end-of-chapter problems can be assigned and auto graded.

MyLab

	A	B
1	FUTURE VALUE OF AN ORDINARY ANNUITY	
2	Annual annuity payment	–$1,000
3	Annual rate of interest	7%
4	Number of years	5
5	Future value	$5,750.74

Entry in Cell B5 is =FV(B3,B4,B2,0,0).
The minus sign appears before the $1,000 in B2 because the annuity's payments are cash outflows.

Ethical reasoning skills—The *Focus on Ethics* boxes describe situations in which business professionals have violated ethical (and in some cases even legal) standards and have suffered consequences as a result. These boxes will help students recognize the ethical temptations they are likely to face while pursuing a finance career and the consequences that they may suffer if they behave unethically. Each chapter ends with an Ethics Problem that asks students to consider the ethical dimensions of some business decision.

Critical thinking skills—Nearly every significant financial decision requires critical thinking because making optimal decisions means weighing the marginal benefits and costs of alternative plans. To weigh those benefits and costs, one must first identify and quantify them. Nearly every chapter in this textbook discusses how financial analysts place a value on the net benefits associated with a particular decision. Students who master this material will be prepared to ask the tough questions necessary to assess whether a particular course of action creates value for shareholders.

Data analysis skills—Financial work is about data. Financial analysts have to identify the data that are relevant for a particular business problem, and they must know how to process that data in a way that leads to good decision making. In-chapter examples and end-of-chapter problems require students to sort out relevant from irrelevant data and to use the data that they have to make a clear recommendation about what course of action a firm should take.

TABLE OF CONTENTS OVERVIEW

The text's organization conceptually links the firm's actions and its value as determined in the financial market. We discuss every significant financial problem or decision in terms of both risk and return to assess the potential impact on owners' wealth. A Focus on Value element in each chapter's Summary helps reinforce the student's understanding of the link between the financial manager's actions and the firm's share value.

In organizing each chapter, we have adhered to a managerial decision-making perspective, relating decisions to the firm's overall goal of wealth maximization. Once a particular concept has been developed, its application is illustrated by an example, which is a hallmark feature of this book. These examples demonstrate, and solidify in the student's thought, financial decision-making considerations and their consequences.

INSTRUCTOR TEACHING RESOURCES

Supplements available to instructors at www.pearsonhighered.com/irc	Features of the Supplement
Instructor's Manual	• Overview of key topics • Detailed answers and solutions to all Opener-In-Review Questions, Warm-Up Exercises, end-of-chapter Problems, and Chapter Cases • Suggested answers to all critical thinking questions in chapter boxes, Ethics Problems, and Group Exercises • Spreadsheet Exercises • Group Exercises • Integrative Cases
Test Bank	More than 2,700 multiple-choice, true/false, short-answer, and graphing questions with these annotations: • Difficulty level (1 for straight recall, 2 for some analysis, 3 for complex analysis) • Type (Multiple-choice, true/false, short-answer, essay) • Topic (The term or concept the question supports) • Learning outcome • AACSB learning standard (Ethical Understanding and Reasoning; Analytical Thinking Skills; Information Technology; Diverse and Multicultural Work; Reflective Thinking; Application of Knowledge)

Computerized TestGen	TestGen allows instructors to: • Customize, save, and generate classroom tests • Edit, add, or delete questions from the Test Item Files • Analyze test results • Organize a database of tests and student results
PowerPoints	Slides include all the figures and tables from the textbook. PowerPoints meet accessibility standards for students with disabilities. Features include, but are not limited to: • Keyboard and Screen Reader access • Alternative text for images • High color contrast between background and foreground colors

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