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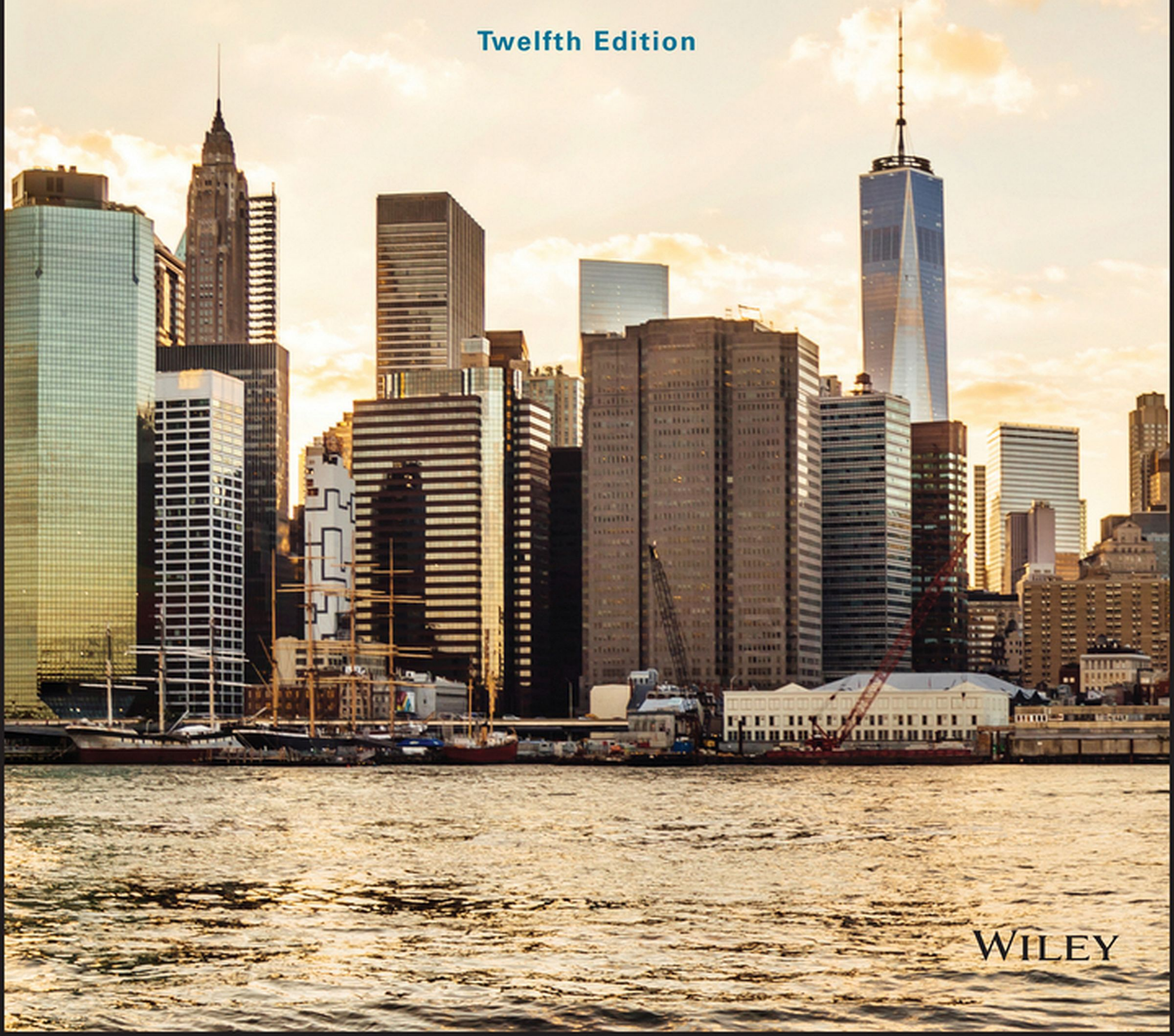
FINANCIAL INSTITUTIONS, MARKETS, AND MONEY

Twelfth Edition



WILEY

Financial Institutions, Markets, and Money

TWELFTH EDITION

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This book was set in Janson Text LT Std 10/11.5pt by SPi Global and printed and bound by Lightning Source Inc.

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ISBN: 978-1-119-33036-3 (PBK)
ISBN: 978-1-119-29766-6 (EVALC)

Library of Congress Cataloging in Publication Data:

Names: Kidwell, David S., author. | Blackwell, David W., author. | Whidbee, David A., author.
Title: Financial institutions, markets, and money / David S. Kidwell, David W. Blackwell, David A. Whidbee, Richard W. Sias.
Description: Twelfth Edition. | Hoboken : Wiley, 2016. | Revised edition of Financial institutions, markets and money, c2012. | Includes index.
Identifiers: LCCN 2016032576 | ISBN 9781119330363 (pbk.)
Subjects: LCSH: Finance—United States. | Financial institutions—United States. | Banks and banking—United States. | Monetary policy—United States.
Classification: LCC HG181 .K48 2012 | DDC 332.10973—dc23 LC record available at https://lccn.loc.gov/2016032576

The inside back cover will contain printing identification and country of origin if omitted from this page. In addition, if the ISBN on the back cover differs from the ISBN on this page, the one on the back cover is correct.

Preface

WHY READ THIS BOOK?

TO THE STUDENT

We hope you are as excited about taking a course on financial institutions and markets as we were about writing the book. The core topics covered in the book are at the heart of what happens every day in the financial sector of the economy. When you have finished the course, reading the *Wall Street Journal*, the *Financial Times*, or the business section of the *New York Times* will be a piece of cake. Your friends, family, and fellow students will marvel at your insights into the financial system.

In the book, we stress fundamental concepts with an emphasis on understanding how things work in the real world. We hope that we have captured the vibrancy and excitement created by the dramatic changes taking place in the U.S. financial system. The global financial crisis of 2007–2008 and the longest and most severe recession since the Great Depression of the 1930s continue to radically reshape the financial system.

Our goal is to provide a book that can guide you to a confident mastery and understanding of the U.S. financial system in an interesting and, hopefully, entertaining manner. The book is your passport to linking your classroom experience to what is happening in the economy and financial markets. What you learn will be applicable to your business career or in managing your personal financial affairs.

TO THE FACULTY

The focus of the twelfth edition of *Financial Institutions, Markets, and Money* is the same as that of the previous editions: to provide a balanced introduction to the operation, mechanics, and structure of the U.S. financial system. On the other hand, the financial landscape has changed markedly as a result of the global financial crisis of 2007–2008. The ongoing changes in the regulatory and operating environments of financial institutions continue to require major updates of nearly every chapter in the book. Though changes abound, the core coverage in the book still emphasizes financial institutions, markets, and instruments. Special attention is given to the Federal Reserve System and the impact of monetary policy on interest rates. We discuss how financial institutions manage risk caused by interest rate and economic changes.

Finally, while the book is still written to give the reader a historical perspective on regulations and the development of financial institutions and markets, this edition has focused on updating the examples and the impacts of the new regulatory and operating environment.

Teacher Friendly. In revising the book, we are mindful of the demands on faculty who are asked to do more with less. We want to help make your course on financial institutions and markets as successful as possible. To that end, we worked hard to write in a clear and understandable manner. Also, we put much effort into updating and improving features such as Learning by Doing applications. Finally, we provide first-rate teaching and learning aids such as the instructor's manual, test bank, study guide, and PowerPoint presentations that accompany each chapter.

The Book's Evolution. Our book, like the financial system, has had to adapt to the rapidly changing economic environment. When we published our first edition, the existing textbooks were primarily descriptive, merely describing the activities of financial institutions, or they were de facto money and banking texts, primarily focused on the banking system and monetary policy. In our first edition, we broke new ground by emphasizing both financial institutions and markets, and how monetary policy affected financial institutions. At that time, our "free-market" approach to regulation, which emphasized market-oriented rather than government-imposed solutions to problems, was not mainstream and, to some, was considered controversial.

As technology, regulation, and financial innovation changed the financial landscape, our book has had to evolve. In subsequent editions, we increased our emphasis on how interest rates are determined and on the structure of interest rates. We also increased our emphasis on the risks faced by financial institutions and on how institutions manage these risks using financial markets. Over the years, we expanded our coverage of financial markets, and now, for example, the book has separate chapters on equity markets, mortgage markets, derivatives markets, and international markets.

The Competitive Edge. Our approach to the topic made our book very successful in the early editions, and it continues to be successful today. Imitation is the sincerest form of flattery, and we have seen a number of imitators of our approach, which, apart from the wide use of this book, is the best evidence of its appeal to both students and faculty.

Our *competitive edge*, however, comes from our adherence to the approach for the book that was set in the first edition. First, we stress the mastery of fundamental material, placing an emphasis on how things really work in a market context. Second, we have a balanced coverage of the U.S. financial system, with strong emphasis on both institutions *and* markets. Third, we continually update the book to reflect major new developments in the financial system or to highlight changing trends. Finally, we focus on writing a book *for the students*, our most important audience, which facilitates learning and makes the study of financial institutions and markets an enjoyable experience.

Let Us Hear from You. We thank the faculty who adopted our book and the students who purchased our book. As you go through your course, we hope that we live up to our promise of providing a clear, concise, well-written, and academically sound text on the U.S. financial system. If you find a mistake or have concerns about a particular section, we would like to hear from you. Contact us via our e-mail addresses, which are listed at the end of the preface.

WHY THIS EDITION IS BETTER THAN PREVIOUS ONES

We believe this edition of the book is better than the eleventh edition for a number of reasons. Apart from the customary detailed updating of facts and exhibits throughout the book, the material has been painstakingly updated to match the many changes in the rules and regulations. In this edition, especially in the chapters on financial markets, we continue our emphasis on how to read and interpret actual financial data, such as that reported in the *Wall Street Journal* or the *Financial Times*. We have also substantially revised the chapter contents to reflect the impact of the global financial crisis that began in 2007 and whose impacts continue to be felt today.

PEDAGOGICAL FEATURES

This section summarizes the pedagogical features and highlights additions or improvements in the twelfth edition.

Chapter Opening Vignette. Each chapter begins with an opening vignette that describes a real company or business situation. The vignettes illustrate concepts that will be presented in the chapter and are also meant to heighten student interest and demonstrate the real-life relevance of the chapter material.

Learning Objectives. The opening vignette is accompanied by a set of learning objectives that identify the most important material for students to understand while reading the chapter. At the end of the chapter appears a feature, "Summary of Learning Objectives," highlighting the relevant chapter content.

Learning by Doing. Chapters with quantitative content now have more in-text examples. These chapters include a student application: Learning by Doing. These applications contain quantitative problems with step-by-step solutions that provide guidance on how to approach similar problems. By including several exercises in each chapter where applicable we provide students with additional practice to hone their problem-solving skills.

Do You Understand? Each chapter includes several "Do You Understand?" exercises that consist of questions at the end of a major section. These questions check student understanding of critical concepts in the material just covered, or ask students to apply what they have just read to real-world situations. To give students feedback on these questions, we include the answers on the book's website (discussed later) and in the Instructor's Manual.

People & Events. Each chapter includes at least one People & Events box. The People & Events boxes describe current or historical real-world situations to emphasize the applicability of one or more key concepts developed in the chapter. The majority of the People & Events boxes have either been replaced or substantially revised. In the twelfth edition, the People & Events boxes continue to be particularly focused on the impacts of the financial crisis and the 2007–2009 recession, the effect on financial institutions and markets, and the continuing slow recovery.

Exhibit Captions. Where appropriate we provide captions for the exhibits to inform students of the exhibits' main points.

Summary of Learning Objectives. At the end of each chapter, you will find summaries of the key chapter content relevant to each of the Learning Objectives.

Key Terms. We include a list of key terms at the end of each chapter. The terms appearing in the list are printed in boldface in the chapter. The definitions of all key terms appear in the glossary at the end of the book.

Questions and Problems. Each chapter ends with a set of questions and problems. Because students rely heavily on example questions and problems with solutions as a learning device, we have increased the number of end-of-chapter questions and problems. We have placed particular emphasis on increasing the number of quantitative problems or questions to correspond with the enhanced quantitative content as appropriate to the chapter. The answers to questions and problems are in the Instructor's Manual.

Glossary. The book contains an easy-to-use glossary defining the Key Terms listed at the end of each chapter.

SUMMARY OF CONTENTS AND MAJOR CHANGES

All chapters in the book have been updated to reflect recent events. A major change in the book is an increase in the quantitative content. We have noted that employers are increasingly expecting students to be well versed in problem-solving skills. As a result, we have increased the computational skill level, while maintaining our historic strength of being a conceptually focused book. Our goal is to provide students and instructors with a book that strikes a balance between helping students understand key financial and economic concepts and providing them with the necessary problem-solving skills. Below we summarize the contents and major changes to the twelfth edition.

Part 1: The Financial System. **Chapter 1**, providing an overview of the U.S. financial system, has been *updated to* reflect ongoing changes in the financial system resulting from the 2007–2008 global financial crisis. A new People & Events insert was added on systemically risky banks and a new section was added on the importance of ethics in the modern financial system. We have updated **Chapter 2** about the Federal Reserve System and its impact on interest rates. We provide data on Federal Reserve payments to the Treasury and data on the growth of electronic payments. We also update the impact of the financial system bailout on the Fed's balance sheet and the Fed's increase in regulatory power from the 2010 Regulatory Reform Act, including its power to manage systemic risk in the financial system. We outline the challenges faced by Janet Yellen, Chairperson of the Fed, in today's environment. **Chapter 3** focuses on how the Fed conducts monetary policy. The chapter contains a discussion of the Treasury Department's role in financing the expenditures made by the federal government, how the Treasury Department conducts fiscal policy, and the Treasury's role in stabilizing the economy. We included a broader discussion of the effectiveness of fiscal spending in this edition.

Part 2: How Interest Rates Are Determined. **Chapter 4** discusses the role of interest rates in the economy and how interest rates are determined. The discussion of the real rate of interest and the impact of inflationary expectations on the level of interest rates is included. The calculation of realized real rate of returns and the phenomenon of negative interest rates are presented. A new People & Events on different inflation measures has been added as well as a quantitative example of the relationship between interest rates and currency values. **Chapter 5** focuses on the determinants of bond prices and interest rate risk. The level of interest rates is added as another variable that impacts bond price volatility. A closed form version of the duration equation is now included and the duration matching example has been extensively updated. The strategic impact of choosing portfolio duration in relation to the investment horizon is now included. A new People & Events insert highlights the impact of the Volcker rule on bond market liquidity. **Chapter 6** explores the reasons that interest rates vary among financial products on any given day and over the business cycle. More discussion of forecasting interest rates has been included.

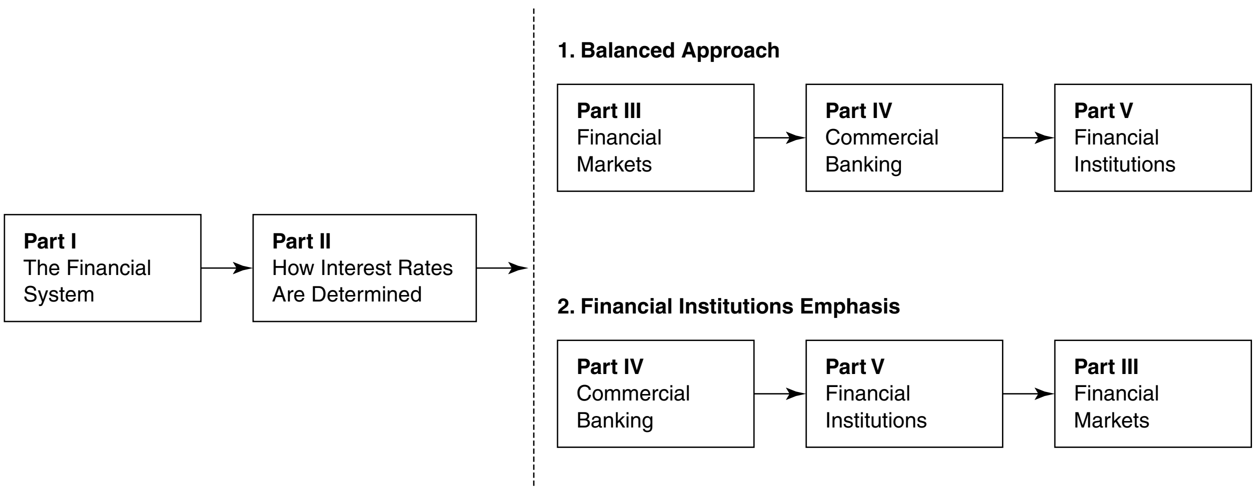
Part 3: Financial Markets. The chapters in this part have been revised to reflect the post-crisis financial environment, while maintaining their focus on the fundamental roles and functioning of the various markets. **Chapter 7** focuses on the economic role of money markets in the economy, the characteristics of money market instruments, and major participants. The chapter contains a discussion of the impact of the financial meltdown on the money markets and the actions that the Fed took to stabilize the markets. The discussion of bankers' acceptances was shortened as their usage has continued to decline. **Chapter 8** analyzes the debt securities sold in the capital markets. A new opener in this chapter describes the impact of the Detroit bankruptcy. Additional discussion of the U.S. government's debt levels has also been added. **Chapter 9** explains how the mortgage markets work and describes the major mortgage market instruments. The chapter includes a thorough discussion of the government's takeover of the mortgage market that occurred in the aftermath of the subprime mortgage crisis and the failures of Fannie Mae and Freddie Mac. A new discussion of the pros and cons of eliminating the agencies is included. The definitions of Alt-A and subprime mortgages are now included and an example of a sequential pay CMO is provided. **Chapter 10** examines the market for equity securities. The chapter updates the changing structure and global consolidation of secondary markets, including the NYSE's hybrid system and the increased competition between the markets. The impact of the JOBS Act on capital raising and a synopsis of the retail brokerage industry has been added. An insert on high-speed trading and the demise of Knight Capital is included. Material on short sales, order types, equity valuation and risk has been moved to an appendix available online. **Chapter 11** describes the most important markets for financial derivatives. We have updated the example of hedging a bank's funding costs with futures and have updated the discussion of swaps. **Chapter 12** examines international financial markets, including foreign exchange and international money and capital markets. The chapter includes a discussion of the functions of foreign exchange markets and the determination of exchange rates, including how purchasing power parity affects exchange rate expectations. The discussion of the Greek crisis has been updated as well.

Part 4: Commercial Banking. Although the basic functions of commercial banks have not changed, the environment has been dramatically altered. **Chapter 13** has been updated and revised to reflect recent changes in the banking industry. The chapter continues to provide coverage of bank earnings and performance. **Chapter 13** now provides comprehensive coverage of commercial bank operations and how those functions are reflected in a bank's financial statements in a single chapter. **Chapter 14** covers international banking. The chapter updates the overseas operations of U.S. banks, foreign banking activities in the U.S., international banking trends, and U.S. international banking regulations. A new discussion of the LIBOR scandal has been added. **Chapter 15** focuses on the regulation of financial institutions and has been revised significantly to reflect the aftermath of the financial crisis of 2007–2008. **Chapter 15** also discusses the too-big-to-fail issue, safety and soundness regulation, and the intent behind the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The new edition contains information on depository insurance reserves and statements by the FDIC concerning the impact of the Dodd-Frank bill on their regulatory responsibilities. The capital requirements and definitions have been updated and include the requirements on systemically risky institutions.

Part 5: Financial Institutions. The chapters in Part 5 discuss the activities and risks of nonbank financial institutions, including thrifts and finance companies, insurers and pension funds, investment banks, and investment companies before wrapping up with a chapter on the risks of financial institutions. **Chapter 16** discusses thrift institutions and finance companies. The chapter was updated and revised to reflect recent changes in those industries. Where appropriate, the chapter has been shortened and streamlined for readability and the discussion of stock versus mutual ownership structures has been shortened. GE's recent divestment of most of its finance company operations is discussed. **Chapter 17** presents insurance companies and pension funds. The chapter updates industry performance but still includes the impacts of the financial crisis, including a discussion of American International Group (AIG). The inclusion of large global insurers as systemically risky institutions is discussed. The impact of the 2010 Patient Protection and Affordable Care Act (so-called Obamacare) are updated from the prior edition. Quantitative examples addressing insurance company capital and profitability were added to the chapter in the last edition and are retained in the updated version. **Chapter 18** covers investment banks. During the financial crisis of 2007–2008, investment banks were "forced" (or "pressured") to adopt commercial bank charters and come under the regulation of the Federal Reserve System. The chapter chronicles these events. The chapter offers a section on private equity firms and an expanded discussion of investment banks' trading and asset management operations, broker-dealer functions, and prime brokerage functions. Bankers' fees and their fee structure have been updated in this version. Additional information about Social Security is also provided. In the last edition, **Chapter 19** on investment companies had a major reorganization with a greater focus on the most important investment companies—open-end mutual funds and exchange-traded funds. We have maintained this focus in the newer edition. As before, discussions of the Morningstar Equity Style and Debt Style boxes are included. The chapter provides a detailed discussion of ETFs, REITs, and hedge funds. **Chapter 20** "Risk Management in Financial Institutions" was a new chapter in the last edition. As before the chapter includes coverage on liquidity, credit, and interest rate risks. The chapter also includes an in-depth discussion of managing credit risk at the individual loan level and the loan portfolio level. It explains how credit derivatives such as swaps and futures are used to limit institutional risks. A discussion of the pros and cons of rate sensitivity and duration gaps has been added.

ORGANIZATION OF THE BOOK

We organized this book to reflect a balanced approach to both financial markets and institutions, which reflects a typical course outline. However, depending on individual preference and course emphasis, there are alternative ways to organize the course, and our book is written to allow for a reorganization of the chapters for professors who wish to give primary focus to either institutions or markets. The only suggested constraint in our flexible design is that Parts 1 and 2 should be assigned first, because they provide the conceptual foundation and vocabulary for the financial system regardless of subsequent topic emphasis. The following diagram shows the balanced approach and an alternative sequence that emphasizes financial institutions:



ANCILLARY PACKAGE

In the twelfth edition, we offer updated ancillary materials that will help both the students and the instructors optimize learning and teaching.

INSTRUCTOR'S MANUAL

The Instructor's Manual contains a wealth of useful teaching aids, including chapter-by-chapter learning objectives, key points and concepts, answers to end-of-chapter questions and problems, and an outline of changes from the previous edition.

TEST BANK

The Test Bank, which includes at least 75 examination questions per chapter and has been updated to reflect the textbook's greater emphasis on numeric problems. It consists of true/false, multiple-choice, and essay-type questions. A *Computerized Test Bank* is also available, which consists of content from the Test Bank provided within a test-generating program that allows instructors to customize their exams.

POWERPOINT PRESENTATIONS

The PowerPoint presentations have been updated to reflect the updates within this revision. These chapter presentations are available on the companion website. The presentation for each chapter provides bulleted lecture notes and figures, tables, and graphs selected from the text, ready for classroom presentation. Instructors with the full version of PowerPoint have the ability to customize the lectures to reflect their personal course notes.

STUDENT PRACTICE QUIZZES

Student Practice Quizzes have been prepared to help students evaluate their individual progress throughout the chapter. Each quiz contains 15 multiple-choice questions of varying difficulty so students can review key concepts and build test-taking confidence chapter by chapter.

WEBSITE MATERIALS

A companion website for this text is located at www.wiley.com/college/kidwell. Here you can find the resources listed above as well as answers to the Do You Understand? questions found in each of the chapters of the text. There are additional supplemental materials available on the companion website as well. First is a chapter titled "History of the Financial System," which long-time users of the book will recall from previous editions. Second, the website contains technical notes on the deposit expansion process for instructors who wish to go into more detail about how to measure changes in the money supply resulting from Fed policy actions. We provide a set of Internet Exercises for each chapter online. These exercises direct students to websites from which they can obtain additional information about the chapter's topic or analyze data that illustrate key points from the chapter.

ACKNOWLEDGMENTS

As with any textbook, the authors, owe an enormous debt of gratitude to many people. First, we thank the reviewers who have contributed valuable suggestions for this twelfth edition:

James McNulty, Florida Atlantic University
Lanny Martindale, Texas A & M University
Vladimir Kotomin, Illinois State University
Tony Plath, UNC Charlotte
Robert L. Porter, Quinnipiac University

We also appreciate the many thoughtful comments we have received from reviewers over the previous eleven editions. Although their names are too numerous to list here, we are nonetheless grateful for their efforts and credit them with helping the book to remain a success.

At John Wiley & Sons, we are grateful to Emily McGee, Acquisitions Editor, who provided many helpful suggestions and much support, guidance, and motivation. We also applaud the efforts of Nichole Urban, Project Specialist, for her diligence in guiding the manuscript through the production process. In addition, we appreciate the efforts of Arun Surendar, Production Editor, and many others.

Dr. Timothy Manuel, the Rudyard B. Goode Professor of Finance at the University of Montana, updated all 20 chapters of this edition of the text. His work included updating the text itself plus all of the data in the text and exhibits and updating the People & Events inserts. Dr. Manuel has taught financial markets, investments, derivatives, and international finance over the last 29 years. He has won numerous teaching awards over his career. His research interests are in corporate finance, ethics, teaching pedagogy, markets, and curriculum internationalization. Any questions or comments on this edition should be addressed to Dr. Manuel via email at tim.manuel@business.umt.edu.

We gratefully acknowledge those who assisted us in revising and updating several of the book's key chapters. In particular, James McNulty of Florida Atlantic University and Lanny Martindale of Texas A & M University provided extensive and very helpful reviews of most of the chapters in this edition. Finally, and most importantly, we thank our families and loved ones for their encouragement and for tolerating our many hours at the writing table. To all, thank you for your support and help.

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Before joining the University of Minnesota, Dr. Kidwell was Dean of the School of Business Administration at the University of Connecticut. Prior to joining the University of Connecticut, he held endowed chairs in banking and finance at Tulane University, the University of Tennessee, and Texas Tech University. He was also on the faculty at the Krannert Graduate School of Management, Purdue University, where he was twice voted the outstanding undergraduate teacher of the year. Dr. Kidwell has published research in the leading journals, including *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Financial Management*, and *Journal of Money*, *Credit*, *and Banking*.

Dr. Kidwell has been a management consultant for Coopers & Lybrand and a sales engineer for Bethlehem Steel Corporation. He is an expert on the U.S. financial system and is the author of more than 80 articles dealing with the U.S. financial system and capital markets. Dr. Kidwell has participated in a number of research grants funded by the National Science Foundation to study the efficiency of U.S. capital markets, and to study the impact of government regulations upon the delivery of consumer financial services.

Dr. Kidwell served on the board of the Schwan Food Company. He is the past secretary-treasurer of the board of directors of AACSB, the International Association for Management Education. He is a past member of the boards of the Minnesota Council for Quality, the Stonier Graduate School of Banking, and the Minnesota Center for Corporate Responsibility. He has also served as an examiner for the 1995 Malcolm Baldrige National Quality Award, on the board of directors of the Juran Center for Leadership in Quality, and on the board of the Minnesota Life Insurance Company.

DAVID W. BLACKWELL

Dr. David W. Blackwell is the James W. Aston/RepublicBank Professor of Finance and Associate Dean for Graduate Programs at Texas A&M University's Mays Business School. Prior to joining Texas A&M, Dr. Blackwell worked several years as a consultant with PricewaterhouseCoopers LLP and KPMG LLP. Before his stint in the Big 4, Dr. Blackwell served on the faculties of the University of Georgia, the University of Houston, and Emory University. He was also a visiting professor at the University of Rochester.

Dr. Blackwell's areas of expertise include corporate finance, commercial bank management, and executive compensation. His publications have appeared in the leading scholarly journals of finance and accounting such as *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Financial Management*, *Journal of Financial Research*, *Journal of Accounting Research*, and *Journal of Accounting and Economics*.

While in the Big 4, Dr. Blackwell consulted on a broad range of litigation matters including securities, breach of contract, and intellectual property infringement cases. He also consulted on matters involving securities and business valuation, corporate governance, and executive compensation. In addition, Dr. Blackwell has delivered executive education seminars in corporate finance and management of financial institutions for Halliburton, IBM, Kaiser Permanente, Chemical Bank, Southwire Company, Georgia Bankers Association, Warsaw Institute of Banking, Bratislava Institute of Banking, and the People's Construction Bank of China (PRC).

Dr. Blackwell earned his PhD in finance in 1986 and his BS in economics in 1981, both from the University of Tennessee, Knoxville. He is a past president of the Southern Finance Association, and a former associate editor of the *Journal of Financial Research*.

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Dr. David A. Whidbee is an associate professor of finance and the Associate Dean for Faculty Affairs and Research in the College of Business at Washington State University. He received his PhD in Finance from the University of Georgia and his MBA and BS in finance from Auburn University. Dr. Whidbee has worked as a financial analyst in the Chief Economist's Office at the Federal Home Loan Bank Board and, subsequently, the Office of Thrift Supervision (OTS). While on the staff at these regulatory agencies, he performed research and analysis on the thrift industry and prepared congressional testimony concerning the problems the industry faced in the late 1980s.

In 1994, he joined the faculty at California State University, Sacramento, where he taught commercial banking and financial markets and institutions. In 1997, he left Cal State Sacramento to join the faculty at Washington State University, where he continues to teach commercial banking and financial markets and institutions. Dr. Whidbee's primary research interests are in the areas of financial institutions and corporate governance. His work has been published in several outlets, including the *Review of Financial Studies*, *Journal of Business*, *Journal of Accounting and Economics*, *Journal of Banking and Finance*, *Journal of Corporate Finance*, *Financial Management*, the *Financial Analysts Journal*, and the *Journal of Financial Services Research*. In addition, he has presented his research at numerous academic and regulatory conferences.

RICHARD W. SIAS

Dr. Richard W. Sias is the Tyler Family Chair in Finance and head of the Department of Finance at the Eller College of Management at the University of Arizona. He holds an undergraduate degree in finance, insurance, and real estate from California State University, Sacramento, and a PhD in finance from the University of Texas. Prior to joining the Eller College, Dr. Sias served as the Gary P. Brinson Chair of Investment Management at Washington State University. He has also taught courses at Bond University in Australia and Cesar Ritz College in Switzerland.

Dr. Sias's research interests primarily focus on investments. He currently serves on the Editorial Board of the *Financial Analysts Journal* and has published numerous articles in the leading finance journals, including the *Journal of Financial Economics*, *Journal of Finance*, *Review of Financial Studies*, *Journal of Business*, *Financial Analysts Journal*, *Journal of Banking and Finance*, *Journal of Investment Management*, *Financial Review*, *Journal of Financial Research*, *Journal of Business Research*, *Review of Quantitative Finance and Accounting*, *Journal of Investing*, and *Advances in Futures and Options Research*.

Dr. Sias has also garnered a number of teaching and research awards and is member of the CFA Institute's Approved Speakers List, which provides him an opportunity to link his academic work with portfolio management in practice. In addition, Dr. Sias's work has been the focus of a number of popular press outlets, including articles in *Forbes*, *U.S. News and World Report*, and the *New York Times*.

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PART III

PART 1

THE FINANCIAL SYSTEM

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CHAPTER **ONE**

An Overview of Financial Markets and Institutions

THIS BOOK IS ABOUT THE financial system, which consists of financial markets and institutions. The basic role of the financial system is to channel money from individuals and businesses that have more money than they need and route these funds to those who need money now. Businesses need money to invest in productive assets to expand their business, and consumers have a myriad of items they buy on credit, such as automobiles, personal computers, and iPhones. Money is the lubricant that makes an industrial economy run smoothly. Without money, the numerous financial transactions that businesses and consumers take for granted would grind to a halt.

Banks are a critical player in the financial system. Banks provide a place where individuals and businesses can invest their money to earn interest at low risk. Banks take these funds and redeploy them by making loans to individuals and businesses. Banks are singled out for special treatment by regulators and economists because most of what we call money in the economy is represented by deposits and checking accounts issued by banks. Thus, banks are the principal caretaker of the payment system because most purchases are paid by writing a check or making an online payment against a bank account.

The most powerful institutional player in the financial system is the Federal Reserve System (called the Fed). Its powers come from the Fed's role as the country's central bank—the institution that controls the nation's money supply. The Fed's primary responsibility is to stabilize the economy by conducting monetary policy by managing the money supply and interest rates.

William Whitehurst/Getty Images

The financial system is like a huge money maze—funds flow to borrowers from lenders through many different routes at warp speed. The larger and more efficient the flow, the greater the economic output and welfare of the economy.

Finally, the financial system is of great interest to politicians and government officials. Its health has a major impact on our economic well-being. The collapse of the financial system can be the harbinger of a recession or worse. For example, the 2008 financial crisis and near collapse of the global financial system resulted in the most severe economic recession since the Great Depression of the 1930s. This book is your road map to understanding the financial system and the many financial issues that will affect your personal and professional life. ■

CHAPTER PREVIEW

Chapter 1 presents an overview of the financial system and how it facilitates the allocation of money throughout the economy. The chapter begins by describing the role of the financial system, defining surplus and deficit spending units, and describing characteristics of financial claims. It then explains how surplus and deficit spending units are brought together directly in financial markets or indirectly with the help of financial intermediaries. The chapter then identifies the types of financial institutions and markets that exist in the United States and the benefits they provide to the economy. We then discuss the five key risks faced by financial institutions: credit risk, interest rate risk, liquidity risk, foreign exchange risk, and political risk. The chapter closes with a high-level discussion of the regulation of the financial system. ■

LEARNING OBJECTIVES

1 Explain the role of the financial system and why it is important to individuals and to the economy as a whole.

2 Explain the ways that funds are transferred between surplus spending units (SSUs) and deficit spending units (DSUs).

3 Discuss the major differences between money and capital markets.

4 Explain the concept of informational asymmetry and the problem it presents to lenders.

5 Identify the major risks that financial institutions must manage.

6 Discuss the two main reasons that the financial sector is so highly regulated.

7 Understand the importance of ethical behavior in financial services.

1.1 THE FINANCIAL SYSTEM

The financial system consists of *financial markets* and *financial institutions*. **Financial markets** are just like any market you have seen before, where people buy and sell different types of goods and haggle over prices. Financial markets can be informal, such as a flea market in your community, or highly organized, such as the gold markets in London or Zurich. The only difference is that in financial markets, people buy and sell financial instruments such as stocks, bonds, and futures contracts rather than pots and pans. Financial market transactions can involve huge dollar amounts and can be incredibly risky. The dramatic changes in fortunes that occur from time to time because of large price swings make financial markets newsworthy.

Financial institutions are firms such as commercial banks, credit unions, insurance companies, pension funds, mutual funds, and finance companies that provide financial services to consumers, businesses, and government units. The distinguishing feature of these firms is that they invest their funds in financial assets, such as business loans, stocks, or bonds, rather than in real assets, such as manufacturing facilities and equipment. Financial institutions dominate the financial system worldwide, providing an array of financial services to large multinational firms and most of the financial services used by consumers and small businesses. Overall, financial institutions are far more important sources of financing than securities markets.

A PREVIEW OF THE FINANCIAL SYSTEM

Let's look at an example of how the financial system gathers money and channels it to those who need money. Suppose that Bob, who is a business major, receives an $8,000 scholarship loan for college at the beginning of the school year, but he needs only $3,000 of it right away. After checking out deals at different banks, Bob decides to deposit the $8,000 in the bank near campus: $3,000 in a checking account and $5,000 in a certificate of deposit (CD) that pays 2 percent interest and matures just as the spring semester begins. (CDs are debt instruments issued by banks that pay interest and are insured by the federal government.) Bob buys the CD because the interest rate is competitive, and the maturity date matches the time when Bob has to buy books and pay his tuition.

At the same time that Bob bought his CD, the bank received a loan request from Tony, who owns a local pizza shop near campus. Tony wants to borrow $25,000 to expand his home delivery service. The interest rate on the loan is 5 percent, which is a competitive rate and payable in 5 years. The money for Tony's loan comes from Bob and other persons who recently bought CDs from the bank. After careful evaluation, the bank decides to make the loan to Tony because of his good credit rating and because it expects the pizza parlor to generate enough cash flows to repay the loan. Tony wants the loan because the additional cash flows (profits) will increase the value of his pizza parlor. During the same week, the bank made loans to other businesses whose qualifications were similar to Tony's and rejected a number of loan requests because the applicants had low credit scores or the proposed projects had low rates of return.

From this example, we can draw some important inferences about the financial system:

- If the financial system is *competitive*, the interest rate the bank pays on CDs will be at or near the highest rate that you can earn on CDs of similar maturity and risk. At the same time, the pizza parlor and other businesses will have borrowed at or near the lowest possible interest cost, given their risk class. Competition among banks for deposits will drive CD rates up and loan rates down.
- Banks and other depository institutions, such as insurance companies, gather money from consumers in small dollar amounts, aggregate it, and then make loans in much larger dollar amounts, like the loan to Tony. Savings by consumers in small dollar amounts are the origin of much of the money that funds large business loans.
- An important function of the financial system is to allocate money to the most productive investment projects in the economy. If the financial system is working properly, only projects with high-risk adjusted rates of return are funded, and those with rates below their opportunity costs are rejected.
- Finally, banks are profit-making organizations, and the bank in our example has earned a tidy profit from the deal. The bank borrowed money at 2 percent by selling CDs and lends money to the pizza parlor and other businesses at 5 percent. Banks and other lenders earn much of their profits from the spread between lending and borrowing rates. This difference is called the *Net Interest Margin*.

BUDGET POSITION

Let's look in more detail at how money is channeled from lenders to borrowers. We begin with some basic facts.

TABLE 1.1
2014 Flows of funds by sector, $ Bill

Sector	2014 Net Lending[a] (Borrowing)
Households & NPOs	**$844.3**
Nonfinancial Business	**–309.1**
State & Local Govt	**–235.1**
Federal Govt	**–559.6**
Financial Sectors	**96.4**
Foreign Sector	**166.2**

[a] Net Lending is lending net of borrowing; negative numbers represent net borrowing or borrowing net of lending.

Data source: http://www.federalreserve.gov/releases/Z1/Current/z1.pdf.

In any economy, all economic units can be classified into one of the four groups: (1) households, (2) business firms, (3) governments (local, state, and federal), and (4) foreign investors (nondomestic households, businesses, and government units). Each type of unit has different income sources and spending patterns. And just like you, every economic unit must operate within a budget constraint imposed by the unit's total income for the period. For a budget period such as a year, an economic unit can have one of three budget positions:

1. *Balanced budget*: Income and expenditures are equal.
2. *Surplus budget*: Income for the period exceeds expenses; these economic units have money to lend and are called **surplus spending units (SSUs)**.
3. *Deficit budget*: Expenditures for the period exceed revenues; these economic units need to borrow money and are called **deficit spending units (DSUs)**.

As depicted in Table 1.1, households are the principal SSUs in the economy, but some businesses, state and local governments, and foreign investors and their governments periodically run surplus budgets. Taken as a group, businesses are a principal DSU in the economy, along with the federal government, but households, state and local governments, and foreigners at times borrow money to finance their purchases of homes, automobiles, and high-definition television sets.

FINANCIAL CLAIMS

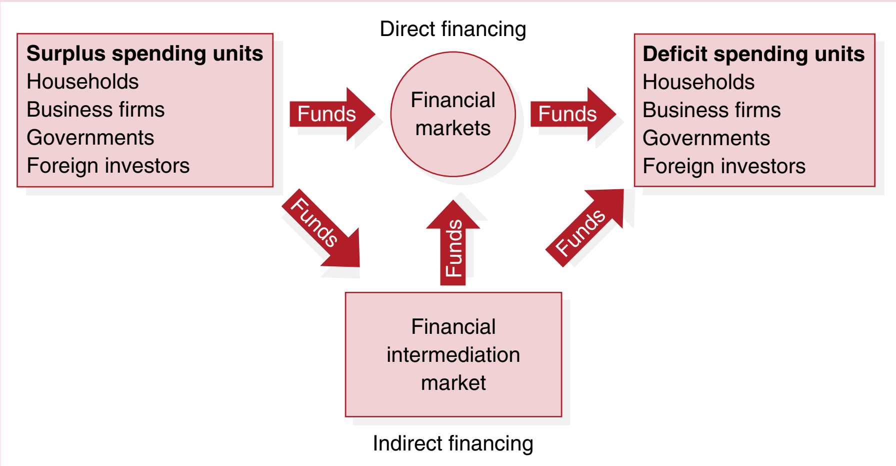
One problem facing the financial system is the mechanism to transfer funds from SSUs to DSUs. Fortunately, the solution is simple. The transfer can be accomplished by the DSU selling an IOU that the SSU is willing to buy. An IOU is a written promise to pay a specific sum of money (called the principal) plus a fee for the use of the money (called interest) and to have the use of the money over a period of time (called the maturity of the loan).

Promises to pay are called IOUs only in Western cowboy movies. In the real world, IOUs are called **financial claims**. They are claims against someone else's money at a future date. Financial claims also go by different names, such as *securities or financial instruments*; the names are interchangeable. Finally, note that financial claims (IOUs) are liabilities for borrowers (DSUs) and are simultaneously assets for lenders (SSUs), which illustrates the two faces of debt. That is, total financial liabilities and equity outstanding in the economy must equal total financial assets.

HOW FUNDS FLOW THROUGH THE FINANCIAL SYSTEM

In the financial system, how does money move from SSUs (whose income exceeds their spending) to DSUs (whose spending exceeds their income)? The arrows in Exhibit 1.1 show schematically that there are two basic mechanisms by which funds flow through the financial system: (1) **direct financing**, where funds flow directly through *financial markets* (the route at the top of the diagram), and (2) **indirect financing** (financial intermediation), where funds flow indirectly through *financial institutions* in the financial intermediation market (the route at the bottom of the diagram). The reason that financial institutions are often called **financial intermediaries** is because they are middlemen, facilitating transactions between SSUs and DSUs.

EXHIBIT 1.1
Transfer of Funds from Surplus to Deficit Spending Units



The role of the financial system—financial institutions and markets—is to facilitate the flow and efficient allocation of funds throughout the economy. The greater the flow of funds, the greater is the accommodation of individuals' preferences for spending and saving. An efficient and sound financial system is a necessary condition to having a highly advanced economy like the one in the United States.

Regardless of the financing method, the goal is to bring the parties together at the least possible cost and with the least inconvenience. An *efficient financial* system is important because it ensures that the economy's scarce resources finance the investments that promise the best return and thus generate economic growth. Thus, if the financial system works properly, firms with the most promising investment opportunities receive funds and those with inferior opportunities receive no funding. In a similar manner, consumers who need (or desire) an item they cannot currently pay for can borrow from their future income to purchase items now, thus smoothing out their consumption over time.

1.2 FINANCIAL MARKETS AND DIRECT FINANCING

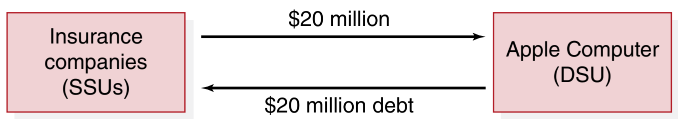
Financial markets perform the important function of channeling funds from people who have surplus funds (SSUs) to businesses (DSUs) that need money. The top route in Exhibit 1.1 shows the flow of funds for direct financing. In direct financing, DSUs borrow money *directly* from SSUs in financial markets by selling them securities in exchange for money. Typical financial instruments bought and sold in the direct financial markets are stocks and bonds.

For most large business firms, direct financial markets are wholesale markets in which the minimum transaction size is $5 million or more. These markets are often the cheapest way to raise large amounts of capital. Many of these transactions involve selling securities to the public. The government imposes information requirements on the sale of securities to the public and borrowers often use specialized bankers to help market the issue. These characteristics often add to the cost to raise money through public issues and may not be cost-effective for smaller financing amounts. The major buyers and sellers of securities in the direct financial markets are commercial banks, other financial institutions, large corporations, the federal government, and some wealthy individuals.

DIRECT FINANCING EXAMPLE

Suppose that Apple Computer (a DSU) needs $20 million to build a new manufacturing facility and decides to fund it by selling long-term bonds with a 15-year maturity. Let's say that Apple contacts a group of insurance companies, which have expressed an interest in buying Apple's bonds. The insurance companies will buy the bonds only after determining that they are a sound investment and are priced fairly for their credit risk. Likewise, Apple will sell its bonds to the insurance companies only after shopping the market to be sure it's getting a fair deal.

The flow of funds between the insurance companies (the SSUs) and Apple Computer (the DSU) is shown below:



As you can see, Apple sells its bonds directly to the insurance group for $20 million and then gets to use the money for 15 years. For the use of the money, Apple pays the bondholders interest because the bonds are a liability. For the insurance companies, the bonds are an asset that pays interest to them. Life insurers must pay claims when an insured client dies. These claims tend to be long term and predictable. Thus, many life insurance firms invest in long term bonds because the long term bonds with steady payments are a good match for their line of business.

OVERVIEW OF INVESTMENT BANKING

Two important players that deliver critical services in the direct credit markets are investment banking firms and large money center banks. **Investment banks** are firms that specialize in helping businesses sell *new* debt or equity in the financial markets. In addition, once the securities are sold, they provide a variety of broker-dealer services (buying and selling securities) for securities that have already been issued. Historically, the largest and most powerful investment banks were located in the Wall Street area of Manhattan in New York City. They are known for their willingness to take risk, creating new financial products through innovation, and their high executive salaries.

Money center banks are large commercial banks usually located in major financial centers who are major participants in the financial markets. Some examples include JP Morgan Chase, Citicorp, Bank of America, and Wells Fargo Bank. These powerful firms are the flagship banks for the U.S. economy and provide funds and business loans to large multinational corporations. Money center banks are highly regulated by the Federal Reserve Bank to ensure that they take prudent risks with both their investment and loan portfolios.

Money center banks may also have a large retail banking presence, providing consumers with personal and mortgage loans, checking and savings accounts, and credit cards.

HISTORICAL PERSPECTIVE

Banks have always desired to provide investment banking services to their customers and regulators, and many economists have expressed their doubts about whether commercial banks should engage in such a risky activity. Historically, banks provided a safe haven for savings and transaction balances and they deployed these funds into business and consumer loans, taking prudent risks. Following the Great Depression, commercial banks were barred from engaging in investment banking activities. Without going into detail, the 1929 stock market crash was followed by widespread bank failures and a devastating depression. At the time, it was believed that excessive risk taking by commercial banks resulted in the large number of bank failures. Economists and politicians concluded that it was too risky for commercial banks to engage in investment banking and that the Great Depression was in part caused by the misbehavior of Wall Street and commercial banks. As a result, Congress passed the Glass–Steagall Act of 1933, which separated commercial banking from investment banking.

Beginning in the 1980s, bank regulators began to gradually allow money center banks to engage in investment banking activities. The passage of the Financial Services Modernization Act in 1999 allowed large financial service firms to engage in a broad range of financial activities. There were two reasons for this change: (1) the 1980s and 1990s were marked by a significant amount of deregulation in the economy and (2) more recent research indicated that risk in the banking system was not the primary cause of the Great Depression. By 2007 money center banks were well-established players in the investment banking markets.

INVESTMENT BANKING TODAY

In 2008, the financial system suffered a significant meltdown, which resulted in the worst financial crisis since the 1930s. The trigger point came in 2007, when banks and other mortgage lenders experienced a large number of defaults in the subprime mortgage market, which was a market for high-risk mortgage loans. These defaults caused numerous failures among banks, thrifts, and investment banks that held large portfolios of mortgage loans. The financial storm became more ominous with the failure of Bear Sterns and Lehman Brothers during 2008. Shortly thereafter, the remaining Wall Street investment banks were forced by regulators to merge with large money center banks, such as Merrill Lynch's merger with Bank of America. Goldman Sachs was forced to become a bank regulated by the Fed. The thrust of this regulatory action was to rein in excess risk taking by Wall Street investment banks and money center banks and thus stabilize them financially and reduce the risk of failures that could potentially destabilize the nation's economy.

Today, investment banking and its risks reside inside the banking system and are subject to strict oversight by the Federal Reserve Bank. We suspect that sometime in the future investment banks will reemerge as nonbank financial firms free of some of the strict banking regulations of the Fed. Because of investment banks' involvement in the 2008 market collapse, however, they will be subject to much more oversight and regulation than in the past, and their primary regulator for most activities will be the Fed. Now let's look at the types of services that investment banks provide to consumer and business firms.

INVESTMENT BANKING SERVICES

Bring New Securities to Market. When management decides to expand a firm, they usually have a specific capital project in mind, such as building a new manufacturing facility. One important service that investment banks offer is to help firms bring their new debt or equity