

Intermediate Financial Management

14e

Brigham
Daves

Intermediate Financial Management

FOURTEENTH EDITION

Eugene F. Brigham

University of Florida

Phillip R. Daves

University of Tennessee



Australia • Brazil • Canada • Mexico • Singapore • United Kingdom • United States

Copyright 2022 Cengage Learning. All Rights Reserved. May not be copied, scanned, or duplicated, in whole or in part. WCN 02-200-322

Copyright 2022 Cengage Learning. All Rights Reserved. May not be copied, scanned, or duplicated, in whole or in part. Due to electronic rights, some third party content may be suppressed from the eBook and/or eChapter(s). Editorial review has deemed that any suppressed content does not materially affect the overall learning experience. Cengage Learning reserves the right to remove additional content at any time if subsequent rights restrictions require it.

This is an electronic version of the print textbook. Due to electronic rights restrictions, some third party content may be suppressed. Editorial review has deemed that any suppressed content does not materially affect the overall learning experience. The publisher reserves the right to remove content from this title at any time if subsequent rights restrictions require it. For valuable information on pricing, previous editions, changes to current editions, and alternate formats, please visit www.cengage.com/highered to search by ISBN#, author, title, or keyword for materials in your areas of interest.

Important Notice: Media content referenced within the product description or the product text may not be available in the eBook version.

***Intermediate Financial Management,
Fourteenth Edition***

**Eugene F. Brigham and
Phillip R. Daves**

SVP, Higher Education & Skills Product:
Erin Joyner

VP, Higher Education & Skills Product:
Michael Schenk

Product Director: Jason Fremder

Sr. Product Manager: Aaron Arnsperger

Product Assistant: Margaret Russo

Learning Designer: Brandon Foltz

Content Manager: Christopher Valentine

Sr. Digital Delivery Lead: Mark Hopkinson

Executive Marketing Manager:
Nathan Anderson

Marketing Manager: Christopher Walz

IP Analyst: Ashley Maynard

IP Project Manager: Integra, Kumaresan
Chandrakumar

Production Service: MPS Limited

Designer: Christopher Doughman

Cover Image Source: iStockPhoto.com/
SasinParaksa

© 2022, 2019 Cengage Learning, Inc

Unless otherwise noted, all content is © Cengage.

ALL RIGHTS RESERVED. No part of this work covered by the copyright herein may be reproduced or distributed in any form or by any means, except as permitted by U.S. copyright law, without the prior written permission of the copyright owner.

For product information and technology assistance, contact us at
**Cengage Customer & Sales Support, 1-800-354-9706 or
support.cengage.com.**

For permission to use material from this text or product,
submit all requests online at
www.cengage.com/permissions.

Library of Congress Control Number: 2020924950

ISBN: 978-0-357-51666-9

Cengage

200 Pier 4 Boulevard
Boston, MA 02210
USA

Cengage is a leading provider of customized learning solutions with employees residing in nearly 40 different countries and sales in more than 125 countries around the world. Find your local representative at **www.cengage.com.**

To learn more about Cengage platforms and services, register or access your online learning solution, or purchase materials for your course, visit **www.cengage.com.**

Printed in the United States of America
Print Number: 01 Print Year: 2021

MindTap for *Intermediate Financial Management*

MindTap, featuring all-new Excel Online integration powered by Microsoft, is a complete digital solution for the corporate finance course. It has enhancements that take students from learning basic financial concepts to actively engaging in critical-thinking applications, while learning valuable Excel skills for their future careers.



✓ EVERYTHING YOU NEED IN ONE PLACE.

Cut prep time with MindTap preloaded, organized course materials. Teach more efficiently with interactive multimedia, assignments, quizzes, and more.

✓ EMPOWER YOUR STUDENTS TO REACH THEIR POTENTIAL.

Built-in metrics provide insight into student engagement. Identify topics needing extra instruction. Instantly communicate with struggling students to speed progress.

✓ YOUR COURSE. YOUR CONTENT.

MindTap gives you complete control over your course. You can rearrange textbook chapters, add your own notes, and embed a variety of content—including Open Educational Resources (OER).

✓ A DEDICATED TEAM, WHENEVER YOU NEED IT.

MindTap is backed by a personalized team eager to help you every step of the way. We'll help set up your course, tailor it to your specific objectives, and stand by to provide support.

Elevate Critical Thinking through a variety of unique Assessment Tools

PRACTICE PROBLEMS

All of the end-of-chapter problems are available in algorithmic format for either student practice applying content presented in the chapter or alternative graded assignment. MindTap is a highly customizable assessment delivery platform, so you can pick and choose from a large bank of algorithmic problem sets to assign to your students.

3. Factors that affect the value of options

Understanding how different factors affect the value of options is the first step to understanding option pricing models.

The following table shows how increases in the given factors on the left affect the value of a put option. Factor, indicate whether an increase in its value causes the value of the put option to increase or to decrease.

Increases in this factor:	Causes the value of the put option to	
	INCREASE	DECREASE
Underlying stock price	<input type="radio"/>	<input type="radio"/>
Exercise price	<input type="radio"/>	<input type="radio"/>
Time to expiration	<input type="radio"/>	<input type="radio"/>
Volatility	<input type="radio"/>	<input type="radio"/>

When is a call option considered to be in-the-money?

☐ When the exercise price is below the current stock price.
☐ When the exercise price exceeds the current stock price.

Suppose Victor bought an option to buy the stock of company X at an exercise price of \$32.00 per share of the option was \$6.50 in April, and company X's stock was trading at the price of \$45.00 per share.

Ashley bought a call option for the same company on the same day as Victor, but the exercise price of the option was \$10.00 per share. If all other things are the same, the price that Ashley paid for the option would have been:

☐ More than \$6.50
☐ Less than \$6.50
☐ Exactly \$6.50

Ashley paid the price because, as the exercise price increases, option buyers have to pay _____ money to acquire company X's stock. Thus, all other things being equal, the higher the exercise price, the _____ the call options value.

Practice

Chapter 8 Blueprint Problems

Scaffolded problems that help you understand the purpose of finance concepts, formulas, the rationale and the building blocks of application by helping work through the modules in a step-by-step manner, helping you learn as you work through the problems.

No Submissions **Available**

Chapter 8 Practice Problems

End-of-chapter questions for Brigham and Houston, Fundamentals of Financial Management, 14e.

No Submissions **Available**

Chapter 08 - Test Prep

Create customized practice quizzes and receive immediate feedback as you prepare for exams.

No Submissions **Available**

BLUEPRINT PRACTICE PROBLEMS

Blueprint Practice Problems combine conceptual and application-driven problems with a tutorial emphasis. Students will know with certainty their level of competency for every chapter, which will improve course outcomes.

Stand-Alone Risk

Stand-alone risk is the risk an investor would face if he or she held only _____ No investment should be undertaken unless its expected rate of return is high enough to compensate for its perceived _____. The expected rate of return is the return expected to be realized from an investment; it is calculated as the _____ of the probability distribution of possible results as shown below:

$$\text{Expected rate of return} = \bar{r} = P_1r_1 + P_2r_2 + \dots + P_Nr_N = \sum_{i=1}^N P_i r_i$$

The _____ an asset's probability distribution, the lower its risk. Two useful measures of stand-alone risk are standard deviation and coefficient of variation. Standard deviation is a statistical measure of the variability of a set of observations as shown below:

$$\text{Standard deviation} = \sigma = \sqrt{\sum_{i=1}^N (r_i - \bar{r})^2 P_i}$$

If you have a sample of actual historical data, then the standard deviation calculation would be changed as follows:

$$\text{Estimated } \sigma = \sqrt{\frac{\sum_{i=1}^N (r_i - \bar{r}_{\text{avg}})^2}{N - 1}}$$

The coefficient of variation is a better measure of stand-alone risk than standard deviation because it is a standardized measure of risk per unit; it is calculated as the _____ divided by the expected return. The coefficient of variation shows the risk per unit of return, so it provides a more meaningful risk measure when the expected returns on two alternatives are not _____.

Quantitative Problems You are given the following probability distribution for OHC Enterprises:

State of Economy	Probability	Rate of return
Strong	0.2	22%
Normal	0.45	8%
Weak	0.35	-6%

What is the stock's expected return? Round your answer to 2 decimal places. Do not round intermediate calculations.

Copyright 2022 Cengage Learning. All Rights Reserved. May not be copied, scanned, or duplicated, in whole or in part. WCN 02-200-322

GRADED HOMEWORK

MindTap offers an assignable, algorithmic homework tool that is based on our proven and popular Aplia product for Finance. These homework problems include rich explanations and instant grading, with

opportunities to try another algorithmic version of the problem to bolster confidence with problem solving.



Attempts: 0/1 Average: 0/2

1. Preferred stock

Preferred stock is a hybrid security because it shares characteristics of both debt and equity securities. However, it is often hard to know how to classify preferred stock when talking about a firm's leverage.

Read the following statement about a characteristic of preferred stocks and answer the corresponding question.

Failure to pay a preferred dividend does not cause the firm to go into default, unlike failure to pay interest on debt.

True or False: The preceding statement accurately describes a characteristic of preferred stocks.

☒ True
☐ False

Explanation: [View](#)

This statement is true. Bondholders have the most seniority in the claim of a company's assets. Though preferred stockholders have more seniority in the claim of assets than common stockholders, missing payments on preferred dividends does not lead to bankruptcy. It is important to note that even though unpaid preferred dividends do not bankrupt a company, firms must be careful about missing dividend payments. If a firm has a history of missing dividend payments, it may have a hard time issuing new debt, and it will be virtually impossible for such a firm to issue new preferred stock.

Preferred stock offers the issuing corporation and investors advantages and disadvantages, which of the following statements describes a disadvantage for the issuer of preferred stock?

☐ Nonconvertible preferred stock helps prevent the dilution of common equity.
☒ The after-tax cost of preferred stock is higher than the after-tax cost of debt.

Explanation: [View](#)

[Try Another Version](#) [Continue](#)

Finance in Action - Ratio Analysis

Back to assignment

Attempts: 0/1 Average: 0/2

1. A liquidity assessment of Target Corporation Inc.

A Financial Ratio Analysis of Target Corporation A Liquidity Assessment

Assume that you are a prospective shareholder of Target Corporation (TGT), a retailer of everyday necessities and fashionable, differentiated merchandise at discounted prices, and are interested in the company's historical and current financial activities and performance. Identify following financial data for Target to complete and conduct your financial ratio analysis. Then answer the questions that follow. Remember, the results of a ratio analysis often identify issues requiring additional investigation.

Target Corporation Selected Income Statement, Balance Sheet, and Related Data			
	2019	2018	2017
Income Statement			
Sales	\$88,766,000,000	\$88,436,000,000	\$88,894,000,000
Less: Cost of goods sold	45,725,000,000	44,862,000,000	44,337,000,000
Gross profit	39,061,000,000	39,371,000,000	38,739,000,000
Less: Selling, general, and administrative expenses	13,469,000,000	13,178,000,000	12,954,000,000
Less: Other expenses	866,000,000	1,331,400,000	1,688,000,000
Earnings before interest and taxes (EBIT)	9,826,000,000	6,871,000,000	4,468,000,000
Less: Interest expense			
Earnings before taxes			
Less: Taxes			
Net income			
Less: Preferred dividends			
Earnings per share			

Finance in Action - The Basics of Capital Budgeting

Back to assignment

2. Financial appraisal of investment projects

The Keeton project is an example of how the financial appraisal of an investment project is conducted at Cengage Learning. The Keeton project passed through several stages of the capital investment process, which required the finance team to evaluate if and to what extent the project would drive incremental revenue or contribute toward revenue preservation.

Instructions: Review the following stages of the financial appraisal process for the Keeton project and complete missing information as needed.

Project Overview

The finance team prepared a digital learning platform that will create a personalized learning experience for each student. The platform consists of a set of flexible tools that will allow students to customize the technology to suit their personal learning needs. The executive team believes that the value proposition offered by the Keeton project will be one of a kind in the digital learning space and give the company a first-mover advantage. The finance team conducted the financial appraisal of the project to evaluate if and to what extent the project would drive incremental revenue or contribute toward revenue preservation.

Relevant Cash Flows

The finance team scheduled a series of meetings to discuss the different aspects of the project analysis. Michael Tassell, senior vice president, finance and operations, William Tassell, vice president, finance and other members of the finance-decision support team held a series of discussions. Some insights from their discussions follow:

From: Tassell, William
To: Tassell, Michael
Cc: Buzzard, Chris; Sullivan, Parker
Subject: Relevant cash flows
Attached: Data file

Very excited!

I've been working with the team to evaluate the Keeton project in the capital appraisal process. I've created the valuation model taking into consideration our standard underlying assumptions, the cumulative cash outflow, and the sustainability of the cash flows for the long-term strategic initiative.

Chris and Parker worked through the revenue estimates, accounting for the

Attachment: Data file (All dollar values in millions)

	A	B
1 Capitalized expenses	\$20.8 (spread over 3 years)	
2 Non-capitalizable expenses	\$3,400	
3 Operating costs as a percentage of revenue	Year 1: 14% Year 2: 23% Year 3: 23% Year 4: 23% Year 5: 24%	
4 Taxes	-40%	

The analysis on the team created two forms submitted to you. Complete the following cash flow analysis based on the information provided. Express all the expected cash flows that the project is likely to generate and also document your assumptions.

Year 0 Year 1 Year 2 Year 3 Year 4 Year 5

FINANCE IN ACTION CASES

MindTap offers a series of Finance in Action analytical cases that assess students' ability to perform higher-level problem solving and critical thinking/decision making.

TESTING

Mindtap offers the ability to modify existing assignments and to create new assignments by adding questions from the Test Bank.

Building valuable Excel skills for future business careers while making data-driven decisions

Cengage Learning and Microsoft have partnered in MindTap to provide students with a uniform, authentic Excel assignment experience. It provides instant feedback, built-in video tips, and easily accessible spreadsheet work. These features allow you to spend more time teaching finance applications and less time teaching and troubleshooting Excel.

These new algorithmic activities offer pre-populated data directly in Microsoft Excel Online, which runs seamlessly on all major platforms and browsers. Students each receive their own version of the problem data in order to use Excel Online to perform the necessary financial analysis calculations. Their work is constantly saved in Cengage cloud storage as part of homework assignments in MindTap. It's easily retrievable so students can review their answers without cumbersome file management and numerous downloads/uploads.


Access to Excel Online as used in these activities is completely free for students as part of the MindTap course for *Intermediate Financial Management, 14e*. It is not in any way connected to personal Office 365 accounts/ local versions of Excel, nor are Microsoft accounts required to complete these activities in MindTap.

Microsoft Excel Online activities are aimed at meeting students where they are with unparalleled support and immediate feedback.

Excel Online Activity: Excess capacity


Question 1
0/10

Submit

 Video

Excel Online Structured Activity: Excess capacity

Earleton Manufacturing Company has \$2 billion in sales and \$700,000,000 in fixed assets. Currently, the company's fixed assets are operating at 85% of capacity. The data has been collected in the Microsoft Excel Online file below. Open the spreadsheet and perform the required analysis to answer the questions below.



[Open spreadsheet](#)

a. What level of sales could Earleton have obtained if it had been operating at full capacity? Write out your answer completely. Round your answer to the nearest cent.

\$

b. What is Earleton's target fixed assets/sales ratio? Round your answer to two decimal places.

%

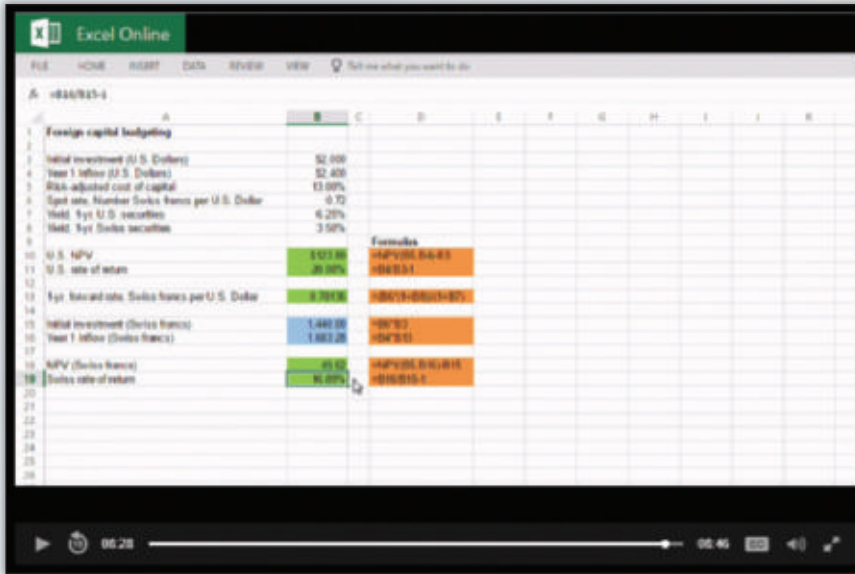
c. If Earleton's sales increase 40%, how large of an increase in fixed assets will the company need to meet its target fixed assets/sales ratio? Write out your answer completely. Do not round intermediate calculations. Round your answer to the nearest dollar.

\$

Check My Work

Reset Problem

Microsoft Excel Online activities aimed at **meeting students** where they are with **unparalleled support** and **immediate feedback**

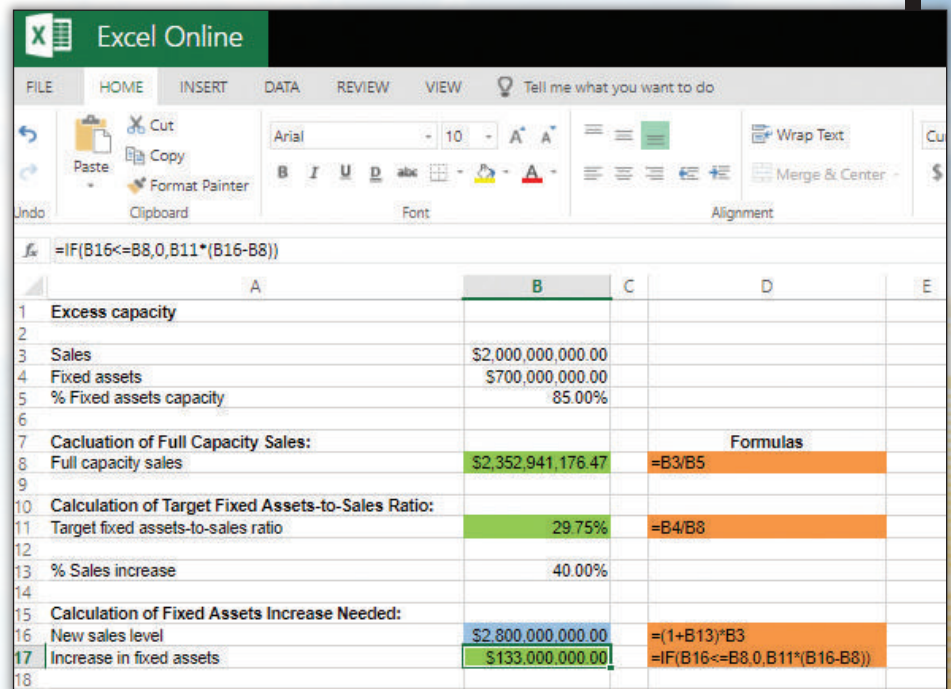


EXCEL VIDEO TIPS

Each activity includes a walk-through video of a similar problem being worked in Excel Online to offer suggested formulas to use for solving the problem. It also offers tips and strategies, which assist in understanding the underlying financial concepts while working within Excel.

CALCULATION STEPS AND EXCEL SOLUTIONS

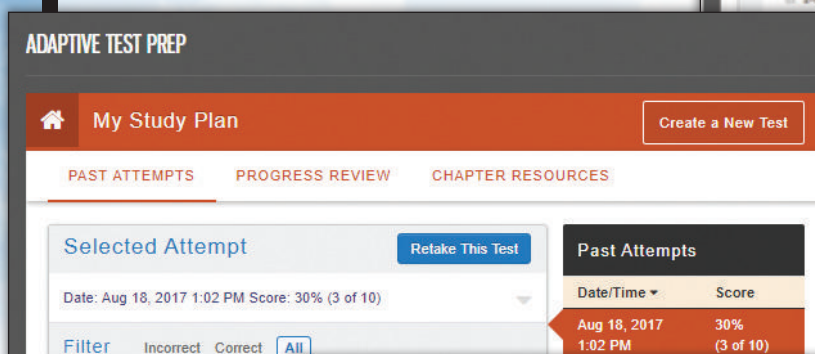
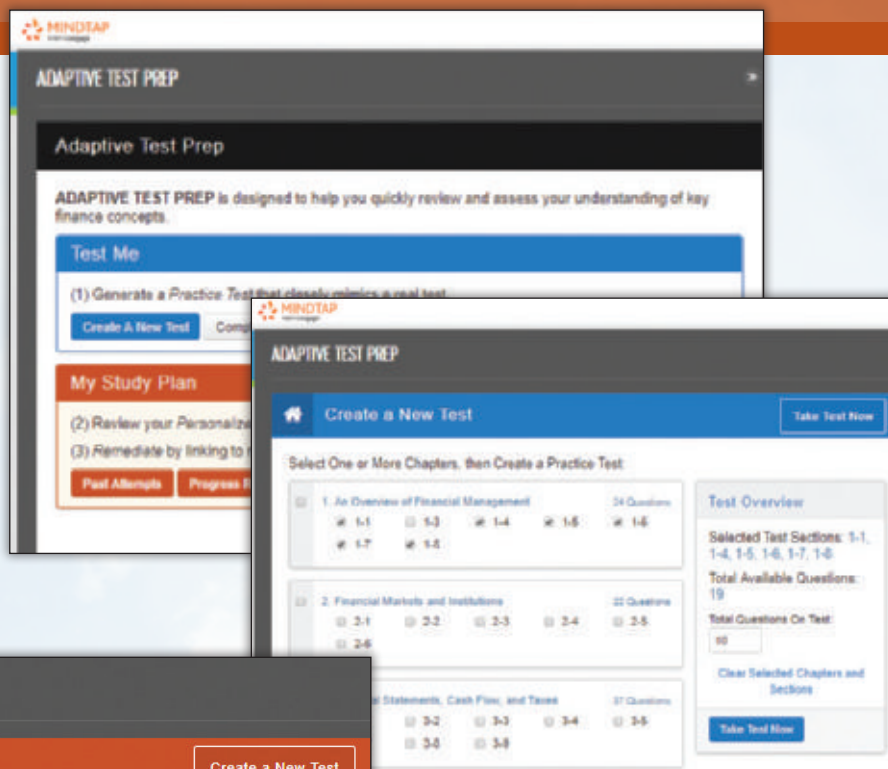
Each activity offers configurable displays that include the correct answers, the manual calculation steps, and an Excel solution (with suggested formulas) that matches the exact version of the problem the student received. Students can check their work against the correct solution to identify improvement areas. Instructors always have access to review the student's answers and Excel work from the MindTap progress app to better assist in error analysis and troubleshooting.



Help students prepare for exam success with Adaptive Test Prep, only available in MindTap

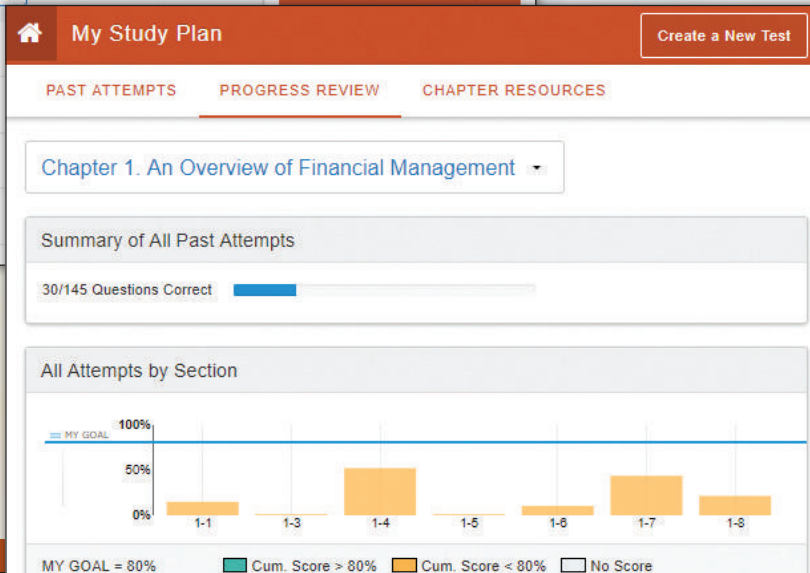
ADAPTIVE WHERE IT COUNTS

The new Adaptive Test Prep App helps students prepare for test success by allowing them to generate multiple practice tests across chapters until they have confidence that they have mastered the material.



The adaptive test program grades practice tests and indicates the areas that have or have not been mastered. Students are presented with an Adaptive Study

Plan that takes them directly to the pertinent pages in the text where the practice question materials are referenced.



Question 9

Porter Inc.'s stock has an expected return of 12.25%, a beta of 1.25, and is in equilibrium. If the risk-free rate is 5.00%, what is the market risk premium?

- ☒ 5.80%
- ☐ 6.09%
- ☐ 6.40%
- ☐ 6.25%
- ☐ 5.95%

Feedback: **Incorrect.**

SML equation: $r_s = r_{RF} + b_{\text{stock}} \times RP_M$

$$12.25\% = 5.00\% + 1.25 \times RP_M$$

$$7.25\% = RP_M \times 1.25$$

$$5.80\% = RP_M$$

See Section 8.3, Risk in a Portfolio Context: The CAPM.

Adaptive Test Prep
Questions



CENGAGE
Learning

Additional Resources



FEEDBACK IS KEY

Students also receive robust explanations of the problems to assist in further understanding. Many of the quantitative test questions feature video feedback that offers students step-by-step instruction to reinforce their understanding and bolster their confidence.

Getting Down the Basics Is Important

In order for you to take students further into the applications of finance, it's important that they have a firm handle on the basic concepts and methods used. In MindTap for *Intermediate Financial Management*, we provide students with just-in-time tools that—coupled with your guidance—ensure that they build a solid foundation.

PREPARING FOR FINANCE

Students are more confident and prepared when they have the opportunity to brush up on their knowledge of the prerequisite concepts required to be successful in finance. Tutorials/problems are available to review prerequisite concepts that students should know. Topics covered include Accounting, Economics, Mathematics, and Statistics, as well as coverage of various Financial Calculators and Excel.

1. What about financial institutions and markets?

How do you interact with financial institutions and financial markets?

You might wonder how financial markets (and the financial institutions that exist within these markets) affect your life. Think about all the different aspects of your life that involve money, banks, and securities, or borrowing, saving, and investing in some form.

Use the following scale to complete the survey that evaluates potential financial concerns you might encounter as a student. (Note: There are no wrong answers. You will receive 3 points after you have entered a number for each item on the survey.)

1. I've never thought about it.
2. I rarely think about it.
3. I think about it, but I am not sure what to do next.
4. I think about this stuff pretty often, and I am curious to learn the answers.
5. I think about this stuff all the time, and I want to know more about how financial markets and institutions function.

Have I ever thought about...

a. I've just accepted a job that pays \$40,000 per year. I prefer to use public transportation for a year or two to save money for a new car, rather than purchase a new car now.

b. It doesn't matter where I open a checking account or credit card, because there aren't significant operational differences between my college's credit union, the savings association downtown, or the mutual fund I saw advertised online.

c. I need to purchase a plane ticket for an emergency trip. Should I borrow money from a friend or family member, or use a new credit card? When



3. Present value functions

Time Value of Money calculations using Excel

Time value of money concepts are a lifeline to most areas of the finance discipline. Although the calculations can be solved using mathematical equations or a financial calculator, they can also be solved using a spreadsheet. Spreadsheets and calculators provide tools and functions that can make the process of deriving results more efficient and accurate.

Mastering time value of money calculations through Excel will save you time in your course and help you work through similar calculations efficiently.

Let's first review the terms in Excel that are comparable to the keys found on a financial calculator.

Description	Financial Calculator Key	Excel Terms
Number of periods	N	NPER
Periodic interest rate	I/Y	Rate
Present value	PV	PV
Annually payment	PMT	PMT
Future value	FV	FV

There is another term that you will often encounter when performing time value of calculations: type.

The type term used in Excel time value functions is used to represent the _____.

If the payment is made at the beginning of the year, the value of type will be _____. If the payment is made at the end of the year, the value of type will be _____.

Present value calculations

The present value or "PV function" in Excel is used to calculate the current value of future payments. Consider this example:

Suppose your uncle sends you a \$10,000 certificate of deposit in your name which will earn 4% interest for the investment period. Under the terms of the gift, you can withdraw the funds after 4 years on the day of your

WHY IS THIS IMPORTANT TO ME?

For many students, the idea of taking finance is intimidating. Beyond that, students report that they become more engaged with the course material when they see its relevance in business. The "Why is this important to me?" activity asks the student to complete a short self-assessment activity to demonstrate how they may already have personal knowledge about the important finance concepts they will learn in the chapter material. It is intended to help the student, especially the non-finance major, better understand the relevance in the financial concepts they will learn.

CONCEPT CLIPS

Embedded throughout the new interactive MindTap Reader, Concept Clips present key finance topics to students in an entertaining and memorable way via short animated video clips. These video animations provide students with auditory and visual representation of the important terminology for the course.

7.3b Bond Ratings

Since the early 1900s, bonds have been assigned quality ratings that reflect their probability of going into default. The three major rating agencies are Moody's Investors Service (Moody's), Standard & Poor's Corporation (S&P), and Fitch Investors Service. Moody's and S&P's rating designations are shown in Table 7.3. The triple- and double-A bonds are extremely safe. Single-A and triple-B bonds are also strong enough to be called **investment-grade bonds**, and they are the lowest-rated bonds that many banks and other institutional investors are permitted by law to hold. Double-B and lower bonds are speculative, or **junk bonds**, and they have a significant probability of going into default.

ConceptClip - Investment Grade v. Junk



Copyright © Cengage Learning. All Rights Reserved



CENGAGE

Reno Revolvers has an EPS of \$1.50, a cash flow per share of \$3.00, and a price/cash flow ratio of 8.0. What is its P/E ratio?

$$\begin{aligned} P/E &= \frac{\text{Price}}{\text{EPS}} \\ &= \frac{\$24.00}{\$1.50} \\ &= 16 \end{aligned}$$

$$\begin{aligned} P/CF &= \frac{\text{Price}}{\text{CFPS}} \\ 8 &= \frac{\text{Price}}{\$3.00} \\ \text{Price} &= 8 \times \$3.00 \\ &= \$24.00 \end{aligned}$$

PROBLEM WALK-THROUGH VIDEOS

Embedded in the interactive MindTap Reader and linked to select problems in MindTap, Problem Walk-Through Videos provide step-by-step instructions designed to walk students through solving a problem from start to finish. Students can play and replay the tutorials as they work through homework assignments or prepare for quizzes and tests—almost as though they had you by their side the whole time. Ideal for homework, study outside the classroom, or distance learning, Problem Walk-Through Videos extend your reach to give students extra instructional help whenever and wherever it's most useful.

Customizable Course and Mobile On-the-Go study tools based on YOUR Needs

MindTap for *Intermediate Financial Management, 14e* offers features that allow you to customize your course based on the topics you cover.

LEARNING PATH CUSTOMIZATION

The learning path is structured by chapter so you can easily hide activities you wish to not cover, or change the order to better align with your course syllabus. RSS feeds and YouTube links can easily be added to the learning path or embedded directly within the MindTap Reader.



MindTap Mobile

Empower students to learn on their terms—anytime, anywhere, on- or off-line.

MINDTAP eREADER



Provides Convenience

Students can read their full course eBook on their smartphone. This means they can complete reading assignments anyplace, anytime. They can take notes, highlight important passages, and have their text read aloud, whether they are on- or off-line.

FLASHCARDS AND QUIZZING

Cultivate Confidence and Elevate Outcomes

Students have instant access to readymade flashcards specific to their course. They can also create flashcards tailored to their own learning needs. Study games present a fun and engaging way to encourage recall of key concepts. Students can use pre-built quizzes or generate a self-quiz from any flashcard deck.



THE GRADEBOOK

Keep Students Motivated

Students can instantly see their grades and how they are doing in the course. If they didn't do well on an assignment, they can implement the flashcards and practice quizzes for that chapter.

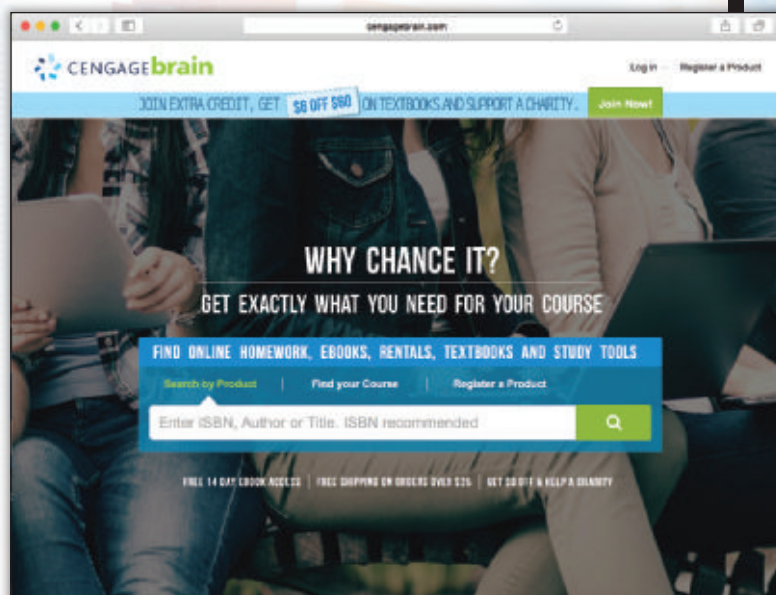


NOTIFICATIONS

Keep Students Connected

Students want their smartphones to help them remember important dates and milestones—for both the social and academic parts of their lives. The MindTap Mobile App pushes course notifications directly to them, making them more aware of what's ahead with:

- Due date reminders
- Changes to activity due dates, score updates, and instructor comments
- Messages from their instructor
- Technical announcements about the platform



LMS Integration

Cengage's Learning Management System (LMS) Integration is designed to help you seamlessly integrate our digital resources within your institution's LMS.



LMS integration is available with the Learning Management Systems instructors use most. Our integrations work with any LMS that supports IMS Basic LTI Open Standards. Enhanced features, including grade synchronization, are the result of active collaborations with our LMS partners.

✓ CREATE A SEAMLESS USER EXPERIENCE

With LMS Integration, your students are ready to learn on the first day of class. In just a few simple steps, both you and your students can access Cengage resources using a LMS login.

✓ CONTENT CUSTOMIZATION WITH DEEP LINKING

Focus student attention on what matters most. Use our Content Selector to create a unique learning path that blends your content with links to learning activities, assignments, and more.

✓ AUTOMATIC GRADE SYNCHRONIZATION*

Need to have your course grades recorded in your LMS gradebook? No problem. Simply select the activities you want synched, and grades will automatically be recorded in your LMS gradebook.

* Grade synchronization is currently available with Blackboard, BrightSpace (powered by D2L), Canvas, and Angel 8.



Brief Contents

Preface		xxv
PART I	FUNDAMENTAL CONCEPTS OF CORPORATE FINANCE	1
	1 An Overview of Financial Management and the Financial Environment	2
	2 Risk and Return: Part I	59
	3 Risk and Return: Part II	115
	4 Bond Valuation	152
	5 Financial Options	202
	6 Accounting for Financial Management	232
	7 Analysis of Financial Statements	283
PART II	CORPORATE VALUATION	327
	8 Corporate Valuation and Stock Valuation	328
	9 Corporate Valuation and Financial Planning	382
	10 Corporate Governance	424
	11 The Cost of Capital	448
PART III	PROJECT VALUATION	493
	12 Capital Budgeting: Decision Criteria	494
	13 Capital Budgeting: Estimating Cash Flows and Analyzing Risk	537
	14 Real Options	588
PART IV	STRATEGIC FINANCING DECISIONS	615
	15 Distributions to Shareholders: Dividends and Repurchases	616
	16 Capital Structure Decisions	662
	17 Dynamic Capital Structures and Corporate Valuation	714
PART V	TACTICAL FINANCING DECISIONS	745
	18 Initial Public Offerings, Investment Banking, and Financial Restructuring	746
	19 Lease Financing	783
	20 Hybrid Financing: Preferred Stock, Warrants, and Convertibles	809
PART VI	WORKING CAPITAL MANAGEMENT	841
	21 Supply Chains and Working Capital Management	842
	22 Providing and Obtaining Credit	894
	23 Other Topics in Working Capital Management	930
PART VII	SPECIAL TOPICS	961
	24 Enterprise Risk Management	962
	25 Bankruptcy, Reorganization, and Liquidation	1001
	26 Mergers and Corporate Control	1035
	27 Multinational Financial Management	1076

APPENDIXES	1129
Appendix A Values of the Areas under the Standard Normal Distribution Function	1129
Appendix B Answers to End-of-Chapter Problems	1131
Appendix C Selected Equations	1143
Glossary	1161
Name Index	1213
Subject Index	1217

WEB CHAPTERS & WEB EXTENSIONS

Students: Access the Web Chapters and Web Extensions by visiting **www.cengage.com**, searching ISBN 9780357516669 and clicking “Access Now” under “Study Tools” to go to the student textbook companion site. They can also be found in MindTap.

Instructors: Access the Web Chapters, Web Extensions, and other instructor resources by going to **www.cengage.com/login**, logging in with your faculty account username and password, and using ISBN 9780357516669 to search for and to add resources to your account “Bookshelf.”

WEB CHAPTERS

28	Time Value of Money
29	Basic Financial Tools: A Review
30	Pension Plan Management
31	Financial Management in Not-for-Profit Businesses



Contents

Preface xxv

PART I

FUNDAMENTAL CONCEPTS OF CORPORATE FINANCE 1

1 An Overview of Financial Management and the Financial Environment 2

Beginning-of-Chapter Questions 3

Introduction 3

How to Use This Text 4

The Corporate Life Cycle 5

Governing a Corporation 10

Box: Be Nice with a B-Corp 11

Box: Taxes and Whistleblowing 14

An Overview of Financial Markets 14

Claims on Future Cash Flows: Types of Financial Securities 16

Claims on Future Cash Flows: The Required Rate of Return (the Cost of Money) 20

The Functions of Financial Institutions 25

Financial Markets 30

Overview of the U.S. Stock Markets 33

Trading in the Modern Stock Markets 35

Finance and the Great Recession of 2007 44

Box: Anatomy of a Toxic Asset 51

The Big Picture 54

e-Resources 55

Summary 55

2 Risk and Return: Part I 59

Beginning-of-Chapter Questions 59

Investment Returns and Risk 60

Box: Intrinsic Value, Risk, and Return 61

Measuring Risk for Discrete Distributions 62

Risk in a Continuous Distribution 66

Box: What Does Risk Really Mean? 68

Using Historical Data to Estimate Risk 68

Box: The Historic Trade-Off between Risk and Return 71

Risk in a Portfolio Context 72

The Relevant Risk of a Stock: The Capital Asset Pricing Model (CAPM) 76

Box: The Benefits of Diversifying Overseas 83

The Relationship between Risk and Return in the Capital Asset Pricing Model 84

Box: Another Kind of Risk: The Bernie Madoff Story 92

The Efficient Markets Hypothesis 93

The Fama-French Three-Factor Model 97

Behavioral Finance 102

The CAPM and Market Efficiency: Implications for Corporate Managers and Investors 104

Summary 106

3 Risk and Return: Part II 115

Beginning-of-Chapter Questions 115

Box: Intrinsic Value, Risk, and Return 116

Efficient Portfolios 117

Choosing the Optimal Portfolio 121

The Basic Assumptions of the Capital Asset Pricing Model 125

The Capital Market Line and the Security Market Line 126

Calculating Beta Coefficients 131

Empirical Tests of the CAPM 140

Arbitrage Pricing Theory 143

Summary 146

4 Bond Valuation 152

Beginning-of-Chapter Questions 152

Box: Intrinsic Value and the Cost of Debt 153

Who Issues Bonds? 153

Box: Betting With or Against the U.S. Government: The Case of Treasury Bond Credit Default Swaps 155

Key Characteristics of Bonds 155

Box: You Can Take That to the Bank 157

Bond Valuation 160

Changes in Bond Values over Time 165

Box: Chocolate Bonds 168

Bonds with Semiannual Coupons 169

Bond Yields 170

The Pre-Tax Cost of Debt: Determinants of Market Interest Rates 173

The Risk-Free Interest Rate: Nominal (r_{RF}) and Real (r^*) 174

The Inflation Premium (IP) 176

The Maturity Risk Premium (MRP) 178

The Default Risk Premium (DRP) 181

Box: The Global Economic Crisis 183

Box: Great Recession of 2007 185

Box: The Few, the Proud, the . . . AAA-Rated Companies! 187

Box: The Global Economic Crisis 188

The Liquidity Premium (LP) 188

The Term Structure of Interest Rates 189

Financing with Junk Bonds 190

Bankruptcy and Reorganization 191

Summary 192

5 Financial Options 202

Beginning-of-Chapter Questions 202

Box: The Intrinsic Value of Stock Options 203

Overview of Financial Options 203

The Single-Period Binomial Option Pricing Approach 207

The Single-Period Binomial Option Pricing Formula 213

The Multi-Period Binomial Option Pricing Model 215

The Black-Scholes Option Pricing Model (OPM) 218

The Valuation of Put Options 224

Applications of Option Pricing in Corporate Finance 226

Summary 228

6 Accounting for Financial Management 232

Beginning-of-Chapter Questions 232

Box: Intrinsic Value, Free Cash Flow, and Financial Statements 233

Financial Statements and Reports 234

The Balance Sheet 234

Box: The Great Recession of 2007 238

The Income Statement 238

Box: A Matter of Opinion 240

Statement of Stockholders' Equity 241

Box: Financial Analysis on the Web 243

Statement of Cash Flows 243

Box: Filling in the GAAP 247

Net Cash Flow 247

Free Cash Flow: The Cash Flow Available for Distribution to Investors 248

Box: Financial Statement Fraud 254

Performance Evaluation 257

Corporate Income Taxes 262

Personal Taxes 268

Summary 269

7 Analysis of Financial Statements 283

Beginning-of-Chapter Questions 283

Box: Intrinsic Value, Free Cash Flow, and Financial Statements 284

Financial Analysis 285

Profitability Ratios 288

Box: The World Might Be Flat, but Global Accounting Is Bumpy! The Case of IFRS versus FASB 289

Asset Management Ratios 291

Liquidity Ratios 294

Debt Management Ratios	296
Market Value Ratios	301
Trend Analysis, Common Size Analysis, and Percentage Change Analysis	304
Tying the Ratios Together: The DuPont Equation	308
Comparative Ratios and Benchmarking	310
Uses and Limitations of Ratio Analysis	311
<i>Box: Ratio Analysis on the Web</i>	312
Looking Beyond the Numbers	312
Summary	313

PART II

CORPORATE VALUATION 327

8 Corporate Valuation and Stock Valuation 328

Beginning-of-Chapter Questions	328
<i>Box: Corporate Valuation and Stock Prices</i>	329
Legal Rights and Privileges of Common Stockholders	330
Classified Stock and Tracking Stock	331
Stock Market Reporting	332
Valuing Common Stocks—Introducing the Free Cash Flow (FCF) Valuation Model	333
The Constant Growth Model: Valuation When Expected Free Cash Flow Grows at a Constant Rate	338
The Multistage Model: Valuation When Expected Short-Term Free Cash Flow Grows at a Nonconstant Rate	342
Application of the FCF Valuation Model to MicroDrive	346
Do Stock Values Reflect Long-Term or Short-Term Cash Flows?	355
Value-Based Management: Using the Free Cash Flow Valuation Model to Identify Value Drivers	356
Why Are Stock Prices So Volatile?	359
Dividend Valuation Models	360
The Market Multiple Method	366

Comparing the FCF Valuation Model, the Dividend Growth Model, and the Market Multiple Method	367
Preferred Stock	369
Summary	370

9 Corporate Valuation and Financial Planning 382

Beginning-of-Chapter Questions	382
<i>Box: Corporate Valuation and Financial Planning</i>	383
Overview of Financial Planning	384
Financial Planning at MicroDrive Inc.	385
Forecasting Operations	386
Evaluating MicroDrive's Strategic Initiatives	392
Projecting MicroDrive's Financial Statements	394
Analysis and Selection of a Strategic Plan	399
The CFO's Model	402
Additional Funds Needed (AFN) Equation	403
Forecasting When the Ratios Change	408
Summary	411

10 Corporate Governance 424

Beginning-of-Chapter Questions	424
<i>Box: Corporate Governance and Corporate Valuation</i>	425
Agency Conflicts	425
Corporate Governance	429
<i>Box: Financial Reporting for Employee Stock Options</i>	435
<i>Box: The Dodd-Frank Act and "Say on Pay"</i>	436
<i>Box: The Sarbanes-Oxley Act of 2002 and Corporate Governance</i>	437
<i>Box: International Corporate Governance</i>	440
Employee Stock Ownership Plans (ESOPs)	442
Summary	445

11 The Cost of Capital 448

Beginning-of-Chapter Questions	448
<i>Box: Corporate Valuation and the Cost of Capital</i>	449
The Weighted Average Cost of Capital	450

Choosing Weights for the Weighted Average Cost of Capital 451

The Cost of Debt 453

Cost of Preferred Stock, r_{ps} 458

Cost of Common Stock: The Market Risk Premium, RP_M 460

Using the CAPM to Estimate the Cost of Common Stock, r_s 463

Using the Dividend Growth Approach to Estimate the Cost of Common Stock 466

The Weighted Average Cost of Capital (WACC) 469

Box: Global Variations in the Cost of Capital 471

Adjusting the Cost of Equity for Flotation Costs 472

Privately Owned Firms and Small Businesses 474

The Divisional Cost of Capital 475

Estimating the Cost of Capital for Individual Projects 478

Managerial Issues and the Cost of Capital 479
Summary 481

PART III

PROJECT VALUATION 493

12 Capital Budgeting: Decision Criteria 494

Beginning-of-Chapter Questions 494

Box: Corporate Valuation and Capital Budgeting 495

An Overview of Capital Budgeting 495

The First Step in Project Analysis 497

Net Present Value (NPV) 498

Internal Rate of Return (IRR) 501

Modified Internal Rate of Return (MIRR) 508

Profitability Index (PI) 511

Payback Period 512

How to Use the Different Capital Budgeting Methods 515

Other Issues in Capital Budgeting 518
Summary 525

13 Capital Budgeting: Estimating Cash Flows and Analyzing Risk 537

Beginning-of-Chapter Questions 537

Box: Project Valuation, Cash Flows, and Risk Analysis 538

Identifying Relevant Cash Flows 538

Analysis of an Expansion Project 543

Box: Mistakes in Cash Flow Estimation Can Kill Innovation 552

Risk Analysis in Capital Budgeting 553

Measuring Stand-Alone Risk 554

Sensitivity Analysis 554

Scenario Analysis 557

Monte Carlo Simulation Analysis 561

Project Risk Conclusions 564

Replacement Analysis 565

Phased Decisions and Decision Trees 566

Other Real Options 570

Summary 571

13A Depreciation for Tax Purposes 585

14 Real Options 588

Beginning-of-Chapter Questions 589

Valuing Real Options 589

The Investment Timing Option: An Illustration 590

The Growth Option: An Illustration 601

Concluding Thoughts on Real Options 607

Summary 609

PART IV

STRATEGIC FINANCING DECISIONS 615

15 Distributions to Shareholders: Dividends and Repurchases 616

Beginning-of-Chapter Questions 616

An Overview of Cash Distributions 617

Box: Uses of Free Cash Flow: Distributions to Shareholders 618

Procedures for Cash Distributions 620

Lease Analysis: Determination of Tax Status by the Internal Revenue Service (IRS) 789

Lease Analysis: Non-Tax-Oriented Leases 790

Lease Analysis: Tax-Oriented Lease 792

Evaluation by the Lessor 795

Leases, Taxes, and the 2017 Tax Cuts and Jobs Act 798

Other Issues in Lease Analysis 799

Other Reasons for Leasing 800

Summary 802

20 Hybrid Financing: Preferred Stock, Warrants, and Convertibles 809

Beginning-of-Chapter Questions 809

Preferred Stock 810

Warrants 816

Convertible Securities 822

A Final Comparison of Warrants and Convertibles 830

Reporting Earnings When Warrants or Convertibles Are Outstanding 831

Summary 832

PART VI

WORKING CAPITAL MANAGEMENT 841

21 Supply Chains and Working Capital Management 842

Beginning-of-Chapter Questions 842

Box: Corporate Valuation and Working Capital Management 843

Overview of Supply Chain Management 844

Using and Financing Operating Current Assets 845

The Cash Conversion Cycle 850

Box: Some Firms Operate with Negative Working Capital! 856

Inventory Management 856

Receivables Management 858

Accruals and Accounts Payable (Trade Credit) 861

The Cash Budget 865

Cash Management and the Target Cash Balance 869

Cash Management Techniques 870

Managing Short-Term Investments 873

Short-Term Bank Loans 875

Commercial Paper 879

Use of Security in Short-Term Financing 880

Summary 881

22 Providing and Obtaining Credit 894

Beginning-of-Chapter Questions 894

Credit Policy 895

Monitoring Receivables with the Uncollected Balances Schedule 898

Analyzing Proposed Changes in Credit Policy 903

Analyzing Proposed Changes in Credit Policy: Incremental Analysis 906

The Cost of Bank Loans 912

Choosing a Bank 917

Summary 918

23 Other Topics in Working Capital Management 930

Beginning-of-Chapter Questions 930

The Concept of Zero Working Capital 931

Setting the Target Cash Balance 932

Inventory Control Systems 938

Accounting for Inventory 939

The Economic Ordering Quantity (EOQ) Model 942

EOQ Model Extensions 949

Summary 955

PART VII

SPECIAL TOPICS 961

24 Enterprise Risk Management 962

Beginning-of-Chapter Questions 962

Box: Corporate Valuation and Risk Management 963

Reasons to Manage Risk 964

An Overview of Enterprise Risk Management 966

A Framework for Enterprise Risk Management	968	Who Wins: The Empirical Evidence	1055
Categories of Risk Events	971	The Role of Investment Bankers	1056
Foreign Exchange (FX) Risk	973	Other Business Combinations	1058
Commodity Price Risk	975	Divestitures	1060
Interest Rate Risk	979	Merger Tax Treatments	1061
Project Selection Risks	989	Financial Reporting for Mergers	1065
Managing Credit Risks	992	Summary	1068
Risk and Human Safety	995		
Summary	996		
25 Bankruptcy, Reorganization, and Liquidation	1001	27 Multinational Financial Management	1076
Beginning-of-Chapter Questions	1001	Beginning-of-Chapter Questions	1076
Financial Distress and Its Consequences	1002	<i>Box: Corporate Valuation in a Global Context</i>	<i>1077</i>
<i>Box: Bankruptcy and the Global Pandemic</i>	<i>1003</i>	Multinational, or Global, Corporations	1078
Issues Facing a Firm in Financial Distress	1005	Multinational versus Domestic Financial Management	1079
Settlements without Going through Formal Bankruptcy	1005	<i>Box: Meet Me at the Car Wash</i>	<i>1080</i>
Federal Bankruptcy Law	1008	Exchange Rates	1081
Reorganization in Bankruptcy (Chapter 11 of Bankruptcy Code)	1009	The Fixed Exchange Rate System	1087
Liquidation in Bankruptcy	1019	Floating Exchange Rates	1088
Anatomy of a Bankruptcy: Transforming the GM Corporation into the GM Company	1023	Government Intervention in Foreign Exchange Markets	1094
Other Motivations for Bankruptcy	1025	Other Exchange Rate Systems: No Local Currency, Pegged Rates, and Managed Floating Rates	1095
Some Criticisms of Bankruptcy Laws	1026	Forward Exchange Rates and Risk Management	1098
Summary	1027	Interest Rate Parity	1100
26 Mergers and Corporate Control	1035	Purchasing Power Parity	1103
Beginning-of-Chapter Questions	1035	<i>Box: Hungry for a Big Mac? Go to Ukraine!</i>	<i>1104</i>
Rationale for Mergers	1036	Inflation, Interest Rates, and Exchange Rates	1104
Types of Mergers: Business Types, Acquisition Methods, and Hidden Liabilities	1040	International Money and Capital Markets	1105
Level of Merger Activity	1042	<i>Box: Stock Market Indexes around the World</i>	<i>1108</i>
Hostile versus Friendly Takeovers	1043	Multinational Capital Budgeting	1110
Merger Regulation	1045	International Capital Structures	1116
Overview of Merger Analysis	1047	Multinational Working Capital Management	117
Estimating a Target's Value	1048	Summary	1121
Setting the Bid Price	1052		

APPENDIXES

Appendix A Values of the Areas under the Standard Normal Distribution Function 1129

Appendix B Answers to End-of-Chapter Problems 1131

Appendix C Selected Equations 1143

GLOSSARY 1161

NAME INDEX 1213

SUBJECT INDEX 1217

WEB CHAPTERS & WEB EXTENSIONS

Students: Access the Web Chapters and Web Extensions by visiting www.cengage.com, searching ISBN 9781285850030, and clicking “Access Now” under “Study Tools” to go to the student textbook companion site.

Instructors: Access the Web Chapters, Web Extensions, and other instructor resources by going to www.cengage.com/login, >, logging in with your faculty account username and password, and using ISBN 9781285850030 to search for and to add resources to your account “Bookshelf.”

Web Chapters

- 28 Time Value of Money
- 29 Basic Financial Tools: A Review
- 30 Pension Plan Management
- 31 Financial Management in Not-for-Profit Businesses

Web Extensions

- Web Extension 1-A An Overview of Derivatives
- Web Extension 1-B The 2017/18 Tax Reform and its Impact on Corporate Finance
- Web Extension 2-A Continuous Probability Distributions

Web Extension 2-B Estimating Beta with a Financial Calculator

Web Extension 4-A A Closer Look at Zero Coupon, Other OID Bonds, and Premium Bonds

Web Extension 4-B A Closer Look at TIPS: Treasury Inflation-Protected Securities

Web Extension 4-C A Closer Look at Bond Risk: Duration

Web Extension 4-D The Pure Expectations Theory and Estimation of Forward Rates

Web Extension 6-A The Federal Income Tax System for Individuals

Web Extension 8-A Derivation of Valuation Equations

Web Extension 11-A The Cost of Equity in the Nonconstant Dividend Growth Model with Repurchases

Web Extension 14-A The Abandonment Real Option

Web Extension 14-B Risk-Neutral Valuation

Web Extension 16-A Capital Structure Theory: Arbitrage Proofs of the Modigliani-Miller Theorems

Web Extension 16-B Bond Refunding

Web Extension 17-A Projecting Consistent Debt and Interest Expenses

Web Extension 19-A Percentage Cost Analysis

Web Extension 19-B Leveraged Leases

Web Extension 20-A Calling Convertible Issues

Web Extension 21-A Secured Short-Term Financing

Web Extension 21-B Supply Chain Finance

Web Extension 25-A Multiple Discriminant Analysis

Web Extension 28-A Derivation of Annuity Formulas

Web Extension 28-B Continuous Compounding



Preface

Much has happened in finance recently. Years ago, when the body of knowledge was smaller, the fundamental principles could be covered in a one-term lecture course and then reinforced in a subsequent case course. This approach is no longer feasible. There is simply too much material to cover in one lecture course.

As the body of knowledge expanded, we and other instructors experienced increasing difficulties. Eventually, we reached these conclusions:

- The introductory course should be designed for all business students, not just for finance majors, and it should provide a broad overview of finance. Therefore, a text designed for the first course should cover key concepts but avoid confusing students by going beyond basic principles.
- Finance majors need a second course that provides not only greater depth on the core issues of valuation, capital budgeting, capital structure, cost of capital, and working capital management but also covers such special topics as mergers, multinational finance, leasing, risk management, and bankruptcy.
- This second course should also utilize cases that show how finance theory is used in practice to help make better financial decisions.

When we began teaching under the two-course structure, we tried two types of existing books, but neither worked well. First, there were books that emphasized theory, but they were unsatisfactory because students had difficulty seeing the usefulness of the theory and consequently were not motivated to learn it. Moreover, these books were of limited value in helping students deal with cases. Second, there were books designed primarily for the introductory MBA course that contained the required material, but they also contained too much introductory material. We eventually concluded that a new text was needed, one designed specifically for the second financial management course, and that led to the creation of *Intermediate Financial Management*, or *IFM* for short.

The Next Level: *Intermediate Financial Management*

In your introductory finance course you learned basic terms and concepts. However, an intro course cannot make you “operational” in the sense of actually “doing” financial management. For one thing, introductory courses necessarily focus on individual chapters and even sections of chapters, and first-course exams generally consist of relatively simple problems plus short-answer questions. As a result, it is hard to get a good sense of how the various parts of financial management interact with one another. Second, there is not enough time in the intro course to allow students to set up and work out realistic problems, nor is there time to delve into actual cases that illustrate how finance theory is applied in practice.

Now it is time to move on. In *Intermediate Financial Management*, we first review materials that were covered in the introductory course, then take up new

web

Students: Access the *Intermediate Financial Management 14e* companion site and online student resources by visiting **www.cengage.com**, searching ISBN 9780357516669 and clicking “Access Now” under “Study Tools” to go to the student textbook companion site.

Instructors: Access the *Intermediate Financial Management 14e* companion site and instructor resources by going to **www.cengage.com/login**, logging in with your faculty account username and password, and using ISBN 9780357516669 to reach the site through your account “Bookshelf.”

material. The review is absolutely essential, because no one can remember everything that was covered in the first course, yet all of the introductory material is essential for a good understanding of the more advanced material. Accordingly, we revisit topics such as the net present value (NPV) and internal rate of return (IRR) methods, but now we delve into them more deeply, considering how to streamline and automate the calculations, how to obtain the necessary data, and how errors in the data might affect the outcome. We also relate the topics covered in different chapters to one another, showing, for example, how cost of capital, capital structure, dividend policy, and capital budgeting combine forces to affect the firm's value.

Also, because spreadsheets such as *Excel*, not financial calculators, are used for most real-world calculations, students need to be proficient with spreadsheets so that they will be more marketable after graduation. Therefore, we explain how to do various types of financial analysis with *Excel*. Working with *Excel* actually has two important benefits: (1) a knowledge of *Excel* is important in the workplace and the job market, and (2) setting up spreadsheet models and analyzing the results also provide useful insights into the implications of financial decisions.

Corporate Valuation as a Unifying Theme

Management's goal is to maximize firm value. Job candidates who understand the theoretical underpinning for value maximization and have the practical skills to analyze business decisions within this context make better, more valuable employees. Our goal is to provide you with both this theoretical underpinning and a practical skill set. To this end we have developed several integrating features that will help you to keep the big picture of value maximization in mind while you are honing your analytical skills:

- Every chapter starts off with a series of integrating *Beginning of Chapter Questions* that will help you to place the material in the broader context of financial management.
- Most chapters have a valuation graphic and description that show exactly how the material relates to corporate valuation.
- Each chapter has a *Mini Case* that provides a business context for the material.
- Each chapter has an *Excel* spreadsheet *Tool Kit* that steps through all of the calculations in the chapter.
- Each chapter has a spreadsheet *Build-a-Model* that steps you through constructing an *Excel* model to work problems. We've designed these features and tools so that you'll finish your course with the skills to analyze business decisions and the understanding of how these decisions impact corporate value.

Design of the Book

Based on more than 30 years working on *Intermediate Financial Management* and teaching the advanced undergraduate financial management course, we have concluded that the book should include the following features:

- **Completeness.** Because *IFM* is designed for finance majors, it should be self-contained and suitable for reference purposes. Therefore, we specifically and

purposely included: (a) some material that overlaps with introductory finance texts, and (b) more material than can realistically be covered in a single course. We included in Chapters 2 through 5 some fundamental materials borrowed directly from other Cengage Learning texts. If an instructor chooses to cover this material, or if an individual student feels a need to cover it on his or her own, it is available. In other chapters, we included relatively brief reviews of first-course topics. This was necessary both to put *IFM* on a stand-alone basis and to help students who have a delay between their introductory and second financial management courses get up to speed before tackling new material. This review is particularly important for working capital management and such “special topics” as mergers, lease analysis, and convertibles—all of which are often either touched on only lightly or skipped in the introductory course. Thus, the variety of topics covered in the text provides adopters with a choice of materials for the second course, and students can use materials that were not covered for reference purposes. We note, though, that instructors must be careful not to bite off more than their students can chew.

- *Theory and applications.* Financial theory is useful to financial decision makers, both for the insights it provides and for direct application in several important decision areas. However, theory can seem sterile and pointless unless its usefulness is made clear. Therefore, in *IFM*, we present theory in a decision-making context, which motivates students by showing them how theory can lead to better decisions. The combination of theory and applications also makes the text more usable as a reference for case courses as well as for real-world decision making.
- *Computer orientation.* Today, a business that does not use computers in its financial planning is about as competitive as a student who tries to take a finance exam without a financial calculator. Throughout the text we provide computer spreadsheet examples for the calculations and spreadsheet problems for the students to work. This emphasis on spreadsheets both orients students to the business environment they will face upon graduation and helps them understand key financial concepts better.
- *Global perspective.* Successful businesses know that the world’s economies are rapidly converging, that business is becoming globalized, and that it is difficult to remain competitive without being a global player. Even purely domestic firms cannot escape the influence of the global economy, because international events have a significant effect on domestic interest rates and economic activity. All of this means that today’s finance students—who are tomorrow’s financial executives—must develop a global perspective. To this end, *IFM* also contains an entire chapter on multinational financial management. In addition, to help students “think global,” we provide examples throughout the text that focus on the types of global problems companies face. Of course, we cannot make multinational finance experts out of students in a conventional corporate finance course, but we can help them recognize that insular decision making is insufficient in today’s world.

Beginning of Chapter Questions

We start each chapter with several Beginning of Chapter (BOC) questions. You will be able to answer some of the questions before you even read the chapter, and you will be able to give better answers after you have read it. Other questions are harder,

and you won't feel truly comfortable answering them until after they have been discussed in class. We considered putting the questions at the ends of the chapters, but we concluded that they would best serve our purposes if placed at the beginning. Here is a summary of our thinking as we wrote the questions:

- The questions indicate to you the key issues covered in the chapter and the things you should know when you complete the chapter.
- Some of the questions were designed to help you remember terms and concepts that were covered in the introductory course. Others indicate where we will be going beyond the intro course.
- You need to be able to relate different parts of financial management to one another, so some of the BOC questions were designed to get you to think about how the various chapters are related to one another. These questions tend to be harder, and they can be answered more completely after a classroom discussion.
- You also need to think about how financial concepts are applied in the real world, so some of the BOC questions focus on the application of theories to the decision process. Again, complete answers to these questions require a good bit of thought and discussion.
- Some of the BOC questions are designed to help you see how *Excel* can be used to make better financial decisions. These questions have accompanying models that provide tutorials on *Excel* functions and commands. The completed models are available on the textbook's Web site. Going through them will help you learn how to use *Excel* as well as give you valuable insights into the financial issues covered in the chapter. We have also provided an "*Excel* Tool Locator," which is an index of all of the *Excel* skills that the BOC models go over. This index is in the *Excel* file, *Excel Locations.xlsx*. Because recruiters like students who are good with *Excel*, this will also help you as you look for a good job. It will also help you succeed once you are in the workplace.

We personally have used the BOC questions in several different ways:

- In some classes we simply told students to use the BOC questions or not, as they wished. Some students did study them and retrieve the *Excel* models from the Web, but many just ignored them.
- We have also assigned selected BOC questions and then used them, along with the related *Excel* models, as the basis for some of our lectures.
- Most recently, we literally built our course around the BOC questions.¹ Here we informed students on day one that we would start each class by calling on them randomly and grading them on their answers.² We also informed them that our exams would be taken verbatim from the BOC questions. They complained a bit about the quizzes, but the students' course evaluations stated that the quizzes should be continued because without them they would have come to class less well prepared and hence would have learned much less than they did.

¹Actually, we broke our course into two segments, one where we covered selected text chapters and another where we covered cases that were related to and illustrated the text chapters. For the case portion of the course, students made presentations and discussed the cases. All of the cases required them to use *Excel*.

²Most of our students were graduating seniors who were interviewing for jobs. We excused them from class (and the quizzes) if they informed us by e-mail before class that they were interviewing.

- The best way to prepare for the course as we taught it was by first reading the questions, then reading the chapter, and then writing out notes outlining answers to the questions in preparation for the oral quiz. We expected students to give complete answers to “easy” questions, but we gave them good grades if they could say enough about the harder questions to demonstrate that they had thought about how to answer them. We would then discuss the harder questions in lieu of a straight lecture, going into the related *Excel* models both to explain *Excel* features and to provide insights into different issues.
- Our midterm and final exams consisted of five of the harder BOC questions, of which three had to be answered in 2 hours in an essay format. It took a much more complete answer to earn a good grade than would have been required on the oral quizzes. We also allowed students to use a four-page “cheat sheet” on the exams.³ That reduced time spent trying to memorize things as opposed to understanding them. Also, students told us that making up the cheat sheets was a great way to study.

Major Changes in the Fourteenth Edition

As in every revision, we updated and clarified sections throughout the text. Specifically, we also made the following changes in content:

The 2017 Tax Cut and Jobs Act (TCJA). The 2017 Tax Cut and Jobs Act (TCJA) impacted almost every chapter. Not only did it change the tax rate we applied to most problems from 40% to 25% (the statutory tax rate for corporations is now 21%; add in some state and local taxes to get a round 25%), but it also capped the interest expense deduction and restricted how operating losses are carried forward. It also eliminated the taxation of international subsidiary profits upstreamed to the U.S. parent.

These changes required that we change the financial statements for our hypothetical company, MicroDrive, other examples, end of chapter problems, and test bank problems. These changes were integrated into the text and all of the ancillaries.

The global COVID-19 pandemic. Some of the manuscript for this edition was prepared in the several months prior to the COVID-19 pandemic and its associated economic crisis. Most, however, was prepared during the period from its arrival in the U.S. in early 2020 through the 2020 presidential election. We knew that the economic impact would be substantial, but that the toll would not be known until after the text was published. We have created a stand-alone document, *Finance and the COVID-19 Pandemic*, that details the impact the global pandemic had on corporate finance and included in the text itself, marginal notes to point to this resource. This resource will be available via www.cengage.com and also MindTap.

Additional integration of the textbook and the accompanying *Excel Tool Kit* spreadsheet models for each chapter. Many figures in the textbook are actually screen shots from the chapter’s *Excel Tool Kit* model. This serves two purposes. First, it makes

³We did require that students make up their own “cheat sheets,” and we required them to turn their sheets in with their exams so we could check for independence.

the analysis more transparent to the student; the student or instructor can go to the *Tool Kit* and see exactly how all of the numbers in a figure were calculated. Second, it provides an additional resource for students and instructors to use in learning Excel.

Significant Changes in Selected Chapters

We made many small improvements within each chapter; some of the more notable ones are discussed below.

Chapter 1: An Overview of Financial Management and the Financial Environment.

We added a brief discussion of income-wealth inequality in Section 1-4b (Intrinsic Stock Value Maximization and Social Welfare). We rewrote much of Section 1-4c (Ethics and Intrinsic Stock Value Maximization), including discussion of illegal actions, alleged unethical actions, and whistleblower protections. In Section 1-6a we describe upcoming changes in the London Interbank Offering Rate (LIBOR) due to recent scandals in how it was reported. Also, we describe the Federal Reserve Board's new alternative to LIBOR, the Secured Overnight Financing Rate (SOFR).

Chapter 4: Bond Valuation. We added a new box describing a 1648 perpetual bond, "You Can Take That to the Bank."

Chapter 6: Accounting for Financial Management. We added two new boxes. The first box, "A Matter of Opinion," highlights the leeway companies have in choosing how to present results and how that leeway complicates comparison. The second box, "Financial Statement Fraud," describes the SEC's Financial Reporting and Audit (FRAud) Group, including a recent case.

Chapter 8: Basic Stock Valuation. We added a section, 8-7d, showing how to calculate the value of operations at each year, not just at the horizon and at $t = 0$. We also added several new end-of-chapter problems on free cash flow valuation that will be ideal for homework assignments using the algorithmic feature in MindTap.

Chapter 9: Corporate Valuation and Financial Planning. We moved some of the introductory forecasting material to the Basic Stock Valuation chapter and expanded our coverage of valuation. We included an additional Spreadsheet Problem on valuation. We did this to reinforce our treatment of valuation in the Basic Stock Valuation chapter.

Chapter 11: The Cost of Capital. We added Section 11-3c, which discusses the difference between the yield to maturity and the expected rate of return based on projected default rates, showing that the difference between the yield and the expected rate of return is so small that it can be ignored for the vast majority of bonds. Sections 11-3d and 11-3e describe how to estimate the after-tax cost for newly issued debt that has large flotation costs.

Chapter 13: Capital Budgeting: Estimating Cash Flow and Analyzing Risk. We revised the example company so that it reflects the TCJA but retains key learning

points. We added a description of bonus depreciation to Appendix 13A and used the Scenario Manager to create scenarios in the Tool Kit showing the impact of different depreciation methods. We also added bonus depreciation to the Mini-Case and PowerPoint show because it is part of the TCJA.

Chapter 16: Capital Structure Decisions. We describe the impact that the TCJA's reduced corporate tax rate has on the value of the tax shield with respect to the M&M models and the Miller model. We incorporated the new tax rate into Section 16-6 and our discussion of the optimal capital structure. Due to the TCJA's lower corporate tax rate and its limitation on interest expense deductions, the optimal capital structure will have less debt than before the TCJA. We moved our discussion of bond refunding operations to the new Web Extension 16B.

Chapter 17: Dynamic Capital Structures. We streamlined this chapter substantially. It is now focused on valuation issues associated with the interest tax shield, including cases in which the capital structure changes during the forecast period. We provide a brief review of the free cash flow corporate valuation model, we describe the free cash flow to equity (FCFE) valuation model, and we show that these models are inappropriate for situations in which the capital structure is changing. We describe a very general version of the adjusted present value (APV) approach and show how it can be used when the capital structure is changing. This provides a natural segue into the compressed adjusted present value (CAPV) model, in which the tax shield is discounted at the unlevered cost of equity.

We illustrate the valuation concepts using a hypothetical company, Tutwiler Controls. (We use this same company in Chapter 26 as the target of an acquisition, except we then include synergies and a different capital structure.) Discussing Tutwiler's valuation here permits a natural extension into merger related issues in Chapter 26.

As noted previously, we moved the material on viewing equity as an option on the assets of a levered firm to Chapter 16. We moved the MM proofs (including PowerPoint slides) into Chapter 16 as a new web extension, *Web Extension 16B*. This consolidates important capital structure concepts in Chapter 16 and permits this chapter to focus on valuation issues associated with capital structures.

Chapter 18: Initial Public Offerings, Investment Banking, and Capital Formation. We expanded Section 18-1 to address carried interest, unicorns, investment firms that manage multiple venture capital funds, and publicly traded companies with divisions/subsidiaries that provide funding to start-ups.

Chapter 19: Lease Financing. We rewrote Sections 19-2 and 19-3 to reflect the virtual elimination of off-balance sheet accounting due to Accounting Standards Update (ASU) 2016-02. We added a new section, 19-7, to explicitly address the TCJA: "Leases, Taxes, and the 2017 Tax Cuts and Jobs Act."

Chapter 26: Mergers, LBOs, Divestitures, and Holding Companies. We reorganized and rewrote much of the chapter to better integrate changes due to the TCJA. Parts of Section 26-1, "Rationale for Mergers," now include the impact of the TCJA regarding restrictions on carry-forward losses from potential targets and limits on interest expense deductions in highly levered acquisitions. Section 26-2, "Types of Mergers," now includes a brief explanation of roll-up mergers and a new section

explaining the relationship between acquisition method (exchange of stock, cash offer to purchase assets, and cash offer to purchase shares) and responsibility for any hidden liabilities. We consolidated our coverage of takeover defenses into Section 26-4b, “Hostile Takeovers.” Section 26-13, “Merger Tax Treatments,” explains the tax treatments of the types of mergers from Section 26-4.

Chapter 27: Multinational Financial Management. We added a new box, “Meet Me at the Car Wash,” describing international bribery by several Brazilian companies. We reorganized and rewrote much of Section 27-3, “Exchange Rates,” to explicitly describe exchanges among all combinations of direct and indirect currencies. Section 27-5a, “Determinants of Floating Exchange Rates,” now includes Table 27-3 showing U.S. trade balances with key trading partners.

Test Bank. The instructor’s test bank has been updated and revised with many new questions and problems.

Other Ways the Book Can Be Used

The second corporate finance course can be taught in a variety of other ways, depending on a school’s curriculum structure and the instructor’s personal preferences. We have been focusing on the BOC questions and discussions, but we have used alternative formats, and all can work out very nicely. Therefore, we designed the book so that it can be flexible.

Mini Cases as a framework for lectures. We originally wrote the Mini Cases specifically for use in class. We had students read the chapter and the Mini Case, and then we systematically went through it in class to “explain” the chapter. (See the section titled “The Instructional Package” later in this Preface for a discussion of lecture aids available from Cengage Learning.) Here we use a *PowerPoint* slide show, which is located on the instructor’s Web site, and which we make available to students on our own course Web site. Students bring a printout of the slides to class, which makes it easier to take good notes. Generally, it takes us about two hours to frame the issues with the opening questions and then go through a Mini Case, so we allocate that much time. We want to facilitate questions and class discussion, and the Mini Case format stimulates both.

The Mini Cases themselves provide case content, so it is not as necessary to use regular cases as it would be if we used lectures based entirely on text chapters. Still, we like to use a number of the free-standing cases that are available from Cengage-Compose, Cengage Learning’s online case library, at <http://compose.cengage.com>, and we have teams of students present their findings in class. The presenters play the role of consultants teaching newly hired corporate staff members (the rest of the class) how to analyze a particular problem, and we as instructors play the role of “chief consultant”—normally silent but available to answer questions if the student “consultants” don’t know the answers (which is rare). We use this format because it is more realistic to have students think about *how to analyze* problems than to focus on the final decision, which is really the job of corporate executives with far more experience than undergraduate students.

To ensure that nonpresenting students actually study the case, we call on them randomly before the presentation begins, we grade them on class participation, and our exams are patterned closely after the material in the cases. Therefore, nonpresenting students have an incentive to study and understand the cases and to participate when the cases are discussed in class. This format has worked well, and we have obtained excellent results with a relatively small amount of preparation time. Indeed, some of our Ph.D. students with no previous teaching experience have taught the course entirely on their own, following our outline and format, and also obtained excellent results.

An emphasis on basic material. If students have not gained a thorough understanding of the basic concepts from their earlier finance courses, instructors may want to place more emphasis on the basics and thus cover Chapters 2 through 5 in detail rather than merely as a review. We even provide a chapter (Web Chapter 28) on time value of money skills on the textbook's Web site for students who need an even more complete review. Then, Chapters 6 through 17 can be covered in detail, and any remaining time can be used to cover some of the other chapters. This approach gives students a sound background on the core of financial management, but it does not leave sufficient time to cover a number of interesting and important topics. However, because the book is written in a modular format, if students understand the fundamental core topics they should be able to cover the remaining chapters on their own, if and when the need arises.

A case-based course. At the other extreme, where students have an exceptionally good background, hence little need to review topics that were covered in the basic finance course, instructors can spend less time on the early chapters and concentrate on advanced topics. When we take this approach, we assign Web Chapter 29 as a quick review and then assign cases that deal with the topics covered in the early chapters. We tell students to review the other relevant chapters on their own to the extent necessary to work the cases, thus freeing up class time for the more advanced material. This approach works best with relatively mature students, including evening students with some business experience.

Comprehensive Learning Solutions

Intermediate Financial Management includes a broad range of ancillary materials designed both to enhance students' learning and to help instructors prepare for and conduct classes.

Supplemental Student Resources

Students: Access all of the below resources by visiting www.cengage.com searching ISBN 9780357516669, and clicking "Access Now" under "Study Tools" to go to the student textbook companion site. The resources are also available in MindTap.

Beginning of chapter (BOC) spreadsheets. Many of the integrative questions that appear at the start of each chapter have a spreadsheet model that illustrates the

topic. There is also an index of the *Excel* techniques covered in the BOC *Excel* models. This index is in the *Excel* file, *Excel Locations.xlsx*, and it provides a quick way to locate examples of *Excel* programming techniques

End of chapter Build-a-Model spreadsheet problems. In addition to the Tool Kits and Beginning of Chapter models, most chapters have a “Build a Model” spreadsheet problem. These spreadsheets contain financial data plus instructions for solving a particular problem. The model is partially completed, with headings but no formulas, so the models must literally be built. The partially completed spreadsheets for these “Build a Model” problems are on the student companion Web site, with the completed versions available to instructors.

Mini Case spreadsheets. These *Excel* spreadsheets do all the calculations required in the Mini Cases. They are similar to the Tool Kits for the chapter, except: (a) the numbers in the examples correspond to the Mini Case rather than to the chapter per se, and (b) there are some features that make it possible to do “what-if” analyses on a real-time basis in class.

Web Chapters and Web Extensions. Web chapters provide a chapter-length discussion of specialized topics that are not of sufficient general interest to warrant inclusion in the printed version of the text. Web extensions provide additional discussion or examples pertaining to material that is in the text.

Instructor Resources

Instructors: Access the above chapter resources and the following instructor ancillaries by going to www.cengage.com/login, logging in with your faculty account username and password, and using ISBN 9780357516669 to search for and to add resources to your account “Bookshelf.”

- **Instructor’s Manual.** This comprehensive manual contains answers to all the Beginning of Chapter Questions, end-of-chapter questions and problems, and Mini Cases.
- **PowerPoint® slides.** Created by the authors, the PowerPoint® slides cover essential topics for each chapter. Graphs, tables, and lists are developed sequentially for your convenience and can be easily modified for your needs. There are *also* slides that are specifically based on each chapter’s Mini Case and in which graphs, tables, lists, and calculations are developed sequentially.
- **Test Bank.** The *Test Bank* that contains more than 1,200 class-tested questions and problems. Information regarding the topic and degree of difficulty, along with the complete solution for all numerical problems, is provided with each question.
- **Cognero™ Test Bank.** Cengage Learning Testing Powered by Cognero™ is a flexible online system that allows you to: author, edit, and manage test bank content from multiple Cengage Learning solutions; create multiple test versions in an instant; deliver tests from your LMS, your classroom, or wherever you want. The Cognero™ Test Bank contains the same questions that are in the Microsoft® Word Test Bank. All question content is now tagged according to Tier I (Business Program Interdisciplinary Learning Outcomes) and Tier II (Finance-specific) standards topic, Bloom’s Taxonomy, and difficulty level.

MindTap Resources

MindTap™, Cengage Learning's fully online, highly personalized learning experience combines readings, multimedia activities, and assessments into a singular Learning Path. MindTap™ guides students through their course with ease and engagement with a learning path that includes an Interactive Chapter Reading, Problem Demonstrations, End of Chapter Problems, Excel Online Problems, and Online Homework Assignments powered by Aplia. These homework problems include rich explanations and instant grading, with opportunities to try another algorithmic version of the problem to bolster confidence with problem solving. Instructors can personalize the Learning Path for their students by customizing the robust suite of resources and adding their own content via apps that integrate into the MindTap™ framework seamlessly with Learning Management Systems.

Microsoft Excel Online activities provide students with an opportunity to work auto-gradable, algorithmic homework problems directly in their browser using Excel Online. Students receive instant feedback on their Excel work, including “by hand” calculations and a solution file containing a recommended way of solving the problem. Students’ Excel work is saved in real-time in the cloud; is platform, device, and browser independent; and is always accessible with their homework without cumbersome file uploads and downloads. This unique integration represents a direct collaboration between Cengage and Microsoft to strengthen and support the development of Microsoft Office education skills for success in the workplace.

Adaptive Test Prep allows students to create practice quizzes covering multiple chapters in a low stakes environment. Students receive immediate feedback so they know where they need additional help, and the test bank-like questions prepare students for what to expect on the exam. With many questions offered per chapter, students can create multiple unique practice quizzes within MindTap.

Cengage Learning Custom Solutions. Whether you need print, digital, or hybrid course materials, Cengage Learning Custom Solutions can help you create your perfect learning solution. Draw from Cengage Learning’s extensive library of texts and collections, add your own original work, and/or create customized media and technology to match your learning and course objectives. Our editorial team will work with you through each step, allowing you to concentrate on the most important thing—your students. Learn more about all our services at www.cengage.com/custom.

Acknowledgments

This book reflects the efforts of a great many people over a number of years. First, we would like to thank Fred Weston, Joel Houston, Mike Ehrhardt, and Scott Besley, who worked with us on other books published by Cengage from which we borrowed liberally to create *IFM*. We also owe Lou Gapenski special thanks for his many past contributions to earlier editions of this text.

In addition, we would like to thank the following people, whose reviews and comments on prior editions and companion books have contributed to this edition:

Mike Adler, Syed Ahmad, Sadhana M. Alangar, Thomas J. Alexander, Z. Ayca Altintig, Onur Arugaslan, Edward I. Altman, Mary Schary Amram, Bruce Anderson, Ron Anderson, Bob Angell, Vince Apilado, Henry Arnold, Nasser Arshadi, Bob Aubey, Abdul Aziz, Gil Babcock, Peter Bacon, Kent Baker, Tom Bankston, Les Barenbaum, Charles Barngrover, Steve Beach, John R. Becker-Blease, Bill Beedles, Moshe Ben-Horim, William (Bill) Beranek, Tom Berry, Bill Bertin, Roger Bey, Dalton Bigbee, John Bildersee, Lloyd P. Blenman, Kevin K. Boeh, Russ Boisjoly, Keith Boles, Gordon R. Bonner, Geof Booth, Kenneth Boudreaux, Helen Bowers, Lyle Bowlin, Oswald Bowlin, Don Boyd, G. Michael Boyd, Pat Boyer, Ben S. Branch, Joe Brandt, Elizabeth Brannigan, Greg Brauer, Mary Broske, Dave Brown, David T. Brown, Kate Brown, Mary R. Brown, Bill Brueggeman, Kirt Butler, Robert Button, Julie Cagle, Bill (B. J.) Campsey, Bob Carleson, Severin Carlson, David Cary, Steve Celec, Don Chance, Antony Chang, Susan Chaplinsky, Jay Choi, S. K. Choudhury, Lal Chugh, Maclyn Clouse, Margaret Considine, Phil Cooley, Joe Copeland, James J. Cordeiro, David Cordell, John Cotner, Charles Cox, David Crary, Tony Crawford, John Crockett, Roy Crum, Brent Dalrymple, Bill Damon, William H. Dare, Joel Dauten, Steve Dawson, Sankar De, Miles Delano, Fred Dellva, Anand Desai, Ross Dickens, Bernard Dill, Greg Dimkoff, Les Dlabay, Mark Dorfman, Gene Drycimski, Dean Dudley, David A. Dumpe, David Durst, Ed Dyl, Dick Edelman, Charles Edwards, John Ellis, Theodore Engel, Dave Ewert, John Ezzell, Richard Fendler, Michael Ferri, Jim Filkins, John Finnerty, Susan Fischer, Mark Flannery, Steven Flint, Russ Fogler, Jennifer Foo, E. Bruce Frederickson, Dan French, Tina Galloway, Phil Gardial, Michael Garlington, Jim Garvin, Adam Gehr, Jim Gentry, Philip Glasgo, Rudyard Goode, Myron Gordon, Walt Goulet, Bernie Grablowsky, Theoharry Grammatikos, John Griffith, Axel Grossmann, Ed Grossnickle, John Groth, Alan Grunewald, Manak Gupta, George Hachey, Sam Hadaway, Thomas Hall, Don Hakala, Sally Hamilton, Gerald Hamsmith, William Hardin, Joel Harper, John Harris, Paul Hastings, Bob Haugen, Steve Hawke, Del Hawley, Hal Heaton, Robert Hehre, John Helmuth, K. L. Henebry, George Hettenhouse, Hans Heymann, Kendall Hill, Roger Hill, Tom Hindelang, Linda Hittle, Ralph Hocking, J. Ronald Hoffmeister, Jim Horrigan, John Houston, John Howe, Keith Howe, Jim Hsieh, Hugh Hunter, Steve Isberg, James E. Jackson, Jim Jackson, Vahan Janjigian, Tim Jares, Kose John, Craig Johnson, Keith H. Johnson, Ramon Johnson, Ken Johnston, Ray Jones, Manuel Jose, Tejendra Kalia, Gus Kalogeras, Mike Keenan, Bill Kennedy, Joe Kiernan, Robert Kieschnick, Young Kim, Rick Kish, Linda Klein, Don Knight, Dorothy Koehl, Raj K. Kohli, Jaroslaw Komarynsky, Duncan Kretovich, Harold Krogh, Charles Kroncke, Merouane Lakehal-Ayat, Joan Lamm, P. Lange, Howard Lanser, Richard N. LaRocca, Martin Laurence, Ed Lawrence, Richard LeCompte, Wayne Lee, Jim LePage, Ilene Levin, Jules Levine, John Lewis, Kartono Liano, Yingchou Lin, James T. Lindley, Chuck Linke, Bill Lloyd, Susan Long, Barbara MacLeod, Judy Maese, Bob Magee, Ileen Malitz, Phil Malone, Terry Maness, Chris Manning, Terry Martell, D. J. Masson, John Mathys, John McAlhany, Andy McCollough, Bill McDaniel, Robin McLaughlin, Tom McCue, Jamshid Mehran, Ilhan Meric, Larry Merville, Rick Meyer, Stuart Michelson, Jim Millar, Ed Miller, John Mitchell, Carol Moerdyk, Bob Moore, Barry Morris, Gene Morris, Fred Morrissey, Chris Muscarella, David Nachman, Tim Nantell, Don Nast, Bill Nelson, Bob Nelson, Bob Niendorf, Tom O'Brien, Dennis O'Connor, John O'Donnell, Jim Olsen, Robert Olsen, R. Daniel Pace, Coleen Pantalone, Jim Pappas, Stephen Parrish, Ohaness

Paskelian, Glenn Petry, Jim Pettijohn, Rich Pettit, Dick Pettway, Hugo Phillips, John Pinkerton, Gerald Pogue, Ralph A. Pope, R. Potter, Franklin Potts, R. Powell, Chris Prestopino, Jerry Prock, Howard Puckett, Edward Pyatt, Howard Qi, Herbert Quigley, George Racette, Bob Radcliffe, Allen Rappaport, Bill Rentz, Ken Riener, Charles Rini, John Ritchie, Jay Ritter, Pietra Rivoli, Fiona Robertson, Alicia Rodriguez, Antonio Rodriguez, Kenneth Roskelley, E. M. Roussakis, Dexter Rowell, Michael Ryngaert, Jim Sachlis, Abdul Sadik, Atul Saxena, Thomas Scampini, Kevin Scanlon, Frederick Schadler, James Schallheim, Mary Jane Scheuer, Carl Schweser, John Settle, Alan Severn, Sol Shalit, Frederic Shipley, Dilip Shome, Ron Shrieves, Neil Sicherman, J. B. Silvers, Clay Singleton, Joe Sinkey, Mark Sipper, Stacy Sirmans, Jaye Smith, Stephen V. Smith, Steve Smith, Don Sorenson, David Speairs, G. Kevin Spellman, Andrew Spieler, Ken Stanly, Ed Stendardi, Alan Stephens, Don Stevens, Jerry Stevens, G. Bennett Stewart, Glen Strasburg, Robert Strong, Tom Stuckey, Diane Rizzuto Suhler, Qian Sun, Denver Swaby, Philip Swensen, Ernie Swift, Paul Swink, Eugene Swinnerton, Robert Taggart, Gary Tallman, Dennis Tanner, Russ Taussig, A. Tessmer, Manish Tewari, Richard Teweles, Ted Teweles, Andrew Thompson, Jonathan Tiemann, Sheridan Titman, George Trivoli, George Tsetsekos, Alan L. Tucker, Mel Tysseland, David Upton, Howard Van Auken, Pretorious Van den Dool, Pieter Vanderburg, Paul Vanderheiden, David Vang, Jim Verbrugge, Patrick Vincent, Steve Vinson, Susan Visscher, John Wachowicz, Joe Walker, Mike Walker, Sam Weaver, Kuo Chiang Wei, Bill Welch, Gary R. Wells, Fred Weston, Norm Williams, Tony Wingler, Ed Wolfe, Larry Wolken, Annie Wong, Bob G. Wood, Jr., Don Woods, Thomas Wright, Michael Yonan, Miranda Zhang, Zhong-guo Zhou, David Ziebart, Dennis Zocco, and Kent Zumwalt.

Special thanks are due to Fred Weston, Myron Gordon, Merton Miller, and Franco Modigliani, who have done much to help develop the field of financial management and who provided us with instruction and inspiration; to Roy Crum, who coauthored the multinational finance chapter; to Jay Ritter, who helped us with the materials on financial markets and IPOs; to Larry Wolken, who offered his hard work and advice for the development of the *PowerPoint* slides; to Dana Aberwald Clark, Susan Ball, and Chris Buzzard, who helped us develop the spreadsheet models; and to Susan Whitman, Amelia Bell, and Kirsten Benson, who provided editorial support.

Both our colleagues and our students at the Universities of Florida and Tennessee gave us many useful suggestions, and the Cengage staff—especially Aaron Arnsperger, Brandon Foltz, Christopher Valentine, Ethan Crist, Mark Hopkinson, Brian Rodriguez, Eugenia Belovia, and Christopher Walz—helped greatly with all phases of text development, production, and marketing.

Errors in the Text

At this point, authors generally say something like this: “We appreciate all the help we received from the people listed above, but any remaining errors are, of course, our own responsibility.” And in many books, there are plenty of remaining errors. Having experienced difficulties with errors ourselves, both as students and as instructors, we resolved to avoid this problem in *Intermediate Financial Management*. As a result of our error detection procedures, we are convinced that the book is relatively free of mistakes.

Partly because of our confidence that few such errors remain, but primarily because we want very much to detect those errors that may have slipped by to correct them in subsequent printings, we decided to offer a reward of \$10 per error to the first person who reports it to us. For purposes of this reward, errors are defined as misspelled words, nonrounding numerical errors, incorrect statements, and any other error that inhibits comprehension. Typesetting problems such as irregular spacing and differences in opinion regarding grammatical or punctuation conventions do not qualify for this reward. Finally, any qualifying error that has follow-through effects is counted as two errors only. Please report any errors to Phillip Daves at the following email address: pdaves@utk.edu.

Conclusion

Finance is, in a real sense, the cornerstone of the free enterprise system. Good financial management is therefore vitally important to the economic health of business firms, hence to the nation and the world. Because of its importance, financial management should be thoroughly understood. However, this is easier said than done. The field is relatively complex, and it is undergoing constant change in response to shifts in economic conditions. All of this makes financial management stimulating and exciting, but also challenging and sometimes perplexing. We sincerely hope that the Fourteenth Edition of *Intermediate Financial Management* will help you understand the financial problems faced by businesses today, as well as the best ways to solve those problems.

Eugene F. Brigham
College of Business Administration
University of Florida
Gainesville, Florida 32611-7167
gene.brigham@cba.ufl.edu

Phillip R. Daves
College of Business Administration
University of Tennessee
Knoxville, Tennessee 37996-0540
pdaves@utk.edu
February, 2021

Intermediate Financial Management

FOURTEENTH EDITION

Fundamental Concepts of Corporate Finance

An Overview of Financial Management and the Financial Environment

1

Risk and Return: Part I

2

Risk and Return: Part II

3

Bond Valuation

4

Financial Options

5

Accounting for Financial Management

6

Analysis of Financial Statements

7



An Overview of Financial Management and the Financial Environment

resource

The textbook's Web site has tools for teaching, learning, and conducting financial research.

This book is designed to explain what financial management is all about and to show how it can be used to help increase the value of a firm. It is intended for use in a second-level finance course, following the introductory course. Only the basic course is prerequisite, so if students have taken other finance courses, especially on investments or capital markets, they will find some of the material a review.

The book is often used in a capstone course taken during the last term before graduation. This is an exhilarating time for students, with graduation looming and a job search under way. It is also a good time to step back from the technical skills developed in the classroom and to look at the big picture of why financial management is so important. Spending the time now to develop a good overview of financial management can be tremendously valuable to your career. Why is financial management so valuable? Because, in a nutshell, it explains both how managers can increase their firms' value and why it is essential for them to do so.

Today's business environment is more complicated than ever. Investors are increasingly forcing managers to focus on value maximization, but recent corporate scandals such as Facebook's sale of user information from some 87 million user accounts to Cambridge Analytica and its subsequent use in manipulating the 2016 presidential election, Boeing's sale of defective 737 Max airliners, and the millions of unauthorized customer accounts opened by Wells Fargo and Company show that ethical behavior and managerial accountability are crucial prerequisites. Mastering the technical details of financial management and understanding its role within the firm is important to graduating students because companies want to hire people who can make decisions with the broad corporate goal of value maximization in mind. Therefore, students who understand the principles of value

maximization have a major advantage in the job market over students who do not. Demonstrating that you understand all this can make a big difference in both the quality of your initial job and your subsequent career path.

BEGINNING-OF-CHAPTER QUESTIONS

As you read the chapter, consider how you would answer the following questions. You *should not* necessarily be able to answer the questions before you read the chapter. Rather, you should use them to get a sense of the issues covered in the chapter. After reading the chapter, you should be able to give at least partial answers to the questions, and you should be able to give better answers after the chapter has been discussed in class. Note, too, that it is often useful, when answering conceptual questions, to use hypothetical data to illustrate your answer. For example, your answer to Question 2 would probably be better if it were illustrated with numbers. We have done this, using *Excel*; our model is available on the textbook's Web site. A useful exercise is to access the model and work through it.

1. What is presumed to be the *primary objective* of financial management? How is this goal related to other societal goals and considerations? Is this goal consistent with the basic assumptions of microeconomics? Are managers' actions always consistent with this goal?
2. Finance is all about **valuation**—how to estimate asset values and what to do to increase them. We develop and use *Excel* models throughout the book. We start that process in this chapter with simple models used to value bonds, stocks, and capital budgeting projects. Working through the model will give you a refresher in valuation plus a refresher on (or preview of) *Excel*. The model can be accessed on the textbook's Web site.
 - a. Explain how to find the value of a bond given the rate of interest it pays (its coupon rate), its par value (assume \$1,000), and the going rate of interest on bonds with the same risk and maturity.
 - b. Explain how to find the value of a stock given its last dividend, its expected growth rate, and its required rate of return.
 - c. Explain how to find the value of a capital budgeting project given its cost, its expected annual net cash flows, its life, and its cost of capital.
 - d. In each of these cases, discuss how changes in the inputs would affect the output. Would it matter if the outputs were highly sensitive to changes in the inputs?
3. What are the advantages of the corporate form over a sole proprietorship or a partnership? What are the disadvantages of this form?
4. What are the various factors that affect the cost of money and hence interest rates? How will changes in these components affect asset prices?
5. Are most stocks traded on face-to-face exchanges or electronically? What impact has this had on retail stock transactions? On portfolio management?
6. What is securitization? How is securitization supposed to help banks and S&Ls manage risks and increase homeowners' access to capital?
7. Our global economy is increasingly interconnected. Explain first how in our interconnected global economy a decrease in housing prices in large U.S. cities can end up bankrupting Norwegian retirees. And explain second how a flu outbreak in China can shut down businesses throughout the United States.

1-1 Introduction

As we write this in early 2020, the COVID-19 global pandemic has hit China, Europe, Japan, Africa, India and the United States. Millions have been infected with hundreds of thousands of fatalities. Some cities are on lock-down, many businesses are shuttered, travel is restricted, some areas of commerce have slowed to a trickle, and hospitals are overwhelmed. This is a rapidly developing, highly disruptive event

global pandemic

For more information on the impact of the COVID-19 pandemic on corporate finance, see our online resource ***Finance and the COVID-19 Pandemic***.

resource

Visit the textbook's Web site. This ever-evolving site, for students and instructors, is a tool for teaching, learning, financial research, and job searches.

web

Consult **www.careers-in-finance.com** for an excellent site containing information on a variety of business career areas, listings of current jobs, and other reference materials.

with severe economic and social consequences. As we revise the text, we will incorporate information about the impact of the pandemic on corporate finance as it becomes available and apparent. Specific topics will be highlighted with a marginal Global Pandemic box. We have also provided an online resource to complement the textbook, *Finance and the COVID-19 Pandemic*.

In your introductory finance course, you learned a number of terms and concepts, and you now have an idea of what financial management is all about. However, you probably focused on individual chapters, or sections of chapters, and you probably prepared for exams that consisted of relatively simple problems and short-answer questions, often given in a multiple-choice format. That was a necessary part of the learning process, but now it is time to move on.

In *Intermediate Financial Management*, we go back over much of what you covered in the introductory course, and we introduce new material. However, our focus now is different. At this point we want you to learn how to *apply* the concepts, how to obtain the data necessary to implement the various decision models, and how to relate the various parts of finance to one another. So, while we revisit topics such as the net present value (NPV) and internal rate of return (IRR) methods, we delve into them more deeply, considering how to streamline and automate the calculations, how to obtain the necessary data, and how errors in the data affect the outcome. We also spend more time comparing the topics covered in different chapters to one another. For example, you probably did not spend much time considering how the cost of capital, capital structure, dividend policy, and capital budgeting are related to one another, but we now discuss these critically important relationships.

1-2 How to Use This Text

To help sharpen your focus, we start each chapter with several *Beginning-of-Chapter Questions*. Some of these questions are designed to help you see how the chapter ties in with other chapters, while others will help you think about how the concepts are applied in the real world. You probably won't be able to answer all of the questions when you start working through the chapter, but that's fine! The questions aren't a pre-test. Their purpose is to help guide you through the material, and having them in mind when you read will help you understand the chapter in a more integrative and relevant way.

Because *Excel* is the most widely used tool to analyze actual business decisions, you need to be proficient with *Excel* if you are to get a good job and if you are to succeed in it. Therefore, we explain how to do the most common types of financial analyses using *Excel*. This focus has two benefits: Knowledge of *Excel* is useful per se, and setting up and analyzing the output from spreadsheet models will also teach you a lot about financial concepts.

Most of the chapters have three spreadsheet models, which are available on the textbook's Web site. The first is a "Tool Kit," which contains the *Excel* models used to generate most of the tables and examples in the chapter. The second is a model that deals with specific Beginning-of-Chapter Questions. Both models contain notes and comments that explain the *Excel* procedures we used, so that they can be used as a tutorial for learning more about both *Excel* and finance. A third model, available to your instructor, shows how to work the end-of-chapter Minicase. Again, since recruiters prefer students who are good with *Excel*, learning more about it will help you get a better job and then succeed in it.

1-3 The Corporate Life Cycle

Apple began life in a garage, and Facebook started in a dorm room. How is it possible for such companies to grow into the giants we see today? The following sections describe some typical stages in the corporate life cycle.

1-3a Starting Up as a Proprietorship

Many companies begin as a **proprietorship**, which is an unincorporated business owned by one individual. Starting a business as a proprietor is easy—obtain any required city or state business licenses and begin business operations. The proprietorship has three important advantages: (1) It is easy and inexpensive to start. (2) Relatively few government regulations affect it. (3) It pays no corporate income tax on profits—instead, they are included in the proprietor's personal taxable income.

However, the proprietorship also has three important limitations: (1) It may be difficult for a proprietorship to obtain the funding needed for growth. (2) The proprietor has unlimited personal liability for the business's debts, which can result in losses that exceed the money invested in the company. (Creditors may even be able to seize a proprietor's house or other personal property!) (3) The life of a proprietorship is limited to the life of its founder. Therefore, usually only small businesses operate as sole proprietorships. In fact, about 73% of all companies are proprietorships, accounting for less than 5% of all sales revenue.

1-3b More than One Owner: A Partnership

Some companies start with more than one owner, and some proprietors decide to add a partner as the business grows. A **partnership** exists whenever two or more persons or entities associate to conduct a noncorporate business for profit. Partnerships may operate under different degrees of formality, ranging from informal, oral understandings to formal agreements filed with the secretary of the state in which the partnership was formed. Partnership agreements define the ways any profits and losses are shared between partners. A partnership's advantages and disadvantages are similar to those of a proprietorship.

Regarding liability, partners potentially can lose all of their personal assets in the event of bankruptcy because each partner is liable for the business's debts. To avoid this, the liabilities of some of the partners can be limited by establishing a **limited partnership**. **Limited partners** can lose only the amount of their investment in the partnership, but the **general partners** have unlimited liability. However, the limited partners typically have no control—which rests solely with the general partners—and their returns are likewise limited. Limited partnerships are common in real estate, oil, equipment-leasing ventures, and venture capital. However, they are not widely used in other businesses because usually no partner is willing to be the general partner due to the risk, and no partners are willing to be limited partners with no control.

In regular and limited partnerships, at least one partner is liable for the partnership's debts. However, in a **limited liability partnership (LLP)** and a **limited liability company (LLC)**, all partners' (or members') potential losses are limited to their investment in the LLP. Of course, this arrangement increases the risk faced by an LLP's lenders, customers, and suppliers.

1-3c Many Owners: A Corporation

Most partnerships have difficulty attracting substantial amounts of capital to support growth. Thus, many growth companies begin as a proprietorship or partnership but subsequently convert to a corporation. Other companies, in anticipation of growth, actually begin as corporations.

A **corporation** is a legal entity created under state laws, and it is separate and distinct from its owners and managers. This separation gives the corporation three major advantages: (1) *unlimited life*—a corporation can continue after its original owners and managers are deceased; (2) *easy transfers of ownership interests*—ownership is divided into shares of stock, which can be transferred far more easily than ownership in a proprietorship or partnership; and (3) *limited liability*—losses are limited to the actual funds invested.

To illustrate limited liability, suppose you invested \$10,000 in a partnership that then went bankrupt and owed \$1 million. Because partners are liable, you could be held liable for the entire \$1 million if your partners could not pay their shares. However, if you invested \$10,000 in a corporation's stock, your potential loss in a bankruptcy would be limited to your \$10,000 investment.

Unlimited life, easy transfers of ownership, and limited liability make it much easier for corporations to raise money in the financial markets and grow into large companies. Although the corporate form offers significant advantages relative to proprietorships and partnerships, it has two disadvantages: (1) Corporate earnings may be subject to double taxation—the earnings of the corporation are taxed at the corporate level, and then earnings paid out as dividends are taxed again as income to the stockholders. (2) Setting up a corporation involves preparing a charter, writing a set of bylaws, and filing the many required state and federal reports, which is more complex and time-consuming than creating a proprietorship or a partnership.

The **charter** includes the following information: (1) name of the proposed corporation, (2) types of activities it will pursue, (3) amount of capital stock, (4) number of directors, and (5) names and addresses of directors. The charter is filed with the secretary of the state in which the firm will be incorporated, and when it is approved, the corporation is officially in existence.¹ After the corporation begins operating, quarterly and annual employment, financial, and tax reports must be filed with state and federal authorities.

The **bylaws** are a set of rules drawn up by the founders of the corporation. Bylaws specify: (1) how directors are to be elected (all elected each year or perhaps one-third each year for 3-year terms), (2) whether the existing stockholders will have the first right to buy any new shares the firm issues, and (3) procedures for changing the bylaws themselves, should conditions require it.

There are several different types of corporations. Professionals such as doctors, lawyers, and accountants often form a **professional corporation (PC)** or a **professional association (PA)**. These types of corporations do not relieve the participants of professional (malpractice) liability. Indeed, the primary motivation behind the professional corporation was to provide a way for groups of professionals to avoid certain types of unlimited liability yet still be held responsible for professional liability.

Finally, some corporations can elect to be taxed as if the business were a proprietorship or partnership if the corporation meets certain requirements regarding size and number of stockholders. Such firms are called **S corporations**.

web

For updates on IPO activity, see www.renaissancecapital.com/IPO-Center. Also, see Professor Jay Ritter's Web site for additional IPO data and analysis, <https://site.warrington.ufl.edu/ritter/ipo-data/>.

¹About 64% of major U.S. corporations are chartered in Delaware, which has, over the years, provided a favorable legal environment for corporations. It is not necessary for a firm to be headquartered or even to conduct operations in its state of incorporation or even in its country of incorporation.

1-3d Growing a Corporation: Going Public

After a company incorporates, how does it evolve? When entrepreneurs start a company, they usually provide all the financing from their personal resources, which may include savings, home equity loans, or even credit cards. A fast-growing business must continue to invest in buildings, equipment, technology, and employees. Such investments usually deplete the founders' resources, so they turn to external financing. Many young companies are too risky for banks, so the founders must sell stock to outsiders, including friends, family, private investors (often called "angels"), or venture capitalists.

Any corporation can raise funds by selling shares of its stock, but government regulations restrict the number and type of investors who can buy the stock. Also, the shareholders cannot subsequently sell their stock to the general public. Due to these limitations, the shares are called **closely held stock** and the company is a **closely held corporation**.

As it continues to grow, a thriving private corporation may decide to seek approval from the **Securities and Exchange Commission (SEC)**, which regulates stock trading, to sell shares in a public stock market.² It does so by filing a **prospectus** with the SEC, which provides relevant information about the company to investors and regulators. In addition to SEC approval, the company applies to be a **listed stock** on an SEC-registered stock exchange. For example, the company might list on the **New York Stock Exchange (NYSE)**, which is the oldest registered stock exchange in the United States and is the largest exchange in the world when measured by the market value of its listed stocks. Or perhaps the company might list on the **NASDAQ Stock Market**, which has the most stock listings, especially among smaller, high-tech companies.

Going public is called an **initial public offering (IPO)** because it is the first time the company's shares are sold to the general public. In most cases, an **investment bank**, such as Goldman Sachs, helps with the IPO by advising the company. In addition, the investment bank's company usually has a **brokerage firm**, which employs **brokers** who are registered with the SEC to buy and sell stocks on behalf of clients.³ These brokers help the investment banker sell the newly issued stock to investors.

Most IPOs raise proceeds in the range of \$90 million to \$140 million with a median of about \$120 million. However, some IPOs are huge, such as the \$21.7 billion raised by Alibaba when it went public on the NYSE in 2014. Not only does an IPO raise additional cash to support a company's growth, but the IPO also makes it possible for the company's founders and investors to sell some of their own shares, either in the IPO itself or afterward as shares are traded in the stock market. For example, in Facebook's 2012 IPO, the company raised about \$6.4 billion by selling 180 million new shares, and the owners received almost \$9.2 billion by selling 241 million of their own shares.

Most IPOs are underpriced when they are first sold to the public, based on the initial price paid by IPO investors and the closing price at the end of the first day's trading. For example, in 2019 the average first-day return was around 23.9%.

Even if you are able to identify a "hot" issue, it is often difficult to purchase shares in the initial offering. In strong markets, these deals generally are oversubscribed,

²The SEC is a government agency created in 1934 to regulate matters related to investors, including the regulation of stock markets.

³For example, stockbrokers must register with the **Financial Industry Regulatory Authority (FINRA)**, a nongovernment organization that watches over brokerage firms and brokers. FINRA is the biggest, but there are other self-regulatory organizations (SROs). Be aware that not all self-advised "investment advisors" are actually registered stockbrokers.

which means that the demand for shares at the offering price exceeds the number of shares issued. In such instances, investment bankers favor large institutional investors (who are their best customers), and small investors find it hard, if not impossible, to get in on the ground floor. They can buy the stock in the aftermarket, but evidence suggests that if you do not get in on the ground floor, the average IPO underperforms the overall market over the long run.⁴

Before you conclude that it isn't fair to let only the best customers have the stock in an initial offering, think about what it takes to become a best customer. Best customers are usually investors who have done lots of business in the past with the investment banking firm's brokerage department. In other words, they have paid large sums as commissions in the past, and they are expected to continue doing so in the future. As is so often true, there is no free lunch—most of the investors who get in on the ground floor of an IPO have, in fact, paid for this privilege.

After the IPO, it is easier for a public firm to raise additional funds to support growth than it is for a private company. For example, a public company raises more funds by selling (i.e., issuing) additional shares of stock through a **seasoned equity offering**, which is much simpler than the original IPO. In addition, publicly traded companies also have better access to the debt markets and can raise additional funds by selling bonds.

1-3e Managing a Corporation's Value

How can managers affect a corporation's value? To answer this question, we first need to ask, "What determines a corporation's value?" In a nutshell, it is *a company's ability to generate cash flows now and in the future*.

In particular, a company's value is determined by three properties of its cash flows: (1) The *size* of the expected future cash flows is important—bigger is better. (2) The *timing* of cash flows counts—cash received sooner is more valuable than cash that comes later. (3) The *risk* of the cash flows matters—safer cash flows are worth more than uncertain cash flows. Therefore, managers can increase their firm's value by increasing the size of the expected cash flows, by speeding up their receipt, and by reducing their risk.

The relevant cash flow is called **free cash flow (FCF)**, not because it is free, but because it is available (or free) for distribution to a company's investors, including creditors and stockholders. You will learn how to calculate free cash flows in Chapter 6, but for now you should know that free cash flow is:

$$\text{FCF} = \text{Sales revenues} - \text{Operating costs} - \text{Operating taxes} - \text{Required investments in new operating capital}$$

A company's value depends on its ability to generate free cash flows, but a company must spend money to make money. For example, cash must be spent on R&D, marketing research, land, buildings, equipment, employee training, and many other activities before the subsequent cash flows become positive. Where do companies get this cash? For start-ups, it comes directly from investors. For mature companies, some of it comes directly from new investors, and some comes indirectly from current shareholders when profit is reinvested rather than paid out as dividends. As stated previously, these cash providers expect a rate of return to

⁴See Jay R. Ritter, "The Long-Run Performance of Initial Public Offerings," *Journal of Finance*, March 1991, pp. 3–27. Dr. Ritter updates the data from this paper each year on his personal Web site, <https://site.warrington.ufl.edu/ritter/ipo-data/>.

compensate them for the timing and risk inherent in their claims on future cash flows. This rate of return from an investor's perspective is a cost from the company's point of view. Therefore, the rate of return required by investors is called the **weighted average cost of capital (WACC)**.

The following equation defines the relationship between a firm's value, its free cash flows, and its cost of capital:

$$\text{Value} = \frac{\text{FCF}_1}{(1 + \text{WACC})^1} + \frac{\text{FCF}_2}{(1 + \text{WACC})^2} + \frac{\text{FCF}_3}{(1 + \text{WACC})^3} + \cdots + \frac{\text{FCF}_\infty}{(1 + \text{WACC})^\infty} \quad (1-1)$$

We will explain how to use this equation in later chapters, but for now it is enough to understand that a company's value is determined by the size, timing, and risk of its expected future free cash flows.

If the expected future free cash flows and the cost of capital incorporate all relevant information, then the value defined in Equation 1-1 is called the **intrinsic value**; it is also called the **fundamental value**. If investors have all the relevant information, the **market price**, which is the price that we observe in the financial markets, should be equal to the intrinsic value. Whether or not investors have the relevant information depends on the quality and transparency of financial reporting for the company and for the financial markets. This is an important issue that we will address throughout the book.

- What are the key differences between proprietorships, partnerships, and corporations? Be sure to describe the advantages and disadvantages of each.
- What are charters and bylaws?
- Describe some special types of partnerships and corporations, and explain the differences among them.
- What does it mean for a company to "go public" and "list" its stock?
- What are some differences between the NYSE and the NASDAQ stock market?
- What roles are played by an investment bank and its brokerage firm during an IPO?
- What is IPO underpricing? Why is it often difficult for the average investor to take advantage of underpricing?
- Differentiate between an IPO and a seasoned equity offering.
- What three properties of future cash flows affect a corporation's value?
- How is a firm's intrinsic (or fundamental) value related to its free cash flows and its cost of capital? Write out the free cash flow equation and explain what it means.
- What is required for the market price to equal the fundamental value?

Self Test

1-4 Governing a Corporation

For proprietorships, partnerships, and small corporations, the firm's owners determine strategy and manage day-to-day operations. This is usually not true for a large corporation, which often has many different shareholders who each own a small proportion of the total number of shares. These diffuse shareholders elect directors, who then hire senior executives, who then hire other managers to run the corporation on a day-to-day basis. These **insiders** are elected or hired to work on behalf of the shareholders, but what is to prevent them from acting in their own best interests? This is called an **agency problem** because managers are hired as agents to act on behalf of the owners. Agency problems can be addressed by a company's **corporate governance**, which is the set of rules that control the company's behavior toward its directors, managers, employees, shareholders, creditors, customers, competitors, and community. We will have much more to say about agency problems and corporate governance throughout the book, especially in Chapters 10, 15, and 16.

It is one thing to say that managers should act on behalf of owners, but how can managers put this into practice?

1-4a The Primary Objective of a Corporation: Maximizing Stockholder Wealth

A company's decisions matter to many different **stakeholders**, such as shareholders, employees, local communities, and others who are affected by the company's environmental impact. How should managers address and prioritize stakeholders' different concerns?

First, managers are entrusted with shareholders' property and should be good stewards of this property. Second, good stewardship implies that managers should seek to increase the entrusted property's value. In other words, the primary goal of the corporation should be to maximize stockholder wealth unless the company's charter states differently. This does *not* mean that managers should break laws or violate ethical considerations. This does *not* mean that managers should be unmindful of employee welfare or community concerns. But it does mean that managers should seek to maximize stockholder wealth.

In fact, maximizing shareholder wealth is a fiduciary duty for most U.S. corporations. If companies fail in this duty, they can be sued by shareholders. For example, suppose several different companies make simultaneous offers to acquire a target company. The target's board of directors probably will be sued by shareholders if they don't vote in favor of the highest offer, even if the takeover means that the directors will lose their jobs. Companies can even be sued for maintaining social initiatives (such as purchasing environmentally friendly or locally sourced supplies at higher costs than equivalent imports) if shareholders believe they are too costly to the company.

The situation is different for many non-U.S. companies. For example, many European companies' boards have directors who specifically represent the interests of employees and not just shareholders. Many other international companies have government representatives on their boards or are even completely owned by a government. Such companies obviously represent interests other than shareholders.

In 2010, Maryland became the first state to allow a company, The Big Bad Woof, to be chartered as a benefit corporation (B-corp). As of early 2020, there were more than 3,800 B-corps in representing 150 industries. B-corps are similar to regular for-profit corporations but have charters that include mandates to benefit the environment and society even if this might not maximize shareholder wealth. For example, The Big Bad Woof, which sells products for companion pets, seeks to purchase merchandise from small, local, minority-owned businesses even if their prices are a bit higher.

B-corps are required to report their progress in meeting the charters' objectives. Many self-report, but some choose to be certified by an independent third party, in much the same way that an independent accounting firm certifies a company's financial statements.

Why would a company become a B-corp? Patagonia founder Yvon Chouinard said, "Benefit corporation legislation creates the legal framework to enable mission-driven companies like Patagonia to stay mission-driven through succession, capital raises, and even changes in ownership, by institutionalizing the values, culture,

Be Nice with a B-Corp

processes, and high standards put in place by founding entrepreneurs."^a

Does being a B-corp help or hurt a company's value? Advocates argue that customers will be more loyal and that employees will be prouder, more motivated, and more productive, which will lead to higher free cash flows and greater value. Critics counter that a B-corp will find it difficult to raise cash from additional investors because maximizing shareholder wealth isn't its only objective.

There isn't yet enough data to draw a conclusion, but it will be interesting to see whether B-corps ultimately produce a kinder, gentler form of capitalism.

Note:

^aSee www.patagonia.com/us/patagonia.go?assetid=68413.

In a recent development, some U.S. corporations are choosing a new corporate form called a **benefit corporation (B-corp)**, which expands directors' fiduciary responsibilities to include interests other than shareholders' interests (see the box "Be Nice with a B-Corp").

1-4b Intrinsic Stock Value Maximization and Social Welfare

If a firm attempts to maximize its intrinsic stock value, is this good or bad for society? In general, it is good. Aside from illegal actions such as making or taking bribes, fraudulent accounting, exploiting monopoly power, violating safety codes, or failing to meet environmental standards, *the same actions that maximize intrinsic stock values usually benefit society.*

Ordinary Citizens and the Stock Market

About 52% of U.S. households own stock, either directly or indirectly through mutual funds or retirement plans. Therefore, when a manager takes actions to maximize intrinsic value, this increases wealth and quality of life for millions of citizens.

Note that about 48% of households *don't directly* benefit from higher stock prices. And even for the stock-owning households, most of the wealth accrues to the rich: (1) 1% of stock-owning households own about 39% of the wealth, (2) the next 9% own about 38%, and (3) the bottom 90% own about 23% (a substantial

web

The Federal Reserve Board conducts surveys of consumer finances every 3 years. For updates, go to <https://www.federalreserve.gov/econres/scfindex.htm>.

decrease from the bottom group's 33% share in 1989). If you ask someone whether wealth and income inequality are good or bad for our country, the answer probably depends on the person's political views and perhaps their personal wealth.

Employees at Value-Maximizing Companies

Sometimes a company's stock price increases when it announces plans to lay off employees, but viewed over time, this is the exception rather than the rule. In general, companies that successfully increase stock prices also grow and add more employees, thus benefiting society. Note, too, that many governments across the world, including U.S. federal and state governments, are privatizing some of their state-owned activities by selling these operations to investors. Perhaps not surprisingly, the sales and cash flows of recently privatized companies generally improve. Moreover, studies show that newly privatized companies tend to grow and thus require more employees when they are managed with the goal of stock price maximization.

Consumers and Competitive Markets

Value maximization requires efficient, low-cost businesses that produce high-quality goods and services at the lowest possible cost. This means that companies must develop products and services that consumers want and need, which leads to new technology and new products. Also, companies that maximize their stock price must generate growth in sales by creating value for customers in the form of efficient and courteous service, adequate stocks of merchandise, and well-located business establishments. Therefore, consumers benefit in competitive markets when companies maximize intrinsic value.

1-4c Ethics and Intrinsic Stock Value Maximization

A firm's commitment to business ethics can be measured by the tendency of its employees, from the top down, to adhere to laws and regulations. But ethical behavior also includes a commitment to (1) appropriate use of confidential information (i.e., not for personal gain), (2) attention to product safety and quality, (3) fair employment practices, (4) fair marketing and selling practices, and (5) community involvement.

The intrinsic value of a company ultimately depends on all of its expected future cash flows, and making a substantive change requires hard work to increase sales, cut costs, or reduce capital requirements. There are very few, if any, *legal and ethical* shortcuts to making significant improvements in the stream of future cash flows, as illustrated by the following examples.

Illegal Actions

Unfortunately, managers at some companies have taken illegal actions to make intrinsic values seem much higher than warranted. For example, ForceField Energy Inc. claimed to be a wholesale distributor of efficient LED lighting products. However, its Chairman of the Board, Richard St. Julien, was arrested in 2015 on charges of security fraud. Nine others, including brokers and fund managers, were charged in 2016 for taking kickbacks from ForceField in exchange for encouraging investors to purchase the stock even though they knew that the company was in dire financial straits. St. Julien pleaded guilty and cooperated with investigators in exchange for the possibility of a sentence of less than 40 years. As of mid-2019, five of the

others have been sentenced to prison, four have pleaded guilty, and the SEC has charged an unregistered broker with illegally selling the securities. The perpetrators are being punished, but that doesn't restore the \$130 million lost by shareholders.

Alleged Unethical Actions

Other companies have been accused of unethical actions. For example, Mylan N.V. purchased exclusive rights in 2007 to sell EpiPens, which deliver a dose of epinephrine to reduce the impact of a sudden dangerous allergic reaction. Mylan subsequently increased the price 17 times from \$100 per pair to \$600 by May 2016. In late August 2016, Mylan was selling about \$1 billion in EpiPens and its stock was trading close to \$50 per share. However, the steep price increases had touched off outrage from parents and the news media. By fall of 2017, Mylan's stock price had fallen to about \$32, a 36% decline. Part of that decline was due to: (1) reputational damage, (2) lower revenues because Mylan introduced a generic version of the EpiPen (at \$300 per pair), (3) a \$467 million settlement with the Justice Department to resolve claims that Mylan had misclassified the EpiPen to avoid paying rebates to Medicaid, and (4) a still unresolved (as of mid-2019) class action lawsuit alleging racketeering. As this example shows, even alleged unethical behavior can significantly reduce a company's value.

Whistleblower Protections

Most illegal or unethical schemes are difficult to hide completely from all other employees. But an employee who believes a company is not adhering to a law or regulation might be hesitant to report it for fear of being fired or otherwise punished by the company. To help address this problem, federal and state governments have created a variety of whistleblower protection programs corresponding to different types of corporate misdeeds.

With respect to financial misdeeds, the Sarbanes-Oxley (SOX) Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 strengthened protection for whistleblowers who report financial wrongdoing. Under SOX, employees who report corporate financial wrongdoing and subsequently are penalized by the company can ask the Occupational Safety and Health Administration (OSHA) to investigate the situation. If the employee was improperly penalized, the company can be required to reinstate the person, along with back pay and a sizable penalty award. In addition, SOX made it a criminal act for a CEO or CFO to knowingly falsely certify a company's financial position.

Have these provisions in SOX been successful? The evidence shows that it is pretty weak: there were 163 SOX-related employee complaints in 2018. Only 21% were settled in the employee's favor—the others were withdrawn, dismissed, or kicked out by OSHA. So it is pretty risky to be a whistleblower under the SOX provisions! As for penalties, no executives have been jailed for falsely certifying financial statements, even though a significant number of executives have lost their jobs due to their companies' financial misreporting.

The Dodd-Frank Act's establishment of the SEC Office of the Whistleblower has led to dozens of announced awards for reporting wrongdoing by financial firms. In 2018, 13 whistleblowers received a total of \$168 million. The awards can be very large because they are based on a percentage of the amount that the SEC fines the wrongdoing corporation. The largest award to a single individual was \$33 million in March of 2018.

web

For current information from OSHA, see www.osha.gov/index.html and search for "whistleblower investigation data."