PRINCIPLES *of* MANAGERIAL FINANCE

14th Edition

Lawrence J. Gitman • Chad J. Zutter

FREQUENTLY USED SYMBOLS AND ABBREVIATIONS

AAI Average Age of Inventory
ACH Automated Clearinghouse
ACP Average Collection Period
AF_j Amount of Funds Available from Financing Source j at a Given Cost
ANPV Annualized Net Present Value
A/P Accounts Payable
APP Average Payment Period
APR Annual Percentage Rate
APY Annual Percentage Yield
A/R Accounts Receivable
β_j Beta Coefficient or Index of Nondiversifiable Risk for Asset j
β_p Portfolio Beta
B_0 Value of a Bond
C Carrying Cost per Unit per Period
CAPM Capital Asset Pricing Model
CCC Cash Conversion Cycle
CD Stated Cash Discount in Percentage Terms
CF_0 Initial Investment
CF_t Cash Inflow in Period t
CV Coefficient of Variation
D_p Preferred Stock Dividend
D_t
- Per-Share Dividend Expected at the End of Year t
- Depreciation Expense in Year t

DFL Degree of Financial Leverage
DIP Debtor in Possession
DOL Degree of Operating Leverage
DPS Dividends per Share
DTC Depository Transfer Check
DTL Degree of Total Leverage
e Exponential Function = 2.7183
E Exercise Price of the Warrant
EAR Effective Annual Rate
EBIT Earnings Before Interest and Taxes
EOM End of the Month
EOQ Economic Order Quantity
EPS Earnings per Share
ERP Enterprise Resource Planning
EU European Union
EVA Economic Value Added
FC Fixed Operating Cost
FCF Free Cash Flow
FDI Foreign Direct Investment
FLM Financial Leverage Multiplier
FV Future Value
GAAP Generally accepted accounting principles
GATT General Agreement on Tariffs and Trade
g Growth Rate
I Interest Payment
IP Inflation Premium
IPO Initial Public Offering
IRR Internal Rate of Return
JIT Just-In-Time System
LBO Leveraged Buyout
m Number of times per year interest is compounded
M Bond's Par Value
M/B Market/Book Ratio
MACRS Modified Accelerated Cost Recovery System
MNC Multinational Company
MP Market Price per Share
MPR Market Price Ratio of Exchange
MRP Materials Requirement Planning
n
- Number of Outcomes Considered
- Number of Periods—Typically, Years
- Years to Maturity

N
- Number of Days Payment Can Be Delayed by Giving up the Cash Discount
- Number of Shares of Common Stock Obtainable With One Warrant

N_d Net Proceeds from the Sale of Debt (Bond)

FREQUENTLY USED SYMBOLS AND ABBREVIATIONS (CONTINUED)

N_n	Net Proceeds from the Sale of New Common Stock
N_p	Net Proceeds from the Sale of Preferred Stock
NAFTA	North American Free Trade Agreement
NCAI	Net Current Asset Investment
NFAI	Net Fixed Asset Investment
NOPAT	Net operating profits after taxes
NPV	Net Present Value
O	Order Cost Per Order
OC	Operating Cycle
OCF	Operating Cash Flow
P	Price (value) of asset
P_0	Value of Common Stock
$PBDT_t$	Profits Before Depreciation and Taxes in year t
PD	Preferred Stock Dividend
P/E	Price/Earnings Ratio
PI	Profitability Index
PMT	Amount of Payment
Pr	Probability
PV	Present Value
Q	• Order Quantity in Units • Sales Quantity in Units
r	• Actual, Expected ($\bar{r}$), or Required Rate of Return • Annual Rate of Interest • Cost of Capital
r^*	Real Rate of Interest
r_a	Weighted Average Cost of Capital
r_d	• Required Return on Bond • Before-Tax Cost of Debt
r_i	After-Tax Cost of Debt
r_j	Required Return on Asset j
r_m	• Market Return • Return on the Market Portfolio of Assets
r_p	• Cost of Preferred Stock • Portfolio Return
r_r	Cost of Retained Earnings
r_s	• Required Return on Common Stock • Cost of Common Stock Equity
R_F	Risk-Free Rate of Interest
RADR	Risk-Adjusted Discount Rate
RE	Ratio of Exchange
ROA	Return on Total Assets
ROE	Return on Common Equity
S	• Usage in Units per Period • Sales in Dollars
SML	Security Market Line
t	Time
T	Firm's Marginal Tax Rate
TVW	Theoretical Value of a Warrant
V	• Value of an Asset or Firm • Venture Capital
V_C	Value of Entire Company
V_D	Value of All Debt
V_P	Value of Preferred Stock
V_S	Value of Common Stock
VC	Variable Operating Cost per Unit
w_j	• Proportion of the Portfolio's Total Dollar Value Represented by Asset j • Proportion of a Specific Source of Financing j in the Firm's Capital Structure
WACC	Weighted Average Cost of Capital
WTO	World Trade Organization
YTM	Yield to Maturity
ZBA	Zero Balance Account
σ	Standard Deviation
$\sum$	Summation Sign

Principles of
Managerial Finance

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Principles of Managerial Finance

Fourteenth Edition

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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

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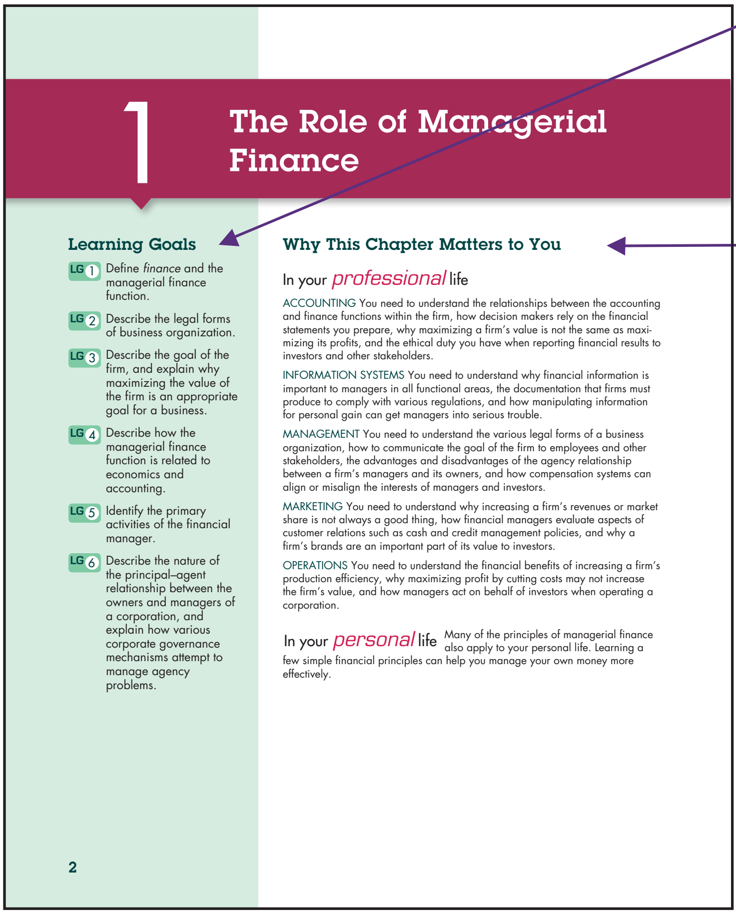
Our Proven Teaching and Learning System

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 "hotly" 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 cofounder, 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.

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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.

LG 2 LG 3 **6.2 Corporate Bonds**

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.

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.

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.

Corporations

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.

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

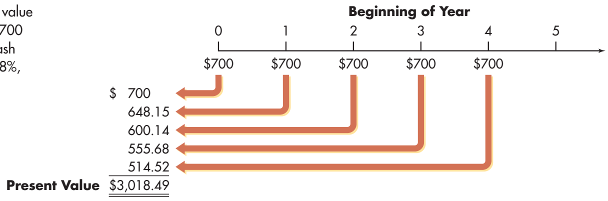
Matter of fact

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.

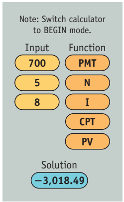
IRF Example 5.10 ▸ In Example 5.8 of Braden Company, we found the present value of Braden's $700, 5-year ordinary annuity discounted at 8% to be $2,794.90. If we now assume that Braden's $700 annual cash flow occurs at the *start* of each year and is thereby an annuity due. This situation is depicted 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.

MyFinanceLab Financial Calculator



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.*)

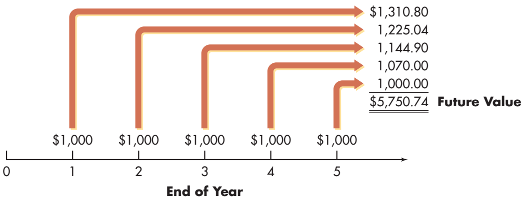
Spreadsheet use The present value of the annuity due also can be calculated as shown on the following Excel spreadsheet.

	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.

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

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.

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.

$$PV = CF \div r \tag{5.7}$$

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.

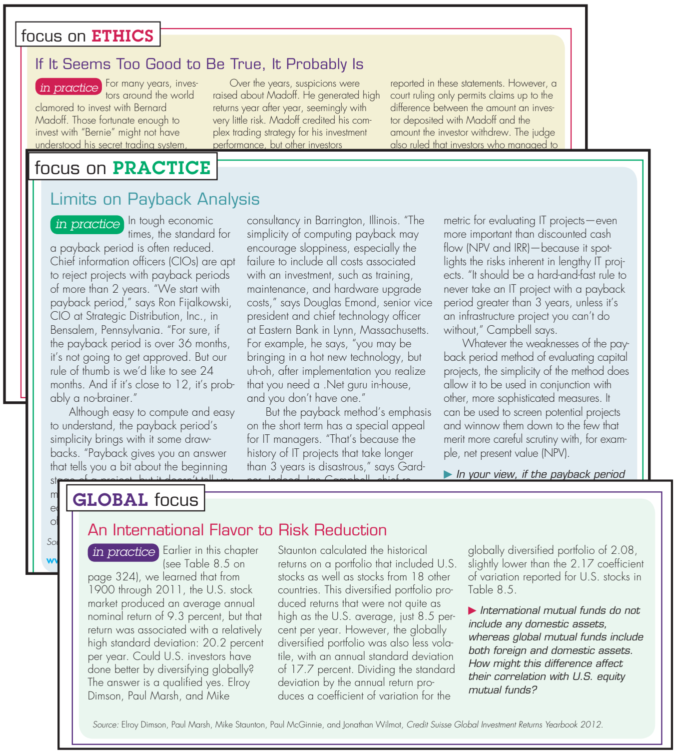
In Practice boxes offer insights into important topics in managerial finance through the experiences of real companies, both large and small. There are three categories of In Practice boxes:

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 Staunton 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 Staunton, Paul McGinnie, and Jonathan Wilmot, *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 LG 5 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.

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.

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 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?

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.

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.

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.

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.

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.

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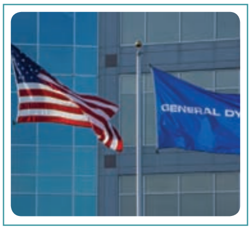

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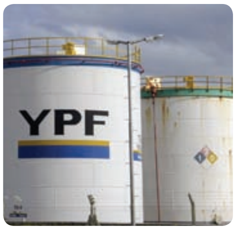

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Preface

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
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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.

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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.

Facebook

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

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
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.

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 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.

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.

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.

Partnerships

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

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.

articles of partnership
The written contract used to formally establish a business partnership.

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.

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	• 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	• 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	• Owners have *limited liability*, 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	• Owner has *unlimited liability* 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	• Owners have *unlimited liability* and may have to cover debts of other partners • Partnership is dissolved when a partner dies • Difficult to liquidate or transfer partnership	• 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

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,

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.

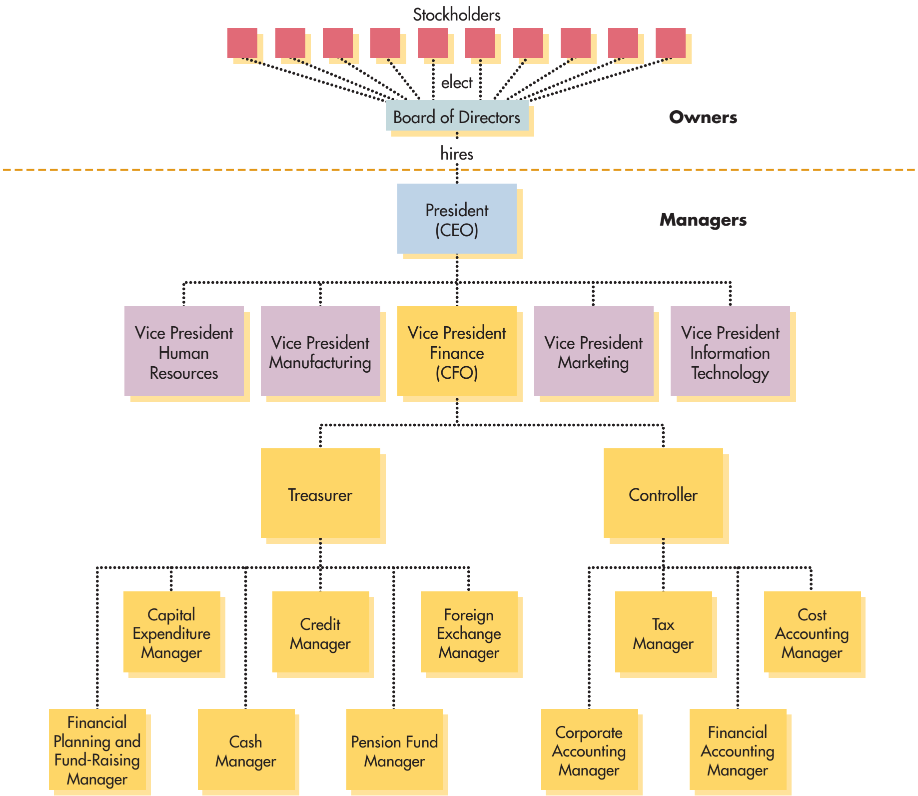
limited liability
A legal provision that limits stockholders' liability for a corporation's debt to the amount they initially invested in the firm by purchasing stock.

common stock
The purest and most basic form of corporate ownership.

dividends
Periodic distributions of cash to the stockholders of a firm.

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.

Other Limited Liability Organizations

A number of other organizational forms provide owners with limited liability. The most popular are **limited partnership** (LP), **S corporation** (S corp), **limited liability company** (LLC), and **limited liability partnership** (LLP). Each represents a specialized form or blending of the characteristics of the organizational forms described previously. What they have in common is that their owners enjoy limited liability, and they typically have fewer than 100 owners.

S corporation (S corp)
A tax-reporting entity that allows certain corporations with 100 or fewer stockholders to choose to be taxed as partnerships. Its stockholders receive the organizational benefits of a corporation and the tax advantages of a partnership.

Limited liability company (LLC)
Permitted in most states, the LLC gives its owners limited liability and taxation as a partnership. But unlike an S corp, the LLC can own more than 80% of another corporation, and corporations, partnership, or non-U.S. Residents can own LLC shares.

Limited liability partnership (LLP)
Permitted in most states, LLP partners are liable for their own acts of malpractice, but not for those of other partners. The LLP is taxed as a partnership and is frequently used by legal and accounting professionals.

WHY STUDY MANAGERIAL FINANCE?

An understanding of the concepts, techniques, and practices of managerial finance will fully acquaint you with the financial manager's activities and decisions. Because the consequences of most business decisions are measured in financial terms, the financial manager plays a key operational role. People in all areas of responsibility—accounting, information systems, management, marketing, operations, and so forth—need a general awareness of finance so that they will understand how to quantify the consequences of their actions.

OK, so you're not planning to major in finance! To improve your chance of success in your chosen business career, you still will need to understand how financial managers think. Managers in the firm, regardless of their job descriptions, usually have to provide financial justification for the resources they need to do their job. Whether you are hiring new workers, negotiating an advertising budget, or upgrading the technology used in a manufacturing process, understanding the financial aspects of your actions will help you gain the resources you need to be successful. The "Why This Chapter Matters to You" section that appears on each chapter-opening page should help you understand the importance of each chapter in both your professional and personal life.

As you study, you will learn about the career opportunities in managerial finance, which are briefly described in Table 1.2 below. Although we focus on publicly held profit-seeking firms, the principles presented are equally applicable to private and not-for-profit organizations. The decision-making principles

TABLE 1.2 Career Opportunities in Managerial Finance

Position	Description
Financial analyst	Prepares the firm's financial plans and budgets. Other duties include financial forecasting, performing financial comparisons, and working closely with accounting.
Capital expenditures manager	Evaluates and recommends proposed long-term investments. May be involved in the financial aspects of implementing approved investments.
Project finance manager	Arranges financing for approved long-term investments. Coordinates consultants, investment bankers, and legal counsel.
Cash manager	Maintains and controls the firm's daily cash balances. Frequently manages the firm's cash collection and disbursement activities and short-term investments and coordinates short-term borrowing and banking relationships.
Credit analyst/manager	Administers the firm's credit policy by evaluating credit applications, extending credit, and monitoring and collecting accounts receivable.
Pension fund manager	Oversees or manages the assets and liabilities of the employees' pension fund.
Foreign exchange manager	Manages specific foreign operations and the firm's exposure to fluctuations in exchange rates.