

PRINCIPLES *of* MANAGERIAL FINANCE

14th Edition



Lawrence J. Gitman • Chad J. Zutter

Principles of
Managerial Finance

The Pearson Series in Finance

Bekaert/Hodrick <i>International Financial Management</i>	Frasca <i>Personal Finance</i>	McDonald <i>Derivatives Markets</i> <i>Fundamentals of Derivatives Markets</i>
Berk/DeMarzo <i>Corporate Finance</i> * <i>Corporate Finance: The Core</i> *	Gitman/Zutter <i>Principles of Managerial Finance</i> * <i>Principles of Managerial Finance—</i> <i>Brief Edition</i> *	Mishkin/Eakins <i>Financial Markets and Institutions</i>
Berk/DeMarzo/Harford <i>Fundamentals of Corporate Finance</i> *	Haugen <i>The Inefficient Stock Market: What</i> <i>Pays Off and Why</i> <i>The New Finance: Overreaction,</i> <i>Complexity, and Uniqueness</i>	Moffett/Stonehill/Eiteman <i>Fundamentals of Multinational</i> <i>Finance</i>
Brooks <i>Financial Management: Core</i> <i>Concepts</i> *	Holden <i>Excel Modeling in Corporate Finance</i> <i>Excel Modeling in Investments</i>	Nofsinger <i>Psychology of Investing</i>
Copeland/Weston/Shastri <i>Financial Theory and Corporate Policy</i>	Hughes/MacDonald <i>International Banking: Text and Cases</i>	Pennacchi <i>Theory of Asset Pricing</i>
Dorfman/Cather <i>Introduction to Risk Management and</i> <i>Insurance</i>	Hull <i>Fundamentals of Futures and Options</i> <i>Markets</i> <i>Options, Futures, and Other</i> <i>Derivatives</i>	Rejda <i>Principles of Risk Management and</i> <i>Insurance</i>
Eakins/McNally <i>Corporate Finance Online</i> *	Keown <i>Personal Finance: Turning Money into</i> <i>Wealth</i> *	Smart/Gitman/Joehnk <i>Fundamentals of Investing</i> *
Eiteman/Stonehill/Moffett <i>Multinational Business Finance</i>	Keown/Martin/Petty <i>Foundations of Finance: The</i> <i>Logic and Practice of Financial</i> <i>Management</i> *	Solnik/McLeavey <i>Global Investments</i>
Fabozzi <i>Bond Markets: Analysis and Strategies</i>	Kim/Nofsinger <i>Corporate Governance</i>	Titman/Keown/Martin <i>Financial Management: Principles and</i> <i>Applications</i> *
Fabozzi/Modigliani <i>Capital Markets: Institutions and</i> <i>Instruments</i>	Madura <i>Personal Finance</i> *	Titman/Martin <i>Valuation: The Art and Science of</i> <i>Corporate Investment Decisions</i>
Fabozzi/Modigliani/Jones <i>Foundations of Financial Markets and</i> <i>Institutions</i>	Marthinsen <i>Risk Takers: Uses and Abuses of</i> <i>Financial Derivatives</i>	Weston/Mitchel/Mulherin <i>Takeovers, Restructuring, and</i> <i>Corporate Governance</i>
Finkler <i>Financial Management for Public,</i> <i>Health, and Not-for-Profit</i> <i>Organizations</i>		
Foerster <i>Financial Management: Concepts and</i> <i>Applications</i> *		

Principles of

Managerial Finance

Fourteenth Edition

Lawrence J. Gitman

San Diego State University

Chad J. Zutter

University of Pittsburgh

PEARSON

Boston Columbus Indianapolis New York San Francisco Upper Saddle River
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Editor in Chief: Donna Battista
Editorial Project Manager: Mary Kate Murray
Editorial Assistant: Elissa Senra-Sargent
Executive Marketing Manager: Anne Fahlgren
Managing Editor: Jeff Holcomb
Production Project Manager: Alison Eusden
Operations Specialist: Carol Melville
Art Director: Jonathan Boylan
Cover Designer: Jonathan Boylan

Cover Art: Dja65/Shutterstock; EnsUPER/Shutterstock;
Steven Chang/Shutterstock; Deamles for Sale/Shutterstock;
Yasnaten/Fotolia; SP-PIC/Fotolia
Content Lead, MyFinanceLab: Miguel Leonarte
Senior Media Producer: Melissa Honig
Permissions Associate Project Manager: Samantha Graham
Full-Service Project Management, Composition, and Interior
Design: Cenveo Publisher Services/Nesbitt
Printer/Binder: R.R. Donnelly/Willard
Cover Printer: Lehigh-Phoenix Color/Hagerstown
Text Font: Sabon LT Std

Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on page C-1.

Microsoft and/or its respective suppliers make no representations about the suitability of the information contained in the documents and related graphics published as part of the services for any purpose. All such documents and related graphics are provided "as is" without warranty of any kind. Microsoft and/or its respective suppliers hereby disclaim all warranties and conditions with regard to this information, including all warranties and conditions of merchantability, whether express, implied or statutory, fitness for a particular purpose, title and non-infringement. In no event shall Microsoft and/or its respective suppliers be liable for any special, indirect or consequential damages or any damages whatsoever resulting from loss of use, data or profits, whether in an action of contract, negligence or other tortious action, arising out of or in connection with the use or performance of information available from the services.

The documents and related graphics contained herein could include technical inaccuracies or typographical errors. Changes are periodically added to the information herein. Microsoft and/or its respective suppliers may make improvements and/or changes in the product(s) and/or the program(s) described herein at any time. Partial screen shots may be viewed in full within the software version specified.

Microsoft® and Windows® are registered trademarks of the Microsoft Corporation in the U.S.A. and other countries. This book is not sponsored or endorsed by or affiliated with the Microsoft Corporation.

Copyright © 2015, 2012, 2009 by Pearson Education, Inc. All rights reserved. Manufactured in the United States of America. This publication is protected by Copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise. To obtain permission(s) to use material from this work, please submit a written request to Pearson Education, Inc., Permissions Department, One Lake Street, Upper Saddle River, New Jersey 07458, or you may fax your request to 201-236-3290.

Many of the designations by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and the publisher was aware of a trademark claim, the designations have been printed in initial caps or all caps.

Library of Congress Cataloging-in-Publication Data is on file.

10 9 8 7 6 5 4 3 2 1

PEARSON

ISBN: 10: 0-13-350769-6
ISBN: 13: 978-0-13-350769-0

*Dedicated to the memory
of my mother, Dr. Edith Gitman,
who instilled in me the importance
of education and hard work.*

LJG

*Dedicated to my wonderful children,
Logan, Henry, Evelyn, and Oliver, who provide me with
constant commotion, fun, and affection.*

CJZ

This page intentionally left blank

Our Proven Teaching and Learning System

Users of *Principles of Managerial Finance* 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 fourteenth 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.

1 The Role of Managerial Finance

Learning Goals

- LG 1** Define finance and the managerial finance function.
- LG 2** Describe the legal forms of business organization.
- LG 3** Describe the goal of the firm, and explain why maximizing the value of the firm is an appropriate goal for a business.
- LG 4** Describe how the managerial finance function is related to economics and accounting.
- LG 5** Identify the primary activities of the financial manager.
- LG 6** 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.

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 act on behalf of investors when operating a corporation.

In your *personal* life Many of the principles of managerial finance also apply to your personal life. Learning a few simple financial 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**.

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.


Each chapter begins with a short **opening vignette** that describes a recent real-company event related to the chapter topic. These stories raise interest in the chapter by demonstrating its relevance in the business world.

Tesla Motors

Going Green to Find Value

One of the most “hottly” debated topics of our day has been the issue of global warming and the benefits and costs of lower emissions. Many companies are investing in radical new technologies with the hope of capitalizing on the going green movement. On June 29, 2010, Tesla Motors raised \$226 million in its initial public offering (IPO) of common stock. Tesla, whose shares trade on the Nasdaq stock exchange, was the first automaker to use lithium ion batteries to produce an all-electric vehicle with a range of more than 200 miles. Even though Tesla racked up losses of \$279 million from 2006 to 2009 and had never been profitable, investors were enthusiastic about the IPO, and Tesla’s stock price rose from \$17 to \$24 on its first day of trading.

Excitement about Tesla’s prospects was fueled in part by its mission to reduce carbon emissions and in part by its charismatic co-founder, Elon Musk, who had previously started several successful companies, including PayPal. It also helped that the federal government offered a tax subsidy of \$7,500 to anyone who purchased an electric vehicle, and some states offered additional tax incentives. In its first 2 years as a public company, Tesla continued to struggle to become profitable, but its stock price gradually trended upward. In 2013, Tesla reported its first quarterly profit as well as its first quarter of positive cash flow. Just days after that news hit the markets, Consumer Reports announced that Tesla’s sedan, the Model S, was the best car it had ever tested, receiving the highest score in the magazine’s history, a 99 out of 100. From May 8 to May 13, the company’s stock rose 57 percent! In the long run, Tesla’s stock price will depend on its ability to generate positive cash flows, without the help of government subsidies, and convince the market of its ability to do so into the future.



271

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 homework materials, and supplements such as the *Study Guide*, *Test Item File*, and MyFinanceLab.

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 boxes provide interesting empirical facts that add background and depth to the material covered in the chapter.

LG 2 LG 3

MyFinanceLab Video

corporate bond
A long-term debt instrument indicating that a corporation has borrowed a certain amount of money and promises to repay it in the future under clearly defined terms.

6.2 Corporate Bonds
A **corporate bond** is a long-term debt instrument indicating that a corporation has borrowed a certain amount of money and promises to repay it in the future under clearly defined terms. Most bonds are issued with maturities of 10 to 30 years and with a par value, or face value, of \$1,000. The coupon interest rate on a bond represents the percentage of the bond’s par value that will be paid annually, typically in two equal semiannual payments, as interest. The bondholders, who are the lenders, are promised the semiannual interest payments and, at maturity, repayment of the principal amount.

corporation
An entity created by law.

stockholders
The owners of a corporation, whose ownership, or *equity*, takes the form of common stock or, less frequently, preferred stock.

Corporations
A **corporation** is an entity created by law. A corporation has the legal powers of an individual in that it can sue and be sued, make and be party to contracts, and acquire property in its own name. Although only about 20 percent of all U.S. businesses are incorporated, the largest businesses nearly always are; corporations account for roughly 80 percent of total business revenues. Although corporations engage in all types of businesses, manufacturing firms account for the largest portion of corporate business receipts and net profits. Table 1.1 lists the key strengths and weaknesses of corporations.

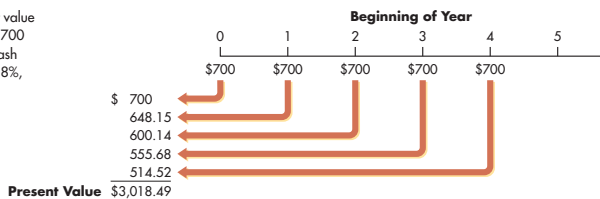
Matter of fact

Bond Yields Hit Record Lows
On July 25, 2012, the 10-year Treasury note and 30-year Treasury bond yields reached all-time lows of 1.43% and 2.46%. That was good news for the housing market. Many mortgage rates are linked to rates on Treasury securities. For example, the traditional 30-year mortgage rate is typically linked to the yield on 10-year Treasury notes. With mortgage rates reaching new lows, potential buyers found that they could afford more expensive homes, and existing homeowners were able to refinance their existing loans, lowering their monthly mortgage payments and leaving them with more money to spend on other things. This kind of activity is precisely what the Federal Reserve hoped to stimulate by keeping interest rates low during the economic recovery.

IRF Example 5.10 ▶

In Example 5.8 of Braden Company, we found the present value of Braden's \$700, 5-year ordinary annuity discounted at 8% to be \$2,794.90. If we now assume that Braden's \$700 annual cash flow occurs at the *start* of each year and is thereby an annuity due. This situation is depicted on the following time line.

Time line for present value of an annuity due (\$700 beginning-of-year cash flows, discounted at 8%, over 5 years)



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

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 \$3,018.49 (*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 present value of the annuity due also can be calculated as shown on the following Excel spreadsheet.

MyFinanceLab Financial Calculator

Note: Switch calculator to BEGIN mode.

Input Function

700 PMT

5 N

8 I

CPT

PV

Solution

-3,018.49

	A	B
1	PRESENT VALUE OF AN ANNUITY DUE	
2	Annual annuity payment	\$700
3	Annual rate of interest	8%
4	Number of years	5
5	Present value	-\$3,018.49

Entry in Cell B5 is =PV(B3,B4,B2,0,1).
The minus sign appears before the \$3,018.49 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.

Some examples demonstrate time-value-of-money techniques. These examples often show the use of time lines, equations, financial calculators, and spreadsheets (with cell formulas).

New! An IRF icon, which appears with some examples, indicates that the example can be solved using the interest rate factors. The reader can access the *Interest Rate Factor Supplement* at MyFinanceLab. 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.

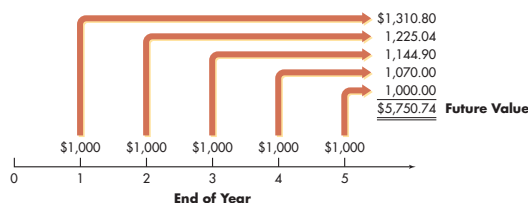
MyFinanceLab contains additional resources to demonstrate the examples. **New!** The MyFinanceLab Financial Calculator reference indicates that the reader can use the finance calculator tool in MyFinanceLab to find the solution for an example by inputting the keystrokes shown in the calculator screenshot.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

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

IRF Personal Finance Example 5.7 ▶

Fran Abrams wishes to determine how much money she will have at the end of 5 years if she chooses annuity A, the ordinary annuity. She will deposit \$1,000 annually, 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 time line.

Time line for future value of an ordinary annuity (\$1,000 end-of-year deposit, earning 7%, at the end of 5 years)



As the figure shows, at the end of year 5, Fran will have \$5,750.74 in her account. Note that because the deposits are made at the end of the year, the first

Key Equations appear in blue boxes throughout the text to help readers identify the most important mathematical relationships. The variables used in these equations are, for convenience, printed on the *front endpapers* of the book.

$$PV = CF \div r \quad (5.7)$$

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! **Excel Review Questions** ask readers to complete problems using a simulated Excel spreadsheet in MyFinanceLab that resemble the examples demonstrated in the corresponding section. These problems allow students to gain experience building Excel spreadsheet solutions and developing valuable business skill.

→ REVIEW QUESTIONS

- 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?

→ EXCEL REVIEW QUESTIONS MyFinanceLab

- 5-15 Since tax time comes around every year you smartly decide to make equal contributions to your IRA at the end of every year. Based on the information provided at MFL, calculate the future value of annual IRA contributions grown until retirement.
- 5-16 You have just graduated from college, begun your new career, and now it is time to buy your first home. Based on the information provided at MFL, determine how much you can spend for your new dream home.
- 5-17 Rather than making contributions to an IRA at the end of each year, you decide to make equal contributions at the beginning of each year. Based on the information provided at MFL, solve for the future value of beginning-of-year annual IRA contributions grown until retirement.

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

Focus on Ethics boxes in every chapter help readers understand and appreciate important ethical issues and problems related to managerial finance.

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

Global Focus boxes look specifically at the managerial finance experiences of international companies.

All three 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.

focus on ETHICS

If It Seems Too Good to Be True, It Probably Is

In practice For many years, investors around the world clamored to invest with Bernard Madoff. Those fortunate enough to invest with "Bernie" might not have understood his secret trading system.

Over the years, suspicions were raised about Madoff. He generated high returns year after year, seemingly with very little risk. Madoff credited his complex trading strategy for his investment performance, but other investors

reported in these statements. However, a court ruling only permits claims up to the difference between the amount an investor deposited with Madoff and the amount the investor withdrew. The judge also ruled that investors who managed to

focus on PRACTICE

Limits on Payback Analysis

In practice In tough economic times, the standard for a payback period is often reduced. Chief information officers (CIOs) are apt to reject projects with payback periods of more than 2 years. "We start with payback period," says Ron Fijalkowski, CIO at Strategic Distribution, Inc., in Bensalem, Pennsylvania. "For sure, if the payback period is over 36 months, it's not going to get approved. But our rule of thumb is we'd like to see 24 months. And if it's close to 12, it's probably a no-brainer."

Although easy to compute and easy to understand, the payback period's simplicity brings with it some drawbacks. "Payback gives you an answer that tells you a bit about the beginning

consultancy in Barrington, Illinois. "The simplicity of computing payback may encourage sloppiness, especially the failure to include all costs associated with an investment, such as training, maintenance, and hardware upgrade costs," says Douglas Emond, senior vice president and chief technology officer at Eastern Bank in Lynn, Massachusetts. For example, he says, "you may be bringing in a hot new technology, but uh-oh, after implementation you realize that you need a .Net guru in-house, and you don't have one."

But the payback method's emphasis on the short term has a special appeal for IT managers. "That's because the history of IT projects that take longer than 3 years is disastrous," says Gard-

metric for evaluating IT projects—even more important than discounted cash flow (NPV and IRR)—because it spotlights the risks inherent in lengthy IT projects. "It should be a hard-and-fast rule to never take an IT project with a payback period greater than 3 years, unless it's an infrastructure project you can't do without," Campbell says.

Whatever the weaknesses of the payback period method of evaluating capital projects, the simplicity of the method does allow it to be used in conjunction with other, more sophisticated measures. It can be used to screen potential projects and winnow them down to the few that merit more careful scrutiny with, for example, net present value (NPV).

► *In your view, if the payback period*

GLOBAL focus

An International Flavor to Risk Reduction

In practice Earlier in this chapter (see Table 8.5 on page 324), we learned that from 1900 through 2011, the U.S. stock market produced an average annual nominal return of 9.3 percent, but that return was associated with a relatively high standard deviation: 20.2 percent per year. Could U.S. investors have done better by diversifying globally? The answer is a qualified yes. Elroy Dimson, Paul Marsh, and Mike

Staubton calculated the historical returns on a portfolio that included U.S. stocks as well as stocks from 18 other countries. This diversified portfolio produced returns that were not quite as high as the U.S. average, just 8.5 percent per year. However, the globally diversified portfolio was also less volatile, with an annual standard deviation of 17.7 percent. Dividing the standard deviation by the annual return produces a coefficient of variation for the

globally diversified portfolio of 2.08, slightly lower than the 2.17 coefficient of variation reported for U.S. stocks in Table 8.5.

► *International mutual funds do not include any domestic assets, whereas global mutual funds include both foreign and domestic assets. How might this difference affect their correlation with U.S. equity mutual funds?*

Source: Elroy Dimson, Paul Marsh, Mike Staubton, Paul McGinnis, and Jonathan Wilms, *Credit Suisse Global Investment Returns Yearbook 2012*.

Summary

FOCUS ON VALUE

Time value of money is an important tool that financial managers and other market participants use to assess the effects of proposed actions. Because firms have long lives and some decisions affect their long-term cash flows, the effective application of time-value-of-money techniques is extremely important. These techniques enable financial managers to evaluate cash flows occurring at different times so as to combine, compare, and evaluate them and link them to the firm's

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, electronic spreadsheets, and financial tables can streamline the application of time value techniques. The cash flow of a firm can be described by its pattern: single amount, annuity, or mixed stream.

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.

Opener-in-Review

Tesla Motors shares were initially offered to investors at \$17. Three years later, the price was \$90 per share. What was the compound annual return that Tesla investors owned over this period? Given that Tesla paid no dividends and was not expected to start paying dividends anytime soon, what method might analysts have used to value the company's shares in 2013? The company sold 13.3 million shares in its IPO with a par value of \$0.001 per share. How much paid-in capital did Tesla record on its balance sheet as a result of the IPO? Do you think that the highly favorable *Consumer Reports* review of the Model S boosted Tesla's stock primarily because the review reduced the company's risk or because it boosted expected cash flows?

Self-Test Problems (Solutions in Appendix)

LG 3 LG 4 ST3-1 Ratio formulas and interpretations Without referring to the text, indicate for each of the following ratios the formula for calculating it and the kinds of problems, if any, the firm may have if that ratio is too high relative to the industry average. What if the ratio is too low relative to the industry average? Create a table similar to the one that follows and fill in the empty blocks.

LG 5

Opener-in-Review questions at the end of each chapter revisit the opening vignette and ask students to apply lessons from the chapter to that business situation.

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 at MyFinanceLab.

Warm-Up Exercises All problems are available in MyFinanceLab.

- LG 1 E4-1** The installed cost of a new computerized controller was \$65,000. Calculate the depreciation schedule by year assuming a recovery period of 5 years and using the appropriate MACRS depreciation percentages given in Table 4.2 on page 120.
- LG 2 E4-2** Classify the following changes in each of the accounts as either an *inflow* or an *outflow* of cash. During the year (a) marketable securities increased, (b) land and buildings decreased, (c) accounts payable increased, (d) vehicles decreased, (e) accounts receivable increased, and (f) dividends were paid.

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 MyFinanceLab.

LG 1 P4-1 Depreciation On March 20, 2015, 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 having an installed cost of \$45,000 and a 5-year recovery period. Using the MACRS depreciation percentages in Table 4.2 on page 120, prepare a depreciation schedule for each of these assets.

LG 1 P4-2 Depreciation In early 2015, 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.

LG 5 P4-19 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.

Personal Finance Problem

LG 4 P4-10 Preparation of cash budget Sam and Suzy Sizeman need to prepare a cash budget for the last quarter of 2016 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 establish specific percentages for most of their cash outflows. These percentages are based on their take-home pay (that is, monthly utilities normally run 5% of monthly take-home pay). The information in the following table can be used to create their fourth-quarter budget for 2016.

LG 3 P4-21 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?

Spreadsheet Exercise



CSM Corporation has a bond issue outstanding at the end of 2015. The bond has 15 years remaining to maturity and carries a coupon interest rate of 6%. Interest on the bond is compounded on a semiannual basis. The par value of the CSM bond is \$1,000, and it is currently selling for \$874.42.

Integrative Case 3

Encore International

In the world of trendsetting fashion, instinct and marketing savvy are prerequisites to success. Jordan Ellis had both. During 2015, his international casual-wear company, Encore, rocketed to \$300 million in sales after 10 years in business. His fashion line covered the young woman from head to toe with hats, sweaters, dresses, blouses, skirts, pants, sweatshirts, socks, and shoes. In Manhattan, there was an Encore shop every five or six blocks, each featuring a different color. Some shops showed the entire line in mauve, and others featured it in canary yellow.

Encore had made it. The company's historical growth was so spectacular that no one could have predicted it. However, securities analysts speculated that Encore could not keep up the pace. They warned that competition is fierce in the fashion industry and that the firm might encounter little or no growth in the future. They estimated that stockholders also should expect no growth in future dividends.

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.

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

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.

The last item in the chapter Problems is an **Ethics Problem**. The ethics problem gives students another opportunity to think about and apply ethics principles to managerial financial situations.

All exercises and problems are available in MyFinanceLab.

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 MyFinanceLab.

An **Integrative Case** at the end of each part of the book challenges students to use what they have learned over the course of several chapters. Additional chapter resources, such as Chapter Cases, Group Exercises, and numerous online resources, intended to provide further means for student learning and assessment are available in MyFinanceLab at www.myfinancelab.com.

Brief Contents

Detailed Contents	xv
About the Authors	xxxv
Preface	xxxvii
Supplements to the Fourteenth Edition	xli
Acknowledgments	xliii

Part 1 Introduction to Managerial Finance 1

- 1 The Role of Managerial Finance 2
- 2 The Financial Market Environment 30

Part 2 Financial Tools 57

- 3 Financial Statements and Ratio Analysis 58
- 4 Cash Flow and Financial Planning 116
- 5 Time Value of Money 162

Part 3 Valuation of Securities 225

- 6 Interest Rates and Bond Valuation 226
- 7 Stock Valuation 270

Part 4 Risk and the Required Rate of Return 313

- 8 Risk and Return 314
- 9 The Cost of Capital 362

Part 5 Long-Term Investment Decisions 393

- 10 Capital Budgeting Techniques 394
- 11 Capital Budgeting Cash Flows 432
- 12 Risk and Refinements in Capital Budgeting 469

Part 6 Long-Term Financial Decisions 511

- 13 Leverage and Capital Structure 512
- 14 Payout Policy 566

Part 7 Short-Term Financial Decisions 605

- 15 Working Capital and Current Assets Management 606
- 16 Current Liabilities Management 649

Part 8 Special Topics in Managerial Finance 683

- 17 Hybrid and Derivative Securities 684
- 18 Mergers, LBOs, Divestitures, and Business Failure 722
- 19 International Managerial Finance 765

Appendix A-1

Glossary G-1

Credits C-1

Index I-1

This page intentionally left blank

Contents

About the Authors	xxxv
Preface	xxxvii
Supplements to the Fourteenth Edition	xli
Acknowledgments	xliii

Part 1 Introduction to Managerial Finance 1

1 The Role of Managerial Finance page 2



Facebook—Not Much to
“Like” about IPO page 3

1.1 Finance and Business	4
What Is Finance?	4
Career Opportunities in Finance	4
Legal Forms of Business Organization	5
in practice Focus on Practice: Professional Certifications in Finance	5
Why Study Managerial Finance?	9

→ REVIEW QUESTIONS 10

1.2 Goal of the Firm	10
Maximize Shareholder Wealth	10
Maximize Profit?	11
What About Stakeholders?	13
The Role of Business Ethics	13
Ethics and Share Price	14

→ REVIEW QUESTIONS 14

in practice Focus on Ethics: Critics See Ethical Dilemmas in Google Glass?	15
--	----

1.3 Managerial Finance Function	15
Organization of the Finance Function	16
Relationship to Economics	16
Relationship to Accounting	17

Primary Activities of the Financial Manager	19
--	----

→ REVIEW QUESTIONS 19

1.4 Governance and Agency	20
Corporate Governance	20
The Agency Issue	21
→ REVIEW QUESTIONS	24
Summary	24
Opener-in-Review	25
Self-Test Problem	25
Warm-Up Exercises	26
Problems	27
Spreadsheet Exercise	29

2 The Financial Market Environment

page 30



A Crisis in Housing
Finance—Under Water in the
Desert page 31

2.1 Financial Institutions and Markets 32

Financial Institutions 32

Commercial Banks, Investment Banks,
and the Shadow Banking System 33

Financial Markets 34

The Relationship between Institutions
and Markets 34

The Money Market 35

The Capital Market 35

in practice Focus on Practice: Berkshire
Hathaway: Can Buffett Be Replaced? 37

in practice Focus on Ethics: The Ethics
of Insider Trading 40

→ REVIEW QUESTIONS 41

2.2 The Financial Crisis 41

Financial Institutions and Real Estate
Finance 41

Falling Home Prices And Delinquent
Mortgages 42

Crisis of Confidence in Banks 43

Spillover Effects and the Great
Recession 44

→ REVIEW QUESTIONS 44

2.3 Regulation of Financial Institutions and Markets 44

Regulations Governing Financial
Institutions 45

Regulations Governing Financial
Markets 45

→ REVIEW QUESTIONS 46

2.4 Business Taxes 46

Ordinary Income 46

Capital Gains 49

→ REVIEW QUESTIONS 49

Summary 49

Opener-in-Review 51

Self-Test Problem 51

Warm-Up Exercises 52

Problems 52

Spreadsheet Exercise 54

Integrative Case 1 Merit Enterprise
Corp. 55

Part 2 Financial Tools 57

3

Financial Statements and Ratio Analysis

page 58



General Dynamics—
Ratios Tell the Story of a
Well-Managed Firm page 59

3.1 The Stockholders' Report 60

The Letter to Stockholders 60

in practice Global Focus: More Countries
Adopt International Financial Reporting
Standards 60

The Four Key Financial Statements 61

in practice Focus on Ethics: Taking
Earnings Reports at Face Value 61

Notes to the Financial Statements 67

Consolidating International Financial
Statements 67

→ REVIEW QUESTIONS 68

3.2 Using Financial Ratios 69

Interested Parties 69

Types of Ratio Comparisons 69

Cautions about Using Ratio Analysis 72

Categories of Financial Ratios 72

→ REVIEW QUESTIONS 72

3.3 Liquidity Ratios 73

Current Ratio 73

Quick (Acid-Test) Ratio 74

→ REVIEW QUESTIONS 75

3.4 Activity Ratios 75

Inventory Turnover 75

Average Collection Period 76

Average Payment Period 77

Total Asset Turnover 77

→ REVIEW QUESTION 78

3.5 Debt Ratios 78

Debt Ratio 80

Debt-to-Equity Ratio 80

Times Interest Earned Ratio 81

Fixed-Payment Coverage Ratio 81

→ REVIEW QUESTIONS 81

3.6 Profitability Ratios 82

Common-Size Income Statements 82

Gross Profit Margin 82

Operating Profit Margin 82

Net Profit Margin 83

Earnings per Share (EPS) 84

Return on Total Assets (ROA) 84

Return on Equity (ROE) 84

→ REVIEW QUESTIONS 85

3.7 Market Ratios 85

Price/Earnings (P/E) Ratio 85

Market/Book (M/B) Ratio 86

→ REVIEW QUESTION 86

3.8 A Complete Ratio Analysis 86

Summarizing All Ratios 87

Dupont System of Analysis 90

→ REVIEW QUESTIONS 93

Summary 93

Opener-in-Review 95

Self-Test Problems 95

Warm-Up Exercises 96

Problems 97

Spreadsheet Exercise 113

4 Cash Flow and Financial Planning

page 116



European Aeronautic Defense
and Space Co. —
Making a Profit While
Bleeding Cash page 117

4.1 Analyzing the Firm's Cash Flow 118

Depreciation 118

Depreciation Methods 119

Developing the Statement of Cash
Flows 120

Free Cash Flow 125

→ REVIEW QUESTIONS 126

in practice Focus on Practice: Free Cash
Flow at Cisco Systems 127

4.2 The Financial Planning Process 127

Long-Term (Strategic) Financial Plans 128

Short-Term (Operating) Financial
Plans 128

in practice Focus on Ethics: How Much
Is a CEO Worth? 129

→ REVIEW QUESTIONS 130

4.3 Cash Planning: Cash Budgets 130

The Sales Forecast 130

Preparing the Cash Budget 131

Evaluating the Cash Budget 135

Coping with Uncertainty in the Cash
Budget 136

Cash Flow within the Month 137

→ REVIEW QUESTIONS 138

4.4 Profit Planning: Pro Forma Statements 138

Preceding Year's Financial
Statements 138

Sales Forecast 138

→ REVIEW QUESTION 138

4.5 Preparing the Pro Forma Income Statement 140

Considering Types of Costs
and Expenses 140

→ REVIEW QUESTIONS 142

4.6 Preparing the Pro Forma Balance Sheet 142

→ REVIEW QUESTIONS 144

4.7 Evaluation of Pro Forma Statements 144

→ REVIEW QUESTIONS 144

Summary 145

Opener-in-Review 146

Self-Test Problems 146

Warm-Up Exercises 148

Problems 149

Spreadsheet Exercise 160

5

Time Value of Money

page 162



City of Cincinnati—Pay Me Now or Pay Me Later
page 163

5.1 The Role of Time Value in Finance 164

Future Value Versus Present Value 164

Computational Tools 165

Basic Patterns of Cash Flow 166

→ REVIEW QUESTIONS 167

5.2 Single Amounts 167

Future Value of a Single Amount 167

Present Value of a Single Amount 171

→ REVIEW QUESTIONS 173

→ EXCEL REVIEW QUESTIONS 174

5.3 Annuities 174

Types of Annuities 174

Finding the Future Value of an Ordinary Annuity 175

Finding the Present Value of an Ordinary Annuity 176

Finding the Future Value of an Annuity Due 178

Finding the Present Value of an Annuity Due 179

Finding the Present Value of a Perpetuity 181

→ REVIEW QUESTIONS 182

→ EXCEL REVIEW QUESTIONS 182

5.4 Mixed Streams 182

Future Value of a Mixed Stream 182

Present Value of a Mixed Stream 184

→ REVIEW QUESTION 185

→ EXCEL REVIEW QUESTION 185

5.5 Compounding Interest More Frequently Than Annually 185

Semiannual Compounding 186

Quarterly Compounding 186

A General Equation for Compounding More Frequently Than Annually 187

Using Computational Tools for Compounding More Frequently than Annually 188

Continuous Compounding 188

Nominal and Effective Annual Rates of Interest 189

→ REVIEW QUESTIONS 191

→ EXCEL REVIEW QUESTIONS 191

in practice Focus on Ethics: How Fair is “Check into Cash”? 192

5.6 Special Applications of Time Value 192

Determining Deposits Needed to Accumulate a Future Sum 193

Loan Amortization 194

in practice Focus on Practice: New Century Brings Trouble for Subprime Mortgages 196

Finding Interest or Growth Rates 196

Finding an Unknown Number of Periods 197

→ REVIEW QUESTIONS 199

→ EXCEL REVIEW QUESTIONS 199

Summary 199

Opener-in-Review 201

Self-Test Problems 201

Warm-Up Exercises 202

Problems 203

Spreadsheet Exercise 220

Integrative Case 2 Track Software, Inc. 221

Part 3 Valuation of Securities 225

6

Interest Rates and Bond Valuation

page 226



The Federal Debt—A Huge Appetite for Money
page 227

6.1 Interest Rates and Required Returns 228

Interest Rate Fundamentals 228

in practice Focus on Practice: I-Bonds
Adjust for Inflation 231

Term Structure of Interest Rates 232

Risk Premiums: Issuer and Issue
Characteristics 236

→ REVIEW QUESTIONS 237

6.2 Corporate Bonds 237

Legal Aspects of Corporate Bonds 238

Cost of Bonds to the Issuer 239

General Features of a Bond Issue 239

Bond Yields 240

Bond Prices 240

Bond Ratings 241

Common Types of Bonds 241

in practice Focus on Ethics: Can We
Trust the Bond Raters? 242

International Bond Issues 243

→ REVIEW QUESTIONS 244

6.3 Valuation Fundamentals 245

Key Inputs 245

Basic Valuation Model 246

→ REVIEW QUESTIONS 247

6.4 Bond Valuation 247

Bond Fundamentals 247

Basic Bond Valuation 248

Bond Value Behavior 249

Yield to Maturity (YTM) 253

Semiannual Interest and
Bond Values 254

→ REVIEW QUESTIONS 255

→ EXCEL REVIEW QUESTIONS 256

Summary 256

Opener-in-Review 258

Self-Test Problems 258

Warm-Up Exercises 259

Problems 260

Spreadsheet Exercise 269

7

Stock Valuation

page 270



Tesla Motors—Going
Green to Find Value
page 271

7.1 Differences between Debt and Equity 272

Voice in Management 272

Claims on Income and Assets 272

Maturity 273

Tax Treatment 273

→ **REVIEW QUESTION** 273**7.2 Common and Preferred Stock** 273

Common Stock 274

Preferred Stock 277

Issuing Common Stock 279

→ **REVIEW QUESTIONS** 282**7.3 Common Stock Valuation** 283

Market Efficiency 284

The Efficient-Market Hypothesis 284

Basic Common Stock Valuation

Equation 285

in practice Focus on Practice:
Understanding Human Behavior Helps Us
Understand Investor Behavior 286

Free Cash Flow Valuation Model 290

Other Approaches to Common
Stock Valuation 293

in practice Focus on Ethics: Psst! Have
You Heard Any Good Quarterly Earnings
Forecasts Lately? 294

→ **REVIEW QUESTIONS** 296**7.4 Decision Making
and Common Stock Value** 296

Changes in Expected Dividends 296

Changes in Risk 297

Combined Effect 298

→ **REVIEW QUESTIONS** 298

Summary 298

Opener-in-Review 300

Self-Test Problems 301

Warm-Up Exercises 301

Problems 302

Spreadsheet Exercise 309

Integrative Case 3 Encore
International 310

Part 4 Risk and the Required Rate of Return 313

8 Risk and Return page 314



Legg Mason Global Asset Management—Miller's Time
page 315

8.1 Risk and Return Fundamentals 316

Risk Defined 316

in practice Focus on Ethics: If It Seems Too Good to Be True, It Probably Is 316

Return Defined 317

Risk Preferences 318

→ REVIEW QUESTIONS 319

8.2 Risk of a Single Asset 319

Risk Assessment 319

Risk Measurement 321

→ REVIEW QUESTIONS 326

8.3 Risk of a Portfolio 327

Portfolio Return and Standard Deviation 327

Correlation 329

Diversification 329

Correlation, Diversification, Risk, and Return 332

International Diversification 333

in practice Global Focus: An International Flavor to Risk Reduction 334

→ REVIEW QUESTIONS 334

8.4 Risk and Return: The Capital Asset Pricing Model (CAPM) 335

Types of Risk 335

The Model: CAPM 336

→ REVIEW QUESTIONS 345

Summary 345

Opener-in-Review 346

Self-Test Problems 347

Warm-Up Exercises 348

Problems 349

Spreadsheet Exercise 361

9

The Cost of Capital

page 362



Alcoa—Falling Short of Expectations page 363

9.1 Overview of the Cost of Capital 364**in practice** Focus on Ethics: The Ethics of Profit 364

The Basic Concept 365

Sources of Long-Term Capital 366

→ **REVIEW QUESTIONS** 366**9.2 Cost of Long-Term Debt** 367

Net Proceeds 367

Before-Tax Cost of Debt 367

After-Tax Cost of Debt 369

→ **REVIEW QUESTIONS** 370→ **EXCEL REVIEW QUESTION** 370**9.3 Cost of Preferred Stock** 370

Preferred Stock Dividends 370

Calculating the Cost of Preferred Stock 371

→ **REVIEW QUESTION** 371**9.4 Cost of Common Stock** 371

Finding the Cost of Common Stock Equity 371

Cost of Retained Earnings 374

Cost of New Issues of Common Stock 374

→ **REVIEW QUESTIONS** 375**9.5 Weighted Average Cost of Capital** 376

Calculating Weighted Average Cost of Capital (WACC) 376

in practice Focus on Practice: Uncertain Times Make for an Uncertain Weighted Average Cost of Capital 377

Weighting Schemes 378

→ **REVIEW QUESTIONS** 379

Summary 379

Opener-in-Review 380

Self-Test Problem 381

Warm-Up Exercises 382

Problems 382

Spreadsheet Exercise 389

Integrative Case 4 Eco Plastics Company 391

Part 5 Long-Term Investment Decisions 393

10

Capital Budgeting Techniques

page 394



Seafield Resources—The Gold Standard for Evaluating Gold Mines page 395

10.1 Overview of Capital Budgeting 396

Motives for Capital Expenditure 396

Steps in the Process 396

Basic Terminology 397

Capital Budgeting Techniques 398

→ REVIEW QUESTION 399

10.2 Payback Period 399

Decision Criteria 399

Pros and Cons of Payback Analysis 400

in practice Focus on Practice: Limits on Payback Analysis 401

→ REVIEW QUESTIONS 403

10.3 Net Present Value (NPV) 403

Decision Criteria 403

NPV and the Profitability Index 405

NPV and Economic Value Added 406

→ REVIEW QUESTIONS 407

→ EXCEL REVIEW QUESTION 407

10.4 Internal Rate of Return (IRR) 407

Decision Criteria 407

Calculating the IRR 408

→ REVIEW QUESTIONS 410

→ EXCEL REVIEW QUESTION 410

10.5 Comparing NPV and IRR Techniques 410

Net Present Value Profiles 410

Conflicting Rankings 412

Which Approach is Better? 415

in practice Focus on Ethics: Nonfinancial Considerations in Project Selection 417

→ REVIEW QUESTIONS 417

Summary 418

Opener-in-Review 419

Self-Test Problem 420

Warm-Up Exercises 420

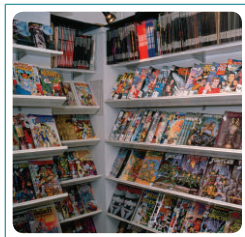
Problems 421

Spreadsheet Exercise 431

11

Capital Budgeting Cash Flows

page 432



Diamond Comic
Distributors—A Superhero for
Retailers page 433

11.1 Relevant Cash Flows 434

Major Cash Flow Components 434

in practice Focus on Ethics: A Question
of Accuracy 434

Expansion Versus Replacement
Decisions 435

Sunk Costs and Opportunity Costs 436

International Capital Budgeting and
Long-Term Investments 437

→ REVIEW QUESTIONS 437

in practice Global Focus: Changes
May Influence Future Investments in
China 438

11.2 Finding the Initial Investment 438

Installed Cost of New Asset 439

After-Tax Proceeds from Sale
of Old Asset 439

Change in Net Working Capital 442

Calculating the Initial Investment 443

→ REVIEW QUESTIONS 444

11.3 Finding the Operating Cash Flows 444

Interpreting the Term *After-Tax* 444

Interpreting the Term *Cash Flows* 444

Interpreting the Term *Incremental* 447

→ REVIEW QUESTIONS 449

11.4 Finding the Terminal Cash Flow 449

Proceeds from Sale of Assets 449

Taxes on Sale of Assets 449

Change in Net Working Capital 450

→ REVIEW QUESTION 451

11.5 Summarizing the Relevant Cash Flows 451

→ REVIEW QUESTION 453

Summary 453

Opener-in-Review 454

Self-Test Problems 455

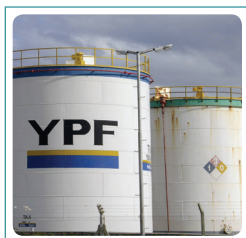
Warm-Up Exercises 456

Problems 456

Spreadsheet Exercise 467

12 Risk and Refinements in Capital Budgeting

page 469



YPF—Argentina Suez Oil
Company from Spanish
Owners page 470

12.1 Introduction to Risk in Capital Budgeting 471

→ REVIEW QUESTION 471

12.2 Behavioral Approaches for Dealing with Risk 472

Breakeven Analysis 472

Scenario Analysis 473

Simulation 474

in practice Focus on Practice: The Monte
Carlo Method: The Forecast Is for Less
Uncertainty 476

→ REVIEW QUESTIONS 476

→ EXCEL REVIEW QUESTION 476

12.3 International Risk Considerations 476

→ REVIEW QUESTION 477

12.4 Risk-Adjusted Discount Rates 478

Determining Risk-Adjusted Discount
Rates (RADRs) 478

in practice Focus on Ethics: Ethics
and the Cost of Capital 481

Applying RADRs 481

Portfolio Effects 484

RADRs in Practice 484

→ REVIEW QUESTIONS 486

12.5 Capital Budgeting Refinements 486

Comparing Projects with Unequal
Lives 486

Recognizing Real Options 489

Capital Rationing 491

→ REVIEW QUESTIONS 493

→ EXCEL REVIEW QUESTION 494

Summary 494

Opener-in-Review 495

Self-Test Problem 496

Warm-Up Exercises 496

Problems 498

Spreadsheet Exercise 508

Integrative Case 5 Lasting Impressions
Company 509

Part 6 Long-Term Financial Decisions 511

13

Leverage and Capital Structure

page 512



Lowe's—Lowe's Builds
Leverage page 513

13.1 Leverage 514

Breakeven Analysis 515

Operating Leverage 519

in practice Focus on Practice: Adobe's
Leverage 521

Financial Leverage 522

Total Leverage 526

in practice Focus on Ethics:
Repo 105 528

→ REVIEW QUESTIONS 529

13.2 The Firm's Capital Structure 529

Types of Capital 529

External Assessment of Capital
Structure 530

Capital Structure of Non-U.S. Firms 531

Capital Structure Theory 532

Optimal Capital Structure 541

→ REVIEW QUESTIONS 542

13.3 EBIT—EPS Approach to Capital Structure 543

Presenting a Financing Plan
Graphically 543

Comparing Alternative Capital
Structures 545

Considering Risk in EBIT—EPS
Analysis 545

Basic Shortcoming of EBIT—EPS
Analysis 546

→ REVIEW QUESTION 546

13.4 Choosing the Optimal Capital Structure 546

Linkage 546

Estimating Value 547

Maximizing Value Versus Maximizing
EPS 549

Some Other Important
Considerations 549

→ REVIEW QUESTIONS 550

Summary 550

Opener-in-Review 552

Self-Test Problems 552

Warm-Up Exercises 554

Problems 554

Spreadsheet Exercise 565

14

Payout Policy

page 566



Whirlpool Corporation —
Increasing Dividends
page 567

14.1 The Basics of Payout Policy 568

Elements of Payout Policy 568

Trends in Earnings and Dividends 568

Trends in Dividends and Share Repurchases 570

in practice Focus on Ethics: Are Buybacks Really a Bargain? 571

→ REVIEW QUESTIONS 572

14.2 The Mechanics of Payout Policy 572

Cash Dividend Payment Procedures 573

Share Repurchase Procedures 574

Tax Treatment of Dividends and Repurchases 576

in practice Focus on Practice: Capital Gains and Dividend Tax Treatment Extended to 2012 and Beyond for Some 577

Dividend Reinvestment Plans 577

Stock Price Reactions to Corporate Payouts 578

→ REVIEW QUESTIONS 578

14.3 Relevance of Payout Policy 579

Residual Theory of Dividends 579

The Dividend Irrelevance Theory 579

Arguments for Dividend Relevance 580

→ REVIEW QUESTIONS 582

14.4 Factors Affecting Dividend Policy 582

Legal Constraints 582

Contractual Constraints 583

Growth Prospects 583

Owner Considerations 583

Market Considerations 584

→ REVIEW QUESTION 584

14.5 Types of Dividend Policies 584

Constant-Payout-Ratio Dividend Policy 584

Regular Dividend Policy 585

Low-Regular-and-Extra Dividend Policy 586

→ REVIEW QUESTION 586

14.6 Other Forms of Dividends 586

Stock Dividends 587

Stock Splits 588

→ REVIEW QUESTIONS 590

Summary 590

Opener-in-Review 592

Self-Test Problems 592

Warm-Up Exercises 592

Problems 594

Spreadsheet Exercise 601

Integrative Case 6 O'Grady Apparel Company 602

Part 7 Short-Term Financial Decisions 605

15

Working Capital and Current Assets Management

page 606



Treasury Risk Survey 2013—
Worries about Liquidity
Occupy the Minds of Treas-
ury Managers page 607

15.1 Net Working Capital Fundamentals 608

Working Capital Management 608

Net Working Capital 609

Trade-Off between Profitability and Risk 609

→ REVIEW QUESTIONS 611

15.2 Cash Conversion Cycle 611

Calculating the Cash Conversion Cycle 611

Funding Requirements of the Cash Conversion Cycle 612

Strategies for Managing the Cash Conversion Cycle 615

→ REVIEW QUESTIONS 616

15.3 Inventory Management 616

Differing Viewpoints about Inventory Level 616

Common Techniques for Managing Inventory 617

in practice Focus on Practice: RFID: The Wave of the Future? 621

International Inventory Management 622

→ REVIEW QUESTIONS 622

15.4 Accounts Receivable Management 623

Credit Selection and Standards 623

Credit Terms 627

Credit Monitoring 630

→ REVIEW QUESTIONS 632

15.5 Management of Receipts and Disbursements 632

Float 632

Speeding Up Collections 633

Slowing Down Payments 634

in practice Focus on Ethics: Stretching Accounts Payable: Is It a Good Policy? 634

Cash Concentration 635

Zero-Balance Accounts 636

Investing in Marketable Securities 637

→ REVIEW QUESTIONS 638

Summary 638

Opener-in-Review 640

Self-Test Problems 641

Warm-Up Exercises 641

Problems 642

Spreadsheet Exercise 647

16

Current Liabilities Management

page 649



FastPay—Getting Cash into the Hands of Online Media Companies page 650

16.1 Spontaneous Liabilities 651

Accounts Payable Management 651

Accruals 656

in practice Focus on Ethics: Accruals Management 656

→ REVIEW QUESTIONS 657

16.2 Unsecured Sources of Short-Term Loans 657

Bank Loans 657

Commercial Paper 663

in practice Focus on Practice: The Ebb and Flow of Commercial Paper 663

International Loans 664

→ REVIEW QUESTIONS 665

16.3 Secured Sources of Short-Term Loans 666

Characteristics of Secured Short-Term Loans 666

Use of Accounts Receivable as Collateral 667

Use of Inventory as Collateral 669

→ REVIEW QUESTIONS 671

Summary 671

Opener-in-Review 672

Self-Test Problem 673

Warm-Up Exercises 673

Problems 674

Spreadsheet Exercise 680

Integrative Case 7 Casa de Diseño 681

Part 8 Special Topics in Managerial Finance 683

17

Hybrid and Derivative Securities

page 684



Nokia Corporation—Nokia Calls on Convertible Bond Market for Help page 685

17.1 Overview of Hybrids and Derivatives 686

→ REVIEW QUESTION 686

17.2 Leasing 686

Types of Leases 686

Leasing Arrangements 687

in practice Focus on Practice: Leases to Airlines End on a Sour Note 688

Lease-Versus-Purchase Decision 689

Effects of Leasing on Future Financing 693

Advantages and Disadvantages of Leasing 694

→ REVIEW QUESTIONS 695

17.3 Convertible Securities 695

Types of Convertible Securities 695

General Features of Convertibles 696

Financing with Convertibles 697

Determining the Value of a Convertible Bond 699

→ REVIEW QUESTIONS 701

17.4 Stock Purchase Warrants 701

Key Characteristics 701

Implied Price of an Attached Warrant 702

Values of Warrants 703

→ REVIEW QUESTIONS 705

17.5 Options 706

Calls and Puts 706

Options Markets 706

Options Trading 707

Role of Call and Put Options in Fund Raising 708

in practice Focus on Ethics: Options Backdating 709

Hedging Foreign-Currency Exposures with Options 709

→ REVIEW QUESTIONS 710

Summary 710

Opener-in-Review 712

Self-Test Problems 713

Warm-Up Exercises 714

Problems 714

Spreadsheet Exercise 721

18

Mergers, LBOs, Divestitures, and Business Failure

page 722



Dell, Inc. —Carl Icahn and Founder Michael Dell Fight for Computer Maker
page 723

18.1 Merger Fundamentals 724

Terminology 724

Motives for Merging 726

Types of Mergers 728

→ REVIEW QUESTIONS 729

18.2 LBOs and Divestitures 729

Leveraged Buyouts (LBOs) 729

Divestitures 730

→ REVIEW QUESTIONS 731

18.3 Analyzing and Negotiating Mergers 731

Valuing the Target Company 732

Stock Swap Transactions 734

Merger Negotiation Process 739

Holding Companies 741

International Mergers 743

→ REVIEW QUESTIONS 744

in practice Global Focus: International Mergers 745

18.4 Business Failure Fundamentals 745

Types of Business Failure 746

Major Causes of Business Failure 746

in practice Focus on Ethics: Too Big to Fail? 747

Voluntary Settlements 747

→ REVIEW QUESTIONS 748

18.5 Reorganization and Liquidation in Bankruptcy 749

Bankruptcy Legislation 749

Reorganization in Bankruptcy (Chapter 11) 750

Liquidation in Bankruptcy (Chapter 7) 752

→ REVIEW QUESTIONS 753

Summary 754

Opener-in-Review 755

Self-Test Problems 756

Warm-Up Exercises 756

Problems 757

Spreadsheet Exercise 763

19

International Managerial Finance

page 765



Air New Zealand—Kiwis
Flying High on Currency
Gains page 766

19.1 The Multinational Company and Its Environment 767

Key Trading Blocs 767

GATT and the WTO 769

Legal Forms of Business Organization 769

Taxes 770

Financial Markets 772

→ REVIEW QUESTIONS 773

19.2 Financial Statements 773

Subsidiary Characterization and Functional Currency 774

Translation of Individual Accounts 774

→ REVIEW QUESTION 775

19.3 Risk 775

Exchange Rate Risks 776

Political Risks 781

→ REVIEW QUESTIONS 782

in practice Focus on Ethics: Chiquita's Slippery Situation 783

19.4 Long-Term Investment and Financing Decisions 783

Foreign Direct Investment 783

Investment Cash Flows and Decisions 784

Capital Structure 785

Appendix A-1

Glossary G-1

Credits C-1

Index I-1

in practice Global Focus: Take an Overseas Assignment to Take a Step Up the Corporate Ladder 786

Long-Term Debt 787

Equity Capital 788

→ REVIEW QUESTIONS 789

19.5 Short-Term Financial Decisions 789

Cash Management 791

Credit and Inventory Management 794

→ REVIEW QUESTIONS 795

19.6 Mergers and Joint Ventures 795

→ REVIEW QUESTION 796

Summary 796

Opener-in-Review 798

Self-Test Problems 799

Warm-Up Exercises 799

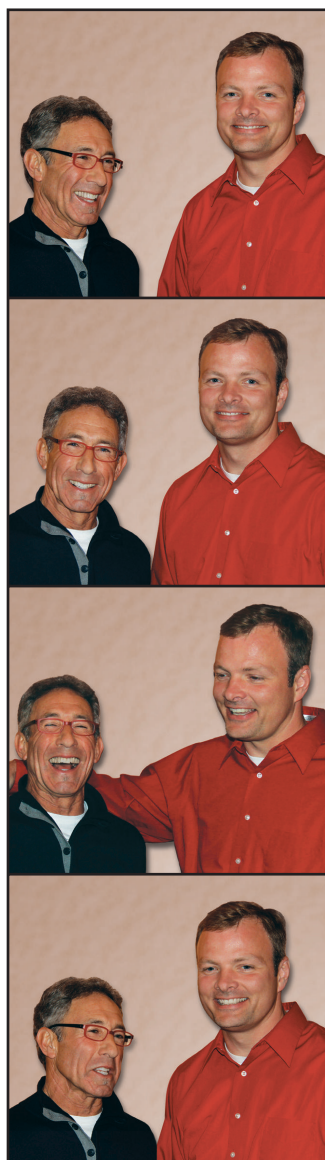
Problems 799

Spreadsheet Exercise 802

Integrative Case 8 Organic Solutions 803

This page intentionally left blank

About the Authors



Lawrence J. Gitman is an emeritus professor of finance at San Diego State University. Dr. Gitman has published more than 50 articles in scholarly journals as well as textbooks covering undergraduate- and graduate-level corporate finance, investments, personal finance, and introduction to business. He is past president of the Academy of Financial Services, the San Diego Chapter of the Financial Executives Institute, the Midwest Finance Association, and the FMA National Honor Society. Dr. Gitman served as Vice-President of Financial Education of the Financial Management Association, as a director of the San Diego MIT Enterprise Forum, and on the CFP® Board of Standards. He received his B.S.I.M. from Purdue University, his M.B.A. from the University of Dayton, and his Ph.D. from the University of Cincinnati. He and his wife have two children and live in La Jolla, California, where he is an avid bicyclist, having twice competed in the coast-to-coast Race Across America.

Chad J. Zutter is the Joseph P. and Angela A. Campolo Faculty Fellow and an associate professor of finance at the University of Pittsburgh. His research has a practical, applied focus and has been the subject of feature stories in, among other prominent outlets, *The Economist* and *CFO Magazine*. His papers have been cited in arguments before the U.S. Supreme Court and in consultation with companies such as Google and Intel. Dr. Zutter won the Jensen Prize for the best paper published in the *Journal of Financial Economics* and also won a best paper award from the *Journal of Corporate Finance*. Dr. Zutter has also won teaching awards at Indiana University and the University of Pittsburgh. He received his B.B.A. from the University of Texas at Arlington and his Ph.D. from Indiana University. He and his wife have four children and live in Pittsburgh, Pennsylvania. Prior to his career in academics, Dr. Zutter was a submariner in the U.S. Navy.

This page intentionally left blank

Preface

The desire to write *Principles of Managerial Finance* 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 a book that ties concepts to reality. 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*. Building on those strengths, 14 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, Larry and I 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.

CHANGES TO THE FOURTEENTH EDITION

As we made plans to publish the fourteenth edition, we carefully assessed feedback from users of the thirteenth 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:

- The Matter of Fact feature provides additional detail and interesting empirical facts that help students understand the practical implications of financial concepts. Many of these features have been updated or replaced in the fourteenth edition.
- All the chapter-opening vignettes (and some of the In Practice boxes) have been replaced or heavily revised. Many of the chapter openers feature companies such as Facebook, Tesla, Diamond Comic Distributors, Lowe's, Whirlpool, Nokia, and Dell that are familiar to students. We designed these opening vignettes to impress upon students that the material they will see in each chapter is relevant for business in the "real world."
- MyFinanceLab now contains several additional resources to demonstrate the examples. The new MyFinanceLab Financial Calculator allows students to find the solution for an example by inputting the keystrokes shown in the calculator screenshot. The new MyFinanceLab Solution Video allows the student to watch a video of the author discussing or solving the example. There are also MyFinanceLab Videos on related core topical areas.

- We close each chapter with an Opener in Review question that asks students to go back to the chapter opener and answer a question based on what they've learned by working through the chapter.
- We also made changes to many of the problems at the end of each chapter.

The chapter sequence is essentially unchanged from the prior edition, but there are some noteworthy changes within each chapter. This edition contains 19 chapters divided into eight 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. The first provides an overview of the role of managerial finance in a business enterprise. The second describes the financial market context in which firms operate and provides expanded and updated coverage of the recent financial crisis and its lingering consequences. This chapter not only explores the root causes and effects of the financial crisis, but it also discusses the changing regulatory landscape within which financial institutions and markets function.

Part 2 contains three chapters focused on basic financial skills such as financial statement analysis, cash flow analysis, and time-value-of-money calculations.

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.

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.

Part 5 contains three chapters on various capital budgeting topics. The first of these chapters focuses on capital budgeting methods such as payback and net present value analysis. The second chapter in this part explains how financial analysts construct cash flow projections, which are a required component of net present value analysis. The final chapter in this section describes how firms analyze the risks associated with capital investments.

Parts 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.

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.

Finally, Part 8 has three chapters covering a variety of topics, including hybrid securities, mergers and other forms of restructurings, and international finance. These subjects are some of the most dynamic areas in financial practice, and we have made a number of changes here to reflect current practices.

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 fourteenth 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—including personal finance examples—make the text an easily accessible resource for in-class learning or out-of-class learning, such as online courses and self-study programs.

ORGANIZATION

The text's organization conceptually links the firm's actions and its value as determined in the financial market. Each major decision area is presented in terms of both risk and return factors and their 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.

INTERNATIONAL CONSIDERATIONS

We live in a world where international considerations cannot be divorced from the study of business in general and finance in particular. As in prior editions, discussions of international dimensions of chapter topics are integrated throughout the book. International material is integrated into learning goals and end-of-chapter materials. In addition, for those who want to spend more time addressing the topic, a separate chapter on international managerial finance concludes the book.

PERSONAL FINANCE LINKAGES

The fourteenth edition contains several features designed to help students see the value of applying financial principles and techniques in their personal lives. At the start of each chapter, the Why This Chapter Matters to You feature helps motivate student interest by discussing how the topic of the chapter relates to the concerns of other major business disciplines and to personal finance. Within the chapter, Personal Finance Examples explicitly link the concepts, tools, and techniques of each chapter to personal finance applications. Throughout the homework material, the book provides numerous personal finance problems. The purpose of these personal finance materials is to demonstrate to students the usefulness of managerial finance knowledge in both business and personal financial dealings.

ETHICAL ISSUES

The need for ethics in business remains as important as ever. Students need to understand the ethical issues that financial managers face as they attempt to maximize shareholder value and to solve business problems. Thus, every chapter includes an In Practice box that focuses on current ethical issues.

HOMework OPPORTUNITIES

Of course, practice is essential for students' learning of managerial finance concepts, tools, and techniques. To meet that need, the book offers a rich and varied menu of homework assignments: short, numerical Warm-Up Exercises; a comprehensive set of Problems, including more than one problem for each important concept or technique and personal finance problems; an Ethics Problem for each chapter; a Spreadsheet Exercise; and, at the end of each part of the book, an Integrative Case. In addition, the end-of-section Excel Review Questions and the end-of-chapter problems are available in algorithmic form in MyFinanceLab. These materials (see pages x through xii for detailed descriptions) offer students solid learning opportunities, and they offer instructors opportunities to expand and enrich the classroom environment.

From classroom to boardroom, the fourteenth edition of *Principles of Managerial Finance* can help users get to where they want to be. We believe that it is the best edition yet: more relevant, more accurate, and more effective than ever.

Lawrence J. Gitman
La Jolla, California

Chad J. Zutter
Pittsburgh, Pennsylvania

Supplements to the Fourteenth Edition

The *Principles of Managerial Finance* Teaching and Learning System includes a variety of useful supplements for teachers and for students.

TEACHING TOOLS FOR INSTRUCTORS

The key teaching tools available to instructors are the *Instructor's Manual*, testing materials, and *PowerPoint Lecture Presentations*.

Instructor's Manual This comprehensive resource pulls together the teaching tools so that instructors can use the textbook easily and effectively in the classroom. Each chapter provides an overview of key topics and detailed answers and solutions to all review questions, Opener-in-Review questions, Warm-Up Exercises, end-of-chapter problems, and chapter cases, plus suggested answers to all critical thinking questions in chapter boxes, Ethics Problems, and Group Exercises. At the end of the manual are practice quizzes and solutions. The complete *Instructor's Manual*, including Spreadsheet Exercises, is available online at the Instructor's Resource Center (www.pearsonhighered.com/irc).

Test Item File Thoroughly revised to accommodate changes in the text, the *Test Item File* consists of a mix of true/false, multiple-choice, and essay questions. Each test question includes identifiers for type of question, skill tested by learning goal, and key topic tested plus, where appropriate, the formulas or equations used in deriving the answer.

The *Test Item File* is also available in *Test Generator Software (TestGen)* for either Windows or Macintosh. The *Test Item File* and *TestGen* are available online at the Instructor's Resource Center (www.pearsonhighered.com/irc).

PowerPoint Lecture Presentation Revised by Kate Demarest, Carroll Community College. This presentation combines lecture notes with all the art from the textbook. The *PowerPoint Lecture Presentation* is available online at the Instructor's Resource Center (www.pearsonhighered.com/irc).

LEARNING TOOLS FOR STUDENTS

Beyond the book itself, students have access to valuable resources, such as MyFinanceLab and the *Study Guide*, that if taken advantage of can help ensure their success.

MyFinanceLab *MyFinanceLab* MyFinanceLab opens the door to a powerful Web-based diagnostic testing and tutorial system designed specifically for the Gitman/Zutter, *Principles of Managerial Finance*. With MyFinanceLab, instructors can create, edit, and assign online homework and test and track all student work in the online gradebook. MyFinanceLab allows students to take practice tests correlated to the textbook and receive a customized study plan based on the test results. Most

end-of-chapter problems are available in MyFinanceLab, and because the problems have algorithmically generated values, no student will have the same homework as another; 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 its steps and links to the relevant textbook page.

This fully integrated online homework system gives students the hands-on practice and tutorial help they need to learn finance efficiently. There are ample opportunities for online practice and assessment that is automatically graded in MyFinanceLab (www.myfinancelab.com).

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

Chapter Cases with automatically graded assessment are also provided in MyFinanceLab. 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.

MyFinanceLab 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.

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 MyFinanceLab.

Study Guide *Revised by Shannon Donovan, Bridgewater State University.* The *Study Guide* is an integral component of the *Principles of Managerial Finance* Teaching and Learning System. It offers many tools for studying finance. Each chapter contains the following features: chapter summary enumerated by learning goals; topical chapter outline, also broken down by learning goals for quick review; sample problem solutions; study tips; and a full sample exam with the answers at the end of the chapter. A financial dictionary of key terms is located at the end of the *Study Guide*, along with an appendix with tips on using financial calculators.

NEW! Interest Rate Factor (IRF) Supplement This self-contained supplement explains to the student how to use the interest rate factors and works seamlessly with the textbook, so the student can go directly to the IRF Supplement and see the in-chapter example solved using the interest rate factors. All examples which appear in the IRF Supplement are indicated in the text with an IRF icon.

Acknowledgments

TO OUR COLLEAGUES, FRIENDS, AND FAMILY

Pearson sought the advice of a great many excellent reviewers, all of whom influenced the revisions of this book. The following individuals provided extremely thoughtful and useful comments for the preparation of the fourteenth edition:

Steven L. Beach, *Radford University*
Denis O. Boudreaux, *University of Louisiana Lafayette*
Shannon Donovan, *Bridgewater State University*
Hsing Fang, *California State University–Los Angeles*
John Gonzales, *University of San Francisco*
Adina Schwartz, *Lakeland College*
Tammie Simmons-Mosley, *California State University–East Bay*
Charlene Sullivan, *Purdue University, Krannert School of Management*
Toby White, *Drake University*
David Wilhelm, *Metropolitan Community College*

Our special thanks go to the following individuals who analyzed the manuscript in previous editions:

Saul W. Adelman	Kenneth J. Boudreaux	R. Gordon Dippel
M. Fall Ainina	Wayne Boyet	James P. D’Mello
Gary A. Anderson	Ron Braswell	Carleton Donchess
Ronald F. Anderson	Christopher Brown	Thomas W. Donohue
James M. Andre	William Brunsen	Lorna Dotts
Gene L. Andrusco	Samuel B. Bulmash	Vincent R. Driscoll
Antonio Apap	Francis E. Canda	Betty A. Driver
David A. Arbeit	Omer Carey	David R. Durst
Allen Arkins	Patrick A. Casabona	Dwayne O. Eberhardt
Saul H. Auslander	Johnny C. Chan	Ronald L. Ehresman
Peter W. Bacon	Robert Chatfield	Ted Ellis
Richard E. Ball	K. C. Chen	F. Barney English
Thomas Bankston	Roger G. Clarke	Greg Filbeck
Alexander Barges	Terrence M. Clauretie	Ross A. Flaherty
Charles Barngrover	Mark Cockalingam	Rich Fortin
Michael Becker	Kent Cofoid	Timothy J. Gallagher
Omar Benkato	Boyd D. Collier	George W. Gallinger
Scott Besley	Thomas Cook	Sharon Garrison
Douglas S. Bible	Maurice P. Corrigan	Gerald D. Gay
Charles W. Blackwell	Mike Cudd	Deborah Giarusso
Russell L. Block	Donnie L. Daniel	R. H. Gilmer
Calvin M. Boardman	Prabir Datta	Anthony J. Giovino
Paul Bolster	Joel J. Dauten	Michael Giuliano
Robert J. Bondi	Lee E. Davis	Philip W. Glasgo
Jeffrey A. Born	Irv DeGraw	Jeffrey W. Glazer
Jerry D. Boswell	Richard F. DeMong	Joel Gold
Denis O. Boudreaux	Peter A. DeVito	Ron B. Goldfarb

Dennis W. Goodwin	Thomas J. Liesz	Mary L. Piotrowski
David A. Gordon	Hao Lin	D. Anthony Plath
J. Charles Granicz	Alan Lines	Jerry B. Poe
C. Ramon Griffin	Larry Lynch	Gerald A. Pogue
Reynolds Griffith	Christopher K. Ma	Suzanne Polley
Arthur Guarino	James C. Ma	Ronald S. Pretekin
Lewell F. Gunter	Dilip B. Madan	Fran Quinn
Melvin W. Harju	Judy Maese	Rich Ravichandran
John E. Harper	James Mallet	David Rayone
Phil Harrington	Inayat Mangla	Walter J. Reinhart
George F. Harris	Bala Maniam	Jack H. Reubens
George T. Harris	Timothy A. Manuel	Benedicte Reyes
John D. Harris	Brian Maris	William B. Riley Jr.
Mary Hartman	Daniel S. Marrone	Ron Rizzuto
R. Stevenson Hawkey	William H. Marsh	Gayle A. Russell
Roger G. Hehman	John F. Marshall	Patricia A. Ryan
Harvey Heinowitz	Linda J. Martin	Murray Sabrin
Glenn Henderson	Stanley A. Martin	Kanwal S. Sachedeva
Russell H. Hereth	Charles E. Maxwell	R. Daniel Sadlier
Kathleen T. Hevert	Timothy Hoyt McCaughey	Hadi Salavitabar
J. Lawrence Hexter	Lee McClain	Gary Sanger
Douglas A. Hibbert	Jay Meiselman	Mukunthan
Roger P. Hill	Vincent A. Mercurio	Santhanakrishnan
Linda C. Hittle	Joseph Messina	William L. Sartoris
James Hoban	John B. Mitchell	William Sawatski
Hugh A. Hobson	Daniel F. Mohan	Steven R. Scheff
Keith Howe	Charles Mohundro	Michael Schellenger
Kenneth M. Huggins	Gene P. Morris	Michael Schinski
Jerry G. Hunt	Edward A. Moses	Tom Schmidt
Mahmood Islam	Tarun K. Mukherjee	Carl J. Schwendiman
James F. Jackson	William T. Murphy	Carl Schweser
Stanley Jacobs	Randy Myers	Jim Scott
Dale W. Janowsky	Lance Nail	John W. Settle
Jeannette R. Jesinger	Donald A. Nast	Richard A. Shick
Nalina Jeypalan	Vivian F. Nazar	A. M. Sibley
Timothy E. Johnson	G. Newbould	Sandeep Singh
Roger Juchau	Charles Ngassam	Surendra S. Singhvi
Ashok K. Kapoor	Alvin Nishimoto	Stacy Sirmans
Daniel J. Kaufman Jr.	Gary Noreiko	Barry D. Smith
Joseph K. Kiely	Dennis T. Officer	Gerald Smolen
Terrance E. Kingston	Kathleen J. Oldfather	Ira Smolowitz
Raj K. Kohli	Kathleen F. Oppenheimer	Jean Snavelly
Thomas M. Krueger	Richard M. Osborne	Joseph V. Stanford
Lawrence Kryzanowski	Jerome S. Osteryoung	John A. Stocker
Harry R. Kuniarsky	Prasad Padmanabahn	Lester B. Strickler
William R. Lane	Roger R. Palmer	Gordon M. Stringer
Richard E. La Near	Don B. Pantan	Elizabeth Strock
James Larsen	John Park	Donald H. Stuhlman
Rick LeCompte	Ronda S. Paul	Sankar Sundarajan
B. E. Lee	Bruce C. Payne	Philip R. Swensen
Scott Lee	Gerald W. Perritt	S. Tabriztchi
Suk Hun Lee	Gladys E. Perry	John C. Talbott
Michael A. Lenarcic	Stanley Piascik	Gary Tallman
A. Joseph Lerro	Gregory Pierce	Harry Tamule

Richard W. Taylor	Ronald P. Volpe	Bernard J. Winger
Rolf K. Tedefalk	John M. Wachowicz Jr.	Tony R. Winkler
Richard Teweles	Faye (Hefei) Wang	I. R. Woods
Kenneth J. Thygersen	William H. Weber III	John C. Woods
Robert D. Tollen	Herbert Weinraub	Robert J. Wright
Emery A. Trahan	Jonathan B. Welch	Richard H. Yanow
Barry Uze	Grant J. Wells	Seung J. Yoon
Pieter A. Vandenberg	Larry R. White	Charles W. Young
Nikhil P. Varaiya	Peter Wichert	Philip J. Young
Oscar Varela	C. Don Wiggins	Joe W. Zeman
Kenneth J. Venuto	Howard A. Williams	John Zietlow
Sam Veraldi	Richard E. Williams	J. Kenton Zumwalt
James A. Verbrugge	Glenn A. Wilt Jr.	Tom Zwirlein

Special thanks go to Thomas J. Boulton of Miami University for his work on the Focus on Ethics boxes and to Alan Wolk of the University of Georgia for accuracy checking the quantitative content in the textbook. We are pleased by and proud of all their efforts.

No textbook would be complete, let alone usable, if not for the accompanying instructor and student supplements. We are grateful to two individuals for their work creating, revising, and accuracy checking all the valuable instructor and student resources that support the use of *Principles*: Kate Demarest, Carroll Community College for revising the *PowerPoint Lecture Presentation* and Shannon Donovan of Bridgewater State University for revising the *Study Guide*.

A hearty round of applause also goes to the publishing team assembled by Pearson—including Donna Battista, Elissa Senra-Sargent, Mary Kate Murray, Alison Eusden, Melissa Honig, Miguel Leonarte, and others who worked on the book—for the inspiration and the perspiration that define teamwork. Also, special thanks to the formidable Pearson sales force in finance, whose ongoing efforts keep the business fun!

Finally, and most important, many thanks to our families for patiently providing support, understanding, and good humor throughout the revision process. To them we will be forever grateful.

Lawrence J. Gitman
La Jolla, California

Chad J. Zutter
Pittsburgh, Pennsylvania

This page intentionally left blank

Part 1

Introduction to Managerial Finance

Chapters in This Part

- 1 The Role of Managerial Finance
- 2 The Financial Market Environment

INTEGRATIVE CASE 1 Merit Enterprise Corp.

Part 1 of *Principles of Managerial Finance* discusses the role that financial managers play in businesses and the financial market environment in which firms operate. We argue that the goal of managers should be to maximize the value of the firm and by doing so maximize the wealth of its owners. Financial managers act on behalf of the firm's owners by making operating and investment decisions whose benefits exceed their costs. These decisions create wealth for shareholders. Maximizing shareholder wealth is important because firms operate in a highly competitive financial market environment that offers shareholders many alternatives for investing their funds. To raise the financial resources necessary to fund the firm's ongoing operations and future investment opportunities, managers have to deliver value to the firm's investors. Without smart financial managers and access to financial markets, firms are unlikely to survive, let alone achieve the long-term goal of maximizing the value of the firm.

1

The Role of Managerial Finance

Learning Goals

- LG 1** Define *finance* and the managerial finance function.
- LG 2** Describe the legal forms of business organization.
- LG 3** Describe the goal of the firm, and explain why maximizing the value of the firm is an appropriate goal for a business.
- LG 4** Describe how the managerial finance function is related to economics and accounting.
- LG 5** Identify the primary activities of the financial manager.
- LG 6** 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.

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 act on behalf of investors when operating a corporation.

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

Not Much to “Like” about IPO

For its first 8 years, Facebook, Inc., operated as a privately held corporation. The company had relatively few shareholders and had no obligation to report its financial results to the public or to regulators such as the Securities and Exchange Commission (SEC), which allowed co-founder Mark Zuckerberg to focus his energy on building Facebook’s rapidly growing business. Just 6 years after its inception in Zuckerberg’s Harvard dorm room, Facebook’s user base surpassed the 500 million mark, and pressure mounted on Zuckerberg to “take the company public” via an initial public offering (IPO) of common stock. Such a move would allow Facebook’s early investors to cash out and would make dozens of Facebook’s employees rich, none more so than Zuckerberg himself.

On May 18, 2012, Facebook launched its IPO by selling 421 million shares at a price of \$38 per share. Almost immediately the price of Facebook stock rose as high as \$45 per share, but there were signs of trouble. Technical problems on the Nasdaq stock exchange caused millions of orders for Facebook shares to be wrongly placed. Even worse, during the first month after Facebook’s IPO, its share price fell to \$30. Investors filed dozens of lawsuits, alleging that they were harmed not only by Nasdaq’s trading glitches, but also by the selective release of unfavorable financial information by Facebook’s investment bankers and its senior managers.

Once firms “go public” by selling shares to the public, they face a host of new pressures that private companies do not, so why do they go public at all? Often it is to provide an exit strategy for private investors, gain access to investment capital, establish a market price for the firm’s shares, gain public exposure, or all those reasons. Going public helps firms grow, but that and other benefits of public ownership must be weighed against the costs of doing so. A public firm’s managers work for and are responsible to the firm’s investors, and government regulations require firms to provide investors with frequent reports disclosing material information about the firm’s performance. The regulatory demands placed on managers of public firms can sometimes distract managers from important aspects of running their businesses. This chapter will highlight the trade-offs faced by financial managers as they make decisions intended to maximize the value of their firms.

LG 1

LG 2

1.1 Finance and Business

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 there are important financial dimensions to almost any aspect of business, there are many financially oriented career opportunities for those who understand the principles of finance described in this textbook. Even if you do not see yourself pursuing a career in finance, you'll find that an understanding of a few key ideas in finance will help make you a smarter consumer and a wiser investor with your own money.

WHAT IS FINANCE?

finance

The science and art of managing money.

Finance can be defined as the science and art of managing money. At the personal level, finance is concerned with individuals' decisions about how much of their earnings they spend, how much they save, and how they invest their savings. In a business context, finance involves the same types of decisions: how firms raise money from investors, how firms invest money in an attempt to earn a profit, and how they decide whether to reinvest profits in the business or distribute them back to investors. The keys to good financial decisions are much the same for businesses and individuals, which is why most students will benefit from an understanding of finance regardless of the career path they plan to follow. Learning the techniques of good financial analysis will not only help you make better financial decisions as a consumer, but it will also help you understand the financial consequences of the important business decisions you will face no matter what career path you follow.

CAREER OPPORTUNITIES IN FINANCE

Careers in finance typically fall into one of two broad categories: (1) financial services and (2) managerial finance. Workers in both areas rely on a common analytical "tool kit," but the types of problems to which that tool kit is applied vary a great deal from one career path to the other.

Financial Services

Financial services is the area of finance concerned with the design and delivery of advice and financial products to individuals, businesses, and governments. It involves a variety of interesting career opportunities within the areas of banking, personal financial planning, investments, real estate, and insurance.

Managerial Finance

Managerial finance is concerned with the duties of the *financial manager* working in a business. **Financial managers** administer the financial affairs of all types of businesses: private and public, large and small, profit seeking and not for profit. They perform such varied tasks as developing a financial plan or budget, extending credit to customers, evaluating proposed large expenditures, and raising money to fund the firm's operations. In recent years, a number of factors have increased the importance and complexity of the financial manager's duties. These factors include the recent global financial crisis and subsequent responses by regulators, increased competition, and technological change. For example, globalization has

financial services

The area of finance concerned with the design and delivery of advice and financial products to individuals, businesses, and governments.



managerial finance

Concerns the duties of the *financial manager* in a business.

financial manager

Actively manages the financial affairs of all types of businesses, whether private or public, large or small, profit seeking or not for profit.

led U.S. corporations to increase their transactions in other countries, and foreign corporations have done likewise in the United States. These changes increase demand for financial experts who can manage cash flows in different currencies and protect against the risks that arise from international transactions. These changes increase the finance function's complexity, but they also create opportunities for a more rewarding career. The increasing complexity of the financial manager's duties has increased the popularity of a variety of professional certification programs outlined in the *Focus on Practice* box below. Financial managers today actively develop and implement corporate strategies aimed at helping the firm grow and improve its competitive position. As a result, many corporate presidents and chief executive officers (CEOs) rose to the top of their organizations by first demonstrating excellence in the finance function.

LEGAL FORMS OF BUSINESS ORGANIZATION

One of the most important decisions all businesses confront is how to choose a legal form of organization. This decision has very important financial implications because how a business is organized legally influences the risks that the

focus on **PRACTICE**

Professional Certifications in Finance

in practice To be successful in finance and just about any other field, you need to continue your education beyond your undergraduate degree. For some people, it means getting a masters in business administration (MBA), but there are many other ways to advance your education and enhance your credentials without getting a graduate degree. In finance, a variety of professional certification programs are widely recognized in the field.

Chartered Financial Analyst (CFA): Offered by the CFA Institute, the CFA program is a graduate-level course of study focused primarily on the investments side of finance. To earn the CFA Charter, students must pass a series of three exams, usually over a 3-year period, and have 48 months of professional experience. Although this program appeals primarily to those who work in the investments field, the skills developed in the CFA program are useful in a variety of corporate finance jobs as well.

Certified Treasury Professional (CTP): The CTP program requires students to pass a single exam that is focused on the knowledge and skills needed for those working in a corporate treasury department. The program emphasizes topics such as liquidity and working capital management, payment transfer systems, capital structure, managing relationships with financial service providers, and monitoring and controlling financial risks.

Certified Financial Planner (CFP): To obtain CFP status, students must pass a 10-hour exam covering a wide range of topics related to personal financial planning. The CFP program also requires 3 years of full-time relevant experience. The program focuses primarily on skills relevant for advising individuals in developing their personal financial plans.

American Academy of Financial Management (AAFM): The AAFM administers a host of certification

programs for financial professionals in a wide range of fields. Their certifications include the Chartered Portfolio Manager, Chartered Asset Manager, Certified Risk Analyst, Certified Cost Accountant, and Certified Credit Analyst as well as many other programs. See the AAFM website for complete details on all the AAFM educational programs.

Professional Certifications in Accounting: Most professionals in the field of managerial finance need to know a great deal about accounting to succeed in their jobs. Professional certifications in accounting include the Certified Public Accountant (CPA), Certified Management Accountant (CMA), and Certified Internal Auditor (CIA) as well as many other programs.

► *Why do employers value having employees with professional certifications?*

firm's owners must bear, how the firm can raise money, and how the firm's profits will be taxed. The three most common legal forms of business organization are the *sole proprietorship*, the *partnership*, and the *corporation*. More businesses are organized as sole proprietorships than any other legal form, but the largest businesses are almost always organized as corporations. Even so, each type of organization has its advantages and disadvantages.

Sole Proprietorships

sole proprietorship

A business owned by one person and operated for his or her own profit.

A **sole proprietorship** is a business owned by one person who operates it for his or her own profit. About 61 percent of all businesses are sole proprietorships. The typical sole proprietorship is small, such as a bike shop, personal trainer, or plumber. The majority of sole proprietorships operate in the wholesale, retail, service, and construction industries.

Typically, the owner (proprietor), along with a few employees, operates the proprietorship. The proprietor raises capital from personal resources or by borrowing, and he or she is responsible for all business decisions. As a result, this form of organization appeals to entrepreneurs who enjoy working independently.

A major drawback to the sole proprietorship is **unlimited liability**, which means that liabilities of the business are the entrepreneur's responsibility and that creditors can make claims against the entrepreneur's personal assets if the business fails to pay its debts. The key strengths and weaknesses of sole proprietorships are summarized in Table 1.1.

unlimited liability

The condition of a sole proprietorship (or general partnership), giving creditors the right to make claims against the owner's personal assets to recover debts owed by the business.

partnership

A business owned by two or more people and operated for profit.

Partnerships

A **partnership** consists of two or more owners doing business together for profit. Partnerships account for about 8 percent of all businesses, and they are typically larger than sole proprietorships. Partnerships are common in the finance, insurance, and real estate industries. Public accounting and law partnerships often have large numbers of partners.

Most partnerships are established by a written contract known as **articles of partnership**. In a *general* (or *regular*) *partnership*, all partners have unlimited liability, and each partner is legally liable for *all* of the debts of the partnership. Table 1.1 summarizes the strengths and weaknesses of partnerships.

articles of partnership

The written contract used to formally establish a business partnership.

Matter of fact

BizStats.com Total Receipts by Type of U.S. Firm

Although there are vastly more sole proprietorships than there are partnerships and corporations combined, they generate the lowest level of receipts. In total, sole proprietorships generated more than \$1.3 trillion in receipts, but this number hardly compares to the more than \$50 trillion in receipts generated by corporations.

BizStats.com Total Receipts by Type of U.S. Firm			
	Sole proprietorships	Partnerships	Corporations
Number of firms (millions)	23.1	3.1	7.7
Percentage of all firms	61%	8%	20%
Total receipts (\$ billions)	1,324	4,244	50,757
Percentage of all receipts	2%	7%	80%

TABLE 1.1 Strengths and Weaknesses of the Common Legal Forms of Business Organization

	Sole proprietorship	Partnership	Corporation
Strengths	<ul style="list-style-type: none"> Owner receives all profits (and sustains all losses) Low organizational costs Income included and taxed on proprietor's personal tax return Independence Secrecy Ease of dissolution 	<ul style="list-style-type: none"> Can raise more funds than sole proprietorships Borrowing power enhanced by more owners More available brain power and managerial skill Income included and taxed on partner's personal tax return 	<ul style="list-style-type: none"> Owners have <i>limited liability</i>, which guarantees that they cannot lose more than they invested Can achieve large size via sale of ownership (stock) Ownership (stock) is readily transferable Long life of firm Can hire professional managers Has better access to financing
Weaknesses	<ul style="list-style-type: none"> Owner has <i>unlimited liability</i> in that total wealth can be taken to satisfy debts Limited fund-raising power tends to inhibit growth Proprietor must be jack-of-all-trades Difficult to give employees long-run career opportunities Lacks continuity when proprietor dies 	<ul style="list-style-type: none"> Owners have <i>unlimited liability</i> and may have to cover debts of other partners Partnership is dissolved when a partner dies Difficult to liquidate or transfer partnership 	<ul style="list-style-type: none"> Taxes are generally higher because corporate income is taxed, and dividends paid to owners are also taxed at a maximum 15% rate More expensive to organize than other business forms Subject to greater government regulation Lacks secrecy because regulations require firms to disclose financial results

corporation

An entity created by law.

stockholders

The owners of a corporation, whose ownership, or *equity*, takes the form of common stock or, less frequently, preferred stock.

limited liability

A legal provision that limits stockholders' liability for a corporation's debt to the amount they initially invested in the firm by purchasing stock.

common stock

The purest and most basic form of corporate ownership.

dividends

Periodic distributions of cash to the stockholders of a firm.

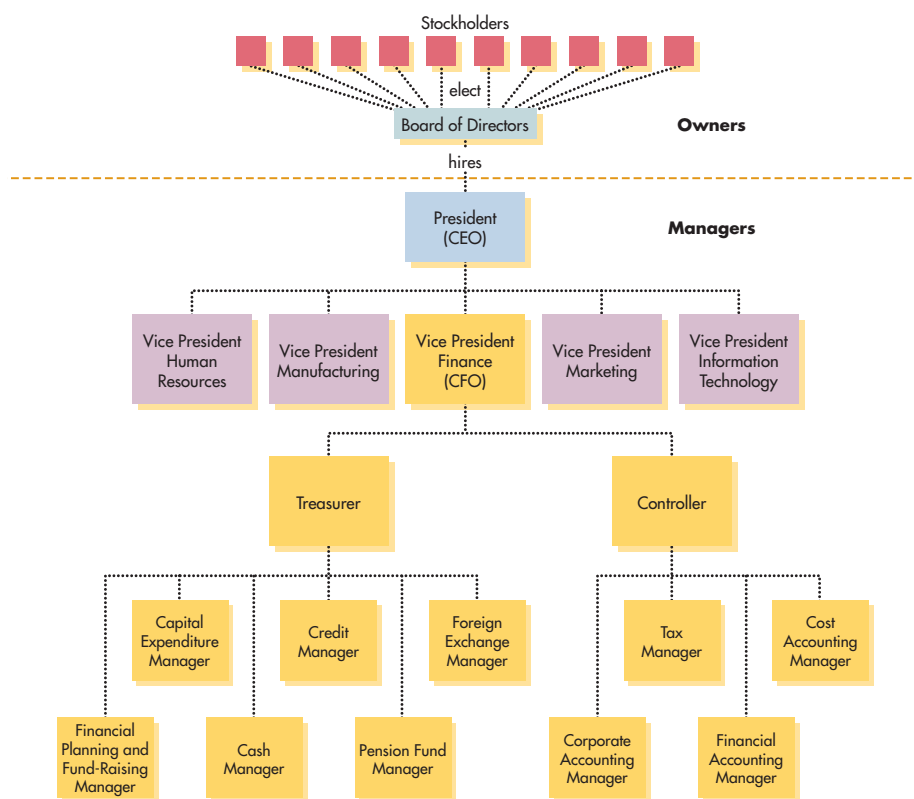
Corporations

A **corporation** is an entity created by law. A corporation has the legal powers of an individual in that it can sue and be sued, make and be party to contracts, and acquire property in its own name. Although only about 20 percent of all U.S. businesses are incorporated, the largest businesses nearly always are; corporations account for roughly 80 percent of total business revenues. Although corporations engage in all types of businesses, manufacturing firms account for the largest portion of corporate business receipts and net profits. Table 1.1 lists the key strengths and weaknesses of corporations.

The owners of a corporation are its **stockholders**, whose ownership, or *equity*, takes the form of common stock or, less frequently, preferred stock. Unlike the owners of sole proprietorships or partnerships, stockholders of a corporation enjoy **limited liability**, meaning that they are not personally liable for the firm's debts. Their losses are limited to the amount they invested in the firm when they purchased shares of stock. In Chapter 7, you will learn more about common stock, but for now it is enough to say that **common stock** is the purest and most basic form of corporate ownership. Stockholders expect to earn a return by receiving **dividends**—periodic distributions of cash—or by realizing gains through increases in share price. Because the money to pay dividends generally comes from the profits that a firm earns, stockholders are sometimes referred to as *residual claimants*, meaning that stockholders are paid last, after employees,

FIGURE 1.1**Corporate Organization**

The general organization of a corporation and the finance function (which is shown in yellow)

**board of directors**

Group elected by the firm's stockholders and typically responsible for approving strategic goals and plans, setting general policy, guiding corporate affairs, and approving major expenditures.

president or chief executive officer (CEO)

Corporate official responsible for managing the firm's day-to-day operations and carrying out the policies established by the board of directors.

Limited partnership (LP)

A partnership in which one or more partners have limited liability as long as at least one partner (the general partner) has unlimited liability. The limited partners are passive investors that cannot take an active role in the firm's management.

suppliers, tax authorities, and lenders receive what they are owed. If the firm does not generate enough cash to pay everyone else, there is nothing available for stockholders.

As noted in the upper portion of Figure 1.1, control of the corporation functions a little like a democracy. The stockholders (owners) vote periodically to elect members of the *board of directors* and to decide other issues such as amending the corporate charter. The **board of directors** is typically responsible for approving strategic goals and plans, setting general policy, guiding corporate affairs, and approving major expenditures. Most importantly, the board decides when to hire or fire top managers and establishes compensation packages for the most senior executives. The board consists of "inside" directors, such as key corporate executives, and "outside" or "independent" directors, such as executives from other companies, major shareholders, and national or community leaders. Outside directors for major corporations receive compensation in the form of cash, stock, and stock options. This compensation often totals \$100,000 per year or more.

The **president or chief executive officer (CEO)** is responsible for managing day-to-day operations and carrying out the policies established by the board of directors. The CEO reports periodically to the firm's directors.

It is important to note the division between owners and managers in a large corporation, as shown by the dashed horizontal line in Figure 1.1. This separation and some of the issues surrounding it will be addressed in the discussion of *the agency issue* later in this chapter.