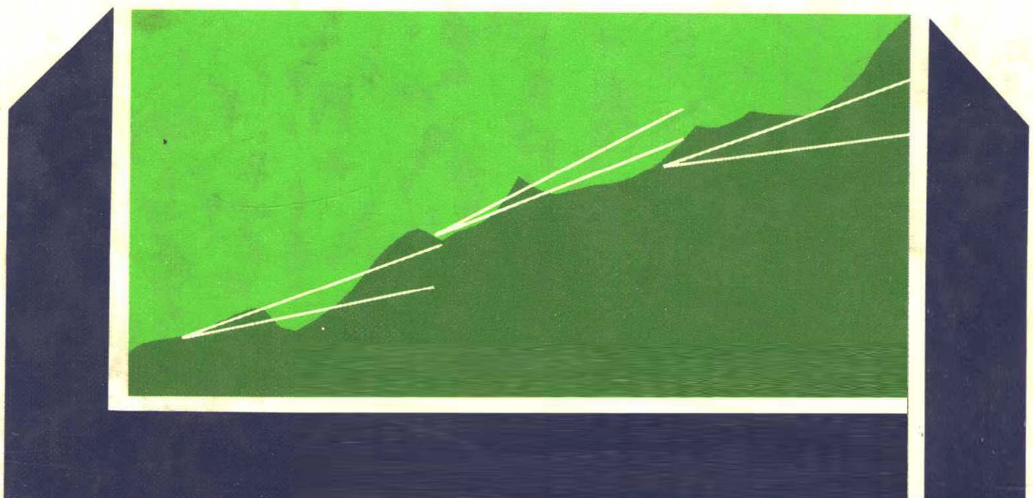
MODERN MONEY AND BANKING

Roger LeRoy Miller
Robert W. Pulsinelli



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Preface

The 1980s have seen more changes in the world of money and banking than during the entire period of the Federal Reserve System's existence. Therefore, it is not without meaning that we have entitled this text *Modern Money and Banking.* Indeed, the only way to present money and banking materials today is to present them in the most modern, up-to-date way possible. Otherwise, the institutional information contained therein would be hopelessly dated and thus without merit.

A FLEXIBLE THEORETICAL/ INSTITUTIONAL/HISTORICAL APPROACH

This book is a blend of theoretical economics (Chapters 6, 8, 9, 13, 17 to 25, 26, 27, and 29), institutional economics (Chapters 3, 5, 7, 10, 12, and 14 to 16), and economic history (Chapters 1 to 4, 11, 12, and 28). We have made it flexible so that instructors who prefer one of these approaches over another will find enough subject matter to satisfy their needs. Of course, some of these areas overlap. For example, the theory chapters are presented in a historical perspective, and the text points out the theoretical (and actual) implications of the institutional changes.

The most significant feature of our text is its blending of the changing institutional environment and the changing theoretical framework; at the same time the text provides a historical perspective. Chapter 1 sets the stage by showing how an institutional framework crumbled when the economic environment changed, and how this led to a new institutional framework—deregulation—which has had important implications in the meaning and measurement of money. Problems in operationally defining money are then discussed

in terms of the implications for monetary control. This chapter organizes the rest of the book.

Throughout the theoretical chapters the student was kept in mind at all times. Consequently, the chapters were developed patiently, and they represent *the culmination of our combined 35 years of classroom experience.*

PEDAGOGICAL FEATURES

This text utilizes a number of pedagogical aids to keep the student's interest level high and to provide the student with a well-organized body of thought to study and to learn.

Chapter Preview Each chapter has five or six preview questions which serve as learning objectives.

Glossary of Key Terms Every key term is presented in **boldface** and then defined at the end of each chapter.

Highlights Most chapters contain one or more interesting but light readings, set off from the rest of the text. The goal of these readings, or highlights, is to maintain student interest in the subject matter and to present to the student relevant applications of money and banking theory.

Current Controversies At the end of most chapters there is a Current Controversy. Each of these was designed to generate student and instructor interest and to help the student to understand that even the experts often disagree about appropriate policy in the money and banking area. These Current Controversies are set off from the rest of the text.

Examples Approximately two worked examples appear in most chapters, thereby giving the student a more applications-oriented view of the theory presented.

Chapter Summaries At the end of each chapter there is a point-by-point chapter summary that can be used as a reinforcement of what was just learned and as a checklist in studying for midterms and finals.

Selected References At the end of each chapter there are four or five appropriate selected references that a student may consult for additional information about the chapter materials.

Biographies A number of important persons have been selected for short biographical sketches interspersed throughout the text at the appropriate locations.

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A Complete Teaching-Learning Package *This text forms part of a complete teaching-learning package which includes a Student Guide and an Instructor's Manual.*

The *Student Guide* If the enormous number of copies of a study guide sold is a measure of its usefulness and proof of the mastery of its author, then Robert C. Bingham is indeed a master author who provides students with academic utility. Robert C. Bingham wrote the *Student Guide* to be used with our *Modern Money and Banking*. Each chapter in the *Student Guide* is made up of: a precis of the text chapter, as well as a checklist of learning objectives and an outline of the key concepts for each chapter within the text, followed by self-test material comprising completion questions, problems to be worked out, true-false and multiple choice questions, and for those who prefer some essay work, there is a section of short answer questions. All answers (except short answer questions) are provided in the back of the *Student Guide*.

The *Instructor's Manual* The *Instructor's Manual* was written by Robert Pulsinelli. Each chapter in it includes:

1 A one- or two-paragraph introduction that places the chapter in perspective
2 Three to five suggested class discussion topics
3 Answers to the Chapter Preview questions that begin each chapter
4 At least 15 multiple choice questions with answers

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Roger LeRoy Miller

Robert W. Pulsinelli

Contents

Preface vii

UNIT 1 INTRODUCTION

Chapter 1	A Revolution in Money and Banking	**3**
Chapter 2	Money and Its Functions	**18**
Chapter 3	The Changing Definition of the Money Supply	**38**
Chapter 4	Financial Intermediation and the Origins of Banking	**55**

UNIT 2 INTEREST RATES AND FINANCIAL MARKETS

Chapter 5	Financial Institutions and Credit Instruments	**71**
Chapter 6	Interest Rates	**91**
Chapter 7	Government Securities and Debt Management	**122**

UNIT 3 COMMERCIAL BANKING

Chapter 8	Deposit Creation	**147**
Chapter 9	The Management of Depository Institutions	**168**
Chapter 10	The Regulation of Depository Institutions	**187**

UNIT 4 CENTRAL BANKING

Chapter 11 The Beginnings: A Short History of National Banking 219
Chapter 12 The History and Structure of the Federal Reserve System 239
Chapter 13 The Fed's Balance Sheet 260
Chapter 14 Reserve Requirements 283
Chapter 15 Discounting 300
Chapter 16 Open-Market Operations 317

UNIT 5 MONETARY THEORY

Chapter 17 The Classical Model 337
Chapter 18 Applications and Criticisms of the Classical Model 361
Chapter 19 The Simple Keynesian Model 379
Chapter 20 The Expanded Keynesian Model 401
Chapter 21 Inflation 427

UNIT 6 THE MONETARIST-KEYNESIAN DEBATE

Chapter 22 Fiscal Policy 455
Chapter 23 Financial Aspects of Fiscal Policy 478
Chapter 24 The Monetarists versus the Keynesians 494
Chapter 25 Inflation and Unemployment 514

UNIT 7 MONETARY POLICY

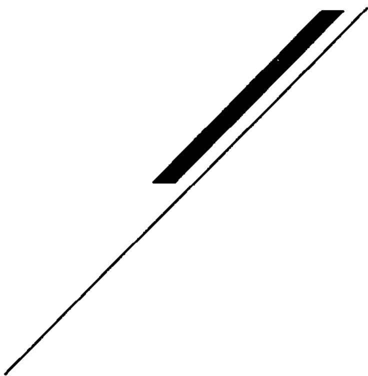
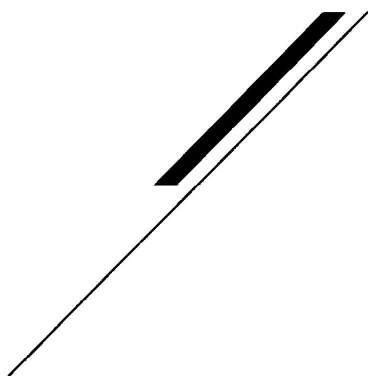
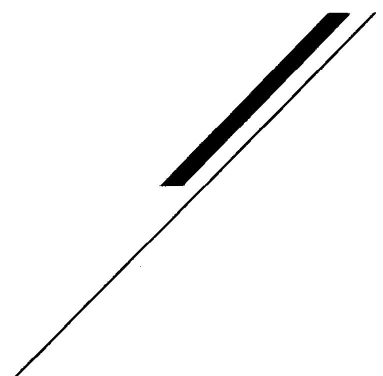
Chapter 26 The Targets and Strategies of Monetary Policy 541
Chapter 27 A History of Federal Reserve Monetary Policy: 1913–1983 560
Chapter 28 Problems with Monetary Policy 589

UNIT 8 INTERNATIONAL FINANCE

Chapter 29 Financing International Transactions 607
Answers to Problems 635
Indexes 645
Name Index
Subject Index

Unit 1

Introduction

Chapter 1

A Revolution in Money and Banking

CHAPTER PREVIEW

1. Why can the banking industry before 1970 be characterized as a governmentally regulated cartel?
2. What combination of changes caused a revolution in the banking industry?
3. Why did the banking industry cartel break down?
4. Why have high interest-rate levels and increased interest-rate variability harmed thrift institutions?
5. What are some recent examples of deregulation?
6. What are some current issues resulting from the revolution in money and banking?

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An old Chinese curse says, "May you live during interesting times." Be it a curse or a blessing, this is an extremely "interesting time" to be studying the U.S. banking system. By the late 1960s, this system had evolved into a cartel-like structure overseen by governmental and quasi-governmental regulatory agencies. It was characterized by a large amount of market segmentation, price fixing, and entry restrictions. During the 1970s, however, a combination of changing economic conditions and changing technology made it unprofitable for some cartel members to remain in the cartel—at least under the old rules. What had previously seemed like the protective bonds of regulation now appeared to be shackles, and, as a consequence, there was growing political pressure to deregulate.

A revolution in technology had made it unfeasible to maintain the old division of banking services and the former geographic divisions of interests. Improvements in technology had created a situation in which *each* institution could cheaply provide *all* services. Indeed, the new technology may eventually prove to be so revolutionary that the distinction between financial and nonfinancial corporations—already somewhat blurred—may entirely disappear. The technological revolution has even changed the form of money itself—which makes it a revolution in money *and* banking.

It is not yet clear how the banking system will evolve in the future. A certain amount of deregulation of the banking industry has occurred already, and there is growing competition from new—and unregulated—types of financial institutions, such as money market mutual funds. If this trend continues, will it mean financial instability during the transition from the old regulatory system to the creation of a new one? And, if so, what might the consequences be? Are the services provided by the financial industry so distinct and special that stability should be assured, relative to other industries? These weighty issues will be considered later in this book. Our task in this chapter will be to provide a framework for analyzing our evolving financial structure and to provide an overview for the remainder of the text. Don't be unduly concerned with mastering this chapter on a first reading. Rather, if you "lose the forest for the trees" when reading later sections, you can return to Chapter 1 for an overall perspective.

In order to understand the current revolution in the banking and financial industry, it is important to look first at (1) the original goals of the regulatory agencies, (2) the cartel arrangement, (3) how technological changes and changes in the economic environment have upset the cartel, (4) recent deregulation changes, and (5) the problems that have been posed as a result of the banking revolution. We consider each of these factors in turn.

GOALS OF THE REGULATORY AGENCIES

Traditionally, the U.S. banking industry has been regulated by state and federal governments, and by specific agencies of these governments. Chapter 10 is devoted to a fuller discussion of the regulation of depository (banking) institutions. The main purposes of regulation, in the past, seem to have been:

1 To assure a stable financial system.
2 To contribute to the achievement of national economic goals *by controlling the money supply*. Such national goals include price stability, high employment rates, economic growth, and a payments equilibrium in our international transactions. Chapters 4, 14, 15, and 16 indicate how regulators can change the supply of money by transacting with financial intermediaries; Chapters 2, 20, 21, and 29 show that changes in the money supply can affect the price level, the rate of employment, the national output rate, and the balance of payments. Chapters 2 and 3 deal with money, and Chapters 2, 8, and 9 deal with banking.
3 To promote efficiency in the financial intermediation process. Financial institutions, such as commercial banks, savings and loan associations, mutual savings banks, and credit unions (financial institutions are discussed in Chapter 5) typically borrow money (accept deposits which become liabilities to the financial institution) and relend this money (acquire assets in the form of IOUs from borrowers, government bonds, and various other credit instruments—also discussed in Chapter 5). If the interest rate they pay to ultimate lenders (from whom they borrow these funds) is less than the rate they can charge to ultimate borrowers (who use the funds to buy consumer or investment goods), financial institutions can earn profits. The process of providing the service of connecting ultimate lenders to ultimate borrowers is referred to as "financial intermediation" and is discussed in Chapter 4. This process is of obvious importance. It (a) allows certain households to consume goods sooner than otherwise would have been possible, (b) allows those who can see a profitable investment opportunity to make an investment without having to save personally, and (c) promotes economic growth and high employment by facilitating the saving-investment process. Regulators, therefore, want the financial intermediation function played by depository institutions to be carried out efficiently.
4 To provide low-cost financing for home buyers, in the form of low interest rates on house mortgages.

THE CARTEL ARRANGEMENT

Having these purposes in mind, the regulators, with the consent of the financial institutions (the regulatees), oversaw the financial system that evolved through time. By the late 1960s the following arrangement existed:

Market Segmentation Market segmentation existed to restrict "ruinous competition" and to encourage low-cost home financing. Specific types of depository institutions were encouraged to provide specific types of financial services and were discouraged or prohibited from providing others. For example, commercial banks were allowed to accept deposits (from households or businesses) upon which checks could be written, but the "thrift institutions" (savings and

loan associations and mutual savings banks) and credit unions were not. Thrifts and credit unions were permitted to accept only saving deposits (deposits without a maturity date) and time deposits (deposits with a maturity date) *upon which checks could not be written.*[1]

Market segmentation also existed with respect to the types of *assets* that could be acquired by the different types of financial institutions. In general, the thrift institutions were encouraged to specialize in housing loans; commercial banks were expected to specialize in business and consumer loans; and credit unions were to specialize in consumer loans to their members.[2] Further market segmentation existed because thrift institutions were expected to make housing loans *locally.*

Price Fixing The regulations also fixed "prices"—or interest rates. Commercial banks were disallowed from paying interest on checking account deposits. The rate that thrift institutions could pay on savings and time deposits was also fixed—at a rate slightly higher than commercial banks could pay, and slightly below that which credit unions could pay. Allegedly, such price fixing was instituted to assure financial stability (interest-rate competition might induce financial institutions to seek out "riskier" loans, or other credit instruments, to offset higher borrowing costs) and low-cost financing for home purchasers (thrift institutions were given a competitive advantage over commercial banks in attracting savings deposits; they were assured a regulated, relatively low cost for funds).

Also, price fixing existed with respect to the rates that financial institutions could *charge* ultimate borrowers. Interest-rate ceilings—otherwise known as usury laws—existed in most states.

Restricted Entry[3] The territorial prerogatives of specific financial institutions were protected. One was not allowed to enter the financial institution business at will; state or federal licenses or "charters" were required, and the burden of demonstrating the "need" for another financial institution was placed on the would-be entrant. Moreover, specific financial institutions were often forced to operate under state laws that permitted each bank to have only one geographic location. Traditionally, interstate banks have been prohibited; under restricted entry, a successful bank was not allowed to expand into other states.

In short, a governmentally regulated banking cartel had emerged, complete with segmented markets, price fixing, and entry restrictions. Such an

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[1]Commercial banks were also permitted to accept such deposits. In general, commercial banks were permitted to acquire a greater variety of both assets and liabilities than were other financial institutions.

[2]Furthermore, thrift institutions were regulated in the following ways: adjustable mortgage-payment schedules (with respect to monthly payments) were prohibited until April 1981, and ceilings were placed on the ratio of the size of the loan to the value of the house.

[3]Chapter 10 includes a more complete discussion of this topic.

arrangement worked reasonably well, and for a fairly long time. The banking system was reasonably stable, and financial institutions were rewarded with profitable, segmented markets for specialized services. Of course, market efficiency suffered—as it often does when competition is disallowed. An overinvestment in housing resulted; banking services were overpriced; the spread between the rate that depository institutions paid for deposits and the rate that they charged was certainly greater than it would have been under a competitive system; and financial innovations were stifled.

THE WINDS OF CHANGE

In the late 1960s and the 1970s technological changes[4] and changes in economic conditions[5] revolutionized the banking industry and changed the form of money.

Technological Changes The inventions of the automatic teller machine (ATM) and computer storage and electronic transfer-of-information systems have undermined the cartel's market segmentation scheme. They have created a situation under which (1) it has become economical for *any* financial institution to provide *packages* of financial services such as checking accounts, savings accounts, check clearing, customer bill paying, purchases of life insurance, and so on; and (2) the costs of financial transactions have been driven down dramatically.

The electronic transfer-of-information systems also have helped to change the form of money (the changing definition of money is discussed in Chapter 3). Money is usually thought of as that asset which is used to make transactions. Coins and paper currency are clearly money; they are generally accepted as payment for goods and services. Checking deposit accounts, too, are money; people generally accept checks written on such accounts in exchange for goods and services. Previously, savings accounts were *not* counted as money; in order to spend savings, you had to withdraw them from your account (legally, the thrift institution is not required to honor your request immediately) and convert this asset form into coins, currency, or checking-account deposits. Electronic transfer systems, however, have made it possible for funds to be shifted into and out of savings and/or checking accounts at will. Depositors can earn interest on "savings accounts," and when they are overdrawn on their checking accounts, the electric transfer system automatically covers those checks with funds transferred from the savings account. In short, savings (and other) account deposits can *also* be

[4]Edward J. Kane, "Policy Implications of Structural Changes in Financial Markets," *American Economic Review,* Papers and Proceedings of the 95th Annual Meeting of the American Economic Association, vol. 73, no. 2 (May 1983), pp. 96–100.

[5]See Jan G. Loeys, "Deregulation: A New Future for Thrifts," *Business Review,* Federal Reserve Bank of Philadelphia, January–February 1983, pp. 15–26, for a very readable account.

considered as money. Changes in the cost structure of financial institutions have made it feasible also to broaden the geographic area over which existing firms may profitably operate; distances between financial transactions have become less important. The result has been that electronic technology has shifted the focus of financial institutions from the provision of specific services for local clients to the offering of a package of services for a national (and even international) clientele. Moreover, these innovations have made it feasible for previously nonfinancial institutions, such as stock-brokerage houses and retail stores, to enter the financial services arena.

Changes in the Economic Environment In the late 1960s and throughout the 1970s the rate and variability (fluctuation) of inflation have increased, and therefore the level and variability of interest rates have increased. In turn, the *combination* of certain regulated interest rates and an increased level and variability of other (free) interest rates have placed thrift institutions in a vulnerable position. The combined net worth of thrift institutions fell from $44.7 billion in December 1980 to $33.6 billion in August 1982; since the beginning of 1981, over 700 thrift institutions (of a total of 5,016) merged with or were acquired by other institutions, and many others face liquidation or merger into stronger firms.[6]

Why has the combination of regulatory ceilings on some interest rates and the changing economic environment of higher market interest-rate levels and variability created problems for thrift institutions and compromised the cartel arrangement? Recall that thrift institutions were mainly in the business of accepting savings and time deposits and of using those funds to acquire mortgages from homeowners. Because these mortgages were nonadjustable with respect to interest rates and with respect to monthly payments (until April 1981; see footnote 2), thrift institutions were locked into fixed-rate earnings. This system worked well when interest rates were low and didn't vary, and when long-term interest rates were higher than short-term rates. The spread between what thrift institutions paid to acquire short-term funds and what they charged for long-term mortgage loans was sufficiently high to assure profitability. However, after 1966 short-term interest rates occasionally exceeded long-term rates. Thrift institutions found that their costs were rising while their earnings were fixed—and profits turned to losses. Moreover, they found it difficult to acquire new funds or maintain old deposits as lenders withdrew their funds and bought credit instruments directly or placed their savings in money market mutual funds.[7] (This depositor behavior, referred to as "financial disintermediation," is discussed in Chapter 10). Thus, when higher market interest rates surpassed regulated ceiling rates, thrift institutions lost deposits. Several deregulation measures permitted the thrift institutions to offer several

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[6]Ibid., p. 16.

[7]Discussed in Chap. 3.

HIGHLIGHT Dealing with Failing Thrifts

Deposits up to $100,000 at most depository institutions are insured by either the Federal Deposit Insurance Corporation (FDIC) or the Federal Savings and Loan Insurance Corporation (FSLIC). Not surprisingly, these insurance corporations are the main government agencies in charge of dealing with failing thrifts. The FDIC and FSLIC can follow several alternative procedures when confronted with a troubled thrift. First, they can choose to liquidate the institution, acting as a receiver of the assets and making direct payments to insured depositors. Second, they can help the institution to survive on its own by providing subsidized loans or direct aid. Third, they can take it over, arrange for new ownership and management, or facilitate a merger, thereby protecting all depositors.

The first alternative—selling off the assets and paying off the liabilities—is a solution that the insurance corporations prefer to avoid because this option is usually the most costly. At liquidation, the tangible nonfinancial assets (such as buildings) will probably yield less than replacement cost, while the intangible assets (expertise, reputation) are destroyed in the liquidation. The liabilities will have to be paid off at face value, not at the value they have to the institution as a going concern. The benefit of marking liabilities to market is lost. By mid-1981, this difference added up to an estimated $24.7 billion for the thrift industry as a whole.*

To avoid the high costs of liquidation, the FDIC and FSLIC usually have tried to provide direct assistance or to arrange a merger. Direct aid can take the form of outright cash grants, subsidized loans, or mortgage warehousing (purchase of low-yielding mortgages at face value). To be effective, an aid program must be set up as a temporary device to help an institution bridge some transitional adverse conditions and should only be granted to thrifts that have a clear prospect of becoming profitable in the future. Compared with liquidation, direct assistance leaves insured depositors equally well off, but it provides a subsidy to uninsured depositors, to the owners, and to management; and if financial institutions expect the government to cover their losses each time things turn bad, they will be more apt to take excessive risks. To circumvent this problem, FDIC/FSLIC aid programs usually require increased stockholder participation, profit-sharing with the insuring agency, or increased supervision of management.†

A third approach that the insuring corporations are now using more frequently is the merger of failing thrifts into healthier organizations. If the market net worth of the failing institution is negative, the price that the acquirer will pay is likely to be negative also: the FDIC/FSLIC will have to subsidize the acquisition. There are reasons to believe, however, that the acquiring firm will be willing to pay a premium above the failing thrift's going-concern value. First, given that geographic constraints have created a multitude of small thrifts operating at less than optimal scale, a merger could lead to economies of scale.‡ Second, if the acquiring firm is not a thrift or operates in a different geographic area, diversification gains could be realized. Third, if the acquiring firm has superior management, the new combination could raise earnings due to increased efficiency. Fourth, nonthrifts could be attracted by the tax advantages that thrifts enjoy.§

To minimize the impact on their insurance funds, the FDIC/FSLIC must try to get the best price for the thrifts they put up for sale. This approach explains the insurers' recent efforts to attract not only healthy thrifts but also commercial banks, out-of-state institutions, and even nonfinancial firms as potential acquirers of failing thrifts.

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