

Preface

For most of the 20th century, defining money and banks was straightforward. Money was currency or a checking account balance; banks were institutions that took deposits and made loans. Then the invention of computers and the resulting revolution in information technology changed everything. Buying dinner used to require cash or checks issued by a local bank. Now diners can pick up the tab for a restaurant meal with a plastic card that debits their brokerage account at a firm whose nearest office may be thousands of miles away. The changes have been so sweeping that if a banker of the 1960s or 1970s were transported to the present day, he or she would hardly recognize our current financial system. The way we use money, financial instruments, financial markets, and financial institutions is completely different from the way our grandparents' generation used them.

Not only do today's money and banks differ from yesterday's, but tomorrow's financial system will surely differ from the current one in ways that are difficult to predict. Thus, students who memorize the operational details of today's financial system are investing in a short-lived asset. My purpose in writing this book is to focus on the *basic functions* served by the financial system, while de-emphasizing its current structure and rules. Learning the economic rationale behind financial tools, rules, and structures is much more valuable than concentrating on the tools, rules, and structures themselves. It is an approach designed to give students the lifelong ability to understand and evaluate whatever financial innovations they may one day confront.

The Core Principles Approach

Toward that end, the entire content of this book is based on five *core principles*. Knowledge of these principles is the basis for learning what the financial system does, how it is organized, and how it is linked to the real economy.

1. Time has value.
2. Risk requires compensation.
3. Information is the basis for decisions.
4. Markets determine prices and allocate resources.
5. Stability improves welfare.

These five core principles serve as a framework through which to view the history, current status, and future development of money and banking. They are discussed in detail in Chapter 1; throughout the rest of the text, marginal icons remind students of the principles that underlie particular discussions.

Focusing on core principles has created a book that is both concise and logically organized. This approach does require some adjustments to the traditional methodology used to teach money and banking, but for the most part they are changes in emphasis only. That said, some of these changes have greatly improved both the ease of teaching and the value students draw from the course. Among them are the emphasis on risk; use of the term *financial instrument*; parallel presentation of the Federal

Reserve and the European Central Bank; a streamlined, updated section on monetary economics; and the adoption of an integrated global perspective.

Innovations in This Text

In addition to the focus on core principles, this book introduces a series of innovations designed to foster coherence and relevance in the study of money and banking, in both today's financial world and tomorrow's.

Early Introduction of Risk

It is impossible to appreciate how the financial system works without understanding risk. In the modern financial world, virtually all transactions transfer some degree of risk between two or more parties. These risk trades can be extremely beneficial, as they are in the case of insurance markets. But there is still potential for disaster. In 1998, risk-trading activity at Long-Term Capital Management (LTCM) threatened the stability of the international financial system.

Even though risk is absolutely central to an understanding of the financial system, most money and banking books give very little space to the topic. In contrast, this book devotes an entire chapter to defining and measuring risk. Chapter 5 introduces the concept of a risk premium as compensation for risk and shows how diversification can reduce risk. Because risk is central to explaining the valuation of financial instruments, the role of financial intermediaries, and the job of central bankers, the book returns to this concept throughout the chapters.

Emphasis on Financial Instruments

Financial instruments are introduced early in the book, where they are defined based on their economic function. This perspective leads naturally to a discussion of the uses of various instruments and the determinants of their value. Bonds, stocks, and derivatives all fit neatly into this framework, so they are all discussed together.

This approach solves one of the problems with existing texts, use of the term *financial market* to refer to bonds, interest rates, and foreign exchange. In its conventional microeconomic sense, the term *market* signifies a place where trade occurs, not the instruments that are traded. This book follows standard usage of the term *market* to mean a place for trade. It uses the term *financial instruments* to describe virtually all financial arrangements, including loans, bonds, stocks, futures, options, and insurance contracts. Doing so clears up the confusion that can arise when students arrive in a money and banking class fresh from a course in the principles of economics.

Parallel Presentation of the Federal Reserve and the European Central Bank

To foster a deep understanding of central banking and monetary policy, the presentation of this material begins with a discussion of the central bank's role and objectives. Descriptions of the Federal Reserve and the European Central Bank follow. By starting on a theoretical plane, students gain the tools they need to understand how all central banks work. This avoids focusing on institutional details that may quickly become obsolete. Armed with a basic understanding of what central banks do and

how they do it, students will be prepared to grasp the meaning of future changes in institutional structure.

Another important innovation is the parallel discussion of the two most important central banks in the world, the Federal Reserve and the European Central Bank (ECB). Students of the 21st century are ill-served by books that focus entirely on the U.S. financial system. They need a global perspective on central banking, the starting point for which is a detailed knowledge of the ECB.

Modern Treatment of Monetary Economics

The discussion of central banking is followed by a simple framework for understanding the impact of monetary policy on the real economy. Modern central bankers think and talk about changing the interest rate when inflation and output deviate from their target objectives. Yet traditional treatments of monetary economics employ aggregate demand and aggregate supply diagrams, which relate output to the price level, and discuss inflation in terms of shifts in the AD and AS curves. The resulting development is lengthy and difficult. Because this book skips the ISLM framework, its presentation of monetary economics is several chapters shorter. Only those topics that are most important in a monetary economics course are covered: long-run money growth and inflation and short-run monetary policy and business cycles. This streamlined treatment of monetary theory is not only concise, but more modern and more relevant than the traditional approach. Moreover, it gives students a complete understanding of business-cycle fluctuations.

Integrated Global Perspective

Recent technological advances have dramatically reduced the importance of a bank's physical location, producing a truly global financial system. Twenty years ago money and banking books could afford to focus primarily on the U.S. financial system, relegating international topics to a separate chapter that could be considered optional. But in today's financial world, even a huge country like the United States cannot be treated in isolation. The global financial system is truly an integrated one, rendering separate discussion of a single country's institutions, markets, or policies impossible. This book incorporates the discussion of international issues throughout the text, emphasizing when national borders are important to bankers and when they are not.

Organization

This book is organized to help students understand both the financial system and its economic effects on their lives. That means surveying a broad series of topics, including what money is and how it is used; what a financial instrument is and how it is valued; what a financial market is and how it works; what a financial institution is and why we need it; and what a central bank is and how it operates. More important, it means showing students how to apply the five core principles of money and banking to the evolving financial and economic arrangements that they inevitably will confront during their lifetimes.

Part I: Money and the Financial System. Chapter 1 introduces the core principles of money and banking, which serve as touchstones throughout the

book. Chapter 2 examines money both in theory and in practice. Chapter 3 follows with a bird's-eye view of financial instruments, financial markets, and financial institutions. (Instructors who prefer to discuss the financial system first can cover Chapters 2 and 3 in reverse order.)

Part II: Interest Rates, Financial Instruments, and Financial Markets.

Part II contains a detailed description of financial instruments and the financial theory required to understand them. It begins with an explanation of present value and risk, followed by specific discussions of bonds, stocks, derivatives, and foreign exchange. Students benefit from concrete examples of these concepts. In Chapter 7 (The Risk and Term Structure of Interest Rates), for example, students learn how the information contained in the risk and term structure of interest rates can be useful in forecasting. In Chapter 8 (Stocks, Stock Markets, and Market Efficiency), they learn about stock bubbles and how those anomalies influence the economy. And in Chapter 10 (Foreign Exchange), they study the Big Mac index to understand the concept of purchasing power parity. Throughout this section, two ideas are emphasized: that financial instruments transfer resources from savers to investors, and that in doing so, they transfer risk to those best equipped to bear it.

Part III: Financial Institutions.

In the next section, the focus shifts to financial institutions. Chapter 11 introduces the economic theory that is the basis for our understanding of the role of financial intermediaries. Through a series of examples, students see the problems created by asymmetric information as well as how financial intermediaries can mitigate those problems. The remaining chapters in Part III put theory into practice. Chapter 12 presents a detailed discussion of banking, the bank balance sheet, and the risk that banks must manage. Chapter 13 provides a brief overview of the financial industry's structure, and Chapter 14 explains financial regulation.

Part IV: Central Banks, Monetary Policy, and Financial Stability.

Chapters 15 through 19 survey what central banks do and how they do it. This part of the book begins with a discussion of the role and objectives of central banks, which leads naturally to the principles that guide central bank design. Chapter 16 applies those principles to the Federal Reserve and the European Central Bank. Chapter 17 presents the central bank balance sheet, the process of multiple deposit creation, and the money supply. Chapters 18 and 19 cover operational policy, based on control of both the interest rate and the exchange rate. The goal of Part IV is to give students the knowledge they will need to cope with the inevitable changes that will occur in central bank structure.

Part V: Modern Monetary Economics.

The last part of the book covers modern monetary economics. While most books cover this topic in six or more chapters, this one does it in four. This streamlined approach concentrates on what is important, presenting only the essential lessons that students truly need. Chapter 20 sets the stage by exploring the relationship between inflation and money growth. Starting with inflation keeps the presentation simple and powerful, and emphasizes the way monetary policymakers think about what they do. A discussion of aggregate demand, aggregate supply, and the determinants of inflation and output follows. Chapter 21 presents a complete macroeconomic model complete with a dynamic aggregate demand that integrates monetary policy directly into the presentation, along with short- and long-run aggregate supply curves. In Chapter 22 the model is

used to help understand the sources of business cycles, as well as a number of important applications that face monetary policymakers in the world today. Each application stands on its own and the applications are ordered in increasing difficulty to allow maximum flexibility in their use.

For those instructors who have the time, I recommend closing the course with a rereading of the first chapter and a review of the core principles. What is the future likely to hold for the five parts of the financial system: money, financial instruments, financial markets, financial institutions, and central banks? How do students envision each of these parts of the system 20 or even 50 years from now?

Learning Tools

In a sense, this book is a guide to the principles students will need to critically evaluate and use what they read in the financial press. Reading the newspaper and applying the information it contains require some basic knowledge. Supplying that knowledge is the purpose of the four types of inserts that complement the chapters, providing a break from the more technical material in the body of the text:

Your Financial World inserts provide students with practical information that is based on lessons covered in the chapter. Most chapters contain two of these boxes, each of which examines a personal finance problem that everyone faces. These boxes show students that the concepts taught in the money and banking course are relevant to their everyday lives. Among the topics covered are the importance of saving for retirement, the risk in taking on a variable-rate mortgage, the desirability of owning stocks, and techniques for getting the most out of the financial news.

Applying the Concept sections show how ideas introduced in the chapter can be applied to the world around us. Most describe historical episodes or examine issues relevant to the public policy debate. Subjects include how debt problems in emerging-market countries can create an increase in the demand for U.S. Treasury debt; why Long-Term Capital Management nearly caused a collapse of the world financial system; and what monetary policymakers learned from the Great Depression of the 1930s. Most chapters contain two of these applications.

In the News boxes present articles drawn from *The New York Times*, *The Wall Street Journal*, *The Financial Times*, *The Economist*, and *BusinessWeek*. These readings show how concepts introduced in the chapter are applied in the financial press. Each article is accompanied by a brief analysis that reinforces key concepts. One In the News box appears in nearly every chapter.

Tools of the Trade boxes teach useful skills, including how to read bond and stock tables, how to read charts, and how to do some simple algebraic calculations. Some provide brief reviews of material from the principles of economics course, such as the relationship between the current account and the capital account in the balance of payments. Most chapters contain one of these boxes.

Finally, the end-of-chapter material is divided into three sections:

Key Terms A listing of all the technical terms introduced and defined in the chapter. The key terms are defined in full in the glossary at the end of the book.

Chapter Lessons A list of the key lessons in the chapter. Other textbooks summarize a small number of points at length. This book summarizes a larger number of points, each of them short, clear, and couched in the form of an outline that matches the chapter headings—a format designed to aid student comprehension and retention.

Problems Each chapter contains 18 problems, ten conceptual and eight analytical, of varying levels of difficulty. These problems are designed to reinforce the lessons in the chapter.

Organizational Alternatives

While this book greatly streamlines the traditional approach to money and banking, it remains flexible enough to be used in a broad variety of courses. Sixteen to 19 of the book's 23 chapters can be assigned in the following courses:

General Money and Banking Course. Chapters 1–8, 11, 12, 15, 16, the first section of 17 (through page 411), 18, and 20–22

This course covers the primary material needed to appreciate the connections between the financial system and the economy.

General Money and Banking Course with International Emphasis. Chapters 1–8, 10–12, 15–19, and 20

This alternative to the general money and banking course substitutes chapters on foreign exchange and exchange-rate policy for the macroeconomic model included in courses with less international emphasis.

Financial Markets and Institutions. Chapters 1–9, 11–18

The traditional financial markets and institutions course covers money, financial instruments and markets, financial institutions, and central banking. The focus is on Parts II and III of the book.

Monetary Economics and Monetary Policy. Chapters 1–7, 10–12, 15–23

A course called monetary economics and monetary policy uses the material in Parts II and III as a foundation for understanding the material in Parts IV and V. A half-semester course for students with a background in financial instruments and institutions might cover only Chapters 1–3 and 15–23.

What's New in the Second Edition?

Many things have happened since the last edition. For that reason, all of the figures and data have been updated to reflect the most recent available information. In addition, Stephen Cecchetti has made numerous, vital changes to enhance the Second Edition of *Money, Banking, and Financial Markets* as outlined below.

New Topics in the Integrated Global Perspective

The author has increased the global perspective by integrating a series of features on China including:

- the Chinese Stock Market
- the Chinese Banking System

- the balance sheet of the People's Bank of China
- the Chinese Exchange Rate System

To introduce students to other aspects of the international financial systems, coverage of the following topics has been added:

- Islamic Banking
- Microfinance
- The relationship of collateral and property rights in less developed countries

Reorganization of the Monetary Policy Coverage

To make the book simpler for students and more flexible for instructors, the author has changed the organization of the section on monetary policy. The material is still in Chapters 21 and 22, but now has the following structure:

- Chapter 21 introduces the full macroeconomic model, including the dynamic aggregate demand curve and the aggregate supply curve
- Chapter 22 is now a series of stand-alone applications of the model that are ordered in increasing complexity.

Improved End-of-Chapter Problems

The End-of-Chapter problems have been significantly improved. Each chapter now has 18 problems, ten conceptual and eight analytical. The conceptual problems help students explore the abstract and more theoretical aspects of the chapter material and the analytical problems ask students to do computations and use the models they have learned.

In addition, the conceptual and analytical sections each include two more difficult problems labeled with an asterisk.

Changes at the Federal Reserve

The discussion of the Federal Reserve and the FOMC now reflects the change from Chairman Alan Greenspan to Chairman Ben S. Bernanke. This includes a revised discussion of the procedures at the FOMC meeting, which were changed by the new chairman, and material on the challenges facing the Bernanke Fed.

Relevant and Timely News Coverage

The news articles included in each chapter examine:

- Changes in technology, like the use of mobile phones to make payments
- The declining importance of monetary aggregates in the operation policy of the vast majority of the world's central banks
- A series of articles on the challenges facing the Federal Reserve policymakers

Here is a complete list of the new features:

Your Financial World

Know Your Mortgage (Chapter 6)

Understanding the Ads in the Newspaper (Chapter 6)

A Home Is a Place to Live (Chapter 8)
 Annuities (Chapter 13)
 The Securities Investor Protection Corporation (Chapter 14)
 Stabilizing Your Consumption (Chapter 22)
 The Problem with Measuring GDP (Chapter 22)

Apply the Concept

Paper Checks Become Digital Images (Chapter 2)
 Investor Information and Conflicts of Interest (Chapter 3)
 Islamic Banking (Chapter 4)
 Ford and GM Downgraded, Auto Loans Unaffected (Chapter 7)
 The Chinese Stock Market (Chapter 8)
 Helping the Poor with Microfinance (Chapter 11)
 Collateral and Property Rights (Chapter 11)
 Growth and Banking in China and India (Chapter 12)
 Japanese and U.S. Commercial Banking in the 1990s (Chapter 12)
 Does Deposit Insurance Really Work? (Chapter 14)
 Why is Stable Money Such a Big Deal? (Chapter 15)
 Central Bank Balance Sheets (Chapter 17)
 The Channel System and the Future of Monetary Policy (Chapter 18)
 China's Fixed Exchange Rate (Chapter 19)

In the News

Paying via Text Message (Chapter 2)
 China Should Have Faith in Capital Markets (Chapter 3)
 Bowie Bonds May Make a Comeback (Chapter 6)
 The Long and The Short of It: America's Bond Market is Upside Down
 (Chapter 7)
 Net Gains: How Watching Basketball Can Improve Your Approach to
 Investment (Chapter 8)
 China's Investors to Get Freer Hand Abroad (Chapter 10)
 Lenders, Borrowers Hook Up over the Web (Chapter 11)
 Open and Fair: Why Wall St. Hates Auctions (Chapter 13)
 A Muffled Report: An Attempt to Estimate China's Bad Loans Backfires
 (Chapter 14)
 What Would Greenspan Do? (Chapter 15)
 Fed Has Yet to Set Target on Inflation (Chapter 16)
 Bernanke Expects Slowing Economy to Tame Inflation (Chapter 18)
 The Fed's Latest Rise (Chapter 19)
 The Issing Link (Chapter 20)
 What the Pause in Rising Rates Means to You (Chapter 21)
 The Fed's Dilemma (Chapter 22)
 Fed's Ideal Rate of Growth (Chapter 23)

Supplements for Students

Student Study Guide and Workbook

James S. Fackler (University of Kentucky) has written an excellent study guide workbook for students. It includes descriptions of the major lessons in each chapter,

definitions, and practice multiple-choice and essay questions. Detailed answers to the practice test questions are also provided.

Web Site

The book's Web site, revised by John Kane (State University of New York–Oswego), www.mhhe.com/cecchetti2e, includes a variety of free content for students, including chapter quizzes, PowerPoint slides, and interactive graphs with related exercises. Instructors may access all the book's major supplements using a special password. John Kane also added a second multiple choice quiz and a True/False quiz for each chapter to give students added variety and practice.

Supplements for Instructors

Instructor's Resources and Solutions Manual

Mary Lesser (Iona College) has collected a broad array of materials for instructors. This manual includes chapter overviews, outlines, and a discussion of how the core principles apply to each chapter. It also addresses concepts students often find difficult, including suggestions for alleviating confusion. Solutions to the problems at the end of each chapter are given.

Test Bank

Kristin VanGaasbeck (California State University–Sacramento) has revised the test bank of 2,500 multiple-choice and 600 short-answer and essay questions. The test bank can be used both as a study guide and as a source for exam questions. It has been computerized to allow for both selective and random generation of test questions.

PowerPoint Slides

Stephen Cecchetti has himself revised the set of PowerPoint slides for classroom use. The slides outline the main points in each chapter and reproduce major graphs and charts. This handy, colorful supplement will help to maintain students' interest during lectures.

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Without all the people at McGraw-Hill/Irwin this book would never have been written. Gary Burke and Paul Shensa first convinced me that I could write this book, and then taught me how. Erin Strathmann worked tirelessly (and daily) to improve the book. Betty Morgan made my sentences and paragraphs readable. And all of the people in production and design turned the words and charts into a beautiful, readable book.

Without students, universities would not exist. And without a class in money and banking to teach, I would not have written this book. I owe a debt to every student who has sat in a classroom with me. Not surprisingly, some students helped more than others. The ones that deserve special mention for the time and effort they put in to helping with the manuscript are: Margaret Mary McConnell of the Federal Reserve Bank of New York, Roisin O'Sullivan of Smith College, Stefan Krause of Emory University, Lianfa Li of Peking University, Craig Evers of the Federal Reserve Board, Anne LePard formerly of Brandeis University, and Georgios Karras of University of Illinois, Chicago.

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Feature Walkthrough

YOUR FINANCIAL WORLD
 Pay Off Your Credit Card Debt as Fast as You Can

Credit cards are extremely useful. They make buying things easy—sometimes too easy. While we all plan to pay off our credit card balances every month, sometimes we just don't have the resources. So we take advantage of the loans the card issuers offer and pay off only part of what we owe. Suddenly we find ourselves deeply in debt.

How fast should you pay off your credit card balance? All the bank or finance company that issued the card will tell you is the minimum you have to pay. You get to decide whether to pay more, and your decision makes a big difference. We can use the present-value concept to figure out your alternatives.

Let's take a typical example. You have a balance of \$2,000 and can afford to pay at least \$50 per month. How many monthly payments will you need to make to pay off the full debt? What if you paid \$60 or \$75 per month? To find the answer, use equation (8) for the present value of a fixed series of payments. In this case, the present value is the loan amount, \$2,000; the fixed monthly payment is \$50, \$60, or \$75; and the interest rate is whatever your credit card company charges per month—10 to 20 percent a year. (The average rate is around 13 percent.) We need to figure out the number of payments, or n in equation (8).*

Table 4.4 shows the number of months needed to pay off your \$2,000 balance at various interest rates and payment amounts. The first entry tells you that if your credit card company is charging a 10 percent annual interest rate (which is comparatively low), and you pay \$50 per month, then you will need to make payments for 48.4 months—just over four years.

Looking at the entire table, you can see the advantage of making big payments. Assume you're paying 15 percent, which is realistic. The table shows that increasing your payment from \$50 to \$60 will allow you to finish paying off your debt in 42.5 months rather than 54.3 months. In other words, paying \$10 more a month will allow you to finish paying off the loan one full year sooner. And if you can manage to pay \$75 a month, you'll be finished 10 months before that.

*The most straightforward way to do this is to use a spreadsheet to add up the payments until their present value equals the credit card balance. You can also use equation (A-4) in the appendix of this chapter, which can be solved using logarithms.

How fast should you pay off your credit card balance?

SOURCE: © Macmillan

Looking more closely, you can see that making large payments is much more important than getting a low interest rate. The lesson is: Pay off your debts as fast as you possibly can. Procrastination is expensive.

Table 4.4 Number of Months to Pay Off a \$2,000 Credit Card Debt

Annual Interest Rate	Monthly Payment		
	\$50	\$60	\$75
10%	48.4	38.9	30.1
12%	50.5	40.3	30.9
15%	54.3	42.5	32.2
20%	62.4	47.0	34.5

For a complete listing of titles of chapter features and their page references, refer to the information found on the inside front cover of this text.

Your Financial World

These boxes show students that the concepts taught in the text are relevant to their everyday lives. Among the topics covered are the importance of saving for retirement, the risk in taking on a variable rate mortgage, the desirability of owning stocks, and techniques for getting the most out of the financial news.

YOUR FINANCIAL WORLD
 Your Risk Tolerance

How much risk should you tolerate? Figuring that out isn't easy, but there are a few ways to get some sense of the right level of risk for you. First, there are risk quizzes, short sets of questions financial advisers give their clients to determine the level of risk they can live with. For instance, "What would you do if a month after you invest in the stock market, the value of your stocks suddenly falls by 20 percent?" Answers might include "Sell right away," "Nothing," and "Buy more." Taking such a quiz is a useful first step, so you might want to try the one in Appendix 5A.

But don't stop there. Even if you are willing to take risks, that doesn't mean you should. You may not have time to make back the losses you might suffer. Think about the difference between a 25-year-old and a 60-year-old both saving for their retirement. Which one of these people can afford to suddenly lose a quarter of her savings? Obviously, it is the 25-year-old. If a 60-year-old loses a quarter of her retirement savings, it's a disaster! Likewise, if you're saving to buy a car or a home, the sooner you are planning to make the purchase, the less you can afford to lose what you have. Always ask yourself: How much can I stand to lose? The longer your time horizon (and the wealthier you are), the more risk you can tolerate.

APPLYING THE CONCEPT
 GOVERNMENT-RUN LOTTERIES

Governments use lotteries to finance a range of activities, including public schools and the arts. But for lotteries to remain profitable, the people who run them must keep a large percentage of the revenue. State-run lotteries commonly pay out only 60 percent of the revenue they receive. That is, for each \$1 bet on the lottery, the government pays out 60 cents. The expected value of a \$1 lottery ticket is 60 cents.

Lotteries, then, are a risky investment. And since people generally don't like risk, you would think that the government would have to pay a premium to get people to play. Instead, the opposite is true. Millions of people pay good money for a very small chance to win big. As the jackpots grow larger, the lines of those waiting to buy tickets grow longer and longer. How can we explain this puzzle?

One answer is that playing the lottery is a form of entertainment, like going to the movies. But that doesn't really seem to explain it. We can use the concept of value at risk to provide a more coherent explanation. Compare paying \$1 for a chance to win \$1 million with paying \$10,000 for a chance to win \$10 billion. We see people spending \$1 but not \$10,000 for lottery tickets. The reason is that the risk of losing \$1 is inconsequential, but the potential gain of \$1 million is significant. The risk of losing \$10,000, however, would loom large even compared to a payoff of \$10 billion. Value-at-risk calculation tells us that the \$1 lottery isn't very risky, and that's why people play.*

*Before you run out and buy a lottery ticket, think about the lottery's advertising. The people who run lotteries are allowed to advertise that they are paying a jackpot of say, \$10 million, when they are really promising to pay \$500,000 per year for 20 years. At a 6 percent interest rate, the present value of 20 payments of \$500,000 per year is about \$6 million, not \$10 million. If private companies tried to advertise that way, they would probably get into trouble.

Applying the Concept

These sections showcase history and examine issues relevant to the public policy debate. Subjects include how debt problems in emerging market countries can create an increase in the demand for U.S. Treasury debt; why Long-Term Capital Management caused a near collapse of the world financial system; and what monetary policy makers learned from the Great Depression of the 1930s.



IN THE NEWS

Net Gains: How Watching Basketball Can Improve Your Approach to Investing

The Wall Street Journal

by Jonathan Clements
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Getting Going

If you want to improve your investing, settle into an armchair, grab the remote—and spend the next few weeks watching the NCAA basketball tournaments.

True, this might not endear you to your family. But the fact is, there are intriguing parallels between the follies of basketball and the behavioral mistakes investors make.

As you cruise the channels, what should you look for? Academic and financial experts offer up these three basketball-inspired investment insights.

- **Keeping your cool.** If you think stock jockeys are obsessed with finding the next hot thing, just listen to the basketball commentators.

You will probably hear the television announcers declare that one or two of the players have the “hot hand” because they have scored on, say, their last three shots. The implication: Their teammates should feed them the ball, because there’s a good chance they will keep knocking down the jump shots.

Academics, however, would beg to disagree. A study that appeared in *Cognitive Psychology* in 1985 looked at the

shooting record of the Philadelphia 76ers during the 1980–81 season. The study found that, contrary to popular belief, the probability that the players would score on their next shot was, on average, slightly lower following a successful shot.

But what about those unusual hot streaks? Statistically, hitting three or four shots in a row—or beating the market in consecutive years—just isn’t that unusual. Indeed, if you and a bunch of friends each flipped a coin 20 times, half of you would likely get four heads in a row.

“Fund managers can look like they’re hot or like they’re a market beater,” says Thomas Gilovich, co-author of the “hot hand” study and a psychology professor at Cornell University. “But you swap out of your underperforming fund and into the hot fund at your peril. Given that the market is pretty efficient, past performance just isn’t a good guide.”

- **Expecting less.** While it’s hard to say definitively that some fund managers are superior to others, some basketball teams clearly are more skillful. Yet fans of weaker teams are forever hopeful.

How often does a college basketball team that’s trailing at halftime come back to win? Allan Roth, a financial planner with Wealth Logic, often puts this question to audiences. He says people typically guess that between 30 percent and 60 percent of teams make a comeback.

In fact, Mr. Roth looked at over 3,300 college games and found that, among teams trailing at the half, less than 20 percent came back to win. Why do folks think the number is so much higher? Mr. Roth figures there are two reasons.

First, we tend to be overly optimistic. “It’s America,” Mr. Roth says. “We believe in the underdog—and we believe in the small investor.” Even though studies suggest that most investors lag far behind the market, we like to think we can beat the odds and come out on top—which helps explain why market-tracking index funds still aren’t that popular.

Second, conchuck victors tend to get the most media attention, so they stick in our minds. “It’s the same thing with hot mutual funds and hot money managers,” Mr. Roth says. “Because investors only hear about the winners, they think it’s easy to beat the market.”

- **Playing the odds.** Investors hate the idea of losing. So, too, do basketball coaches—and it can lead both groups to be a little irrational.

Suppose a team is down by two points and it has time for one last shot. What play should the coach call? Let’s say there’s a 50 percent chance of scoring on a two-point shot and pushing the game into overtime, but only a 33 percent chance of making a three-point shot and getting the immediate win.

Nonetheless, the three-point shot is the rational choice. The reason: If the team makes the two-point shot, it still has to play overtime, where its chances of winning are 50 percent. In other words, by opting for the two-point shot, the team is looking at having to win on two 50 percent gambles, which means its overall odds of winning are just 25 percent.

Yet coaches usually go for the two, notes Richard Thaler, an economics professor at the University of Chicago. Chalk

it up to our aversion to regret. If the coach goes for the three and misses, not only will the team suffer an immediate stinging loss, but also critics will vilify the coach as “greedy” and “reckless.”

Similarly, investors are often too cooed about looking foolish in the short term. Stocks, like the three-point shot at the buzzer, may be the best bet. But many investors shy away from stocks, because they worry about stinging short-term losses and the pang of regret that accompanying them.

“If you believe there’s a premium to owning stocks, you’re crazy not to own them if you’re a long-term investor,” Prof. Thaler argues. “You shouldn’t be so bothered by day-to-day or month-to-month volatility.”

LESSONS OF THE ARTICLE

Investors face a whole raft of psychological pitfalls. Everyone thinks they can be above average, remembering winners and forgetting losers. People’s minds play tricks on them, seeing patterns when things are random. Take the lessons from basketball—be patient and play the odds.

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In the News

One article per chapter from major media such as *The New York Times*, *The Economist*, *The Financial Times*, *The Wall Street Journal*, and *BusinessWeek* is featured. These readings show how concepts introduced in the chapter are applied in the financial press. A brief analysis of the article, called “Lessons,” reinforces key concepts.

MARKETS

Financial Markets

Financial markets are the places where financial institutions are the economy’s central nervous system, relay quickly, allocating resources, and determining prices. They enable both firms and individuals to find financing for enable both firms and individuals to find financing for are working well, new firms can start up and existing firms don’t have sufficient savings can borrow to purchase capital resources are available to those who can put them to the costs of transactions as low as possible, these markets When financial markets cease to function properly, res

Core Principle Marginal Icons

The entire text discussion is organized around the following five core principles: Time has value; risk requires compensation; information is the basis for decisions; markets set prices and allocate resources; and stability improves welfare. Exploring these principles is the basis for learning what the financial system does, how it is organized, and how it is linked to the real economy. They are discussed in detail in Chapter 1; throughout the rest of the text, marginal icons remind students of the principles that underlie particular discussions.



TOOLS OF THE TRADE

Reading Stock Indexes in the Business News

Each morning, the business news brings reports of the prior day’s changes in all the major stock-market indexes. Table B.1, reproduced from *The Wall Street Journal* of February 20, 2007, is an example of this sort of summary. It includes a number of indexes besides the DJIA, the S&P 500, the Nasdaq Composite, and the Wilshire 5000. Some of them cover firms of a particular size. For example, Standard & Poor’s MidCap index covers 400 medium-size firms; its SmallCap index covers 600 small firms. And the

Russell 2000 tracks the value of the smallest two-thirds of the 3,000 largest U.S. companies. Other indexes cover a particular sector or industry. Note that Dow Jones publishes indexes for transportation and utilities; the Nasdaq has special indexes for insurance, banking, computers, and telecommunications. Many more indexes are published, all of them designed for specific functions. When you encounter a new index, make sure you understand both how it is constructed and what it is designed to measure.

Table B.1 U.S. Stock Market Indexes
February 20, 2007

Index	Daily		52-Week		YTD	3-Year				
	HIGH	LOW	CLOSE	CHG		% CHG	HIGH	LOW	% CHG	% CHG
Dow Jones Averages										
Dow Jones Industrial Average	12781.97	12781.97	12781.97	12781.97	12781.97	12781.97	12781.97	12781.97	12781.97	12781.97
Dow Jones Transportation Average	5410.48	5410.48	5410.48	5410.48	5410.48	5410.48	5410.48	5410.48	5410.48	5410.48
Dow Jones Utility Average	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62
Dow Jones Composite	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62
New York Stock Exchange										
NYSE Composite	10814.78	10814.78	10814.78	10814.78	10814.78	10814.78	10814.78	10814.78	10814.78	10814.78
NYSE Large-Cap Index	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88
NYSE Mid-Cap Index	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76
NYSE Small-Cap Index	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59
Nasdaq										
Nasdaq Composite	25142.2	25142.2	25142.2	25142.2	25142.2	25142.2	25142.2	25142.2	25142.2	25142.2
Nasdaq 100	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29
Nasdaq Small-Cap Index	1877.47	1877.47	1877.47	1877.47	1877.47	1877.47	1877.47	1877.47	1877.47	1877.47
Standard & Poor's										
S&P 500	1461.53	1461.53	1461.53	1461.53	1461.53	1461.53	1461.53	1461.53	1461.53	1461.53
S&P Mid-Cap Index	4618.09	4618.09	4618.09	4618.09	4618.09	4618.09	4618.09	4618.09	4618.09	4618.09
S&P Small-Cap Index	1811.77	1811.77	1811.77	1811.77	1811.77	1811.77	1811.77	1811.77	1811.77	1811.77
Wilshire										
Wilshire 5000	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62
Wilshire Large-Cap Index	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88	2196.88
Wilshire Mid-Cap Index	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76	5815.76
Wilshire Small-Cap Index	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59	6549.59
New York Stock Exchange and Others										
NYSE Financial	9881.15	9881.15	9881.15	9881.15	9881.15	9881.15	9881.15	9881.15	9881.15	9881.15
NYSE Technology	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62	4272.62
Nasdaq 100	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29	1825.29

SOURCE: www.nyse.com.

Tools of the Trade

These boxes teach useful skills, including how to read bond and stock tables, how to read charts, and how to do some simple algebraic calculations. Some provide brief reviews of material from the principles of economics course, such as the relationship between the current account and the capital account in the balance of payments.

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