THE FOURTH BRANCH

The Federal Reserve's Unlikely Rise to Power and Influence

Bernard Shull

Greenwood
PUBLISHING GROUP

THE FOURTH BRANCH

This page intentionally left blank

THE FOURTH BRANCH

THE FEDERAL RESERVE'S UNLIKELY RISE TO POWER AND INFLUENCE

BERNARD SHULL

PRAEGER

Westport, Connecticut
London

Library of Congress Cataloging-in-Publication Data

Shull, Bernard, 1931–
The fourth branch : the Federal Reserve's unlikely rise to power and influence / Bernard Shull.
p. cm.
Includes bibliographical references and index.
ISBN 1–56720–624–7 (alk. paper)
1. Board of Governors of the Federal Reserve System (U.S.)—History. 2. United States—Economic policy—20th century. I. Title.
HG2563.S58 2005
332.1'1'0973—dc22 2005009815

British Library Cataloguing in Publication Data is available.

Library of Congress Catalog Card Number: 2005009815
ISBN: 1–56720–624–7

First published in 2005

Praeger Publishers, 88 Post Road West, Westport, CT 06881
An imprint of Greenwood Publishing Group, Inc.
www.praeger.com

Printed in the United States of America

The paper used in this book complies with the Permanent Paper Standard issued by the National Information Standards Organization (Z39.48–1984).

10 9 8 7 6 5 4 3 2

To Abby, Ira, and Janice

This page intentionally left blank

Contents

List of Illustrations ix

Preface xi

Acknowledgments xv

1. Introduction 1

2. The Federal Reserve's Legacy 17

Appendix: The Idea of a "Central Bank" 60

3. A Shock to the System: 1919–1922 63

Appendix: Coordinated Open Market Operations 90

4. Collapse and Revival: 1929–1935 95

5. Stagflation and the Monetary Experiment of 1979–1982 125

6. The Federal Reserve's Ascent 157

7. Final Remarks 173

Notes 181

Bibliography 227

Index 245

This page intentionally left blank

List of Illustrations

TABLES

Table 1.1.	Timeline: The Federal Reserve's Acquisition of Critical Powers	3
Table 2.1.	Index of Commodity and Farm Prices: 1872–1910	24
Table 2.2.	Timeline: The Panic of 1907	30
Table 2.3.	Rates of Interest in New York during the Panic of 1907	34
Table 2.4.	Federal Reserve Act of 1913: Purposes, Structure, Powers, and Relationships	49
Table 3.1.	Price Level: January 1919–December 1922	66
Table 3.2.	Federal Reserve Bank Loans: June 1918–June 1922	68
Table 3.3.	Commercial Paper Rates: 1919–1921	69
Table 3.4.	Index of Industrial Production: 1920–1922	71
Table 4.1.	Reserves, Earning Assets, and Number of Banks: 1929–1938	100
Table 4.2.	Marriner Eccles' Memorandum: November 3, 1934	112
Table 5.1.	Stagflation in the Late 1970s and Early 1980s	129
Table 5.2.	The Misery Index	130
Table 5.3.	Interest Rate Forecasts: 1979–1982	139

FIGURE

Figure 5.1.	Interest Rates: 1979–1982	138

This page intentionally left blank

Preface

Established by an act of Congress a little less than a century ago, the Federal Reserve System began as a relatively small organization with little capacity to affect the economy. Over the years it has grown enormously in its power and in the scope of its authority. It is widely viewed today as "the most powerful economic institution in the United States." Despite an unrelenting degree of moderate criticism, it is generally accepted as an unqualified success.

It is hard to believe that only about twenty-five years ago, a diverse array of determined critics were condemning the organization for its dysfunctional policies, which they believed had resulted in disastrous inflation, high levels of unemployment, and unprecedented interest-rate volatility, and for adhering to inefficient and antiquated regulatory restrictions. As interest rates reached unremembered heights and incomes fell during the early 1980s, criticism and despair arose from many sectors of the economy. Some, taking an historical approach, not only condemned current System policy but also argued that the Fed had always been dysfunctional and had periodically implemented policies that had caused great harm. They traced its "monetary malpractice" to the character and culture of the organization itself. The protests at the time were so intense and pervasive that one could reasonably question whether the Federal Reserve would make it out of the 1980s, to say nothing of the millennium. As matters turned out, the Federal Reserve prevailed, as it had in previous episodes of intense criticism.

In the wake of the last episode, I was approached at a conference by a collegial acquaintance, a prominent Chicago economist. Distraught by yet another victory by the Federal Reserve in Congress in warding off attempts to limit its authority and constrain its discretion, he disconsolately asked, "How is it that the Federal Reserve always wins?"

I no longer remember my answer, but I am sure that it was not as good as the question, which I never forgot. I thought then, as I do now, that the question deserved to be addressed seriously. Preliminary reflection suggested that the Federal Reserve System had been winning battles since its establishment in 1914, *regardless of the merits of its policies*. Moreover, the System's colossal growth in authority and responsibility had ratcheted upward not out of successful policy but in several distinct periods during which its policies were so profoundly disappointing that survival of the organization itself came into question. *The Fourth Branch: The Federal Reserve's Unlikely Rise to Power and Influence,* then, grew out of this question long after the colleague who raised it had moved on to other matters.

The Federal Reserve System has long been steeped in mystery, despite the fact that it has been subject, over the years, to repeated examination by "outsiders" and unrelenting clarification by "insiders." However, in the modern information age, the mystery seems to have dissipated. Its purposes and functions have been revealed to a large audience. Its policy decisions have become key elements of the evening news. Its chairman has become an international icon. On the academic level, the history of the Federal Reserve has been written and rewritten, throwing light on previously obscure characteristics of the complex organization.

A principal mystery that remains, however, has to do with how the Federal Reserve transcended its failures and grew to its current stature. How is it that it has always won? This book is an attempt to address the question systematically. Among other things, it traces the development of the organization through three principal crises out of which the modern System was formed. It evaluates the events of these periods in the context of the struggle to establish the Federal Reserve in the early years of the twentieth century. It draws inferences to the common factors that enabled the Fed to overcome economic disasters to which it had contributed and to not only land on its feet but also to grow in authority and influence in the process.

The hypothesis is posited that the Fed has survived and prospered in hostile environments because it has been capable of adaptation. An effort is made to identify the institutional characteristics that have facilitated this adaptation.

Successful adaptation implies "selection"; the Federal Reserve, essentially in its original organizational configuration, has been repeatedly selected by the political powers that be. Questions have been raised, from time to time, as to why Congress, despite expressing serious criticism, has invariably decided to sustain the Federal Reserve in its current organizational form. The events reviewed suggest that the congressional propensity to decide in favor of the Fed is, itself, a product of the Fed's existing organizational form.

This page intentionally left blank

Acknowledgments

I wish to thank William Wiles, former secretary of the Board of Governors, Lawrence J. White of New York University, and Larry Mote, former vice president of the Federal Reserve Bank of Chicago and economist at the Office of the Comptroller of the Currency, for their helpful comments on the manuscript. In addition, I would like to acknowledge the help of Jesse Stiller, also of the Office of the Comptroller of the Currency, for information about John Skelton Williams, Joe Coyne, formerly of the Board of Governors, for information about the Board during the 1979–1982 period, and the assistance of Rosemary Lazemby and Joseph Komljenovich of the Archives Division of the Federal Reserve Bank of New York in securing and reviewing documents on the early days of the System. I benefited by discussing the project with Ira Shull and with Mark Weinstock; Michael Sernoff assisted in the development of the data. I would like to thank my wife, Janice Shull, who carefully read the manuscript for both syntax and for dangling and unexplainable phrases.

The analysis throughout has been influenced by a number of individuals who I had the privilege to know and whose ideas I assimilated at one time or another during my early professional career at the Federal Reserve Bank of Philadelphia, the Office of the Comptroller of the Currency, and the Board of Governors of the Federal Reserve System. Among those who contributed, without knowing or intending to do so, were

Karl Bopp and David Eastburn of the Philadelphia Reserve Bank, James Saxon at the Comptroller's Office, and Robert Holland and George Mitchell at the Board of Governors. Needless to say, no one mentioned would have necessarily agreed with or is in any way responsible for what follows.

chapter **1**

Introduction

"The public bureaucracy is a puzzle. How is it that an organizational form that is so widely used is also believed to be so inefficient...?"

Oliver Williamson, 1999[1]

After more than a decade of deliberation, Congress passed the Gramm-Leech-Bliley Act in 1999. Aimed at "modernizing" the financial system, the new law repealed important sections of the Depression-spawned Glass-Steagall Act that had required a split between commercial and investment banking. Gramm-Leech-Bliley permitted banks to engage in a host of previously restricted lines of business, including securities and insurance. Over the objections of the other federal banking agencies, it gave the Federal Reserve central authority to establish regulatory standards for expansion and to determine the permissibility of other new activities. In so doing, it made the Federal Reserve a principal arbiter of the barrier that has, throughout American history, kept banking and other commercial firms separate.[2] The System was, thus, given substantial power to alter the structure of the economy through which its monetary policy operates.

This was not, of course, the first time the Federal Reserve System's authority has been augmented. Established in 1914, the Federal Reserve began as a small organization with a few powers that were tightly constrained. Over the years, it has grown enormously in authority and influence.

The recent enhancement of Federal Reserve authority followed a long period during the 1990s in which it was widely acclaimed for its astute policies that promoted economic expansion, high employment, and low inflation and for nurturing a once-in-a-century stock market boom. In historic perspective, the circumstances surrounding the recent enhancement were unusual. Over the years, additions to Federal Reserve powers, which largely characterize its transformation from the original institution established by Congress to its modern apotheosis, have occurred in, or immediately following, periods of widespread economic distress.

There have been three such turbulent episodes: (1) the post–World War I years of 1919–1921, a roller coaster of inflation and deflation; (2) the Great Depression of the 1930s during which the financial system collapsed and the economy imploded; and (3) the years from 1973 to 1982, characterized by painfully slow growth and recession, accompanied by rapidly rising prices, that is "stagflation." In each episode, the Federal Reserve's influence was enhanced. And, during the course of all three, it acquired the powers that distinguish the modern institution. Table 1.1 shows the principal powers with which the original Federal Reserve was endowed and those that it acquired during or immediately following the episodes mentioned.

That the Federal Reserve was strengthened in periods of economic distress may not, on first consideration, seem exceptional. The additions might seem a natural response by the Congress and/or the Federal Reserve itself to unanticipated problems. In the reality of the events, however, the expansion of powers was surprising. In each episode, the Federal Reserve was in the eye of the storm. The institution was under severe attack from a host of influential critics who blamed its flawed policies for causing or exacerbating economic problems that it was intended to prevent or ameliorate. Rather than enhancements, these critics proposed radical changes in organizational structure and, in some cases, the effective elimination of the System itself. The critics received sympathetic treatment from many, including influential political leaders. Still, in the end, the Federal Reserve survived and grew.

This book is about the conundrum of the Federal Reserve's survival and growth—how the organization repeatedly prevailed in difficult circumstances to become what some now believe to be the most powerful institution in the United States. The historical background of the System and the episodes reviewed shed light on the nature of the organization itself, its relationship to the federal government and to the banking community, how it managed to grow stronger in periods of adversity, and how it achieved its most recent gains, even after years of policy success. They also throw light on its likely future. The remainder of this chapter

Table 1.1

Timeline: The Federal Reserve's Acquisition of Critical Powers

1913: Federal Reserve Act

Extension of credit on basis of "eligible paper" at discount window
Establishing discount rates
Issuance of Federal Reserve notes
Examination and supervision of member banks
Holding member bank deposits, check clearing, and settlement

1919–1922: Post–World War I Disorder

Open Market Operations

1919–1921: Experience and development of necessary intellectual framework

May 2–4, 1922: Governors Conference establishes Committee of Governors on Centralized Control of Purchases and Sales of Government Securities by Federal Reserve Banks.

April 7, 1923: Committee of Governors replaced by Open Market Investment Committee (OMIC) under Board supervision, with same membership.

April 13, 1923: First meeting of the OMIC. Governor of the Federal Reserve Bank of New York selected as permanent chairman.

Annual Report for 1923 describes new policy procedures and open market operations as instrument of policy.

1929–1935: The Great Depression

Discount Function

Glass-Steagall Act, 1932
Emergency Relief and Construction Act, 1932
Emergency Banking Act, 1933
Industrial Advances Act, 1934

Between 1932 and 1934, Reserve Bank discount facility liberalized to permit the extension of credit on basis of any satisfactory asset, to individuals, partnerships, and corporations, and for long-term, working capital purposes.

Open Market Operations

Banking Act, 1933
Banking Act, 1935

Congressional recognition of open market operations through establishment and reorganization of Federal Open Market Committee (FOMC)

Bank Holding Companies

Banking Act, 1933

Federal Reserve Board established as sole regulator/supervisor of bank holding companies who are required to register with the Board.

continued

Table 1.1 (continued)

Reserve Requirements
Banking Act, 1935
Board authorized to alter reserve requirements within range established by Congress.
Collective Decision-Making
Banking Act, 1935
Shift in authority from Reserve Banks to Board moderates disputes and establishes better coordination for monetary policy decisions.

1973–1983: Stagflation
Reserve Requirements
Monetary Control Act, 1980
Extension of reserve requirements to all depository institutions

provides a brief review of the Federal Reserve's lineage, a comparison between the kind of organization it was when established in 1914 and is today, a brief introduction to its "long, strange journey," a preliminary assessment of possible explanations, and an outline of the chapters to follow.

LINEAGE

While the Federal Reserve is of relatively recent origin, its roots run deep and, like many other institutions in the United States, to English experience. In 1694, the British Parliament desperately needed funds to finance what had been a five-year global conflict with Louis XIV of France (War of the League of Augsburg). It accepted a novel plan advanced by a group of well-known London men, associated with the Scot promoter William Patterson, to establish a bank that would raise capital in the amount of £1.2 million and promptly lend it to the government at the bargain rate of 8 percent. In return, Patterson's group would be granted a charter permitting them to organize a private, profit-making bank.

Patterson understood the advantages of affiliating with the government. He saw the new institution as "a simple association of public creditors ... with an institution resembling the goldsmiths' banks ... but without the hazard of bankruptcy." Thus the Bank of England came into existence as an instrument of war finance.

Eighty-seven years later in 1781, with the American colonies in rebellion, Alexander Hamilton, a twenty-six-year-old lieutenant colonel and aide-de-camp to General Washington, marveled at the success of Patterson's bank. "Great Britain," he wrote to Robert Morris, "is indebted for the immense efforts she has been able to make in so many illustrious and successful wars essentially to that vast fabric of credit raised on . . . [the] foundation [of the Bank of England]. 'Tis by this alone she now menaces our independence."[3]

When the war was over and a new constitution was in place, Hamilton, as secretary of the treasury, successfully proposed a Bank of the United States, modeled on the Bank of England. It would be jointly owned by the federal government and private stockholders and would serve both the government and commercial customers.

Banking then, as now, generated heated political controversy, raising issues on which both general welfare and personal fortunes turned. Neither Hamilton's Bank of the United States nor a similar Second Bank of the United States, which was chartered in 1816, survived beyond their original twenty-year charters. However, Hamilton's model, which he derived from the Bank of England of a shared banking venture that joined the public interest with private enterprise, endured.

When the charter of the First Bank of the United States expired in 1811, it failed renewal on a close vote in Congress. The Second Bank was abruptly terminated in a conflict between President Andrew Jackson and the bank's president, Nicholas Biddle, in what entered into American history as "The Bank War." Thereafter, the federal government avoided affiliations with the banking community for about seventy-five years. It was not until the early twentieth century that it began to reconsider. A series of harrowing financial crises moved Congress to establish a National Monetary Commission to look again at the Bank of England, among other banking models, and to recommend improvements in the financial system.

Over the years, the Bank of England had become far more than it had been in Hamilton's day. In fits and starts, through the nineteenth century, it had evolved into something new—the world's leading "central bank." It remained the foundation for "the vast fabric of credit" on which the British government depended, it held a monopoly of note issue, and it still had private stockholders to whom it was responsible. However, in the course of the nineteenth century, it had acquired additional responsibilities: to defend England's gold reserves, sustain its adherence to the gold standard, and maintain a stable currency and orderly conditions in financial markets. It had become a "lender of last resort," willing to sacrifice its own profits to address problems arising out of financial crises.

Once again, financial men in the United States were fascinated by its accomplishments, and they undertook to produce an American version.

Their efforts came to partial fruition in 1913 with passage of the Federal Reserve Act.

THEN AND NOW

The need for a central bank had become evident in a series of financial crises that plagued the American economy in the latter part of the nineteenth and the early twentieth centuries. The two earlier Banks of the United States, which had held promise of operating as central banks, had been destroyed in political controversy. While the particulars had changed over time, serious conflict remained. The Federal Reserve Act of 1913 was, as a result, difficult legislation and the product of necessary compromises. The organizational structure of the Federal Reserve System provided a series of checks and balances designed to prevent complete control by either the banking community or the federal government. The powers of the System were limited.

In contrast to earlier federal banks, the Federal Reserve has been a success if only because it survived, but its success has been far more than that. Its size, powers, and influence have grown dramatically over the years. The locus of authority within the System has changed, but the organizational structure is little different today than when it was established.

Genesis

The 1913 Act was infused with conflict—between those who saw a central bank as the handmaiden of Wall Street and those who wanted to reproduce the Bank of England or something very much like it, between farmers and other debtors who had suffered from a persistent decline in prices in the late nineteenth century, and between bankers and investors who viewed inflation as robbery. Compromise shaped the outcome, a joint venture affiliating the banking community with the federal government. The banking community had doubts and so did progressives and populists. Earlier federal banks had not lasted. Its future was uncertain.

In 1913, the federal government was small and relatively unobtrusive. The purposes of the new organization and the powers Congress provided were proportionately constrained. The twelve Reserve Banks, owned by member banks, were located in major cities spread across the country, and a board, appointed by the president, was established in Washington.

The Reserve Banks were provided with twenty-year charters. At the end of 1914, their first partial year in existence, they had accumulated assets (principally funded by member bank deposits) of about $278 million.

The board occupied office space in the Treasury Building. At the end of 1914, its permanent staff numbered forty.

The Reserve Banks were to serve as central liquidity funds, supporting commercial banks when they found, during financial crises, they could not satisfy depositors who, out of need, caution or fear, wanted currency in exchange for their bank deposits. Most of the currency of the day was in the form of gold and silver coin, paper exchangeable into gold, and national bank notes fully supported by the federal government. In financial distress, commercial banks could borrow from their Reserve Banks to obtain currency that would be readily acceptable to their depositors.

The new System was authorized to issue Federal Reserve notes, a new paper money that would serve as legal tender, be exchangeable for gold, and could expand in volume with public demand—an "elastic currency." Congress also expected the new System to reduce the seasonal fluctuations in interest rates that disrupted commercial activity and exacerbated panics, improve the check-clearing system that imposed tolls on the transfer of funds by check, and improve bank supervision. However, there was sufficient vagueness in the language of the law to allow for considerable leeway in interpretation as to how these goals were to be accomplished.

The principal tool of the new organization was its discount facility. Congress intended the Federal Reserve to lend to banks by discounting short-term commercial paper, that is, a thirty- to ninety-day debt, with an exception of a six-month maturity for agricultural paper. It anticipated Federal Reserve operations that would promote the markets for commercial paper and bankers' acceptances.[4] There were no explicit limits on the volume or duration of borrowing by banks.

The United States had formally adopted the gold standard in 1900. It was expected, based on the experience of the Bank of England and other central banks, that the Federal Reserve Banks would raise and lower their discount rates to protect the country's gold reserve.

Congress did not conceive that either the Reserve Banks or the board would have sufficient power to initiate changes in monetary policy that would materially affect the level of employment or the rate of economic growth. There is no mention of the business cycle in the legislative background of the Federal Reserve Act. Employment and growth were matters believed, at the time, to be beyond the control of governments and certainly not their responsibility. Price level stability, a subject of long-running controversy, was not directly confronted by the Act. Many believed that sustaining the gold standard would adequately deal with the problem of inflation.

Congress did not expect to have to pay for any of this. The Reserve Banks would obtain funds from deposits of member banks necessary to meet reserve requirements and from the members' purchase of stock. They were expected to earn their own way by making loans at their discount windows and, if necessary, by acquiring a portfolio of securities in the open market. The Federal Reserve Board in Washington would obtain the funds it needed by assessing the Reserve Banks.

"The Reserve Banks have expenses to meet," the board asserted in its *Annual Report for 1914,* "and while it would be a mistake to regard them merely as profit-making concerns and to apply to them the ordinary test of business success, there is no reason why they should not earn their expenses, and a fair profit besides."[5]

The Reserve Banks struggled in 1915, their first full year of operations, to earn their expenses. In the aggregate, they just about broke even, realizing only about $640,000 more than costs. Only two were able to declare dividends. Two operated at a loss.[6]

Today

More than ninety years later, there are still twelve Reserve Banks located in the same cities in which they were established in 1914. The Reserve Banks are still owned by the member banks in each Federal Reserve District. There is still a Board in Washington composed of presidential appointees. Congress still does not pay for any of it.

While the formal design of the System is little changed, there have been significant changes in the way the components of the System interact and in the locus of authority. An original vagueness in the law fostered conflict between the Board and the quasi-independent Reserve Banks. That vagueness has been replaced by clear lines of authority rising to the Board of Governors in Washington and, in the monetary area, to the Federal Open Market Committee (FOMC) composed of Board members and Reserve Bank presidents.

The Reserve Banks, having outlasted their first twenty-year charters, now have charters of indefinite duration. Currently, the System has assets of close to $775 billion and employs about 23,000 people.[7] The banks have ceased to worry about making enough to "earn ... expenses and ... a fair profit besides." In 2003, a year of moderate earnings because of low interest rates, the Reserve Banks had current income of almost $24 billion. About $22 billion was transferred to the U.S. Treasury as "interest on Federal Reserve notes." In fact, the System has been a good earner for the government. Between 1914 and 2003, it transferred roughly $550 billion to the Treasury.[8]

The System's objectives and powers today far exceed the most extreme contemplations of 1913 or even 1950. It now presides over the full scope of the nation's monetary affairs, both domestically and internationally, with the well-known aims of stabilizing prices and promoting economic growth. Its role as fiscal agent for the Treasury, collecting and disbursing Treasury funds, was contemplated by the original act. It has also developed facilities for the sale and transfer of government securities and, in national emergencies, supported government financing and its debt. Over the years, it added instruments to its policy that now include open market operations and reserve requirements along with the discount mechanism.

Today, the System is also the preeminent supervisor and regulator of banking organizations in the United States. It has a principal responsibility for approving proposed mergers of large bank holding companies, which have, in recent years, substantially altered banking structure in the United States. As noted, it also has a principal responsibility for adjustments to the line separating banking from commerce.[9] It has a capacity, which it has exercised from time to time, to "bail out" failing banks and other financial firms to prevent disruptions in financial markets. It is typically the lead U.S. agency in developing internationally uniform banking regulations.

Monetary policy, traditional bank regulation and supervision, bank mergers and bank activity expansion are not the only areas in which the growth of Federal Reserve authority and influence is notable. It is, today, a principal operator and regulator of payments systems; that is, the mechanisms through which actual payments for goods, services, and debt take place.[10] There has been extensive legislation since the late 1960s in the consumer credit area to provide consumers with accurate information on lending terms and to prohibit unfair and discriminatory practices; the Federal Reserve is the principal developer of regulations.[11] The development of these responsibilities is not reviewed in detail below, but, in general, it has been consistent with the expansion of the System's influence in other areas.

The Federal Reserve exercises its extraordinary powers to public acclaim or denunciation, frequently depending on the state of the economy. For at least a half century after it was created, its policies rarely reached the general public's consciousness and then only in times of severe economic and financial distress. Policies were typically not made public in a timely fashion, if at all. Its principal officials were, in general, not recognizable public figures.

A notable change has been the public awareness of the System and the board's chairmen, most recently Alan Greenspan. The chairman today is obliged to make regular appearances before congressional committees and to make his views public on a wide range of economic and financial issues. He has become a popular icon.

Though its monetary policies are still formulated in closed meetings, they are made public promptly thereafter. After each FOMC meeting, large numbers of people wait with interest and concern for the announcement of the committee's decision on interest rates. Likely policy actions are discussed in the press and on TV days and weeks in advance of FOMC meetings, and the policies adopted are debated for days and weeks after. In fact, the System's policies are continuously scrutinized by financial journalists, economists, and law firms that have affected clients. It has fewer secrets today than it once had, though at least one writer has recently complained, whether with justification or not, that "the underlying reality is that the Fed is not about to become a transparent organization ... it 'is secretive by nature, suspicious of outsiders, and possessed of an esprit de corps that borders on fanaticism.'"[12]

Transparent or opaque, celebrity has been accompanied by a widespread understanding of what the Federal Reserve System is and does, particularly with regard to monetary policy, and how it affects the price level, the rate of unemployment, economic growth, income, and wealth. Policies in related areas of authority, including bank regulation, mergers, and payments systems, attract less public attention, even though they also can have enormous impacts on economic welfare.

Overall, there are two striking features about this "then" and "now" comparison. The first is the remarkable expansion in authority and influence of the organization. The second is the stability of the Federal Reserve System's distinctive organizational design. Since it was established, central banks in other countries have been nationalized, privatized, and reorganized.[13] This has not been the case for the Federal Reserve. The original design of the System as a regionally diverse, quasi-autonomous joint venture has been sustained.

A LONG, STRANGE JOURNEY

The Federal Reserve growth spurts, as shown in Table 1.1 and discussed above, have occurred in the course of economic distress that has, periodically, threatened its organizational integrity—usually during or immediately following episodes in which many believed its policies either caused or exacerbated the distress. To summarize and elaborate, the first episode, in 1919–1921, involved inflation and deflation traceable, in some measure, to the System's too-long sustained easy money policy followed by a belated, harsh, and overlong reversal to tight money. Serious criticism was followed by a congressional investigation that the System successfully confronted. It shortly, thereafter, introduced a reformulated approach to policy, adopted coordinated open market operations as a new instrument, and embarked on what some have termed its "golden age." The second episode began with the stock market crash of 1929, followed by the Depression and financial panic in the early 1930s. Some contemporaries, and almost all who have looked back at the period, traced the severity of the problems to inept Federal Reserve policies. At the time, serious criticism and radical proposals for change were advanced. They were ultimately shelved. Legislation in the 1930s shifted power from the Reserve Banks to the Board but did not alter the fundamental character of the organization. It strengthened existing System monetary instruments and added another. It also established a basis for extended supervisory authority by designating the board as the sole supervisor of bank holding companies. The third episode covered a decade of relative economic stagnation coupled with inflation, ending in the early 1980s with unprecedented interest-rate volatility, recession, and institutional disruption. Again the System was severely criticized for its misguided policies that contributed to an accelerating inflation followed by severe monetary restraint.[14] Again the outcome was an expansion of Federal Reserve authority including, from the System's point of view, a sorely needed extension of reserve requirements to nonmember banks, as well as to all other depository institutions, at a time when the decline in bank membership had alarmed the Federal Reserve.

As noted, during each episode, influential voices called for sanctions, not rewards. In the recent past, the best-known critic has been the Nobel laureate, Milton Friedman. In the early 1980s, in the wake of disastrous economic developments and unprecedented interest-rate volatility, he proposed that the Federal Reserve be eliminated and its necessary powers placed either in a bureau in the Treasury or under the direct control of Congress.[15] About the same time, others attacked the Federal Reserve's supervisory and regulatory authority, arguing that the System had made serious errors in this area, did not need such authority, and that this authority should be redistributed to other federal regulatory agencies. The Federal Reserve's most recent advance as a supervisor and regulator, provided by the Gramm-Leech-Bliley Act of 1999, would not have occurred had the System not survived the intense attack on its regulatory authority in the early 1980s and later in the early 1990s.

For an organization to grow in power and influence in this way is not a simple accomplishment. Private firms in a free market that fail to meet their objectives are typically reorganized and/or pass out of existence. Even government agencies that repeatedly fail to achieve their aims are eventually diminished or marginalized. The Federal Home Loan Bank Board that presided over the savings and loan debacle in the 1980s was eliminated. For the Federal Reserve to err, however, has not been fatal. Failure has been the catalyst for organizational success.

FRAGMENTARY EXPLANATIONS

Comprehensive explanations that have been advanced or can be inferred for System survival and growth have, in general, been inadequate. One is that the System has been fortunate, not in random developments but in its own leadership and in the support it has mustered in Congress in critical periods. In the early 1920s, Benjamin Strong, the governor of the Federal Reserve Bank of New York, successfully defended the Federal Reserve in congressional testimony. He was, thereafter, instrumental in implementing an innovative operating procedure along with coordinated open market operations. (Some have attributed the failure of System policy in the 1930s to the loss of his leadership when he died in 1928.)[16] In the 1933–1935 episode, Carter Glass, then chairman of the Senate Banking Committee, successfully repelled administration forces that wanted to remove the Reserve Banks from meaningful participation in policy. In the early 1980s, Paul Volker, chairman of the Board of Governors, ultimately found a successful strategy for overcoming stagflation and interest-rate volatility.

These salvage stories illuminate the details of survival, but they do not provide a coherent explanation as to *why* the System has been so fortunate in the "great men" who have come to its rescue. Therefore, they beg the question as to the sources of the Federal Reserve's capacity to resist widespread criticism and grow in the face of deficient policy.

A more systematic, if less flattering, explanation of the System's continued success can be inferred from some of the criticism of the last twenty-five years. It has been alleged that the Federal Reserve, aiming at self-preservation, curries favor with important constituencies and also engages in devious bureaucratic manipulation, unjustified secrecy, and dissembling.[17]

The Federal Reserve's transcendence, then, could be attributed to its genius in protecting itself and warding off opponents and to the System's persuasiveness in convincing Congress that its failures were attributable to factors other than itself. Thus, the System prevails by stealth and deception.

The "manipulative genius" hypothesis seems, at best, fanciful. It has never been demonstrated that there is anything either uniquely brilliant or uniquely depraved about the Federal Reserve's political behavior that would protect and advance its interests.

Even darker and older in origin have been the critics who viewed the System as a conspiracy to benefit special interest groups and, in particular, powerful international bankers, frequently characterized as "Jewish." "[T]he clique ... hid out on Jekyll Island until they devised the most insidious steal in history—the Federal Reserve System.... It is a private corporation of international bankers, designed specifically to usurp the Constitutional

Right of Congress to print and evaluate our money, so that they can control our affairs and ultimately the affairs of the world."[18]

Whether an instrument of the "New World Order" or, as more religious critics have suggested, of Satan, the Federal Reserve is to the conspiracy crowd a "creature from hell." The Federal Reserve's systematic success in the face of policy failure would be explainable as the result of its ties to socially dominant special interest groups.

While long-lived and always colorfully presented, the principal evidence of the conspiracy theories seems to be the secret meeting in the winter of 1910 at J. P. Morgan's retreat on Jekyll Island. The relevance today, or even in 1913, is difficult to fathom. There are elements associated with these theories that are so unrealistic and distasteful as to invite a dismissal out of hand.

There have been other explanations for the System's survival in specific episodes such as in the 1930s and in the 1979–1982 period.[19] These single-episode explanations are invariably incomplete. They will be discussed in the chapters that follow.

AN EVOLUTIONARY APPROACH

The survival and growth of private firms have been subject to extensive study. There has, however, been relatively little investigation of government agencies along these lines.[20] The expansion of the System might be seen as paralleling the standard description of a firm's development as analogous to the human life cycle, which takes firms from their origins through phases of rapid growth, maturity, and decline.[21] However, these phases hardly seem applicable to an organization that has grown spasmodically, surging in cataclysms and in the face of real or perceived policy failures.

Biological evolution would seem a better analogy. It suggests a focus on the way in which the organization copes, successfully or unsuccessfully, with its changing external environment and/or internal conditions. It encompasses the acquisition of useful information and competence; that is, "learning" that enhances the organization's capacity to cope and to operate efficiently in meeting its objectives. Coping successfully is reflected, over time, in adaptations that affect organizational survival and growth, with feedback that, for a central bank like the Federal Reserve, further changes the environment in which it operates.[22]

There is a literature on organizational evolution.[23] Among other things, it points out that organizations tend to operate rigidly and thus better in stable environments than when faced with radical changes that require new or flexible responses. However, stable environments are rare commodities for a central bank. Volatility is their raison d'etre. Exogenous shocks that threaten disaster are their standard fare. Moreover, the problems that present themselves are rarely, if ever, identical to those of the past.

Clearly, the Federal Reserve has not always coped successfully. Its failures have, in turn, worsened the financial environment and placed the organization itself in jeopardy. In examining the Federal Reserve's development, it is reasonable to look for the sources of its survival in its adaptation in such environments.

PLAN OF BOOK

Looking at the Federal Reserve System as a "going concern" in a process of changing since its origin, responding to its changing environment, and both failing and succeeding in the face of intense criticism and threatened devolution, we will examine the three episodes identified above. The outcome was the Federal Reserve's survival and growth, and this tells us that the System has been repeatedly selected. If this is the case, it must have certain advantageous traits that facilitate successful adaptation. Identifying these traits will explain its transcendence and throw light on its likely future.

Addressing the phenomenon of the System's resilience requires an excursion into the roots of central banking in the United States and, thereafter, an examination of the three critical episodes that were briefly described above. The next chapter describes the Federal Reserve's legacy. It reviews the influential past that affected both the Federal Reserve Act of 1913 and the early leaders of the System, and it traces the debate and legislative process that culminated with the Federal Reserve Act. Chapters 3 through 5 present and analyze the three key episodes in which Federal Reserve policy was deemed, by many, a failure but out of which the Federal Reserve emerged with its powers augmented and/or its authority extended. Chapter 3 covers the inflation and subsequent deflation in the post–World War I period. Chapter 4 examines the stock market bubble and crash in 1929 and the subsequent depression in the early 1930s. Finally, Chapter 5 covers the stagflation of the 1970s and the volatility of the early 1980s.

In the course of this development, perhaps sometime within the last thirty-five to forty years, as its authority, influence, and historical significance became apparent, the Federal Reserve System took on a new name—"The Fed." In the following discourse, the organization is referred to as the Federal Reserve System, the Federal Reserve or, simply, the System, until the developments that resulted in the current nomenclature are reviewed and evaluated.

Chapter 6 provides an analysis of the nature and sources of the Federal Reserve's survival and growth, based on the developments reviewed. Chapter 7 provides some final remarks that, among other things, evaluate the organization's future prospects.

CONCLUSIONS

The Federal Reserve System has grown and developed extensively over the past ninety years. The System's early aims and functions have been elaborated. Its powers, responsibilities, and capabilities have expanded comparably. Its transformation has helped transform the way the economy functions. The Federal Reserve has had a material impact on the "common wealth."

How the Federal Reserve got from there to here is a curious story. Its expansion has been episodic, occurring during and immediately following periods of economic disruption, and the result of questionable, if not failed, policies that contributed to the disruption. This book is about the anomaly of its success—how the System has prevailed in the face of disasters and, in particular, three organizational crises that threatened its continued existence.

In each of the episodes, the System's organizational integrity and even its continued existence was threatened. In each case, however, it grew in authority and influence. Resolution of the threats posed in these periods have led to the transformation of the Federal Reserve System from what it was to what it is.

After almost a century, this success cannot be considered accidental. We have to infer that its organizational endowments and its accumulated knowledge—its "traits," both inherited and the result of variation under the stimulus of adversity—explain its success in hostile environments. What we now see, for good or bad, are the results of an evolutionary process.

At the end of the twentieth century it could be written that:

> the delegation of monetary policy-making to the peculiar complex ... known as the Federal Reserve System appears at long last to be paying substantial dividends.... At last, it seems, a combination of piecemeal reform, economic learning, and institutional evolution has produced something approaching what the system's champions have long envisioned for it.[24]

One should not expect such praise to last long, and it hasn't. With the stock market crash and a recession, new critics emerged to find fault with the Federal Reserve System, its policies and its chairman. Paul Krugman, a Princeton University economist concerned about economic growth, wrote in the *New York Times* at the end of 2001, "The Fed has now cut interest rates 11 times this year, and has yet to see any results. What's going on? One answer is that something has gone wrong with the monetary 'transmission mechanism,' the drive train that normally links the Fed's actions with the real economy. And one of the people who stripped the Fed's gears is Mr. Greenspan himself."[25]

Those concerned about inflation have been no less harsh. Steve Forbes, editor-in-chief, of *Forbes Magazine* wrote in December 2003, "The Federal Reserve is planting the seeds for future inflation. This, at a time when we're just recovering from the inadvertent deflation the central bank caused, which began in the late 1990s and didn't end until last year. The Fed, in short, is printing too much money.... Alan Greenspan is guilty of monetary malpractice."[26]

If the criticism becomes sufficiently intense, we might expect, on the basis of the paradoxical historical record, still further enhancements of Federal Reserve authority. In the following pages, we will attempt to determine, on the basis of the experience reviewed, why this might be the case.

chapter **2**

The Federal Reserve's Legacy

"[I]f legislation becomes a living part of social experience, typically it does so as the result of a continuing process only part of which is represented by putting words in a statute book.... The text derives its vitality ... from its past...."

James Willard Hurst[1]

Banking and monetary conditions in the United States before the Federal Reserve System was established, to say nothing of after, were never calm for very long. Whatever their virtues, the existing arrangements typically proved to have serious flaws that generated financial instability of one kind or another. Political agitation, sooner or later, produced new configurations whose flaws, over time, again became manifest.

The Federal Reserve Act was influenced by the American experience with failed federal banks chartered by Congress in the late eighteenth and early nineteenth centuries and by a series of financial crises in the late nineteenth and early twentieth centuries. The Panic of 1907 afforded a proximate cause for bank reform; so did a growing awareness of the superior banking and central banking practices in Europe.

In this chapter, we consider the history of the times that affected the Federal Reserve Act and the Federal Reserve itself when it came into existence; that is, relevant financial and economic conditions, knowledge, and beliefs that existed in 1913–1914. These include an awareness of earlier events and recent developments that, by avowal or allusion, were important to bank reformers and legislators and that helped shape both the law and the minds of the early leaders of the System. At its origin, the Federal Reserve was, as with other organizations, "the cumulative effect of a long string of happenings stretching back into the past."[2]

THE SHADOW OF THE SECOND BANK

In 1927, fifteen years after the Federal Reserve Act was passed, Carter Glass, who had been Democratic chairman of the House Banking Committee and was considered by many, including himself, the father of the Federal Reserve System, published his account of the legislative process that produced the Act.[3] One episode reported by Glass is particularly revealing.

In May of 1913, believing his bill had President Wilson's support, he was shocked by a confrontation with the secretary of the Treasury, William McAdoo, who proposed his own bill that would establish a central bank in the Treasury Department. "Are you serious?" Glass asked. "Hell yes!" McAdoo answered. Fearful that Wilson had changed his mind and realizing that the banking community would be vehemently opposed, Glass found that "the ghost of Andrew Jackson stalked before my face in the daytime, and haunted my couch for nights."[4]

He, thereafter, rallied the opposition, and ultimately McAdoo's proposal was shelved. "But, heaven help us," Glass exclaimed, "what a narrow escape that was from wrecking currency reform and precipitating another government bank upheaval!"

The upheaval Glass had in mind was The Bank War of the early 1830s that had pitted Andrew Jackson against Nicholas Biddle, president of the Second Bank of the United States. Jackson denied the bank a charter renewal and effectively destroyed it by withdrawing the government's deposits before its existing charter expired.

The political and economic ferment that followed was a calamity. Ultimately, the Second Bank passed away. Thereafter, without the leadership of a developing central banking organization, serious money and banking problems repeatedly materialized. Remedial proposals were whiplashed between those who viewed banker control of monetary matters as augmenting the monopoly power of the "monied interests," and those who believed federal government involvement in banking to be incompetent and tyrannical.

The most interesting element of the story, for our immediate purpose, is Glass' rhetoric. As late as 1927, he felt it useful to present his views in terms of the century-old Bank War. Even at that late date, the story resonated in the banking, political, and academic communities to which his book was addressed.

The Banks of the United States

The Second Bank was preceded by the First Bank of the United States, which came to only a slightly less unpleasant end.[5] As secretary of the Treasury, Alexander Hamilton proposed a privately managed bank, affiliated with the government, like the Bank of England.[6] He argued that "banks are a usual engine in the administration of national finances ... and the most effectual instrument of loans, and one which, in this country has been found essential."[7] It was to be privately managed because "the keen, steady, and, as it were magnetic sense of their own interest as proprietors, in the direction of a bank ... is the only security that can always be relied upon for a careful and prudent administration."[8]

With George Washington's approval, the First Bank came into existence in 1791 with headquarters in Philadelphia and a twenty-year charter. Among other things, it exerted the influence of its position as the repository for federal taxes and duties by refusing to accept the notes of state-chartered banks that did not convert them to gold or silver on demand. It, thus, had begun to restrain excessive credit extensions and note issue.[9]

When its charter expired, Congress, by the narrowest of margins and voting strictly along party lines with Republicans against recharter and Federalists in favor, decided against the bank. The First Bank closed its doors permanently on March 3, 1811, a little more than a year before a second war with Great Britain was declared.[10]

In the economic and financial disruptions that accompanied the War of 1812, the First Bank of the United States was missed. State banks, no longer restrained, expanded credit and issuance of bank notes recklessly. By the fall of 1814, almost all the banks in the country had stopped exchanging their notes for gold and silver that served as their reserves as well as currency; that is, they suspended specie payments.[11] It took two more years before Congress passed a bill to establish a Second Bank of the United States. On April 10, 1816, President James Madison signed the bill creating the new institution.

The Second Bank was also headquartered in Philadelphia and given a twenty-year charter. It was significantly larger than the first.[12] It was to be governed by a board of twenty-five directors, twenty of whom were elected by stockholders and the remaining five appointed by the president of the United States. It was given the authority to make loans, accept deposits, and issue bank notes that would circulate as currency, provided each note was signed by the president of the bank and was redeemable in specie on demand.[13] The bank's notes were receivable for federal taxes and duties, as were those of state-chartered banks that redeemed their notes in specie.[14] It was designated the depository for all government funds and was to serve as the fiscal agent of the Treasury. The Secretary of the Treasury was permitted, by law, to deposit funds elsewhere, but, in doing so, he was required to explain why to Congress. The bank was required to transfer public monies without charge.[15] Ultimately, it had branch offices in twenty-five other cities.[16]

The early years of the Second Bank proved difficult. Its first president was accused of mismanagement and forced to resign after about a year in office. Under its second president, financial conditions in the country deteriorated.

Nicholas Biddle, the third president of the bank, was appointed in 1823 at the age of 37. A prodigy born to a prominent Philadelphia family, he had entered the University of Pennsylvania at the age of 10 and graduated from Princeton at the age of 15. He had been secretary to the American minister to France, dealing with some of the financial details of Jefferson's Louisiana Purchase, had been secretary to James Monroe when he had been the American Minister in London, was the first editor of the Lewis and Clark journals, had begun his own literary magazine, and had served as a government-appointed director on the Bank's board since 1819.[17]

Appraisals of his leadership for his first five years have ranged from good to spectacular. The Bank's policy of restraining state bank note issues by presenting notes for payment in specie expeditiously helped maintain convertibility, stabilized the value of the currency, and promoted economic stability and growth. Prominent economic historians have characterized Biddle's practices as constituting central banking, or something close to it, before there was a name for what he was doing. Bray Hammond has argued that "the Bank performed these functions deliberately and avowedly—with a consciousness of quasi-governmental responsibility, and of the need to subordinate profit and private interest to that responsibility."[18] The Bank of England, generally acknowledged to be the first true central bank, was still far from operating as one. It is generally acknowledged that at least until 1860 the Bank "almost continuously displayed an inexcusable degree of incompetence or unwillingness to fulfill the requirements which could reasonably be demanded of a central bank."[19]

Jackson, Biddle, and the Bank War

During the administrations of James Monroe (1817–1824) and John Quincy Adams (1825–1828), Biddle got along reasonably well with the federal government.[20] However, things changed when Andrew Jackson was elected in 1828. The following year, in a message to Congress, Jackson questioned both the constitutionality and usefulness of the bank and also questioned the propriety of its continuation after 1836 when its twenty-year charter would expire.

Some of Jackson's supporters would have liked him to go further and dispense with the chartering of banks completely. "The difference between

England and the United States," William Gouge wrote, "is simply this: in the former country, exclusive privileges are conferred on individuals who are called Lords; in the latter, exclusive privileges are conferred on corporations which are called Banks."[21]

Biddle rose to the challenge. With the support of congressional allies, including Henry Clay and Daniel Webster, he pushed for an early rechartering of the Second Bank. A bill to do so was passed by Congress on July 3, 1832. In his veto message, Jackson characterized the bank as both unconstitutional and a monopoly.

The veto became an important issue in the election of 1832. Jackson's landslide victory sealed the bank's fate.[22] In 1833, he had all federal deposits removed from the Second Bank and redistributed among a select group of state institutions that his opponents derided as "pet banks."

The Senate responded by adopting a formal resolution censuring Jackson for the withdrawal, indicating that it was arbitrary and unconstitutional and was certainly a violation of the legislative requirement that any such withdrawal be explained to Congress. Biddle, in hope of having the federal deposits restored, tightened credit at the bank, arguably because of the loss of funds but also, it turned out, to pressure Jackson to return the federal deposits. The credit tightening was followed by a panic and depression in 1834, which Jacksonians labeled "Biddle's Panic."

Aftermath

In the absence of the monetary restraint that the Second Bank had routinely imposed, the volume of bank notes expanded over the next several years. The result was a rise in prices. Responding to the inflation, Jackson issued an order in 1836 requiring payment of all federal obligations in gold or silver—the "Specie Circular." Another panic followed.

After the expiration of its federal charter, the Second Bank continued operations with a Pennsylvania charter. Along with many other banks, it was forced to suspend specie payments during the Panic of 1837. It again suspended payments in 1838. It finally failed in 1841. It paid its creditors in full, but its shareholders lost everything.

The practice of depositing government funds in pet banks was objectionable on a number of grounds, not the least being that it smacked of government favoritism. Jackson's successor to the presidency, Martin Van Buren, proposed to disengage from the banking system entirely by establishing an Independent Treasury. Subtreasuries would collect, hold, and disburse government funds. The system was established in 1840, terminated in 1841 when the National Republicans (Whigs) took office, and then reestablished by the Democrats (formerly Republicans) in 1846. The

Independent Treasury remained in existence until it was absorbed into the Federal Reserve System in 1913. It was finally dissolved in 1921.

Sixty years after the Panic of 1837, financial journalist Horace White succinctly summarized the nature of the personal tragedy that accompanied the end of The Bank War.

> Biddle lost all his money. His town house and his country house were sold by the sheriff. Old friends cut him on the street. Societies of which he was a member considered his presence among them an intrusion. He was indicted by the grand jury for conspiracy to defraud the shareholders of the bank, but the indictment was quashed. He was not guilty of anything but bad banking. A civil action was brought against him by the bank for $1,018,000 for which no vouchers could be found.... He died poor and broken-hearted at the age of 58.[23]

The "Greek temple" with marble pillars on Chestnut Street in Philadelphia, in which the Second Bank had been housed, thereafter became a custom house. For the bicentennial in 1976, the Park Service refurbished the ornate building, converting it to a portrait gallery, with little or no remembrance of either the Second Bank, Nicholas Biddle, Andrew Jackson, or The Bank War.

The war may have been forgotten by the Park Service, but it was long remembered by others. The unfulfilled promise of the Second Bank, and the circumstances surrounding its passing, tortured the minds of public men long after the personal combat it had sparked passed into the history books. So, for example, when central banking legislation began to take shape in the United States, a *New York Times* editorial of March 4, 1911, commented on deliberations in the Chamber of Commerce on a motion to support the Aldrich bill to establish a National Reserve Association.[24]

> Yesterday was the centennial of the end of the first experiment of the United States in central banking [1811], and Mr. J. Howard Cowperthwait thought that was a suitable occasion to oppose the motion.... Yet ... [he] proceeded to say that there was nothing the matter with the first Bank of the United States as a bank, nor yet with the second Bank. Both became 'political footballs,' and from that day to this 'the spectre of Andrew Jackson had stood at the portals of Congress to destroy any attempt to centralize banking.'[25]

Carter Glass, it appears, was not the only one visited by "the spectre of Andrew Jackson." The visitations did not end with Glass and Cowperthwait. The Second Bank cast a very long shadow.[26]

MONETARY INSTABILITY

Before the Civil War, instability was manifest in the inability or unwillingness of substantial numbers of banks to maintain specie payments and the depreciation of their notes from face value. Shortly after the outbreak of the Civil War, northern banks suspended specie payments and the federal government followed suit. In February 1862, Congress, searching for revenue, authorized an issue of U.S. legal tender notes called "greenbacks."[27]

With the issuance of greenbacks and the suspension of specie payments, metallic money virtually disappeared from circulation. State bank notes and short-term treasury notes passed from hand to hand as currency. The gold value of greenbacks fell precipitously as prices rose.[28]

The need to establish a stable and uniform currency was addressed by the National Banking Act, which was initially passed in 1863. The law effectively replaced state bank notes with new notes issued by nationally chartered banks—national bank notes. When state banks resisted joining the System, Congress imposed a 10 percent tax on their notes, making issuing notes unprofitable.

National bank notes were secured by government bonds purchased by the banks and deposited with the treasury as well as other bank assets. The treasury committed to pay note holders immediately if a national bank failed, even if the prices of the underlying bonds were depressed. Thus, they were also secured by the "full faith and credit" of the federal government.[29]

The law provided for extensive regulation of national bank loans, reserves, and capital by a new official in the Treasury Department, the comptroller of the currency. The comptroller was also given authority to charter new national banks. As interpreted, the law did not permit national banks to branch or to engage in investment banking or commercial enterprise.

The National Banking Act, then, went some distance in establishing a currency that would always exchange at face value. Gold and silver coins, silver certificates, and, of course, greenbacks also circulated as currency. Through the remainder of the century, numerous problems developed in the effort to maintain stable values for the several types of currency.[30]

The technical problems of establishing a completely uniform currency were exacerbated by political conflict that developed as prices declined. Between 1872 and 1895, commodity prices declined—in total, by more than 65 percent (see Table 2.1). The deflation, reflecting limits on the amount of money in circulation as the economy grew, pitted debtors in the South and West against creditors in the East. It was in this context that William Jennings Bryan energized the Democratic Party and its populist wing in the presidential election of 1896.

Bryan lost the election of 1896 to William McKinley. With discoveries of gold in the Yukon, Alaska, and South Africa and the development

Table 2.1

Index of Commodity and Farm Prices: 1872–1910 (1872 = 100)

Year	All Commodities	Farm Products
1872	100.0	100.0
1873	97.8	95.4
1874	92.6	94.4
1875	86.8	91.7
1876	80.9	82.4
1877	77.9	82.4
1878	66.9	66.7
1879	66.2	66.7
1880	73.5	74.1
1881	75.7	82.4
1882	79.4	91.7
1883	74.3	80.6
1884	68.4	75.9
1885	62.5	66.7
1886	60.3	63.0
1887	62.5	65.7
1888	63.2	69.4
1889	59.6	62.0
1890	60.3	65.7
1891	41.0	50.2
1892	38.4	45.8
1893	39.3	47.5
1894	35.2	41.3
1895	35.9	40.6
1896	34.2	36.7
1897	34.3	39.4
1898	35.7	41.6
1899	38.4	42.4
1900	41.3	46.8
1901	40.7	48.9
1902	43.3	54.1
1903	43.8	51.5
1904	43.9	54.2
1905	44.2	52.2
1906	45.4	53.1
1907	47.9	57.6
1908	46.3	57.6
1909	49.7	64.4
1910	51.8	68.8

Source: Historical Statistics of the United States, U.S. Department of Commerce, Washington DC, September 1975, pp. 199–201.

of new processes for refining ore, falling price levels were finally reversed after 1896. From that year to 1914, the general price level increased about 40 percent, intensifying creditors' concerns about inflationary policies.

CRISES AND PANICS

Monetary instability was compounded during the post–Civil War years by financial crises. In his monograph for the National Monetary Commission in 1910, O. M. W. Sprague described major crises in 1873, 1884, 1890, 1893, and 1907.[31]

The terms "crisis" and "panic" were sometimes used interchangeably, but reasonable distinctions were suggested. Wesley Claire Mitchell, in his seminal work on business cycles, proposed that a crisis involved failures, bankruptcies, and insolvencies; that is, what today might be termed a recession. A panic, on the other hand, included a shock to confidence. Such a shock created a scramble for money that impelled banks to restrict the convertibility of deposits into currency, made it difficult or impossible for them to extend credit even to solvent firms, and jeopardized the operations of financial markets.[32] In general, the terminology below conforms to this distinction.

Rise of Deposit Banking under the National Banking Act

Prior to the Civil War, banks faced by a "scramble for money" would be forced to suspend the convertibility of their notes into specie. However, they would continue to extend credit and accept deposits. Their notes would continue to circulate but at a discount from face value.

Differences emerged as deposit banking developed in the United States. After the war, when banks in such situations were forced to restrict the convertibility of deposits into acceptable forms of currency, whether it be national bank notes, gold or silver coin, or other paper money convertible into gold or silver, they would effectively shut down, spreading distress to the businesses that relied on their credit.[33]

The value of a bank's deposits depended on the faith depositors had in the banks that provided them. As long as depositors believed they could convert their deposits to an acceptable form of currency on demand, deposit values were stable. In periods of financial panic, however, depositors quickly lost faith, banks quickly restricted convertibility, and the value of currency rose relative to deposits.

Financial Panics

The proximate cause of each crisis and/or panic following the Civil War was unique—a large loan default in New York, a crop failure, or a failed financial institution. Some began in New York and spread throughout the country. Others began inland and spread to New York. Panics typically developed with the pattern of seasonal change. Demands for funds in the agricultural areas increased sharply in the spring as farmers purchased seed, fertilizer, and equipment for planting. They increased again in the fall as crops were harvested and moved to market. As farm banks lost reserves to their depositors, they drew down their own reserves that were deposited with larger city banks. Spring and fall were critical times favorable to the emergence of panic.

Whatever the initiating incident, whatever the time of year, a series of events were set in motion that resulted in depositors losing faith in banks and rushing to convert their deposits to currency. Currency acceptable to depositors and obtainable by banks was, however, limited. As currency was withdrawn, bank reserves, required by law to support deposits and necessary to extend credit, fell. Interest rates rose. Fearful of depleting their reserves, banks restricted or suspended the convertibility of deposits to currency. To do so was illegal, but suspension under such circumstances was typically disregarded by law enforcement.[34] A full-blown panic included runs on banks, bank failures, and the collapse of the stock market.

Panic Management

Panics required collective action. Groups of banks and individual bankers intervened in efforts to moderate their effects. So did the U.S. Treasury.

Clearing House Associations

Before the middle of the nineteenth century, banks had collected checks and settled accounts by dispatching a representative who carried checks drawn on other banks in town. At each bank, he settled up, presenting checks drawn on the bank and accepting checks drawn on his bank. The differences were settled in gold.

When the number of banks in New York City increased to the point where there were too many banks for representatives to visit each day, they organized a clearinghouse that made traveling the city with account books, checks, and gold unnecessary. The New York City Clearing House Association, established in 1853, was the first in the country.[35] Each day, the banks sent a representative to the clearinghouse so that checks could be cleared and balances settled. New York provided a model for clearinghouses established in Boston, Philadelphia, Baltimore, and Chicago a few years later. By the 1880s, almost every town and city had a local clearinghouse association.

The clearinghouses were quickly enlisted in panic management, providing a partial though, in the end, politically unacceptable remedy. In the crisis of 1857, with New York banks needing currency to meet the demands of depositors, clearinghouse members pledged their assets as collateral in return for short-term certificates backed by the clearinghouse. The certificates matured in thirty to ninety days and paid interest. They could be used as a substitute for currency in making payments to other banks. They could also be given to the public directly in lieu of currency. This freed currency to meet the demands of depositors.[36] Clearinghouse certificates were issued in every panic thereafter until passage of the Federal Reserve Act.[37]

By the Panic of 1893, clearinghouse certificates that had begun as a means of payment for banks alone, with denominations of $5,000 and $10,000, had become a means of payment for the public, with denominations that were as low as $10. In the Panic of 1907, loan certificates had denominations as low as $.25. Other substitutes for currency issued during crises included certified checks, certificates of deposit, and cashier's checks in all denominations.

Clearinghouse certificates distributed to bank depositors constituted the private issue of money and were most likely illegal. However, as has often been the case in banking, expediency trumped legality. James Cannon, the president of the Fourth National Bank of New York, wrote an authoritative work on clearinghouses for the National Monetary Commission in 1910. He concluded that clearinghouse certificates were "one of the finest examples the country has ever seen of the ability of the people when left to themselves to devise impromptu measures for their own relief."[38] He favored legitimizing them.

> The purpose of the Clearing House Loan Certificates, which were used so extensively in the panic of 1907, was to allow the banks to take to the Clearing House their fixed assets and to convert them into a medium of exchange between themselves, thus allowing the extension of further credit ... [I]f we could have a provision for the issuance of an asset currency, through a modification of the Clearing House system, and properly authorized under government supervision, it would go a long way toward allaying the fear which occurs at such periods and would, to a great extent, prevent these periodical disturbances in our financial world.[39]

With clearing and settlement expanding to crisis management, clearinghouses began to audit and supervise their member banks.[40] In the seeming interest of "safety and soundness," they also became a locus for competitive restraints. Agreements were worked out to fix interest rates on deposits and loans, to restrict customers from changing banks, and to regulate advertising.[41] Member banks that violated clearinghouse rules were punished by expulsion, thereby losing indispensable privileges.[42]

Treasury Policies

By the late seventeenth century, the treasury had also begun to play a role in alleviating panics. It found that it could relieve pressure on bank reserves by shifting gold from its own vaults to the vaults of national banks with insufficient reserves. It intervened during a monetary stringency in 1899, after a stock market collapse in mid-1901, and later in the same year when markets were destabilized by the assassination of President McKinley. Leslie M. Shaw, the Secretary of the Treasury appointed by President Theodore Roosevelt in 1902, posited that national banks were components of the Treasury; they were chartered, supervised, and regulated by a treasury official (the Comptroller of the Currency) and provided currency (national bank notes) in amounts tied to their ownership of federal government bonds. He justified his intervention by arguing that moving treasury gold to national bank vaults was simply a transfer of funds from one part of the treasury to another.[43]

Treasury intervention was transformed from an emergency measure to a regular operating procedure under Shaw. Like others, he recognized that the seasonal volatility in the demands for funds helped produce or worsen crises in periods of stringency.[44] Using the level of short-term interest rates and national bank reserves as a signal, he would move treasury funds to banks to reduce the pressure.[45] He would also order the purchase of outstanding government securities in the open market to reduce yields.[46]

In his final report to Congress (1906), Shaw stated that given sufficient funds and the appropriate authority there would be no panic that he could not avert.[47] Friedman and Schwartz commented: "It is tempting to laugh this statement off as a prize example of bureaucratic megalomania.... Though overdrawn, it contains much truth. The Treasury's monetary powers were very great indeed. If they had been expanded as Shaw requested, the Treasury would have been clothed with effective power different from but not clearly inferior to that later assigned to the Federal Reserve System."[48]

The Panic of 1907

The Panic of 1907 ignited the bank reform movement. It illuminated the deficiencies of the financial system and the necessity for collective action, and it clearly posed the question as to what agency or agencies should undertake such action. It, thereby, precipitated events that led to the Federal Reserve Act in 1913.

Course of the Panic

The Panic began in October, during a season of high demands for funds in agricultural areas, in the course of a recession that had begun in May. The proximate cause involved floundering trust companies in New York. As noted, panics tended to adhere to an internal logic, with one event precipitating others in a dynamic expansion of financial distress. Ultimately, the panic engulfed banks throughout the country, threatened collapse in the stock market, raised interest rates to inordinate levels, and placed currency at a substantial premium over deposits. A timeline for the Panic of 1907 traces its course (see Table 2.2).

The particular event that initiated the movement toward panic was a decline in new construction during the recession.[49] As a result of the decline, the price of copper dropped from 26 cents a pound early in the year to 12 cents a pound in October. The effect was to depress the stock of copper mining companies. Company owners who had used their stock as collateral to borrow heavily were placed in jeopardy. F. A. Heinze, one such owner, had organized a pool to increase the share price of the United Copper Company. On October 14, the pool had succeeded in running up its shares from \$37.25 to \$60. Two days later they fell to \$10. On October 17, Otto Heinze & Company, a brokerage firm owned by F. A. Heinze's brother, suspended operations.[50]

In addition to copper speculation, F. A. Heinze was president of the Mercantile National Bank, a New York institution with about \$12 million in deposits. It was widely believed that Heinze had taken large loans from Mercantile, using copper mining stock as collateral. During the week of October 14, Mercantile's depositors began to withdraw their deposits. Thereafter, suspicion spread to seven other banks controlled by C. F. Morse and E. R. and O. P. Thomas, men believed to have close business relations with Heinze.

As a result of withdrawals, the Mercantile National Bank was unable to meet unfavorable clearing balances.[51] It was granted assistance by the New York Clearing House Association on condition that the president and board of directors resign. They did. In all, eight relatively small banks

Table 2.2
Timeline: The Panic of 1907

Early October:

Precipitous drop in share price of the United Copper Company as price of copper declines in recession. Failure of pool organized by F. A. Heinze to increase stock price. Loss of faith by depositors in New York banks controlled by Heize and his associates, including C. F. Morse.

October 16 (Wednesday):

Runs on Mercantile National Bank (F. A. Heinze, president) and two other associated banks, New Amsterdam Bank and National Bank of North America. Five additional banks with ties to Heinze and/or Morse endangered.

October 17 (Thursday):

Heinze resigns as president of Mercantile National Bank.

October 18 (Friday):

New York Clearing House Association (NYCH) examines Mercantile National Bank and finds it solvent. NYCH votes to make cash available to the extent needed.

October 19, 20 (Saturday/Sunday):

NYCH examines the National Bank of North America and New Amsterdam National Bank. Finds them solvent and arranges to provide funds needed. Because of ties to C. F. Morse, concern shifts to Knickerbocker Trust Company, third largest trust company in New York (approximately $62 million in deposits).

J. P. Morgan presides over a conference of leading New York bankers. Committee, including Benjamin Strong, secretary of Bankers Trust Company, organized to evaluate the conditions of floundering institutions.

October 21 (Monday):

Knickerbocker Trust requests assistance from NYCH. Rejected on the grounds that it is not a member of the Clearing House Association. Knickerbocker's directors call for resignation of NYCH President Charles T. Barney and asks for assistance from J. P. Morgan.

October 22 (Tuesday):

Runs develop on Knickerbocker Trust, the Trust Company of America, and the National Bank of North America. Morgan's Committee concludes that Knickerbocker cannot be saved. It finds both the Trust Company of America and the National Bank of North America solvent and agrees to provide funds to the Trust Company of America. Knickerbocker suspends payments. Secretary of the Treasury George Cortelyou comes to New York with intent to provide assistance.

October 23 (Wednesday):

A run develops on Trust Company of America. Morgan convenes a meeting of New York trust company officials to explain need for additional assistance. Additional funds pledged by trust companies, Morgan, First National Bank, National City Bank, and Hanover National Bank. George W. Perkins, a Morgan associate, meets with the Secretary Cortelyou to plan for Treasury deposits of $25 million in First National Bank, National City Bank, and Hanover National Bank the next day. By the end of the week, Secretary Cortelyou has deposited $35 million.

October 24 (Thursday):

New York Stock Exchange becomes chaotic. Call money unavailable. Stock trading virtually halted. New York Stock Exchange President Ransom H. Thomas tells Morgan that unless $25 million is raised immediately, at least fifty brokerage firms likely to fail. Morgan organizes a pool of $25 million to be loaned to Stock Exchange at 10 percent.

Country banks and other depositors begin to withdraw substantial volumes of deposits from New York banks, with demands for currency. Morgan suggests that NYCH issue Clearing House Loan Certificates.

October 25 (Friday):

Runs continue on Trust Company of America and Lincoln Trust. Morgan raises an additional $13 million for the Stock Exchange. During the week ending on October 25, call-loan rates at the Stock Exchange reach 125 percent.

October 26 (Saturday):

NYCH authorizes issue of clearinghouse certificates, effective Monday, October 28.

October 28 (Monday):

Runs on Trust Company of America and Lincoln Trust continue. New York City Mayor George B. McClellan finds revenues insufficient to meet obligations. Meets with Morgan. Morgan, with other New York bankers, agrees to provide $30 million to city.

continued

Table 2.2 (continued)

New York banks suspend the convertibility of deposits into currency. Restrictions produce similar action elsewhere in country.
Currency goes to a premium over deposits. (The premium reached as high as 4 percent and continued to exist through November and most of December.)

November 1 (Friday):
Currency suspension general throughout the country. Morgan's committee examines Trust Company of America again to determine if adequate collateral exists for additional extension of credit. Threatened bankruptcy of New York brokerage firm, Moore and Schley, viewed as a serious threat to financial institutions in New York. Morgan initiates plan to rescue the firm.

November 2 (Saturday):
Morgan persuades trust company officials to raise additional funds for floundering institutions.

November 6 (Wednesday):
Two-thirds of stock of Trust Company and of Lincoln Trust placed in hands of trustee and used as collateral to borrow from syndicate of trust companies to meet daily cash needs. Confidence restored as funds dispersed over next several months (November 6, 1907–February 4, 1908).

Remaining Course of the Panic
As noted in text, panic subsided gradually in December, though currency restrictions were not fully ended until January 1908, and it did not become completely clear that it was over until February.

Sources: For contemporary descriptions of the Panic of 1907 by American authors, see Sprague, 1910, chap. 5, Government Papers; and Mitchell, 1913, pp. 514–38. For a contemporary view from England, see "Comments from the *Economist*," in Gregory, 1929, pp. 202 *ff.* For more recent descriptions, see Friedman and Schwartz, 1963, pp. 156 *ff.*; Carosso, 1987, chap. 15; Chernow, 1990, pp. 122 *ff.*; and Wicker, 2000, chap. 5.

requested assistance from the Clearing House and were helped. Their combined deposits were about $71 million.[52] By the end of the week, the Clearing House was satisfied that all was well.[53]

It was, however, wrong. Other financial institutions associated with the Heinz-Morse interests remained vulnerable. J. P. Morgan, then seventy years old and semiretired, understood this. He had helped avert a panic in 1895 by brokering the sale of U.S. bonds in Europe for gold. He now began to deal with the equally serious circumstances of 1907. On Sunday, October 20, he presided over a conference of leading New York bankers in the Morgan Library. He organized a committee to evaluate the conditions of floundering institutions, believing the solvent though illiquid ones might reasonably be salvaged. Notably, the committee included Benjamin Strong, the future governor of the Federal Reserve Bank of New York, then thirty-five years old and a secretary at Bankers Trust.

On Monday, October 21, the Knickerbocker Trust, the third largest trust company in New York with $62 million in deposits, began to lose funds. The Clearing House denied its request for assistance on the grounds that the Knickerbocker was not a member. Morgan quickly concluded that the Knickerbocker could not be saved.[54] The next day, it closed.

Two other trust companies experienced runs during the week but were assisted by the Clearing House. On Thursday, October 24, however, bank loans to purchase stock, that is call money, became almost impossible to obtain. Stock market trading was virtually halted.[55]

By the end of the week, however, the local runs seemed to have petered out.[56] On Saturday, October 26, the Clearing House began to issue certificates for settlement of local interbank balances.[57]

Country bankers, however, continued to withdraw funds from their accounts in New York banks. The New York banks responded by restricting the convertibility of deposits into currency. Their restriction was the signal for similar action elsewhere, and by the close of the week of October 28, suspension was general throughout the country.

So it went, through the events and actions outlined in Table 2.2. The panic did not end quickly, and its costs were high. In addition to the failures of banks and trust companies, interest rates had soared, placing numerous businesses in difficulty. While not seen in Table 2.3, at one point call money was quoted at more than 100 percent. Short-term loans of sixty to ninety days issued during November ranged from 12 to 15 percent, and there were no loan rates posted for four- or six-month loans. Currency went to a premium over deposits of as high as 4 percent.[58] During the week ending December 6, no regular rates for time loans were posted. All business was by special agreement.

Currency restrictions at banks were not fully ended until the beginning of January 1908. It was not until the end of February, with an increase of $81 million in bank vault cash indicating a return flow of currency from the public's holdings, that it became clear the panic was over.[59] The economy did not begin to expand again until June 1908.

Table 2.3
Rates of Interest in New York during the Panic of 1907

Week Ending	Call Loans (Average at Stock Exchange)	Time Loans (Range) 60 days	Time Loans (Range) 90 days
1907			
October 4	5	5.75–6	6–6.5
October 11	5	6–6.5	6.5–7
October 18	5	6	6.5
October 25	40	6.5–7	6.5–7
November 1	50	12–16	12–16
November 8	22	....	12–15
November 15	10	12–15	12–15
November 22	10	12–15	12–15
November 29	7	....	12–15
December 6	6	No regular rates	
December 13	18	8–10	8–10
December 20	12	12	10
December 27	20	12	10–12
December 31	17	10	10
1908			
January 3	10	10	10
January 10	6	6.5	6
January 17	4	5.25–5.5	5.25–5.5
January 24	2	4	4.5
January 31	1.75	3–3.5	3–3.5

Source: Mitchell, *Business Cycles*, 1913, p. 526.

J. P. Morgan's Intervention

J. P. Morgan worked during the week of October 21 to forestall disaster.[60] When the failure of the Knickerbocker set off runs on the Trust Company of America, Morgan, along with George F. Banker of First National Bank and James Stillman of National City Bank, provided $3 million to save the Trust Company.[61] He sought the help of Secretary of the Treasury George B. Corelyou, who deposited $25 million in Treasury funds in the large New York banks. Additional Treasury funds would be deposited before the end of the month.[62] On October 24 he organized a pool of $25 million to support failing the stock market and added $10 million the next day. It was Morgan who proposed to the New York Clearing House that it issue certificates.[63]

Assessment

It was recognized at the time that the damage caused by the panic was severe and had aggravated the economic contraction underway. Blame was generously attributed to almost everyone and every institution involved. Had the New York Clearing House assisted Knickerbocker Trust and/or had it provided clearinghouse certificates earlier, the crisis might have been cut short.[64] The suspension of cash payments by New York banks beginning the week of October 28 was unnecessary; they had sufficient reserves to meet their needs.[65] Had they not suspended, the panic would have wound down instead of escalating. "American banks," Wesley Clair Mitchell opined in 1913, "have made a fetish of the reserve requirements of the national-bank act. Just at the moments of hesitation when timidity on the part of the banks spreads fear among businessmen and when boldness inspires confidence, the banks have been timid. Instead of using their reserves promptly and liberally, they have sought to keep them intact or even to increase them."[66]

The Treasury's movement of funds, though helpful, was proclaimed by some as "unconstitutional." Even before the panic, the economist A. Piatt Andrew complained that it operated illegally, eroding the philosophy of the Independent Treasury and discouraging prudent preparation by banks—in more modern terminology, by bailing out banks, it created a moral hazard.[67] In developing the Federal Reserve bill a few years later, the House Banking Committee stated that a major advantage would be getting the federal government out of the business of distributing government deposits among banks, particularly in emergencies.[68]

Finally, there was J. P. Morgan. He was lauded by many for his intervention.[69] Some painted an unforgettable image of Morgan as "the embodiment of power and purpose."[70] Others complained that the panic would have been cut short had he not reached the hasty conclusion that the Knickerbocker could not be saved.[71] Even some of his admirers were apprehensive about his intervention. John Harsen Rhoades of the New York State Bankers Association delivered an address several years later that expressed the nature of the discomfort.

> We hear much to-day of the Money Trust and of control in the hands of the few. Control is, has been, and always will be in the hands of a few. That it exists was demonstrated in the panic of 1907, when, with due credit to the clearing houses and

> to the Government, the financial interests of the country bowed down to the will of one man. And let us thank our lucky stars that in such an emergency we had that man.... [The country] little knows ... how he saved the country from financial conflagration, which starting in New York and fueled by thoughtless hands, would have spread from ocean to ocean. But I believe that such enormous power, power great enough to stop a panic, power great enough to bring one on, should be in the hands of men who have no private interests to promote, but solely one duty to perform—that of service to the people.[72]

"Financial conflagration ... fueled by thoughtless hands" could be better contained. The *Economist* provided a British perspective. In the middle of the panic on October 26, 1907, it wrote: "The real weakness of New York is, of course, the want of a great central bank, free from the possibility of interested manipulation, in which absolute trust could be reposed."[73] This evaluation was supported by America's foremost student of business cycles, Wesley Claire Mitchell. He found the American system, in contrast to those of Europe, was prone to panics because of the absence of a central bank.

> The American panics of 1893 and 1907 were ushered in by a series of heavy failures. But the downfall of the Comptoir d'Escompte in 1889 in France, of the Barings in 1890 in England, and the Bank of Leipzig in 1901 in Germany were no less alarming than the failure of the Knickerbocker Trust Company in 1907 in America. Had the former failures occurred in the United States, panics would have followed; had the latter failure occurred in England, France or Germany, there would have been no panic.[74]

EUROPEAN EXPERIENCE

European economic life in much of the nineteenth and early twentieth centuries was ruled by the gold standard. The gold standard precluded the depreciation of a country's currency in international exchange. It precluded the problems associated with changes in the relative values of two or more metals. In limiting the volume of money that could be created, it constrained inflation. It was more than all that. For the business and banking communities, as Joseph Schumpeter pointed out, it served to limit the intrusions of government; it constituted a "guarantee of bourgeois freedom—of freedom not simply of bourgeois interest, but freedom in the bourgeois sense."[75]

In 1900, the U.S. Congress passed the Gold Standard Act. The gold dollar was defined as $20.67 per ounce, a definition that was to be maintained until 1934.[76]

Development of Central Banking in England

By the end of the nineteenth century, central banks had developed in European countries as an adjunct to the gold standard. They served as both repositories and guardians for the gold reserves of their banking systems. In raising their discount rates to discourage credit expansion when the loss of gold diminished reserves, they helped provide assurance against inflation. In their willingness to lend to illiquid and/or floundering institutions in emergencies, they moderated financial crises and panics.

At the turn of the century, the pound sterling was the principal international currency, and England was the most important international lender. London was the financial capital of the world and boasted the single largest free market in gold. The Bank of England had become the most powerful central bank in the world, though it frequently acted in concert with central banks on the European continent.

From its origin in 1694, as discussed in Chapter 1, the Bank had held a central position as the government's financier. It had initially aspired to be the only bank in England. At the time, this meant it was the sole issuer of bank notes that served as currency.[77]

With the development of other banking institutions in the eighteenth and nineteenth centuries, the character and position of the Bank of England changed. It became the holder of deposits of other banks and a central repository of bank reserves. By the middle decades of the nineteenth century, it had become the primary holder of the gold reserves of the United Kingdom.

With this development, the Bank was no longer a simple commercial bank with a special tie to the government. In 1873, Walter Bagehot, the great English financial writer, chastised the Bank for failing to meet its public obligations.

> The directors of the Bank are ... in fact, if not in name, trustees for the public, to keep a banking reserve on their behalf; and it would naturally be expected either that they distinctly recognised [sic] this duty and engaged to perform it.... But so far from there being a distinct undertaking on the part of the Bank directors to perform this duty, many of them would scarcely acknowledge it, and some altogether deny it.[78]

As Robert Sayers put it, the Bank's continuing "concern for its own profit was contrary to the as yet unformulated principles of central banking—or, to put it in terms that would have been more readily understood by contemporaries, it conflicted with recognition of the Bank's special responsibilities.... After all, it was not so very long since the most interested Prime minister had told it to behave just like any other bank."[79] The prime minister was Sir Robert Peel whose Bank Charter Act of 1844 had divided the Bank into a "Banking Department," which was to extend credit and operate as any other bank, and an "Issue Department," which was to issue bank notes in amounts tied to the gold reserves.

Subject to political persuasion and a repeated need for charter renewal, the Bank of England did assume its "special responsibilities" in protecting the gold reserve, in adjusting the rate at which it discounted short-term bills (the bank rate), which, in turn, altered market rates, and in acting as a lender of last resort in times of financial emergencies. Nevertheless, remnants of its self-image as a private banking organization were manifest through the nineteenth century.[80]

The transformation of the Bank was not the result of one piece of legislation or of a well thought-out plan. The Bank ultimately emerged as something different than what it had been as a consequence of a series of unforeseen events occurring in the course of time. It "stumbled into central banking," Sayers suggested, "out of an absence of mind."[81]

Intentions aside, the Bank developed central banking techniques for changing its bank rate with gold flows into and out of the country. A well-established market for short-term bills of exchange facilitated its operations. The Bank maintained a relationship with the discount houses and bill brokers in London. It stood ready to rediscount all eligible bills but at a rate greater than the market rate. Thus, its bank rate could be described as a penalty rate. Brokers, familiar with the Bank's policy and knowing they could always obtain additional funds when needed, operated on very narrow margins. Because they depended on funds from the Bank of England, changes in its rate became a principal determinant of market rates.[82]

The Bank also found, as early as 1858, that it could force market rates upward by borrowing from brokers. The brokers found lenders for the Bank, providing them with government securities from the Bank's portfolio as collateral.[83] With funds withdrawn in that way from circulation and replaced by securities, market rates would rise. Thus, it pioneered in what was to become known as open market operations (see Appendix to Chapter 3).

Open market operations were, however, expensive for the Bank of England, in that interest had to be paid on the funds borrowed. According to Robert Sayers, "The costliness ... was a source of discomfort.... When the Bank's responsibilities as the central bank clearly called for such action, it did bear the expense, but it did so grudgingly."[84]

Lender of Last Resort

The Bank also became a "lender of last resort." In 1866, the failure of Overend & Gurney, a brokerage firm and merchant bank with substantial debt on call, led to a panic. Extensive controversy developed about the proper role for the Bank of England in such circumstances. In 1873, Walter Bagehot in *Lombard Street* persuaded many that the Bank of

England must meet its "responsibilities" in serving as a lender of last resort, regardless of the effects on its profits. Bagehot's argument settled the controversy. In the 1890 Barings Crisis, the Bank organized a syndicate to guarantee Baring Brothers' liabilities. To expand its reserves during the crisis, it borrowed from the Bank of France and sold Treasury bills to Russia.[85]

The Bank was applauded for its "prompt and courageous action which has averted a lamentable catastrophe ... for stepping out of the ordinary routine of business to prevent the downfall of one of the greatest and most respected of English financial houses."[86]

Bagehot and his contemporaries understood that the Bank's service as a lender of last resort constituted a departure from the idea of free markets and that bail outs provided incentives for banks and brokerage houses to take greater risks. Central banking established itself as a necessary limitation to the free operations of the financial system.

The Real Bills Theory

It was problems associated with bank failure, particularly in crises, that preoccupied public bodies almost from the origin of modern banking. The central problem faced by commercial banks as they developed in Western Europe, as early as the twelfth and thirteenth centuries, involved the risk they accepted in lending and investing. Because their deposits were payable on demand, they had to have cash reserves. Reserves aside, as late as the seventeenth and eighteenth centuries, ideas about the kinds of assets banks should hold were still vague.[87]

The belief developed, after the middle of the eighteenth century, that bank assets should be comparably liquid to their deposit and note liabilities. Adam Smith suggested in *The Wealth of Nations* that banks could safely issue notes as long as the credit advanced was based on a "real bill of exchange drawn by a real creditor upon a real debtor, and which, as soon as it becomes due, is really paid by that debtor ... "[88] He thus articulated the real bills theory that visualized banks acquiring bills drawn by a seller on a buyer that could be sold prior to a relatively short maturity.[89] Short-term bills would be paid back from the revenues obtained from the sale of commodities purchased: that is, they were said to be "self-liquidating."[90]

In England and elsewhere in Europe, there existed in the nineteenth and early twentieth centuries a well-developed bill market. Bill brokers and discount houses bought and sold bills, supporting their positions through loans on call from banks. Banks invested in bills.

In England, in both the eighteenth and nineteenth centuries, the real bills theory was apparently honored in the breech. Banks, as well as investing in bills, made relatively long-term loans. In some cases such loans were made because the available collateral was long term (for example, mortgages) or because the banks found it profitable to repeatedly renew short-term loans. In other cases, long-term loans were made because the borrower had a use for longer-term funds and/or was unable to repay and was carried over.[91]

The real bills theory, however, was not simply a piece of advice for bankers as to the kind of asset they should hold. It also advanced the view that the credit banks extended and the money they created could never be excessive if they were supported by the acquisition of real bills. The volume of real bills available reflected the "needs of trade." In acquiring them, banks would simply be "meeting the needs of trade."

As many have pointed out since the beginning of the nineteenth century, this part of the theory was seriously flawed. In 1802, Henry Thornton, the British banker and member of Parliament, had fully discredited the conclusion that it would be safe for banks to provide whatever amount of credit was demanded as long as it was secured by real bills. Among other things, during a period of rising prices, the continued expansion of credit based on real bills would reflect higher prices and simply feed inflation. After smoothing out the business cycle became public policy, the theory could be seen as promoting procyclical bank behavior that would exacerbate recessions as well as inflation.

The theory, nevertheless, lived on through the nineteenth century and into the twentieth century, embedded in banking tradition and supported by some prominent exponents.[92] As will be discussed later, it became embedded in the Federal Reserve Act.

LEGISLATIVE RESPONSE IN THE UNITED STATES

The Panic of 1907 quickened the pace of bank reform.[93] Arthur Link, the Princeton University historian and biographer of Woodrow Wilson, observed that the panic "had reminded the country of the grave danger of attempting to get along with immobile reserves and an inelastic money supply.... [and] evoked widespread discussion as to a remedy...."[94] It set in motion forces that moved the country toward the kind of central banking institution that had developed abroad.

These forces, in turn, revived nineteenth-century monetary controversies in the early twentieth-century milieu of increasing industrial concentration and expanding investment banker influence.

The initial congressional response was passage of the Aldrich-Vreeland Act in 1908. It provided a stopgap measure for the issuance of clearinghouse certificates in emergencies and established the National Monetary

Commission to further study the issues. The proposal ultimately put forward by the Commission, the Aldrich bill for a national reserve association, proved to be a lightning rod for the opposition that saw it as the product of "the money trust."[95] In 1912, the Democratic Party unequivocally rejected the Aldrich bill while, at the same time, promising monetary reform. Even then, controversy continued to afflict their deliberations.

The Aldrich-Vreeland Act

The currency provisions of the Aldrich-Vreeland Act permitted groups of national banks to form national currency associations that, during financial panics, would be permitted to issue notes, comparable to national bank notes, on the security of nongovernment bonds and commercial paper. Anxious about the potential degradation of the currency, Congress made sure these certificates would be retired quickly by imposing a stiff tax on the outstanding amounts.[96] As matters turned out, the currency provisions of the Act were used just once—in a financial crisis in 1914 that developed on the outbreak of war in Europe before the Federal Reserve System became operational.

The Act also established the National Monetary Commission, which was composed of nine senators and nine representatives headed by Nelson W. Aldrich, the Republican senator from Rhode Island. The Commission was established "to inquire into and report to Congress, at the earliest date practicable, what changes are necessary or desirable in the monetary system of the United States or in the laws relating to banking and currency."[97] It was given the power to examine witnesses and to undertake investigations both in the United States and other countries.

During the next several years, the Commission held extensive hearings, engaged the talents of well-known academics and bankers, studied banking in the United States and abroad, and produced more than twenty volumes, some of which still serve as standard historical references.[98] The Commission presented its final report to Congress in 1912. It found critical defects in the existing banking arrangements, including the absence of any practical mechanism to expand the currency in response to public demand.[99]

The existing system whereby smaller country banks held reserves in larger city banks, with a good portion of the funds ultimately accumulating in New York, tended to worsen the problem. In anticipation of suspension during a panic, smaller banks withdrew their funds, placing additional pressure on the reserve positions of larger banks that had no way to secure additional reserves.

The Aldrich Plan

Prior to issuing its final report, the Commission published a *Suggested Plan for Monetary Reform* submitted by Aldrich, its chairman.[100] The Aldrich plan outlined a regionally partitioned central banking organization owned by member banks. It established fifteen districts in which branches would be established. The branches would be run by regional associations through boards of directors elected by member banks in each district. A National Reserve Association, overseeing the regionals, would be established. It would be managed by a board of forty-six directors selected by regional associations. It would include, ex officio, the secretaries of the treasury, commerce, agriculture, labor, and the comptroller of the currency. The remainder of the board would be bankers and representatives of business and farming interests. The executive officer of the National Reserve Association would be a governor selected by the president of the United States from an eligible list furnished by the board of directors. Deputy governors would be elected by the board.[101]

The reserves of member banks would be held in the National Reserve Association. Federal government funds would also be deposited. The Association was empowered to rediscount short-term notes and bills of exchange arising from commercial transactions, with the endorsement of any bank having a deposit with it. The rate of discount would be set by the executive committee of the Association.

A somewhat revised proposal was submitted as a bill attached to the *Commission's Report* in 1912.[102] The Commission made a point of stating that the Association would differ "radically from the First and Second Banks of the United States and from European central banks. Its sources of authority are democratic and not autocratic."[103]

The American Bankers Association fully endorsed the Aldrich plan. The National Citizens' League for the Promotion of a Sound Banking System, an organization established by banking and business leaders, undertook a promotional campaign.

The plan, however, generated immediate opposition. To Democrats and progressive Republicans, the Aldrich plan was seen as concentrating the banking system's reserves in a privately controlled financial organization, providing that organization with a monopoly in the issue of currency, and giving it tools to manipulate market rates of interest. It permitted bankers to encroach on the government's constitutionally established prerogative to regulate the currency. To the populist wing of the Democratic Party, many who remembered the long deflation of the late nineteenth century, there was concern about a powerful new banking organization that was likely to exhibit a "lenders point of view." To many, it was the second coming of the Second Bank.[104]

In these concerns, the opposition was supported by the activities of the Pujo Committee. The Democrats gained control of the House of Representatives in 1910. The House Committee on Banking and Currency established a subcommittee, chaired by Congressman Arsène Pujo of Louisiana, in 1912 "to investigate the concentration of control of money and credit." It produced four volumes of testimony and a report. It concluded that a money trust existed through formal and informal relationships among powerful investment bankers in New York, large commercial banks, and industrial firms that required both long-term capital and short-term credit.[105]

At its convention in 1912, the Democratic Party promised financial reform but opposed the establishment of any kind of central bank. To some important Democrats, the term "central bank" had become synonymous with financial concentration.[106]

The Progressive Party that had coalesced around Theodore Roosevelt by and large agreed with the Democrats on this issue. It adopted a platform that denounced the Aldrich plan: "The issue of currency is fundamentally a government function.... The control should be lodged with the government and should be protected from domination or manipulation by Wall Street or any special interests."[107]

PASSING THE FEDERAL RESERVE ACT

In the course of his campaign, Woodrow Wilson told the Commercial Club of Omaha, Nebraska in October 1912, "We haven't got the means of freedom until we get an elastic currency."[108] A few days later, in Topeka, Kansas, he told his audience, "The opinion of the country in general has rejected the plan of currency reform offered by the so-called Aldrich Monetary Commission. I am not sure that they have not turned from it chiefly because it bears Mr. Aldrich's name.... One part offers a new basis for an elastic currency, and the other proposes a method of control, and the method of control confirms the present power of small groups of American bankers to dominate the new system."[109] "Banking," Wilson announced, "was so much a public business that the government must share with private bankers in making fundamental financial decisions."[110]

After Wilson's election in November, there was a groundswell for reform. Carter Glass, the chairman of the House Banking Committee, received "literally thousands of letters ... from businessmen, manufacturers, merchants, editors, and bankers, all strongly condemning the national banking and currency system and begging Glass and his House committee to lead the way in reforming the system."[111] A consensus developed that a comprehensive reorganization of monetary arrangements was necessary.[112]

The problem for the newly elected Democrats became that of reconciling decentralization, in opposition to Wall Street, with the practical necessity for centralizing reserves as well as sustaining the federal government's constitutional authority over money with the practical necessity for banker participation.

The Legislative Process

On November 7, 1912, two days after Woodrow Wilson's election, Glass wrote a congratulatory note to the president-elect to which he added: "I am writing especially to inquire when you think I may have a brief interview with you concerning the matter of revising our currency system.... With the assistance of Prof. H. Parker Willis [George Washington University and consultant to the House Committee] ... we have gone into much work of detail and have indeed formulated, tentatively, a substitute for what is known as the Aldrich bill."[113] Wilson replied a week later that he "would seek an opportunity as early as possible ... to commune with you, because the question of the revision of the currency is one of such capital importance that I wish to devote the most serious and immediate attention to it."[114]

The communion of Glass and Willis with Wilson occurred on December 26 at Wilson's home on Cleveland Lane in Princeton.[115] The draft prepared by Willis called for a large number of privately owned local reserve banks supervised, generally, by the comptroller of the currency. Wilson doubted the plan would provide sufficient coordination. In searching for an arrangement that would provide for adequate government involvement, he suggested a "capstone to be placed upon the structure."

Glass was skeptical, believing Wilson had been influenced "by those who are seeking to mask the Aldrich plan and give us dangerous centralization." However, he set Willis on a course to redraft and to meet Wilson's views—"that is if you understand what they are."[116]

Willis responded, "Evidently the problem will be in the last analysis whether this mechanism should be simply a mechanism of 'control' or 'oversight' or whether it shall be an actual means of doing business, with capital and other accessories necessary for that end. Insofar as it possesses those it will to the same degree approximate to a central bank which is what the platform took ground against."[117]

Glass and Willis completed what they hoped to be the administration's bill by the beginning of May 1913. Wilson tentatively approved their draft. The bill would establish fifteen or more regional Reserve Banks, owned and controlled by member banks, which would hold member bank reserves and issue currency against gold and commercial paper. It was to be controlled by a Federal Reserve Board composed of six public members plus three bankers selected by the directors of the regional banks.

The bill confronted the strong opposition of William Jennings Bryan, now Wilson's secretary of state, Senator Robert L. Owen of Oklahoma, chairman of the Senate Banking Committee, and a number of other top administration officials. They objected both to bankers on the Federal Reserve Board and to a currency that would be the obligation of privately owned Reserve Banks, not the federal government. Bryan reminded the president "... that our party had been committed by Jefferson and Jackson and by recent platforms to the doctrine that the issue of money is a function of government and should not be surrendered to banks."[118] Owen drafted a separate bill.

It was at this point in the Democratic Party deliberations that the confrontation between William McAdoo and Carter Glass, described above, occurred. McAdoo, with the help of John Skelton Williams, the Comptroller of the Currency, and possibly Owen and Samuel Untermyer, who served as counsel to the Pujo Committee, developed a plan to establish a central bank in the Treasury Department. A national reserve board, composed of presidential appointees, would administer twenty-five branches. A national currency commission, also in the Treasury, would issue paper money that would be based on gold, commercial paper, and administer federal government obligations.

In his memoirs, McAdoo contended that the plan was part of a strategy to resolve the conflict that had arisen regarding the Glass plan.

> If they [bankers] want a central bank, I reflected, we'll give them one ... but it will be a government bank. I felt convinced ... they would be genuinely alarmed. I hoped that their concern would temper their opposition to the regional bank system.... Of course, neither I nor President Wilson had any idea of transforming the Treasury into a bank, but I felt sure that this reserve plan ... would start something—and it did.[119]

There apparently is no evidence to support McAdoo's explanation. He may well have taken his proposal seriously until Glass rallied the opposition and persuaded Wilson that a central bank in the Treasury was not politically feasible.[120]

McAdoo's plan aside, questions remained about banker representation on the Board and the nature of the currency Reserve Banks would issue. These were not simple decisions. Wilson wrote on June 22: "Now it is the currency I have tackled. Not an hour can I let it out of my mind."[121] After conferring with Louis Brandeis, he decided that bankers would be excluded from the Board and that Federal Reserve notes would not be the simple obligation of the Banks but would be legal tender. Through the summer and beyond, Wilson mediated between warring factions.

Glass' committee reported a bill in September. The report distinguished its plan from the Aldrich proposal by dismissing the work of the National Monetary Commission as largely a waste of time and money.

> The work done at such great cost should not, indeed can not, be ignored, but having examined the extensive literature published by the commission, the Banking and Currency Committee finds little bearing upon the present state of things in the credit market of the United States. Most of the matter published by the commission is a revision or recasting of books and documents having only historical value or brought down to modern times by their authors or others. There is practically nothing of original value or of direct aid bearing upon the details of remedial legislation.[122]

It made clear that the Aldrich plan "has not commended itself to the Banking and Currency Committee." It was to be discarded because it "called for the creation of a national reserve association which was to do business only with banks, while the Government had little power over the institution and the public neither business nor other relations with it."[123] Moreover, it would create something very close to a central bank. The term "central bank" was relatively new at the time and its meaning not completely clear (see Appendix). Whatever it meant, the Democrats were opposed.

> While the institution which would have been created by the National Monetary Commission bill was not a central bank in the technical sense of the term, inasmuch as it did not do a general banking business, it was a central bank in many of the aspects that are usually regarded as characteristic of that term.[124]

Its proposal, the Glass Committee's report contended, would not establish a central bank but would provide all the benefits of one.[125]

The Glass bill was passed by the House on September 18, 1913. The Senate Banking and Currency Committee split into two groups and produced two bills without recommendation on November 22, 1913.[126] On December 1, 1913, Owen offered a substitute bill, similar to the Glass bill, on the floor that was passed by the Senate on December 19. With some changes the Owen bill was adopted by a conference committee on December 22. On December 23, Wilson signed the bill that became the Federal Reserve Act.[127]

The final bill had been a compromise. No fewer than eight and no more than twelve Reserve Banks were to be established in separate districts, owned and managed by bankers. A Federal Reserve Board in Washington composed of presidential appointees was established to provide some degree of supervisory control. Federal Reserve notes would be issued by the Reserve Banks and would be legal tender.

The struggle to pass the Federal Reserve Act had been tortuous. Years later, Franklin Roosevelt, as Democratic Party nominee for president, told his economic adviser and confidant, Rexford Guy Tugwell, that he had learned more from Woodrow Wilson's mistakes than from his successes. One key mistake was Wilson's expending so much of his capital during his first year in office on passage of the Federal Reserve Act. The result was that little else got done during his honeymoon period.[128] As discussed in Chapter 4, Roosevelt did not make the same mistake.

The Aldrich Bill and the Federal Reserve Act

Almost from its enactment, the Federal Reserve Act generated the kind of conspiracy theory mentioned in Chapter 1. In May 1992, more than three-quarters of a century after the Act was passed, the Ludwig von Mises Institute sponsored a conference on Jekyll Island, Georgia, entitled "History, Economics and Politics." Its conference announcement read, in part:

> Many years ago, a secret train left New York City for the Georgia seacoast. In J. P. Morgan's private car were Morgan and Rockefeller bankers, high government officials, and a Harvard economist.[129] Their mission: to draft the Federal Reserve Act at Morgan's club on Jekyll Island, and plan its enactment.... Andrew Jackson uprooted what he called "the Monster," and it was not to return until Woodrow Wilson.... To oppose the Monster, the Mises Institute is holding an historic conference in the same club (now a four-star resort) where the crime was committed.[130]

It was, in fact, the Aldrich bill that was designed at the Jekyll Island meeting; conspiracy theorists typically argue that the design was trivially modified and passed as the Federal Reserve Act.[131] Paul Warburg, reputed to be an author of the Aldrich proposal, wrote a two-volume work largely devoted to showing how little difference there was in the two plans.[132] Some recent commentators have suggested that the influence of Morgan and Wall Street bankers permeated the new Federal Reserve System.[133] There is little doubt, nevertheless, that in 1912 and 1913 many behaved as if the differences were significant, Wilson and Glass among them. So did large numbers of bankers who favored the Aldrich plan and opposed the administration's bill.

STRUCTURE AND FUNCTIONS OF THE FEDERAL RESERVE ACT

With passage of the Federal Reserve Act, the establishment of the System got underway. The Board was appointed by the President and an organization committee, composed of the Secretary of the Treasury, the Secretary of Agriculture, and the Comptroller of the Currency, came into existence to establish the Federal Reserve Districts, and to oversee the organization of the Federal Reserve Banks.

The Federal Reserve's organizational structure and powers, as provided in the Federal Reserve Act of 1913, are outlined in Table 2.4. The original congressional objectives articulated in the preamble to the 1913 Act and indicated in the table are cryptic. They were commonly understood to include moderating crises and preventing panics, promoting the market for short-term commercial paper, and remedying defects in the existing system of collecting checks.[134]

Organization

With five members appointed by the president, the Federal Reserve Board was a public body, similar to agencies like the Interstate Commerce Commission established in 1887 and the Federal Trade Commission established in 1914. With the Secretary of the Treasury and the Comptroller of the Currency both ex officio members, the Board would be closer to the administration in office than other such agencies and, consequently, appeared somewhat less independent. On the other hand, its members were given lengthy ten-year terms and continuity of leadership was assisted by staggering the terms so that one would expire every two years.

The Board was to reflect a diversity of regional and commercial interests, except for the exclusion of commercial banking. As indicated in Table 2.4, no member of the Board could be an officer or director of any bank, trust company, or Reserve Bank or hold stock in any bank or trust company.

The President was enjoined to give "due regard to a fair representation of the different commercial, industrial, and geographical divisions of the country." Not more than one Board member was to be selected from any one Federal Reserve District. In a nod to expertise, the law required that at least two members have experience in banking or finance.

The Act designated the Governor of the Board to be its "active executive officer," though, in a cascade of confusion, the Secretary of the Treasury was designated chairman. In the government hierarchy, and at a practical level through contact with the President, the Secretary outranked the other members of the Board.

The Reserve Banks were intended to be owned and, more or less, governed by member banks but also to reflect diversity. Their nine-member boards of directors would include three bankers and three businessmen elected by member banks, thus giving representation to both lenders and borrowers. The other three would be public members selected by the Federal Reserve Board. The chairman of each board, designated as a

Table 2.4

Federal Reserve Act of 1913

Purposes, Structure, Powers, and Relationships

Purposes

Preamble to Act

"To provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes."

Organizational Structure

Federal Reserve Board *(Section 10)*

- Federal Reserve Board to consist of seven members, including the secretary of the treasury and the comptroller of the currency, both ex officio; the five additional members were to be selected by the president with the consent of the Senate.
- The terms of office for Board members set at ten years and staggered so that one member's term expired every two years. [Initially the terms of the five members selected by the President were two years, four years, six years, eight years, and ten years. As each individual term expired, new appointments would be made with ten-year terms.]
- For the five members appointed by the president, "not more than one of whom shall be selected from any one reserve district ... with due regard to a fair representation of the different commercial, industrial and geographical divisions of the country."
- "No member ... shall be an officer or director of any bank, banking institution, trust company, or Federal reserve bank nor hold stock."
- Of the five members thus appointed at least two shall be persons experienced in banking or finance.
- Of the five Board members appointed, the president shall designate one as governor and another as vice governor. The governor will serve as "the active executive officer."
- Secretary of the Treasury shall be "ex officio Chairman of the Federal Reserve Board."
- Salaries of the Board members set by law at $12,000 a year. The Comptroller of the Currency to be paid an additional $7,000 per year for his service on the Board.

Federal Reserve Districts, Banks and Members *(Sections 2, 4, 5, 9)*

- Every National bank required to subscribe to capital stock of Reserve Bank in district in an amount related to its capital and surplus and become

continued

member of System. State banks may apply for membership (Section 9). Stock to pay a fixed dividend of 6 percent.
- Reserve banks to be operated under supervision and control of board of directors.
- Reserve Bank directors composed of nine individuals from three classes:
  Class A (3 bankers)
  Class B (3 from "commerce, agriculture, or some other industrial pursuit")
  Class C (3 public).

  Class A and B directors to be elected by the member banks. Class C directors appointed by the Federal Reserve Board. B and C directors cannot be officers, directors, employees, or stockholders of any bank (Section 4).
- Board to designate one of C directors chairman and Federal Reserve agent, and another deputy chairman and deputy Federal Reserve Agent. Chairman/Agent to be representative of the Board at the Reserve Bank.
- Boards of directors to select the officers of the Reserve Bank.
- Reserve Banks "to have succession for a period of twenty years from its organization unless it is sooner dissolved by an act of Congress, or unless its franchise becomes forfeited by some violation of law" (Section 4).

Federal Advisory Council *(Section 12)*
- Federal Advisory Council established, with one member selected by the board of directors of each Federal Reserve Bank.
- Council authorized to confer with the Federal Reserve Board on general business conditions, represent its views to the Board on matters within the Board's jurisdiction, and call for information and make recommendations in regard to the Board's exercise of its powers.

Powers

Holding Member Bank and Treasury Deposits *(Sections 15, 19)*
- Each Reserve Bank authorized to hold bank reserves, as specified by the Act, in it vaults (Section 19).
- Each Reserve Bank authorized to hold funds of the U.S. Treasury, as permitted by the Secretary of the Treasury.

Federal Reserve Notes *(Section 16)*
- Each Reserve Bank empowered to issue Federal Reserve notes.
- Federal Reserve notes established as "legal tender," an obligation of the United States, receivable in payment for taxes, customs, and public dues, and redeemable in gold on demand at the Treasury or at any Federal Reserve Bank.

- Federal Reserve Notes provided to Reserve Banks by the Board through the Federal Reserve agent.
- Federal Reserve Notes issued to be collateralized on Reserve Banks' books by gold and eligible paper.
- Notes to expand as needed by member banks within the limitations established by reserve requirements.

Discounting *(Sections 11, 13)*

- Paper eligible for discount includes paper arising out of agricultural, industrial, and commercial transactions, discounted paper of other Reserve Banks, and acceptances drawn to finance international trade.
- Paper discounted to have a maturity of no more than ninety days, with the exception of agricultural paper permitted a maturity of up to six months. (Amendment in 1916 permits Reserve Banks to make advances to member banks on their own fifteen-day notes secured either by eligible commercial paper or government securities.)
- Each Reserve Bank given authority to establish a discount rate from time to time, subject to the review and determination of the Federal Reserve Board.

Reserve and Collateral Requirements *(Section 16)*

- Gold reserve against deposits at Reserve Banks = 35 percent.
- Gold reserve against Federal Reserve Notes issued = 40 percent.
- Collateral (commercial paper) against Federal Reserve Notes issued = 100 percent.

Open Market Operations *(Section 14)*

- Reserve Banks given authority, under rules prescribed by Board, to purchase and sell government securities, bankers' acceptances, and other financial instruments in the open market.

Bank Supervision *(Section 21)*

- Federal Reserve Banks provided authority, with Board approval, to examine both national and state member banks.
- National Banking Act amended to provide Comptroller of the Currency authority to examine every member bank. (Supervisory overlap divided between the Comptroller, examining national banks and Reserve Banks examining state-member banks in 1917.)

Check Clearing *(Sections 13, 16)*

- Reserve Banks authorized to serve as clearinghouse for member bank checks, under Board regulation.
- Reserve Banks required to accept deposits drawn on member and nonmember banks at par.
- Reserve Banks permitted to receive from member banks checks payable at par anywhere in country, whether drawn on member or nonmember bank.
- Board to fix fees for services provided.
- Board to establish regulations governing transfer of funds among Reserve Banks.

continued

Table 2.4 (continued)

Interlocking Directorates *(Section 11)*

- Board to enforce Clayton Act prohibition on interlocking directorates among banks.

Board-Reserve Bank Relations (Sections 4, 10, 11)

General

- Board to supervise and examine books of each Reserve Bank (Sections 11a, 11j).
- Board authorized to suspend or remove any officer or director of Reserve Banks for cause (Section 11f).
- Compensation provided Reserve Bank directors, officers, and employees subject to approval of Board (Section 4).
- Board authorized to assess Reserve Banks to meet expenses (Section 10).

Discounting *(Sections 4, 11)*

- Reserve Banks, subject to provisions of law and the orders of Board, may extend to each member bank "discounts, advancements, and accommodations as may be safely and reasonably made with due regard for the claims and demands of other members bank" (Section 4).
- Each Reserve Bank to "establish from time to time, subject to review and determination by the ... Board, rates of discount to be charged ... for each class of paper, ... with a view of accommodating commerce and business" (Section 14d).
- Board may permit or require Reserve Banks to rediscount discounted paper of other Reserve Banks at rate fixed by Board (Section 11b).

Open Market Operations *(Section 14)*

- Reserve Banks given authority, under rules prescribed by Board, to purchase and sell government securities, bankers' acceptances, and other financial instruments in the open market.

Relations with the Comptroller of the Currency (Sections 10, 21)

- Comptroller of the Currency ex officio Board member (Section 10).
- Board, on recommendation of the Comptroller of the Currency, shall fix salaries of all bank examiners (Section 21).
- Reserve Banks authorized to examine member banks within districts, with approval of Federal Reserve agent or Board, including national banks (Section 21).
- Comptroller of the Currency required to examine every member bank at least twice each year (Section 21).

Federal Reserve agent, was to be a public member selected by the Board. It was intended that the agent be the Board's representative at the Reserve Bank.

The Reserve Banks' boards were to select the officers who would manage the banks. Each selected a top official designated as a governor, adopting the title assigned to the executive officer of the Federal Reserve Board. After some confusion as to the relative roles of the chairman/agent and the governor, the latter emerged as chief executive officer at each Reserve Bank. The chairmen/agents quickly developed a closer affiliation with the Reserve Bank than with the Board in Washington.

Without formal representation on the Federal Reserve Board, bankers were accommodated through the Federal Advisory Council, which was composed of one member selected by the directors of each Reserve Bank. The Council was given authority to confer with the Board and to make recommendations. It was expected to express the lenders' point of view.

Powers

Martin Van Buren, Andrew Jackson's successor, had been disposed to withdraw government from any direct association with banking. He initially established an Independent Treasury system. Experience had discredited the arrangement. "The very idea of keeping one's accumulations in carefully guarded idleness," A. Piatt Andrew observed before the Panic of 1907, "pertains to the conditions and habits of the middle ages."[135] The Reserve Banks were to constitute a substitute for the Independent Treasury and were authorized to hold Treasury funds. They were also to be the repository for member bank reserves. On their establishment, member banks transferred gold and other lawful money to the Reserve Banks to meet reserve requirements.

The Reserve Banks were authorized to issue Federal Reserve notes and to provide credit at the discount window. Federal Reserve notes were designated legal tender and redeemable in gold on demand. Credit was to accommodate business and commerce. Paper eligible for discount was generally defined as short-term and self-liquidating.[136] Thus, the real bills theory was implanted in the Act. There were no apparent restrictions in the Act on the amount banks could borrow as long as they had eligible paper or on the continuity of their borrowing.

The extension to six-month maturities for agricultural paper was a departure from the strict application of the theory. In 1916, Congress diverged further by amending the Act to permit Reserve Banks to make advances to member banks on their own fifteen-day notes secured not only by eligible commercial paper but also by government securities.

The power of the Reserve Banks to increase their liabilities by extending credit at the discount window and issuing Federal Reserve notes was limited by a gold reserve and collateral requirements. The gold requirement was in harmony with the operations of the international gold standard. The collateral requirement, which necessitated the holding of commercial paper at 100 percent of Federal Reserve Notes, was in harmony with real bills.[137]

The principal policy instrument provided by the Act was the rate at which credit would be extended at the discount window. Congress had apparently hoped for near-uniform discount rates at the Reserve Banks, though it did not make uniformity an explicit requirement.[138] Each Federal Reserve Bank was given authority to establish and vary the rate subject to the review and determination of the Federal Reserve Board. Precisely what this meant in practice was debatable, and it was debated through the 1920s, a source of continuing conflict between the Board and the Banks.[139]

When a draft of the Federal Reserve bill was introduced in the House of Representatives, it contained a provision that the discount rate should be set with a view to "promoting a stable price level."[140] The provision was dropped.[141] About a decade later, John R. Commons, a Wisconsin economist and supporter of stable prices as an explicit System objective, remarked:

> [T]he public generally, and the bankers particularly, would have been alarmed, in the year 1913, had the authority been granted to this new engine of concentrated banking to regulate prices.... And especially, when it is proposed to entrust a new and great semi-monopolistic agency with the power to regulate that abstraction, then [people] ... cannot divorce themselves from the idea that what is intended is the regulation of ... prices of particular commodities.[142]

The authority to engage in open market transactions by purchasing and selling securities was also afforded to Reserve Banks under rules prescribed by the Board.[143] Several reasons for this are indicated in the congressional reports in 1913 that accompanied the Federal Reserve bill. The majority Senate report indicates that the authority was provided to help promote an open market for bills of exchange and bankers' acceptances "as has long prevailed in Europe, but which has not existed to any great extent in the United States."[144] The House report indicates that one purpose was to provide "an outlet through which the funds of Federal reserve banks might be profitably used."[145] Another was to enable Reserve Banks to "make their rate of discount effective when member banks were not borrowing,"[146] suggesting that open market operations were intended to be a monetary instrument (see Chapter 3 and its Appendix).

One of the explicit purposes of the Federal Reserve Act was to improve bank supervision but there was no indication as to how, if at all, this was to be accomplished by the new Federal Reserve System. The 1913 legislation did amend the National Banking Act to give the Comptroller of the Currency the authority to examine *every member bank*. It also granted Federal Reserve Banks the authority, with Board approval, to examine both national and state member banks.

Another purpose was to improve the check payments system. Prior to passage of the Federal Reserve Act, local checks were cleared through local clearinghouses.[147] Out-of-town checks had to be forwarded to the banks on which they were drawn. Under common law, banks were obligated to pay in cash, at face value, when checks drawn on their accounts were presented at the banks. They were not so obligated when checks were received by mail. It was a fairly common practice for banks to impose an exchange charge on checks received by mail. Banks imposing charges were termed "non-par banks."[148] Congress saw such charges as imposing a burden on commerce in that they generated incentives for routing checks in a circuitous fashion through correspondents and others in an effort to avoid the charges.[149]

The Federal Reserve Act furnished Reserve Banks with the authority to collect and clear checks. It provided that no charges shall be made against them, thus requiring that any check collected through a Reserve Bank would have to be paid at par.[150] Over the years, the Federal Reserve conducted a campaign to eliminate non-par banking.

It has been suggested by some that the Federal Reserve Act need not have placed the Reserve Banks in the check collection business; doing so had not been included in the early proposals. Beyond addressing the defects of non-par banking, Congress had additional reasons for doing so. It saw this service as an inducement to membership, thus a way to strengthen the System.[151] Moreover, in providing the Reserve Banks with an important role in the day-to-day operations of their members, it embedded them in the life of the banking community and gave them a hands-on conduit to the commercial and financial markets they were designed to support in exigencies.[152] As discussed in the next chapter, the Reserve Banks' firm connection with the banking community, whether through payment services, the discount window, or in other ways, served another purpose, which Congress did not anticipate. Within a few years, it facilitated the Federal Reserve's functioning as the Treasury's fiscal agent during World War I.

Another issue addressed by the Act was that of interlocking directorates. As early as 1908, the Democratic Party platform had proposed that interlocking directorates among competing corporations be abolished. In 1912, it called for the prohibition of all interlocking directorates. In its investigation of concentration, the Pujo Committee had highlighted interlocks between bankers and their customers. In his inaugural address, Woodrow Wilson had asked for laws that would prevent interlocks of the "great corporations—banks and railroads, industrial, commercial and public service bodies—as in effect making those who borrow and those who lend practically one and the same."[153] He promised to include a provision in the Clayton Act restricting interlocking bank directorates to gain the support of the progressives for Glass' Federal Reserve bill.

Section 8 of the Clayton Act did prohibit anticompetitive interlocks involving individuals serving as directors or officers of two or more competing companies. Section 11 of the Federal Reserve Act gave enforcement authority, with respect to commercial banks, to the Federal Reserve Board. The restrictions did not apply to vertical interlocks involving banks and their customers.[154]

Intrasystem Relations

In key respects, the plain meaning of the law, specifying the respective responsibilities of the Board and the Reserve Banks, was anything but plain. The Act established an intricate and uncertain set of relationships that invariably created questions with more than one answer. The Act empowered the Board to supervise and examine Reserve Banks and to suspend or remove Reserve Bank officers or directors for cause. The Reserve Banks were "subject to provisions of the law and the orders of the Federal Reserve Board [to] extend to each member bank such discounts, advancements, and accommodations as may be safely and reasonably made with due regard for the claims and demands of other members bank." The Act gave the Reserve Banks the authority to determine the discount rate they would charge for each class of paper they discounted, "subject to review and determination by the ... Board." It also gave the Reserve Banks the authority to engage in open market transactions, under rules prescribed by the Board. The relative authority of the Banks and the Board in all key matters was subject to continuing dispute through the 1920s.

Relations with the Comptroller of the Currency

The establishment of the Federal Reserve System, with the purpose of improving supervision, thus placed the new organization in an equivocal relationship with the Comptroller of the Currency. As noted, the Comptroller served, ex officio, on the Board, and both had authority to supervise all member banks. Congress did not explain why it believed the duplication of authority, with the clear potential for confusion and friction, would improve supervision. The potential was, nevertheless, diminished in 1917 when the Federal Reserve and the comptroller agreed to a division of labor that confined the comptroller's supervision to nationally chartered banks and the Federal Reserve's to state-chartered banks that were members of the System.[155] However, as future events demonstrated, conflict between the comptroller and the Federal Reserve was never suppressed for very long.

THE NATURE OF THE NEW ORGANIZATION

Both contemporary knowledge and historical experience shaped the Federal Reserve Act. European central banks had demonstrated techniques for dealing with panics and protecting gold reserves; both had been problems for the United States. The Bank War of the 1830s influenced the dispute between the Aldrich plan and the Democratic proposals. It permeated the proposed organizational designs. The unique organizational structure of the Federal Reserve System, emerging out of this background, was a venture in which both the federal government and the banking community would participate; that is, a joint venture.

The Wilson administration believed it necessary that the System not be dominated by the banking community and, particularly, Wall Street. The banking community believed it necessary that the System be independent of the federal government. The Act diversified banking participation regionally and diversified authority, functionally, between banking and the federal government. The twelve privately owned Reserve Banks, eleven of which were not in New York, were the quasi-independent operating arms of the System. The Board represented the federal government and, thereby, the public interest. In neither case was the representation pure. At the Reserve Banks, the boards of directors included bank, business, and public representatives. At the Board, long-term presidential appointees with diverse geographic and functional backgrounds were joined by administration representatives. Further, the advice and counsel of the Federal Advisory Council, representing the banking community, was legally sanctioned.

The Federal Reserve, then, was a regionally diversified joint venture—something more than a clearinghouse association—that affiliated the banking community with the federal government.[156] It included semi-independent Reserve Banks and a Board that offered low salaries, an uncertain tenure, and vague but possibly prevailing authority. The Act spelled out details of what was, of necessity, an incomplete contract that would develop with experience and practice over time. Representation for a wide range of interests groups meant multiple constituencies that could check and balance one another. System managers would have to give consideration to each. The implication was that it would be, more or less, independent of any one.

Modern commentators have emphasized that Congress did not expect the Federal Reserve System to do much. Its behavior was constrained by relatively rigid rules and the rationality of the day. The Reserve Banks were to extend credit on the basis of eligible paper and adjust the discount rate in accordance with gold flows. In doing so, they were limited by reserve and collateral requirements. The System was not expected to smooth out the business cycle, a phenomenon outside the awareness of the authors of the Act, or stabilize prices, a matter they considered and rejected. It was not completely clear, at its origin, that the System was to operate continuously. In its *First Annual Report*, the Board felt obliged to state that "it would be a mistake ... to regard the Reserve Banks simply as emergency banks. Regulation in ordinary times, as well as protection in extraordinary times, may be expected to become the chief service which these institutions will perform."[157]

The vagueness of the law on the division of authority between the Reserve Banks and the Board was bound to create conflict and, thereby, also constrain the exercise of authority. Finally, Congress hedged all its bets by placing a time limit on the corporate charters of the Reserve Banks. The Banks were "to have succession for a period of twenty years" unless Congress decided to dissolve them sooner. The chartering question remained until 1927 when, under the McFadden Act, Reserve Banks were granted charters of indefinite duration.

The design of the System, nevertheless, suggests that *at the time* Congress believed it had taken a problematic step in delegating consequential powers to the Federal Reserve. This is the only possible explanation for what Paul Warburg described as the System's complex "system of checks and counterchecks—a paralyzing system which gives powers with one hand and takes them away with the other."[158] The "exasperating difficulties of ... [a] paralyzing system" were designed to ward off the ghost of Andrew Jackson.

There is an additional element in the Federal Reserve Act that throws light on some of the concerns that motivated the constraints Congress imposed. The fundamental purpose of the Act was to moderate crises and prevent panics by providing a government-sanctioned lender of last resort—a substitute for the role J. P. Morgan had undertaken in the Panic of 1907. The purpose raised then, as it does today, the question of unintended consequences. Making banks safer through cooperative action could simultaneously encourage them to take additional risk and, thereby, defeat the purpose. This moral hazard was viewed as a serious defect of central banking. In criticizing the proposal of Secretary of the Treasury Leslie Shaw that the Treasury assume central banking authority, A. Piatt Andrew wrote in 1906 that it was "objectionable upon economic grounds.... The assurance that someone stands ever ready to help in time of financial need naturally removes the strongest motives for caution and thrift."[159] In 1908, similar consequences for proposals that the government guarantee deposits were elaborated by the University of Chicago economist, J. Laurence Laughlin.[160]

It is in this light that the aim of the Act to improve bank supervision is understandable, even though its provisions accomplished little. The emphasis placed on real bills can be similarly understood. Conventional wisdom dictated that long-term investments were too risky for banks. Loans to purchase stock, that is call loans, provided less liquidity than imagined and had crippled the stock market during panics. The Board's *First Annual Report* for 1914 announced that bank dependence on the call-loan market was the primary factor underlying the crisis that developed with the outbreak of World War I.[161]

Some proponents of real bills believed that banks could not overextend credit or money to the point of inflation as long as the credit was based on short-term, self-liquidating paper. However, the Federal Reserve Act relied on adherence to the gold standard. With inflation checked by gold, the use of real bills made as much sense to J. Laurence Laughlin and H. Parker Willis as it had to Adam Smith.

CONCLUSIONS

The Federal Reserve System was a product of its time. The relevant past included the Bank War of the 1830s, the monetary conflicts in the latter part of the nineteenth century, and the crises that accompanied them. It also included relatively new learning about central banking in Europe.

More than a century of failed systems, culminating in the Panic of 1907, argued strongly for comprehensive bank reform, and European experience pointed to central banking. Still, the political issues that had long prevented the establishment of anything approximating a central bank did not disappear. If anything, they were exacerbated by the growing economic and financial concentration that developed at the end of the nineteenth and beginning of the twentieth centuries as the United States changed from a country of small, local firms to one dominated by industrial giants. Passing the Federal Reserve Act proved to be a struggle.

The design of the System was shaped by contemporary concerns about providing a private organization with what, at the time, were viewed as substantial monetary powers and the resulting implications for inflation, deflation, and interest rates. The result was a joint venture affiliating the government with the banking community, characterized by decentralization and diversity.

APPENDIX: THE IDEA OF A "CENTRAL BANK"

The development of functions that coalesced as central banking emerged gradually in Europe in the latter half of the nineteenth century. Banks in England, France, Germany, Scotland, Switzerland, Italy, and Sweden took on functions that we now identify with central banking before the term itself came into general use. The banks that began to undertake these functions had typically been established by governments in response to fiscal problems. They adapted to new public responsibilities in the nineteenth century that their position, privileges, and necessity imposed. However, the adjustment was gradual. As late as the 1890s, the European institutions themselves were not completely clear as to their central banking responsibilities.[162]

The functions that would identify them as central banks involved, for the most part, monetary stabilization under the international gold standard. This included maintaining convertibility between gold and their own notes, which were the principal paper currencies in use. In addition, during financial crises, when the weaknesses of individual institutions threatened financial markets and the operations of the financial system, the central banks were to serve as lenders of last resort. Both functions were made possible by the centralization of the banking systems' gold reserves in a central bank. Each central bank then that had monopoly of note issue could use lending (discounting) at a rate that would influence, if not control, market rates of interest, and, most importantly, could adjust such rates to the flow of gold into and out of the country with the aim of maintaining convertibility.

The term "central bank" came to describe a dominant bank that held the preponderance of bank reserves in a country, had more or less exclusive rights of note issue, had responsibilities to protect the country's gold reserves, and served as a fiscal agent for the government and lender of last resort to the banking community. The government sometimes permitted it considerable discretion in meeting these responsibilities.

Serving in this way meant the central bank, even if owned and controlled by private stockholders, as in the case of the Bank of England, would, at times, have to restrict credit when doing so meant forgoing additional profit. At other times, it would have to extend credit when doing so meant taking on unwanted risk and/or reducing its profits. In other words, it would have to subjugate its private interests to the public interest.

Central banks were not "a natural product of banking development."[163] Until about 1875, these central banking practices in Europe were controversial. (They remained controversial in the United States much longer.) A dominant bank that was the principal repository of the banking system's reserves was the sole issuer of currency and exercised substantial influence over the volume of bank-created money also was recognized as possessing enormous financial power. In contrast, in the United States and elsewhere, "free banking" systems were widely accepted as consistent with the philosophy of laissez-faire; the volume of bank-created money would be determined not by a dominant banking institution but by market factors—by the actions of as many banks as wanted to be in the business.[164]

In 1873, Walter Bagehot published *Lombard Street* to emphasize the "special position" of the Bank of England. It has been said that he "did not kindle a controversy, but extinguished one." Even Bagehot, however, was uncomfortable with his argument. "If Bagehot accepted the facts, he did so with misgiving. He recognized that the 'natural' system was one of decentralized, not centralized reserves, and the one-reserve system would never have evolved 'if Government had let banking alone.'"[165] "In Bagehot's view, the 'natural' system of banking was that of many banks each keeping its own cash reserve, but the system of a single bank keeping the whole reserve of the country had in fact grown up, and 'you might as well, or better, try to alter the English monarchy and substitute a republic, as to alter the present constitution of the English Money Market, founded on the Bank of England, and substitute for it a system in which each bank shall keep its own reserve.'"[166]

While central banking functions developed over the latter part of the nineteenth century, it is not completely clear when the term "central bank," in its modern sense, first came into common usage. It has been reported that a French traveler in America referred to the Second Bank of the United States as a *banque centrale*, but there appears to be no certitude as to what was meant and, more importantly, no verification.[167] In the United States, a congressional report in 1832 on the Second Bank of the United States used the term "central bank," but apparently in reference to a bank that would be completely owned and operated by the government and, perhaps, have no branches.[168]

The Bank of England seems not to have been referenced in the press as a central bank during the Overend & Gurney crisis in 1866, nor was it apparently referred to as such during the Barings Crisis in 1890.[169] It has been suggested that until the 1920s, "national [central] banks were nearly always referred to individually by their name."[170] However, the term "central bank" had come into common usage before that. During the Panic of 1907, as noted in the text, the *Economist* wrote that "the real weakness of New York is, of course, the want of a great central bank."[171] The term appears to have come into use in the United States in the first decade of the twentieth century. In discussing the work of the National Monetary Commission in 1909, Aldrich referred to the Bank of England, the Bank of France, and the Reichsbank as central banks. Glass' House Committee report on a Federal Reserve bill discusses the idea of a central bank. He insisted that what he was proposing was not one.[172] At the time, he was probably right, but then again, he had informed President Wilson less than a year earlier that he knew nothing about banking.[173]

In these circumstances, it seems likely that the term "central bank" probably came into common and more or less uniform modern usage well after central banks began to function as such. This probably occurred sometime between 1890 and 1910.

chapter **3**

A Shock to the System: 1919–1922

"Charged with deliberately precipitating the deflation, or at least of failing to alleviate it, the Federal Reserve, was confronted with one of the most dangerous threats in its history. . . ."

Lester V. Chandler[1]

The Federal Reserve System first achieved public celebrity with its support of the Treasury after America's entry into World War I. The System's popularity, however, was quickly compromised by a political firestorm ignited by its postwar policies.

When the war was over in 1918, the Treasury continued to insist on System support. A consequence was inflation, fueled by member-bank borrowing from Reserve Banks at below-market rates. It was not until late 1919 that Reserve Banks began to raise their discount rates. The restraint, delayed too long, was also continued too long and contributed in 1920 and 1921 to the worst deflation and depression in memory.

The System's failure to restrain inflation and curb deflation placed it in jeopardy. It was attacked by farm groups whose members suffered from a precipitous decline in commodity prices and income. It was attacked by a recently retired Comptroller of the Currency, who decried the effects of high and discriminatory discount rates on rural banks. A congressional committee had been established in 1921 to investigate distress in agricultural areas. It took up the complaints against the Federal Reserve. After less than a decade in existence, the Federal Reserve faced its first congressional investigation. Its behavior would be critically evaluated and its future was suddenly in question.

EARLY YEARS AND WAR FINANCE

Neither the organization of the Federal Reserve in 1914 nor its first several years in existence went smoothly. When war broke out in Europe in August 1914, a financial crisis was ignited in the United States. The Reserve Banks were not yet organized, and the emergency provisions of the Aldrich-Vreeland Act had to be invoked. The emergency was effectively resolved after several months. The Reserve Banks opened for business in November. Once up and running, the normal start-up problems were interspersed with frustrated efforts by some officials to reduce the number of Reserve Banks, dissension as to the relative authority of the Reserve Banks and the Board, and discomfort over an inability to do anything about an inflation sparked by an inflow of gold from abroad.

When the United States entered the war in April 1917, the System turned its effort to supporting the Treasury's deficit financing. Federal expenditures increased substantially during the war, far exceeding tax revenues. The cost of the war, as calculated by the Treasury, was in excess of $35 billion. It was financed in large part through the sale of securities. Between April 6, 1917, and October 31, 1919, the Federal debt expanded about $25 billion.[2]

The Treasury's plan was to sell short-term certificates of three- to six-month maturity in anticipation of tax receipts and periodically float longer-term "liberty bonds."[3] Its intentions were to sell securities at as low a cost as possible by appeals to patriotism and, by arrangements with the Federal Reserve, to provide for low-cost borrowing to purchase them.

The Reserve Banks, as the Treasury's fiscal agent, served as intermediaries between the government and the banking community. After Secretary McAdoo shifted fiscal agency functions from the Independent Treasury system to the Reserve Banks in 1915, they had begun to collect, hold, and disburse Treasury funds.[4] Once the war began, they were enlisted in the marketing and promotion of securities. They served as centers of the War Loan Organization in each of their districts, and helped organize Liberty Loan committees composed of volunteers to publicize and promote the sale of securities. Member banks were encouraged to borrow in order to purchase Treasury securities and to extend credit to customers to do so.[5] The Reserve Banks adjusted their discount rates to the below-market rates that the Treasury established for its securities. Preferential discount rates were established for borrowing from the Reserve Banks to purchase government securities; the securities served as collateral for the borrowing. The commercial banks borrowing to buy securities earned the interest on the securities at the cost of the preferential discount rate.

Government paper soon became the principal collateral for borrowing at the discount window.[6] Banks borrowed in large amounts and continuously in what were, to them, profitable transactions.[7] "The Federal Reserve Banks became great bond-distributing organizations; firms and corporations, large and small, men and women in every walk of life, were urged to subscribe for bonds, and the credit facilities of the Federal Reserve Banks were placed at the disposal of member and nonmember banks in order that they might lend freely on bonds for which the subscribers were unable to pay."[8]

The Federal Reserve Board accounted for its exceptional policies during the war by stating, "From the outset, ... [the Board] recognized its duty to cooperate unreservedly with the Government to provide funds needed for the war and freely conceded that the great national emergency made it necessary to suspend the application of well-recognized principles of economics and finance which usually govern banking operations in times of peace."[9]

Some well-known economists, nevertheless, objected to the sale of government securities at below-market rates and to the Treasury's failure to rely more on taxes.[10] The Treasury, however, was appreciative. "The Federal Reserve System.... had been subjected to supreme tests, both preceding and following the declaration of hostilities, and has measured up to every expectation and to every requirement. Without this system, it would be impossible to finance our enormous domestic and foreign trade, to raise the tremendous credits required to assist the foreign governments making common cause with us against Germany, and to take care of the extraordinary expenditures entailed by our part in the war."[11] Russell C. Leffingwell, the Assistant Secretary of the Treasury, told a group of economists, a number of whom had been critical, that "the Federal Reserve authorities ... are entitled to high praise and the lasting gratitude of the American people...."[12] Even its most virulent post-war critic, John Skelton Williams, the former Comptroller of the Currency whose views are discussed below, felt obliged to praise the System's war record. "I am earnestly sincere in declaring that ... [the System] was one of the most potent means for saving this country and the world during the war, and that without it hideous disaster would have come upon us."[13] Lester Chandler, the Princeton economist and biographer of Benjamin Strong, commented that, after the war "... a grateful nation ... hailed ... [the Federal Reserve] as a major contributor to the winning of the war ... and a permanent and indispensable part of the banking system."[14]

POSTWAR DISORDER

With the end of hostilities in November 1918, orders for munitions were terminated and uncertainty about the future prevailed. A brief postwar recession that began in the fall of 1918 reached a trough in February 1919.[15] The discount rate on eligible paper at the Federal Reserve Bank of New York had been raised to 3.5 percent in December 1917. It was raised to 4 percent in April 1918 and was in line with the rates at other Reserve Banks. There it would remain for some time.[16]

In March 1919, the economy began to expand rapidly. Over the next year, prices increased about 17 percent (see Table 3.1). The economy boomed. The Board later characterized this postwar boom as "... an unprecedented orgy of extravagance, a mania for speculation, over-extended business in nearly all lines ..., and general demoralization of the agencies of production and distribution ..."[17]

System officials understood that increased borrowing at the discount window was fueling monetary expansion and inflation and that increased borrowing was encouraged by discount rates that were below market rates of interest. Borrowing had risen from about $870 million in June 1918 to 1.8 billion in June 1919 (see Table 3.2). Under the real bills provisions of the Act, and in accordance with the practice that had developed during the War, member banks understood that as long as they had eligible paper and/or government securities, they could borrow without restriction.

Table 3.1
Price Level
January 1919–December 1922

Year	Month	Index of General Price Level (1913 = 100)	Index of Wholesale Farm Prices (1926 = 100)
1919	January	100.0	100.0
	February	98.8	96.4
	March	99.4	98.9
	April	100.6	102.9
	May	102.5	105.2
	June	104.3	101.8
	July	106.7	106.8
	August	108.0	106.2
	September	108.0	99.5
	October	109.2	99.1
	November	111.0	103.6
	December	112.9	107.5

Year	Month	Index of General Price Level (1913 = 100)	Index of Wholesale Farm Prices (1926 = 100)
1920	January	115.3	110.5
	February	116.0	106.1
	March	117.8	106.8
	April	120.2	109.5
	May	121.5	110.2
	June	122.1	108.7
	July	121.5	104.2
	August	119.6	97.3
	September	119.6	93.5
	October	117.8	83.0
	November	114.7	77.1
	December	110.4	67.9
1921	January	108.6	65.9
	February	105.5	60.2
	March	104.3	58.4
	April	102.5	53.7
	May	100.6	54.0
	June	99.4	52.3
	July	98.2	56.1
	August	98.2	57.8
	September	97.5	58.3
	October	97.5	58.3
	November	97.5	56.9
	December	96.9	57.1
1922	January	95.7	57.2
	February	95.1	61.8
	March	95.1	60.7
	April	95.7	60.1
	May	96.9	61.2
	June	96.9	60.2
	July	97.5	62.1
	August	98.2	59.2
	September	98.2	60.0
	October	98.8	61.1
	November	99.4	63.5
	December	100.0	64.4

Sources: General Price Level: National Bureau of Economic Research (www.nber.org/databases/macrohistory; NBER Series: 04051). Not seasonally adjusted.

Wholesale Farm Prices: National Bureau of Economic Research (www.nber.org/org/databases/macrohistory; NBER Series No. 04048). Not seasonally adjusted.

Table 3.2
Federal Reserve Bank Loans
June 1918–June 1922
(Thousands of Dollars)

Year	Month	Amount
1918	June	$ 869,175
	December	1,702,938
1919	June	1,818,040
	December	2,194,878
1920	June	2,431,794
	December	2,719,134
1921	June	1,751,350
	December	1,144,346
1922	June	461,418
	December	617,780

Source: Board of Governors of the Federal Reserve System. *Banking and Monetary Statistics*, 1914–41. 1943. Reprint, Washington DC, 1976, p. 340.

Federal Reserve officials viewed these developments with alarm, convinced that the System was contributing to inflation and feeding a speculative bubble that would ultimately collapse into crisis and panic.

They, nevertheless, believed their hands were tied. The Treasury vigorously opposed any monetary restraint involving higher interest rates.[18] Government expenses had remained high while the peace treaty was deliberated and the Army remained in Europe.[19] It planned a multibillion-dollar bond issue, the so-called Victory Loan, for the spring of 1919.

System officials agonized but left their key discount rates unchanged at 4 percent. Reserve Banks sustained the preferential rates, which were established during the war, for credit collateralized by government securities.

The Treasury's Victory Loan opened for subscriptions on April 21 and closed May 10. It included $4.5 billion of four-year notes. The Treasury planned for additional issues of certificates in August and September. The Federal Reserve System continued in its supportive position.[20]

In lieu of raising discount rates, the Board undertook moral suasion or, as it was termed at the time, "direct pressure," urging restraint. It encouraged banks to "... see the wisdom of working back toward a more normal condition. . . ."[21] It issued statements warning banks about excessive borrowing at the discount window. It reported that "these warnings . . . were . . . given only momentary attention by many banks."[22]

Through the fall of 1919, Benjamin Strong, Governor of the Federal Reserve Bank of New York, argued for increased discount rates. Carter Glass, then Secretary of the Treasury, vigorously opposed any increase. Finally, in November, the New York Bank raised several of its rates. Rates on commercial paper that had remained relatively stable through most of 1919 also began to rise (see Table 3.3). The New York Bank posted additional rate increases in December. On December 30, all of its discount rates were a uniform 4.75 percent.

At the end of the year, the Board permitted the Reserve Banks to eliminate the preferential rate on borrowing collateralized by government securities; that rate also went to 4.75 percent. In January, discount-rate increases began in earnest. The New York Bank raised the rate on eligible commercial paper to 6 percent. In April, at the request of the Board, Congress passed the Phelan Act permitting Reserve Banks to establish progressive discount rates; that is, raising incremental rates on bank borrowing in excess of a basic line of credit. The basic line for each bank would be derived from the amount of its required reserves plus the capital it had

Table 3.3
Commercial Paper Rates
1919–1921

Year	Month	Rate (Percent)
1919	January	5.25
	February	5.18
	March	5.38
	April	5.38
	May	5.38
	June	5.53
	July	5.43
	August	5.38
	September	5.38
	October	5.38
	November	5.50
	December	5.88

continued

Table 3.3 (continued)

Year	Month	Rate (Percent)
1920	January	6.00
	February	6.40
	March	6.67
	April	6.82
	May	7.16
	June	7.72
	July	7.84
	August	8.00
	September	7.97
	October	8.00
	November	7.93
	December	7.88
1921	January	7.82
	February	7.75
	March	7.62
	April	7.56
	May	6.93
	June	6.71
	July	6.28
	August	5.95
	September	5.88
	October	5.62
	November	5.17
	December	5.12

Source: National Bureau of Economic Research (www.nber.org/databases/macrohistory;) NBER Series No. 13002.

invested in its Reserve Bank. The rationale was that this amount constituted each member's contribution to the Bank's lending resources. The posted discount rate would be charged for borrowing up to the basic line. Additional borrowing would incur a surcharge that increased progressively with the amount borrowed. In April and May of 1920, four Reserve Banks in agricultural areas (Atlanta, Kansas City, Dallas, and St. Louis) adopted progressive rate schemes. In May, the Board approved increases for ninety-day paper to 7 percent.[23]

The belated Federal Reserve attack on inflation, which had begun at the end of 1919, hardly managed to beat the economy's descent into recession. Unrecognized at the time, business peaked in January 1920 even though the price level continued to rise. The Federal Reserve's Index of Industrial Production declined about 6 percent between January and July (Table 3.4).

Prices reached a peak in May and June of 1920. The decline, thereafter, in farm prices was precipitous. From May 1920 to June 1921, they fell over 50 percent (see Table 3.1). In the summer, economic activity also fell. Between July 1920 and April 1921, industrial production fell another 28 percent, and the unemployment rate climbed to 12 percent.

Table 3.4
Index of Industrial Production: 1920–1922

Year	Month	Industrial Production (1997 = 100)
1920	January	100.0
	February	100.0
	March	98.1
	April	92.8
	May	95.2
	June	96.2
	July	93.8
	August	94.3
	September	90.9
	October	87.1
	November	79.9
	December	75.1
1921	January	70.8
	February	69.4
	March	67.5
	April	67.5
	May	69.4
	June	68.9
	July	68.4
	August	70.8
	September	71.3
	October	75.6
	November	74.6
	December	74.2

continued

Table 3.4 (continued)

Year	Month	Industrial Production (1997 = 100)
1922	January	77.0
	February	80.4
	March	84.7
	April	81.8
	May	86.1
	June	90.4
	July	90.4
	August	88.5
	September	93.3
	October	98.6
	November	102.9
	December	105.7

Source: Board of Governors of the Federal Reserve System.
Note: Index converted from 1997 = 100 to January 1920 = 100.

The economic contraction that began in January 1920 continued through July 1921. Farm prices did not stabilize until June, though the general price level continued to fall until early 1922. Industrial production did not begin to increase until September 1921.

The downturn notwithstanding, the higher discount rates established in the first half of 1920 were maintained until the contraction was just about over. The Boston Reserve Bank did not reduce its rate on commercial and agricultural paper until April 15, 1921—to 6 percent. New York lowered its rate from 7 percent to 6.5 percent the following month, a full year after prices had peaked. By June 1, eight of the Reserve Banks had 6 percent rates, while four others had 6.5 percent rates. Progressive rates, which had become a cause celebre, were discontinued by Atlanta and Dallas and modified by St. Louis and Kansas City in the spring. In July, Kansas City discontinued progressive rates.[24]

ASSAULT ON THE FEDERAL RESERVE

The Federal Reserve's tight money policy during a period of economic contraction and deflation kindled the anger of farmers whose wartime prosperity had evaporated. It brought on proposals for limits on the

Federal Reserve's authority to raise discount rates without congressional approval,[25] and it provoked furious commentary from a former Comptroller of the Currency, John Skelton Williams. A Joint Commission for Agricultural Inquiry, established by Congress to investigate the causes of distress in farming areas, subjected the Federal Reserve to its first serious congressional investigation.

Agricultural Uprising

Many in the farm belt held the System responsible for precipitating an agricultural depression and pursuing discriminatory policies in favor of large banks in New York. Newspapers in farming areas condemned the Federal Reserve. The American Farm Bureau met with the Board and the Reserve Bank governors, making accusations such as, "Who decided that deflation was necessary?" and "Money is borrowed from Federal Reserve Banks to be reloaned on Wall Street."[26]

Accusations about Federal Reserve policy did not subside quickly in the agricultural sector, which never enjoyed the general prosperity of the 1920s. In a speech on the Senate floor in August 1922, long after the economy had stabilized, J. Thomas Heflin of Alabama said:

> Governor Harding and his deflation henchman did everything that ... should not be done. Usurious interest rates were charged; the currency was contracted and deflated, while the cry of business distress and financial disaster was heard throughout the country. Mr. President, I have said that deflation policy was born in Wall Street ... carried out by Governor Harding, who fallen under the influence of the ... speculators of New York.... When I think of how Governor Harding with his murderous deflation swept through the South and West, leaving ruin in its wake, I recall what John said in the book of Revelations: "And I looked, and behold a pale horse; and his name that sat upon him was Death, and Hades followed with him."[27]

The Federal Reserve Board denied its culpability. In its *Annual Report for 1920*, the Board admitted that "[t]he impression has prevailed in some quarters that agricultural credits in particular have been greatly curtailed...." and then went on to indicate why this impression was erroneous.[28]

The Comptroller's Quarrel with the Federal Reserve

John Skelton Williams had assumed office as Comptroller in January 1914 after a year as Assistant Secretary of the Treasury. As Comptroller, Williams had been a member of the organization committee that established the Federal Reserve System and had served on the Board, ex officio, until 1921. On the expiration of Williams' five-year term in

1919, President Wilson had nominated him for another term, but Republican opponents managed to prevent his confirmation. He continued in office as a recess appointee until his retirement on the eve of the Republican accession to the White House in March 1921.[29] Of all the attacks on Federal Reserve policy during this period, none was more rancorous than his.

Williams charged, among other things, that the Federal Reserve Board had, by its deflationary policies, caused the decline in agricultural prices. He highlighted the usurious incremental discount rates imposed by the progressive rate schemes in rural districts.[30] He attacked the Federal Reserve Bank of New York and Strong, arguing that its discount policies were discriminatory in favoring large, New York City banks. He proposed the removal of all current Board members for cause and the addition of the Secretary of Agriculture to the Board.[31]

In later years, clashes between the Comptroller and the Federal Reserve have been fairly common, reflecting the reality that overlaps in authority and responsibility can be combustible. The quarrel between Williams and the Federal Reserve in 1921 was the first in what was to be a long line of disputes and, at the same time, sui generis.

Williams' character has been subject to extensive and, often, critical commentary. Born in 1865 in Virginia to a prominent banking family, he had a notable career prior to his government appointments. In 1895, he had been instrumental in combining a number of small railroads into the Seaboard Air Line Railway system between New York and Florida. In 1903, however, he lost the presidency of the railroad in a fight with New York financiers, including Thomas Fortune Ryan.[32] He subsequently went on to other ventures, including the management of other railroads. He had been the President of the Bank of Richmond and other financial companies before entering government.

Williams was described by Thomas Kane, a sympathetic Deputy Comptroller with whom he worked, as "a man of strong impulses and prejudices, courageous, blunt and outspoken, unwilling to accept advice or suggestion, lacking in suavity, but entirely devoid of subtlety, and relentless toward those with whom he had business or personal differences."[33] To those less sympathetic, he was obstinate, belligerent, inflexible, and petty, and had an inexhaustible energy for acting out these personality flaws. His charges against the Federal Reserve Bank of New York have been characterized by one economic historian as "scurrilous."[34]

Williams' views about the Federal Reserve's behavior were not, however, entirely deluded. Among others, both Carter Glass and Williams Jennings Bryan offered him moral support. Glass had crossed swords with Strong in the fall of 1919 when the latter had advocated raising discount rates in opposition to the Treasury's position. In a June 1921 letter to Williams he wrote: "... the situation in New York may be referred back to the insubordinate action of Governor Strong [in 1919] and to the failure of the Reserve Board to call for Strong's resignation as it agreed to do.... the failure ... was based upon the supposition that he could not live a year longer. I am told that he was never in better health than at the present moment and, I judge from what you write, he is largely responsible for the frightful abuses cited in your letter."[35] Bryan, as always, was prepared to condemn Wall Street and commended Williams for his assault.[36]

Congressional Confrontation

Williams' charges were taken up by the Joint Commission for Agricultural Inquiry, a congressional committee composed of five senators and five representatives and chaired by Representative Sydney Anderson of Minnesota. Organized in May and June of 1921 to investigate postwar farm problems, the Commission began hearings in August and issued its report early the following year.[37]

Williams' Testimony

The Commission's hearings on Federal Reserve policy began with Williams on Tuesday, August 2. His testimony continued into the next day.[38]

Williams began with a disclaimer. He indicated that his criticisms were not directed against the Federal Reserve System as such but against the way the System had been administered. He asserted, "The theory, conception, and purpose of the Federal reserve system are as near perfection as the human mind can produce."[39] He made an effort to distinguish the organization from those who managed it. "The Federal reserve system," he stated, "despite its faulty administration in some respects, has been of tremendous service to the country; but from the very outset Secretary McAdoo and the more liberal elements of the board had to combat and oppose the reactionary faction which fought for the centralization rather than the democratization of banking power."[40]

Williams placed in the record his address to the Augusta Board of Commerce and Georgia Press Association of July 14, 1921, which served to summarize his views.[41] His charges included the following:

1. Progressive discount rates imposed by a number of Federal Reserve Banks in farm areas had resulted in unconscionable charges. He brought to the attention of the

Joint Commission the case of a rural bank in Alabama that had been charged 87.5 percent for a portion of the funds it had borrowed from the Atlanta Reserve Bank. With its deposits falling, it lost reserves and its basic line fell. As it borrowed to obtain additional reserves, the marginal rate increased to usurious levels. "A valiant little country bank," Williams told Congress, "striving and straining to help its farmer customers, needed $112,000 to meet the needs of its community in crop-moving time ..."[42]

2. He accused the System, and particularly the New York Reserve Bank, of favoritism toward big banks in urban areas that could borrow at low rates and charge their customers high rates.[43] "While small banks in the farming districts were being taxed in this manner, great banks in New York were being supplied with practically unlimited amounts of money at 5, 6 and 7 percent."[44] He proposed that "the Federal reserve system should be made to refund in every instance every dollar of interest exacted in excess of 10 per cent, if not in excess of 6 per cent."[45]
3. He accused Federal Reserve officials of policies that favored speculation at the expense of productive enterprise. "One of the primal and most vital purposes [of the Federal Reserve Act] was to prevent congestion of money at the centers for use in gambling or exactions from gamblers and speculators when funds are needed for moving or carrying crops ... for the conduct of productive enterprises."[46]
4. He argued that the excessively high discount rates and the progressive rate structure that had imposed high costs on rural banks had caused the precipitous deflation in 1920 and 1921. The continuing deflationary policies of the Federal Reserve have been developed, he asserted, on the idea that "to restore business to generally sound condition" there had to be "a preliminary massacre of business. The deflation policies of the past 12 months have borne their fruit. The mercantile agencies tell us since October last there have been about 14,000 business failures in this country, an increase of not far from 10,000 failures over the same period last year."[47]
5. Williams also objected to the high salaries of Reserve Bank officials and what he considered exorbitant and wasteful expenditures. "While the Federal Reserve Board has been ... preaching and urging deflation ... it is interesting to note there has been no deflation in the salaries paid to the officers of the 12 Federal Reserve banks, especially to big banks.... Perhaps there may be reasons why four officers of one reserve bank are allowed to draw salaries exceeding the aggregate salaries paid the President ..., the Vice President ..., the Chief Justice ..., and General Pershing, ..."[48]

He launched a direct attack on Strong, asking "... why one officer of a reserve bank is given a salary while off duty and on a 12 months' leave of absence exceeding the aggregate salaries paid to three United States Senators for the same period." He objected to the increase in the payroll of the Federal Reserve Bank of New York during the period of deflation. He objected to the Reserve Bank's plans for a new building that would cost about $16 million—"probably more than the combined cost of the White House and the Treasury Building.... This building with its luxurious and lavish appointment of marble and brass, its auditoriums, gymnasium, club quarters, restaurant de luxe, and objects of art will make Solomon's temple of old seem quite cheap by comparison."[49]

Williams' charges reached a crescendo with expectations of and proposals for change. "[I]f the public understands the situation it will make its opinions and demands felt at Washington so strongly that the administration of the system will be revised and we will have a reserve board whose members will have an understanding of the needs of the country. . . ."[50] He proposed that the Secretary of Agriculture, who with the Secretary of the Treasury and the Comptroller had been on the Federal Reserve's Organizing Committee, be made an ex officio member of the Board.[51] According to W. P. G. Harding, the governor of the Board, he also called for the termination of all Board members from office on grounds of malfeasance and incompetence.[52]

The acrimony between Williams and Harding peaked with an exchange before the Commission. Williams asserted that at one Board meeting Governor Harding had threatened, should he continue his attacks, to use poison gas. Harding objected, indicating that what "I told Mr. Williams [was] that I was not afraid of him, that if he wanted to fight I would fight him; that I would fight fair if he wanted to himself, but if he wanted to use poison gas I would fight him that way."[53]

While Williams' charges were couched in extravagant terms, retrospective evaluation suggests that they were not completely frivolous. Friedman and Schwartz concluded in 1963 that the mistakes made by the Federal Reserve were serious enough to consider whether the country would have been better off had the Federal Reserve Act never been passed.[54]

Williams, however, was not content to lay the blame simply on policy mistakes. He traced the mistakes to an objectionable drift in control of the System that had become manifest since the war. The Federal Reserve, Williams warned, had fallen into the hands of the money trust. Its policies reflected the views of those who represented the large banking houses in New York.

At least one member of the Board understood the historical significance of Williams' attack. In addressing the Joint Conference of Chairmen and Governors in October, Board member Adolph Miller reflected on the same apparition that, a decade earlier, had haunted Carter Glass and Mr. Cowperthwait of the U.S. Chamber of Commerce.

> I have recalled a great many times to myself in connection with the perils through which the Federal Reserve System has been passing in recent months, what it was that really brought the Second Bank of the United States to the brink of dissolution. Aside from the mass of rather secondary political and factional charges, it was the great expansion of credit supported by that institution in the year of 1832 followed by the violent contraction of credit in the winter of 1833–4. This begot in the minds of people, not all of whom were sympathetic with Andrew Jackson in his attack against the Bank, the conviction that the Bank had too much power, that it was an

> arbiter of the economic destiny, that it could make or mar the prosperity of the country by assuming a liberal or illiberal attitude in the matter of credits. I think there are symptoms that not a few people in the United States at the present time are of a similar opinion with reference to the Federal Reserve System.[55]

"I am glad . . ." Miller told the Conference, "that the Comptroller has brought into this discussion the fact that the people are partners with us. . . ."[56]

Strong's Response

The ex-Comptroller's testimony was followed by that of Governor Harding of the Board on Thursday, August 4, and then by that of Governor Strong of the Federal Reserve Bank of New York.[57] Strong testified for three days, beginning Monday, August 8. He was eminently successful in defending the System. As Chandler stated:

> He seized the opportunity not only to answer Williams' charges but also to present for the first time to a congressional committee a full-length explanation of the functioning and policies of the System since its inception. . . . After studying the hearings, one becomes willing to accept the glowing report sent to Deputy Governor Case on August 12 by George L. Harrison [then an attorney at the New York Bank, and later Strong's successor as Governor]. . . . 'I have heard many arguments before the Supreme Court; I have heard many witnesses before various Congressional committees; I have heard speeches on economics by students of economics; but never have I heard anyone who was so obviously a master of himself and his subject as the Governor was before this Commission. . . .'[58]

Strong's response to Williams was developed, as Harrison indicated, within the context of his ". . . explanation of the functioning and policies of the System since its inception. . . ." He began by separating the brief history of Federal Reserve into five separate periods and reviewing its operations in each. He disposed of the initial period prior to the war in several cryptic paragraphs. He then embarked on a lengthy discourse about the operations of the Reserve Banks as the Treasury's fiscal agent during the war. He emphasized the uniqueness of the System's contribution through historical comparisons to war finance from feudal times on. He defended below-market discount rates by noting the common need in all wars, given the inadequacy of savings and tax receipts, to reallocate resources to the government through credit expansion.[59] He indicated that it "would have been inviting disaster" if the System had tried to reduce consumption during the war by raising its discount rates to high levels. "Do you suppose for a minute that the United States Government . . . would permit a loan to fail, in the face of military necessity . . . because of an interest rate? . . . There is no limit to the level to which [market rates of interest] would have gone."[60]

Strong submitted for the record supportive papers by Assistant Secretary of the Treasury R. C. Leffingwell, the economist O. M. W. Sprague, and Board member Adolph Miller. Leffingwell, in particular, heaped praise on the Federal Reserve for its assistance to the Treasury.

Strong then moved on to his third period, from August 1918 to the summer of 1920.[61] He noted that even in the early postwar years, the System's responsibilities as the Treasury's fiscal agent took precedence over restraint.[62] Anything that affected the Treasury adversely would be an "important consideration affecting the welfare of the country."[63] He added that any System policy to resist speculation was "necessarily affected by the necessities of the Treasury..." He also explained that a problem in bringing about an increase in market rates of interest at the time was the belief that holders of existing government securities had to be protected against falling prices.[64]

Strong's fourth period, following the summer of 1920, was characterized by deflation and economic decline. He justified continued high discount rates in the face of these conditions as follows:

> During the fourth period, of decline,...it was our policy to encourage extensions of credit where required and necessary, but also to insure at the same time, by judicious increases in our rates, that the orderly liquidation of those stocks of backed-up goods should continue unabated. Absolute failure to liquidate inventories under such conditions, in my opinion, would have brought about disastrous results.[65]

The disastrous results Strong had in mind were elaborated in several letters he wrote during the period to Montagu Norman, the Governor of the Bank of England, and to S. Parker Gilbert in the Treasury. Member-bank debt to the Federal Reserve was still high in January and March of 1921, he told Norman, and needed to be reduced (Table 3.2). During a period of liquidation, he told Gilbert in May, rate reduction would not encourage business without encouraging inflation "with all the accompanying evils of speculation and extravagance."[66]

The Board's *Annual Report for 1920* also provided a justification based on the System's gold reserves. "The Board's purpose," it contended, "was to maintain the strength of the Federal Reserve Banks, which are the custodians of the lawful reserves of the member banks."[67]

Underlying these explanations was the conviction that deflation was a necessary and inevitable consequence of previous inflation—a price that had to be paid lest further damage be done. In a letter to Russell Leffingwell in early February 1919, Strong said, "... we have had some billions of inflation, but from now on the Treasury is charged with an even greater responsibility than heretofore because the day of deflation approaches." He added, "WE MUST DEFLATE...."[68]

The fifth period Strong describes, which he dates as beginning in December 1920, is the period of "stabilization" or "readjustment and recovery—a period in which the suffering of the previous period is rewarded." It "... can be described as the debt-paying period, and the period when the readjustment of prices is taking place to a new stabilized level. It is in this period that inventories have been and are being reduced.... Debts are being repaid. New goods are being produced at lower costs by reason of the reduced cost of raw material and of labor.... We are now establishing, a new level of prices in this country and of world prices, that is more in accordance with the new world conditions of consumption and production and credit."[69]

Legislative Repercussions

The *Report of the Joint Commission of Agricultural Inquiry*, issued in early 1922, was delivered in four parts. Part II, titled "Credit," was devoted entirely to the Federal Reserve policies from 1919 to 1921. It contained only a mild reprimand.

The charges of extravagance were ignored, and the System was exonerated with regard to charges of discrimination against farmers.[70] The Report did criticize the Federal Reserve for its delay in raising discount rates in 1919.

> The commission believes that a policy of sharp advances in the discount rates should have been inaugurated in the first six months of 1919, and can not excuse the action of the Federal Reserve Board and the Federal reserve banks in this period in failing to take measures to restrict the expansion, inflation, speculation and extravagance, which characterized the period.[71]

This conclusion suggests that the Federal Reserve should have ignored the Treasury's demands for support and should certainly do so if similar conditions were to develop in the future. While clothed as a criticism of the Federal Reserve, the finding constituted a congressional warrant for Federal Reserve independence.

The Commission did not propose any major changes in the structure of the System or in any way seek to penalize its existing management. It did recommend a few minor reforms. Its principal proposal was to permit the Federal Reserve to purchase debentures issued by federal farm land banks and to rediscount for federal land bank or joint-stock land bank loans with a maturity of six months.[72]

The proposal to make further use of Reserve Bank credit for agricultural purposes was implemented in the Agricultural Credits Act of March 4, 1923. Under the original Federal Reserve Act, all discounted paper was to have a maturity of not more than ninety days, with the exception of agricultural paper, which was permitted to have a maturity of not more than six months.[73] Among other things, the 1923 Act increased the maturity permitted for agricultural paper to nine months.[74] It also made eligible for discount the paper of cooperative marketing associations as agricultural paper.[75]

In addition, the 1923 Act established a system of Federal intermediate credit banks to make farm loans with maturities intermediate between the short-term credit available through the Federal Reserve Banks and the longer-term credit available from Federal land banks. These new intermediate-credit banks were permitted to rediscount their paper with Reserve Banks on the same basis on which agricultural paper in general could be offered; that is, with maturities of not more than nine months. The Act also gave the Reserve Banks authority to buy and sell debentures of the Federal intermediate-credit banks to the same extent as it could municipal securities.[76] The Act also repealed the Federal Reserve's authority to establish progressive rates that had been granted by the Phelan Act of 1920.

As noted, the Commission did not make any recommendations to alter the organizational structure of the Federal Reserve. Congress, however, amended Section 10 of the Federal Reserve Act in June 1922 to increase the number of presidentially appointed members of the Board from five to six in order to add a representative of "agricultural interests"—a "dirt farmer"[77]—to the "financial, industrial, and commercial interests" already represented on the Board.[78]

SURVIVAL AND GROWTH

While the System had experienced some minor successes in its prewar years,[79] its postwar mistakes were grievous. It had been too slow to implement monetary restraint, did so at precisely the wrong time, and continued the restraint long after it should have been relaxed. It had, at the least, exacerbated postwar instability, imposed additional injury on farmers who had suffered a decline in demand at the end of the war, and been remarkably insensitive to their plight and that of rural banks. The adoption of progressive rates by only four of the twelve Reserve Banks was a step back for the System, which had begun to operate in a uniform way. It represented a differential discount policy that would not be tolerated in years to come.[80]

The Joint Commission might have recommended changes that would have radically altered the Federal Reserve. Instead, the System was hardly chastised. As Governor Harding accurately observed, "While the Commission in its discussion of credit did not meet in all respects the expectations of the friends of the Federal Reserve System, the report as a whole was a distinct disappointment to its critics."[81] The result was that the list of agriculture-related assets the Reserve Banks could discount was expanded and a Board member was added to represent agricultural interests. Finally, the System was the recipient of a congressional advisory to resist the Treasury's demands for support if they conflicted with sound monetary policy, at least in peacetime.

These outcomes made clear that there was no congressional inclination to alter the System in any major way and suggested, at the least, a modest expansion of System independence. As will be noted below, they were enough, coupled with what Federal Reserve officials had recently learned, to serve as a basis for a major step forward in 1922 and 1923.

Explanations

There are several possible explanations for the Joint Commission's results. First, the significance of the Federal Reserve's policy errors may not have been fully appreciated at the time or, to the extent they were, considered forgivable. As Friedman and Schwartz observed, "There was no strictly comparable American experience on which to base policy or judge the effect of actions designed to stimulate or retard monetary expansion. In particular, there was no evidence on the length of lags between action and effect.... The contemporaneous gold reserve ratio was a simple easy guide; economic stability, a complex, subtle will-o'-the-wisp."[82]

The business cycle had not been discussed in any of the thirty-plus volumes of the National Monetary Commission, nor is it mentioned in the reports of the principal House or Senate committees through which the Federal Reserve Act passed. "The pre-war system," John Maynard Keynes later wrote, "did not do much to stabilise world prices or to ward off Credit Cycles—with such acts of God it did not consider itself in any way concerned."[83]

The Joint Commission, however, made explicit its concern about domestic stability. In its report, it provided a long description of "business cycles of great prosperity and succeeding great depression, such as that from which we are now emerging ..." as well as their presumed causes.[84] The 1913 Act had not given the System a mandate to expand and contract money and/or credit to promote domestic economic stability. However, by 1922 the idea that the central bank should promote economic stability was nascent. Another "advisory" could be inferred from the Joint Commission's report.

Second, whatever mistakes the Federal Reserve had made, it had corrected by the time of the Joint Commission's Hearings in the late summer of 1921. In addition, the economic outlook had improved. The Reserve Banks had lowered their discount rates, and the progressive rate schemes had been effectively discontinued. Interest rates had declined during the summer (Table 3.3), and farm prices had stabilized (Table 3.1).

Third, a fair reading of the questions and answers in the Joint Commission's hearings strongly suggests that the Commission was more receptive to System representatives, notably Strong, than it was to Williams. This difference in treatment may have reflected differences in personal attributes. Williams was strident and tendentious; he had made enemies and failed to secure congressional confirmation for a second appointment as Comptroller. His ferocious attacks on the Federal Reserve could be attributed to personal resentments and/or a suggestion that the Federal Reserve Board might take over the Comptroller's functions.[85] Strong, in contrast, was self-possessed, composed, and extraordinarily knowledgeable, even though fiercely critical of System critics in private.[86]

The differential response might also be attributable to politics. Williams could be grouped with the anti-Wall Street faction who, with Wilson, Bryan, Pujo, Owen, Brandeis, Untermyer, and even Glass, had excoriated the money trust prior to passage of the Federal Reserve Act. Both Bryan and Glass had supported his attacks on the Federal Reserve. It will be recalled that Williams had probably contributed to developing McAdoo's proposal to establish a central bank in the Treasury. A favorable editorial in the *Richmond Times-Dispatch*, as he neared retirement in February 1921, said that "... he has been the center of an onslaught as vicious as his powerful enemies could launch against him. He has been the target for certain Wall Street interests, and through all the years of his official tenure little curs of finance and politics have barked and snapped at his heels."[87]

Wilson Democrats and progressive Republicans had conceded passage of the Federal Reserve Act in 1913 on the conviction that a decentralized organization, supervised by a Board of presidential appointees, would provide adequate safeguards against control of the System by large banking organizations, particularly those in New York. By 1921, their conviction had been shaken by the Federal Reserve's tenacious deflationary policy. The safeguards they had erected proved insufficient to prevent a shift in power from the Board to the Reserve Banks and, among the Reserve Banks, to the Federal Reserve Bank of New York. Then, within the Federal Reserve Bank of New York, the power shifted to Strong, seen as a member of J. P. Morgan's inner circle.

Williams' views of the Federal Reserve System were, by the summer of 1921, no longer in fashion. To the new Republican administration and many in Congress, he seemed a disagreeable anachronism.

The Role of War Finance

It was widely understood that war finance was the predicate for the System's inept postwar policies.[88] It is not widely appreciated that war finance also provides an explanation for the favorable outcome it experienced in this episode. Any fair reading of Strong's influential testimony before the Joint Commission will suggest that the Federal Reserve's war record played an important role.

Too late to address the financial crisis of 1914, beset by internal disputes, and without an answer to inflation, Strong had expressed his frustration in the Fall of 1916. "The one discouraging thing about the Federal Reserve System," he wrote to one of his directors, "lies in its inability to find a normal and natural place in the banking structure of the country. Just now we seem to be a sort of excrescence."[89] To another director, he observed that "... the Federal Reserve System and particularly the New York Bank will not establish itself with its members and with the country generally until it has met the test of a real crisis."[90] When America entered the war in 1917, the Federal Reserve met "a real crisis."

Strong had anticipated the benefits of serving the Treasury during war. In a letter to Pierre Jay, the chairman of his board, about two weeks after the United States had declared war on Germany, he wrote, "We must, if possible, persuade ... [Secretary McAdoo] to permit the Reserve Banks to become the real, active and effective fiscal agents for the Government. If he does that, our place in the country's banking system will be established for all time...."[91]

Not only did he foresee benefits but he also believed it was impossible for the Federal Reserve to do anything else and survive.[92] He elaborated his views after the war in letters to Russell Leffingwell and to Wilfred King of the National Bureau of Economic Research. To Leffingwell, he wrote about the System's critics who viewed the System's behavior as inflationary. "Their trouble is the usual and ancient one, of approaching the problem on the theoretical basis of 100% perfection, but leaving out of account entirely the human factor; i.e., what is possible to do, rather what ought to be done."[93]

In a long letter to King that Strong prepared but never sent, he stated "... that while more might have been done, what was done was extraordinary when one contrasts the failures of the Civil War period, and the equally disastrous failures of the European belligerent nations."[94] In a shorter letter that he did ultimately send, he pointed out that it would have been impossible for the Federal Reserve to behave differently.

> Supposing ... the managers of the ... reserve banks, or the ... Board itself, should have found what they believed to be just ground for disagreement with the policy of the ... Treasury, and should have ... declined to develop a policy reasonably synchronizing with the Treasury's policy; what would have happened to the Federal Reserve System? Would we have remained in existence? Would the Federal Reserve Act have been materially modified by legislation? Would the provisions of the

> Overman act have been invoked? Would the ... Federal reserve banks be under the direct control of the Secretary of the Treasury? Would the members of the ... Board have been removed from office and new members appointed? In fact, what would have happened no one can say.... What was this creature of Congress to do? Engage in propaganda to defeat policies not only sanctioned but made mandatory by Congress....[95]

In his testimony before the Joint Commission, Strong made clear that the System's wartime record was relevant. He structured his presentation to emphasize the contribution the Federal Reserve had made, effectively leading off with a description of its wartime policies. He drew the Commission's attention to the Federal Reserve's capacity to mobilize the banking system in promoting and marketing government issues and to its discount rate adjustments to lower the Treasury's costs.[96] He encouraged the Commission to appreciate the improvement over the financing of earlier wars.

The improvement over earlier experiences with war finance was an issue Strong repeatedly raised during these years. Shortly after the Armistice in 1918, he wrote to Secretary McAdoo:

> No one, I believe, realizes, either in the Treasury or outside of it, what a splendid administration you have had quite so well as I do. It is best illustrated by a comparison of what has been done by the Treasury Department in this war and what happened during our Civil War.... The Government, shortly after the war broke out, paid as high as 12% for temporary loans.... We abandoned sound principles of finance in favor of fiat money and started the country on the rampage of speculation, witnessing at one time, in consequence of our defective policy, a quotation of 280% for gold in exchange for paper money or bank credit. When the history of the Treasury in this war comes to be written, it will be found that the Government never paid over 4½% for bank loans or over 4¼% on its bonds; that there has not only been no premium on gold, but, in fact, that gold payment has been continued by every bank in the country, and by the Treasury as well ...[97]

Strong publicly presented such comparisons for several years after the war. In his lecture titled "War Finance" delivered at the General Staff College in 1921 he stated, "We paid a penalty for unsound Civil War finance which it took 15 years from which to recover.... As you know, the post-war boom, similar to the boom of 1919–1920, collapsed in 1873.... The financing of the last war was conducted by the Treasury Department ... upon a very definite theory, and on the whole, with most satisfactory results."[98] In his lecture at the Army's War College the following year, his comparison was with Revolutionary War financing, particularly with respect to the currency authorized by the Continental Congress.

> It began with the issue of $3,000,000, authorized on June 22, 1775.... At the close of 1779, the original modest $3,000,000 had grown to nearly $242,000,000, and its value had fallen to 40 to 1. It later fell to below 500 to 1, and was funded by Hamilton at a rate of 100 to 1. The war financing by paper money is like an attack on the army from behind. The Continental currency nearly beat us in the Revolution. The British regarded it as one of their strongest allies.[99]

As to the financing of the recently ended war, he observed:

> [W]hat purchasing power the government was unable to obtain by tapping the savings of people, it manufactured through the creation of bank credit. At first sight, this looks a good deal like manufacturing paper "Continentals" ... but the vast difference was that the credits and currency we created were always, for any legitimate purpose, immediately convertible into gold. This convertibility could be maintained by reason of the fact that for the first time the country's gold reserve was mobilized in a single reservoir—the Federal Reserve System—instead of being scattered, as it was formerly, among thousands of individual banks all over the country.[100]

How influential was the Federal Reserve's war record in the Joint Commission's deliberations? Chandler, as noted, concluded that the Federal Reserve's role during the war made it "... a permanent and indispensable part of the banking system."[101] Federal Reserve officials may not have fully appreciated this before the Joint Commission concluded its investigation. If, in fact, this were the case, it had not been in as much danger as it may have seemed to be when the Agricultural Inquiry had begun. At the least, they would likely have understood that this was the case after the Joint Commission's report was issued.

Throughout modern history, war finance had played a critical role in the establishment of banks by governments and their preservation. This was the case with the Bank of England, the Bank of North America, and, during the Civil War, the creation of the National Banking System. It is meaningful that war finance served for centuries as the mythological basis for the establishment of the first modern bank in the Western world, the Bank of Venice.[102] War finance had played no role in the passage of the Federal Reserve Act in 1913, but the American entry into war in 1917 and the Federal Reserve's contribution to financing the war resonated with an historical significance for which Strong raised the volume.

This is not to suggest that the Joint Commission treated the System gently out of any sense of debt. Rather, it appreciated, as no doubt others did as well, the Federal Reserve's demonstrated capacity to mobilize the banking community in emergencies in the interest of the federal government. The System's performance persuasively argued, without any need for articulation, that it would be unwise to redesign such a valuable institution. A modest reading between the lines suggests that the Commission was, in fact, focused not so much on the System's past but on its future.

> The position of Federal reserve banks and the Federal Reserve board during the period of the war and throughout the business cycle which followed it, was extremely difficult.... Doubtless in these circumstances mistakes of judgment were made which the clearer judgment of retrospect would change.[103]

New Learning

Given its experience with the Joint Commission, System officials must have realized that the Federal Reserve had been accepted as a highly valued institution, whether its policies had been in error or not. Further, the independence from the Treasury suggested by the Commission's report implied that the System was expected to exercise its own discretion in the selection of objectives and in the implementation of monetary policy. Finally, at least some System officials were convinced the Federal Reserve now had a responsibility to implement policies that did not exacerbate and, in fact, smoothed out the business cycle. In October 1921, Adolph Miller had told a meeting of Reserve Bank governors and chairmen that there was a need to avoid deflation and depression as much as inflation.[104]

> [T]he American people will never stand contraction if they know it can be helped. Least of all will they stand contraction if they think it is contraction at the instance, or with the consent of an institution like the Federal Reserve System, ... The Reserve System cannot 'make' the business situation but it can do an immense deal to make its extremes less pronounced and violent.... Discount policy ... should always address itself to the phase of the business cycle through which the country happens to be passing.[105]

The Federal Reserve, or at least a number of its officials, had learned a good deal during and following the war to assist in the development of an independent, discretionary policy aimed at smoothing the business cycle. Among other things, it learned that:

1. With most of major countries off the gold standard, the gold reserve ratio was of little value. "I regard it," Adolph Miller told the governors and chairmen at the 1921 meeting, "as almost worse than useless as a guide to changes in discount rates."[106]
2. It was not practical to model its discount rates on the Bank of England's penalty rate.[107]
3. Progressive rates were an unacceptable way to restrict credit extended at the discount window. Other means would have to be found.
4. Restricting the eligible collateral for loans to commercial paper was, in fact, honored in the breech. Even if it had not been, eligibility restrictions were insufficient to determine the way in which banks would use the funds they borrowed.[108] Because System managers maintained the view that speculative and long-term bank lending and investing were dangerous, they concluded that bank behavior should be monitored, at least when borrowing at the discount window.

5. The discount facility was an inadequate tool for meeting domestic stability responsibilities. Restrictions on borrowing prior to World War I had not been effective in curbing inflation. The easing of restrictions during a recession was problematic. "Banks do not borrow from the Federal Reserve Bank for fun or simply because money is cheap," Adolph Miller told Federal Reserve chairman and governors in 1921. "Nor do merchants and manufacturers borrow from their banks simply because money is cheap."[109]
6. Economic and financial research was critical in formulating an effective discretionary monetary policy. The Board had recognized the importance of research from the outset. In "Circular No. 8," prepared by the Board before the Banks were opened, the Board asserted that "an important part of the work ... will be found in the making of thorough and satisfactory analysis of data relating to bank operations.... It has therefore been deemed wise to present the outline for a statistical bureau to be organized under the direction of the board at Washington."[110] By the early 1920s, the Board had established a research division. Achievements at both the Board and the Federal Reserve Bank of New York in the early 1920s have been widely recognized.[111]

Open Market Operations as a Policy Tool

From all of this, it was a relatively small step for the Federal Reserve System to implement open market operations as a tool of monetary policy. These developments and a change in operating procedures are elaborated in the Board's *Annual Report for 1923* (see Appendix to this chapter).

Independence

It is reasonable to believe that key System officials understood the role that its support of the Treasury had played in its successful emergence from this stormy postwar episode. Ironically, its support of Treasury policy in a national emergency had earned it some congressional support for independence from administration pressures in normal times. Strong, at least, understood that resistance to even the new Republican administration that took office in 1921 was likely to prove necessary. In a memorandum to Carl Snyder that Strong emphasized was "for his eyes only," he wrote, "The natural inclination of the Administration is to exert every effort possible to make business good.... Invariably that key is found in the Federal Reserve System. In other words, again cheap money, abundant credit, and good business. The effect of unlocking the door which this particular key fits is rising prices.... My guess is that what they want, regardless of cost, and almost regardless of consequence, is good business."[112]

At the same time, Strong recognized that Federal Reserve independence was not to be compromised by strict adherence to any particular theoretical formulation like the quantity theory of money. Such orthodoxy would raise questions about the Federal Reserve's willingness to assist the government when necessary. In the same memorandum he wrote:

> Must we blindly worship a theory, close our eyes to practical and political considerations, set up a goddess, which we will call the quantity theory, and in the blind worship of this goddess close our eyes to the gathering storm and run the risk of being swept away? If one goes so far ... then do we not set ourselves above the Congress, above the Administration, and constitute ourselves the last court of resort in all matters affecting the economic welfare of the country, even though political issues intervene? ... [T]he men who would pursue such a policy [are like] the famous surgeon who undertook to perform an operation in the face of almost unsurmountable obstacles, and at the conclusion ... stated ... that the operation was successful but the patient died.[113]

Thus, Strong clearly described the limits of Federal Reserve independence that have been manifest throughout its history. It required the Federal Reserve to balance the pressures emanating from elected officials for short-run economic gains against an understanding of what, in the long run, was desirable. "Blindly worshiping a theory" had no role. Strong expressed concern that exercising independence effectively would be difficult when the "Federal Reserve Board lives under the shadow of the Capitol, and at the present time is very much influenced ... by the criticisms of the past eighteen months."[114] It proved always to be a tricky proposition.

CONCLUSIONS

From its inception through the end of World War I, the Federal Reserve System was not involved in any serious disputes about monetary policy. On the other hand, it had done little to distinguish itself. Its operations in support of the Treasury during the war had not been anticipated in passage of the Act but were supported by Congress, commercial banks, and the public, and they were generally considered, by contemporaries, a success. Its policies after the war, however, were sufficiently disruptive to jeopardize its organizational integrity.

The heated controversy over Federal Reserve policy in the postwar period was muted by recognition that the System had demonstrated capacities during the war that made it indispensable. After hearings that included testimony by Strong, and Williams, the Joint Commission found reason to mildly criticize the Federal Reserve for not asserting its independence from the Treasury more aggressively. It refrained from any major recommendations that would have altered the nature of the organization.

The System emerged from this first episode not only intact but stronger, with a better understanding of its independence, additional responsibilities, and a wealth of new knowledge that permitted it to substantially augment its powers in the immediate future. It had clearly learned a good deal and had seized the opportunities that the new environment presented. Unfortunately, it became clear after 1929 that it had not learned enough.

APPENDIX: COORDINATED OPEN MARKET OPERATIONS

The coordination of open market operations and their development as an instrument of monetary policy in 1922 and 1923 placed the Federal Reserve in the forefront of the world's central banks.[115] How this happened is an oft-told story, in several versions. Strong depicted the sequence of events leading to centralization of open market purchases in testimony before the House Banking Committee in 1928.

> In the latter part of 1921 and early in 1922, the member banks had liquidated so large a portion of their discounts at the reserve banks that there was some concern felt ... as to their earnings.... [T]he reserve banks ... were making considerable investments in the market, buying bills [bankers acceptances] and buying Government securities. It was found that in the actual execution of the orders, and in the effect upon the price of Government securities in the market, there seemed to be some cause for complaint in the Treasury.... So in May of 1922 ... it was decided to get some sort of supervision ... to satisfy the Treasury and equally so as to have a more orderly procedure. A small committee [consisting of the Governors of four Reserve Banks] was appointed to deal with the matter.... In October of 1922 the committee rather extended its duties, by agreement among the governors ..., undertaking to make recommendations to the reserve banks in regard to purchases and sales of Government securities.... In 1923 ... the Federal Reserve Board decided ... to reorganize the committee ...; and commencing in 1923 purchases ... and sales ... were actually made for the account of the system as a whole; and ... generally executed through New York.[116]

John Maynard Keynes provided a British perspective in 1930:

> [D]uring 1922, the Reserve Banks, acting each for itself and with no co-ordinated policy or far-reaching intentions, bought on the open market what was in the aggregate a very large volume of U.S. Government securities. The inflationary possibilities of the proceedings on top of the heavy imports of gold soon became obvious and in April 1923 the Federal Reserve Board took the matter in hand.... From this point we may date the empirical discovery by the Federal Reserve Board that the London method of relying on discount policy ... was not adequate by itself to control a system built on the American lines, but that open-market policy, by going straight to the root of the matter and affecting directly the volume of member bank reserves, furnished them with an instrument more adequate to their task.[117]

A number of contemporary and later commentators viewed the development as an accidental discovery of great moment. John R. Commons claimed to have been the first "to expound to economists at the American Economic Association [meetings in 1924] the principles of control of the money market by a central bank through buying and selling securities on the open market.... This was," he said, "something new to me. I had not seen it in the books on money and credit. One of the economists, a specialist in banking, said to me, 'I have seen it all along and am kicking myself now that I did not understand it.' I understood it because Benjamin Strong and his assistants in the [New York Reserve] bank explained it to me."[118] In 1974, the astute financial writer, Martin Mayer, described the event. "Now, through an accident as startling as those which produced the discovery of X-Rays or penicillin, the central bank learned that 'open market operations' could have a significant effect on the behavior of banks."[119]

However new it may have appeared at the time, the principles underlying the use of open market operations as an instrument of monetary policy were reasonably well understood long before 1922. There are indications in the pre–World War I years that they were understood by a number of Reserve Bank officials. In 1915, several Reserve Banks revealed as much in reports to the Board, and notice of market effects was also taken at the first meeting of the Governors Conference in mid-December 1914.[120] As early as October 1914, in a circular sent to Reserve Banks, the Board articulated its understanding. Open market operations were authorized by the Federal Reserve Act, it said: "... to give the Board the necessary economic control of the domestic money market." Such authority was important "... in permitting Federal reserve banks to place their resources at the disposal of member banks even when ... [they] do not apply for rediscounts, inasmuch as the law allows the reserve banks to buy the paper directly in the open market and thereby to insure the placing of its funds in active use should occasion demand."[121] In citing this purpose, the Board more or less acknowledged one of the reasons for the authority indicated in the House Banking Committee's report on the Federal Reserve Act; that is, to enable "... reserve banks to make their rate of discount effective in the general market at those times and under those conditions when rediscounts were slack ..." and member banks had no incentive to borrow.[122]

It is not surprising that, in 1913, at least some in Congress understood how open market operations could be used as a monetary instrument. When the National Monetary Commission had the opportunity to interview the governor and directors of the Bank of England in 1910, it raised relevant questions:

> Q: Does the bank sometimes borrow money in the open market for the purpose of raising the market rate?
>
> A. Yes.

Q. Do you sometimes sell consols for the same purpose?

A. Yes; on rare occasions.[123]

R. S. Sayers, the British monetary economist, reported that in the years after 1858, the Bank of England periodically resorted to open market operations when its reserves appeared threatened. It found that it could increase market rates of interest by borrowing, using government securities from its portfolio as collateral.[124] He identified a number of methods that might be classified as open market operations and occasions in the late nineteenth and early twentieth centuries when the Bank undertook them. With respect to the outright sale or purchase of securities (consols), he observed that it was done sparingly. "The extreme rarity of the use of this apparently matchless weapon must, I think, be ascribed to the Bank's unwillingness to expose itself to the risks inherent in the purchase and sale of securities which, being long-term, could fluctuate much in price. The Bank might profit ... but then again it might lose.... It is the duty of every bank, and most of all a central bank, to be rich."[125]

In his biography of Strong, Lester Chandler asked, "Why were the discovery, development and use [by the Federal Reserve] of this powerful instrument delayed so long?"[126] He suggested that it was partly related to economic conditions in earlier years. Purchases before April 1917 would not have made sense in light of the gold inflow and inflation. Also, purchases during the war years would have encouraged inflation and, as Strong argued, made the System's escape from Treasury domination more difficult. In 1920 and early 1921, purchases would not have been consistent with the Federal Reserve's tight money policy.

Chandler also concluded, however, that economic conditions do not fully explain the delay. He observes that the Reserve Banks could have introduced the instrument by purchasing securities later in 1921, when it eased policy. In any event, the principles and administration might have been developed earlier, even if there were no immediate occasion for using the instrument. Additional reasons for delay, Chandler suggests, can be found in the real-bills requirements of the Act and a deficient understanding of the instrument by Federal Reserve officials, which he calls "a curious thing."

For those in the System who believed the purpose of the Federal Reserve was no more or less than to accommodate business by discounting short-term, self-liquidating commercial paper, open market operations were not an appropriate tool of policy. Even through mid-1922, many Governors remained primarily concerned with effects of open market transactions on their Banks' earnings and acceded to coordination only because of potential conflicts with the Treasury's debt management.[127] By the time of the

Governor's Committee meeting on October 10, 1922, however, there had developed some recognition of the Federal Reserve's stabilization objectives in conducting open market operations.[128]

There remains another possible reason for the delay that emerges from the discussion above in this chapter. The Federal Reserve's open market operations raised concerns among powerful interests, including the Treasury and commercial banks. The Treasury's concern was that large purchases or sales could make it more difficult for the Treasury to fix a rate on new issues of government securities. Large sales could depress prices, creating uncertainty that would affect demand. Banks also saw Federal Reserve participation as an intrusion. Purchases tended to raise prices for assets they might wish to acquire. Sales could depress prices of assets they held. At its convention in September 1924, the American Bankers' Association complained that the Reserve Banks were competing for business with their own members and suggested that they be limited "to their primary function as banks of issue and rediscount."[129] The Federal Advisory Council had told the Board that "the federal reserve system ... must not be permitted to deal with customers directly and thereby incur the risk of immobilizing its funds in credit that conceivably could be frozen. Whatever relief the federal reserve banks may furnish must, therefore, be granted through the intermediary and under the responsibility of banking channels."[130]

In light of such complaints, it is plausible that System officials would not venture the introduction of the new instrument until the Federal Reserve's position had been strengthened by its performance during World War I and by the favorable resolution of the heated political controversy about its tight money policies in 1920 and 1921. Perhaps it was no accident that coordination was instituted in 1922, shortly after the *Report of the Joint Commission for Agricultural Inquiry* largely excused the System's postwar policies. In 1922 and 1923, moreover, the need for a new method to control both inflation and deflation was intensified by the belief, strongly suggested by the Joint Commission as well as by others, that the Federal Reserve now had broader responsibilities for stabilization than Congress had considered in 1913.

It took several years for the System to work out its administration of the new instrument and to forge a workable relationship with discount policy. In the process, it redesigned its standards for member-bank borrowing.[131] Controversy about open market operations, nevertheless, continued through the 1920s.[132] It was not until the Banking Act of 1933 that the instrument was fully legitimized when Congress formally recognized it by establishing the Federal Open Market Committee (see Chapter 4).

This page intentionally left blank

chapter **4**

Collapse and Revival: 1929–1935

"[A] financial element in the larger centers has owned the Government ever since the days of Andrew Jackson. . . . The country is going through a repetition of Jackson's fight with the Bank of the United States—only on a far bigger and broader basis."

Franklin D. Roosevelt, 1933[1]

As the Joint Commission closed the books on the Agricultural Inquiry in early 1922, the Federal Reserve System could anticipate better times. Whatever its mistakes, it had been accepted as an important institution, and it was on the brink of a new and improved approach to monetary policy.

Hard times, nevertheless, were around the corner. Sustained prosperity generated euphoria, and in 1928 and 1929 the System was confronted by an exuberant stock market that it could not contain. Fair dreams faded in the crash of October 1929, followed by deflation, financial panic, and the Great Depression of the 1930s. The System's performance during this period raised numerous questions, generated serious proposals for radical change, and again placed the system in jeopardy.

THE SYSTEM IN THE LATE 1920s

The economy after 1921 was, in general, prosperous. It grew with only moderate recessions in 1923–1924 and 1926–1927 and did it without inflation. Interest rates had begun to climb only in the last years of the decade.[2] New industries emerged, including automobiles, motion pictures, and telephone communications. So did the widespread use of consumer credit. Only farming areas remained depressed, never fully recovering from the postwar contraction. About 6,000 banks failed over the decade, mostly small ones in rural areas.

The existence of a business cycle had only come to public attention after the war. By the late 1920s, many hoped it had been banished by the Federal Reserve. W. Randolph Burgess of the Federal Reserve Bank of New York opined that "since the establishment of the Federal Reserve System there have been no money panics and no ... sudden violent movements of interest rates as characterized former periods.... There is good reason to hope that the swing of the business cycle will be reduced in extent."[3]

As late as 1929, many knowledgeable people believed that the prosperity would continue as far into the future as could be seen. Bernard Baruch claimed that "the economic condition of the world seems on the verge of a great forward movement." Irving Fisher, probably the most highly regarded American economist of the day, announced that "stock prices have reached what looks like a permanently high plateau." He added, "I expect to see the stock market a good deal higher than it is today within a few months."[4]

The run-up in stock prices in 1928 and 1929 found a Federal Reserve System in conflict. There was agreement that speculation was a serious concern and that bubble-like conditions were developing. There was agreement that member banks should not be using the funds they borrowed from the Federal Reserve to make call loans. However, there was serious disagreement on how to institute restraint without terminating prosperity. A number of the Reserve Banks wanted to raise their discount rates. The Board resisted. It hoped it could limit credit flowing into the stock market by direct action; that is, dissuading borrowing banks, with the assistance of Reserve Bank surveillance, from extending credit collateralized by stock. The Reserve Banks complained that it was not practical to distinguish between different uses of Reserve Bank credit, particularly when discount rates were well below short-term market rates.[5]

Many commercial bankers saw call loans as profitable, liquid, and relatively safe. Moreover, some strongly believed the Federal Reserve was mistaken in trying to impose monetary restraint in the first place. One eminent New York banker thought interest rates were too high and tried to do something about it.

In April 1929, George F. Baker Sr., chairman and one of the founders of the First National Bank, an old Morgan ally, a veteran of the Panic of 1907, and at the time eighty-nine years old, took it upon himself to lower rates on call loans with funds borrowed from the Federal Reserve Bank of New York. His conversation on the matter with George Harrison, who had replaced Benjamin Strong as Governor on his death in 1928, was duly recorded by Harrison in a "Memorandum to Confidential Files." Among other things, it illuminates the difficulties faced by Reserve Banks in trying to restrict the funds borrowed at their discount window.[6]

A discussion between Baker and Harrison followed the observation at the New York Reserve Bank that First National was borrowing "excessive" amounts. The bank had borrowed more than $50 million and showed no inclination to repay in the foreseeable future. A Reserve Bank official asked for an explanation and got none.

The unsatisfied inquiry quickly escalated. Harrison met with Baker on April 28 at the offices of the First National Bank. Baker initially responded to Harrison's inquiry about First National's borrowing by emphasizing the patriotic behavior of his bank "with regard to subscriptions to United States Government bonds ... carrying a large block of government bonds was a matter of some loss...." Baker finally revealed his true reasons. "[H]e had come to the conclusion that, in the interest of the public good, it would be wise ... to exert all ... influence toward reducing call money rates...." Further, "he questioned whether ... [the Reserve Bank] had a legal right to refuse to make a loan to any member bank....if it furnished ... eligible paper."

Harrison tried to persuade Baker that Federal Reserve policy could not be reversed; that Baker could not accomplish his aim; that a Reserve Bank could refuse credit, but Harrison hoped it would not come to a legal test; and that if First National was to continue, it would be defying a consensus in the banking community as to the need for tighter money. As Harrison noted, "All of our discussion was most amicable though at times firm. In conclusion, Mr. Baker, Sr., did not say what he would or would not do."

While George Baker Sr. undertook his own monetary policy with Federal Reserve credit, at least one disappointed investor undertook a legal remedy by suing the Federal Reserve. His grounds were that its "propaganda" had reduced the value of his securities and, thereby, had deprived him of property without due process.[7]

Neither Baker nor the disappointed investor was successful.[8] Neither was the Federal Reserve. It is widely agreed that its policy in 1928–1929 was a failure. It did not prevent the shift of credit into the stock market or restrain exuberant expectations, and the market crashed, exacerbating an economic contraction that was already underway.[9]

ECONOMIC DECLINE AND POLICY FAILURE IN THE EARLY 1930s

Failure to reign in the stock market or to prevent its collapse was, at worst, a modest dereliction compared to what followed. In the next several years, the country entered the most serious economic depression in its history. The economic decline was worldwide. Financial crises and economic contraction developed elsewhere in the Americas, throughout Western Europe, and in some Eastern European countries.[10]

In the United States, the economic recession that had begun in the spring of 1929 worsened. By March, Federal Reserve officials knew that it was more severe than the contractions in 1924 and 1927. However, a reconstituted open market committee, now called the Open Market Policy Conference (OMPC), voted at its March meeting to take no further easing actions on the belief that reductions in borrowing and falling long-term interest rates indicated that the financial markets were sufficiently easy.[11] This March 1930 meeting may, in retrospect, have been a crossroads. Had the OMPC instead undertaken a policy of liberal open market purchases, it might have encouraged recovery.[12]

In November and December, a wave of bank failures erupted. On December 11, the Bank of the United States, a New York City garment-center bank, was closed by the state superintendent of banking. The failure of the bank, with 400,000 depositors, was the largest in the history of the United States up to that time.[13] The direct effects of the failure were significant. The unwillingness or inability of the regulatory authorities to salvage the institution, with a name that was more important than the bank itself, shocked the financial world and constituted another critical juncture.[14]

In 1931 the economy followed an erratic course, sometimes declining slowly and sometimes rapidly. On February 27, 1932, Congress passed the first Glass-Steagall Act, which, among other things, addressed a technical problem that had seemingly impeded the Federal Reserve from undertaking more liberal open market purchases.[15] It permitted direct obligations of the United States to serve as collateral against Federal Reserve notes. It also added Section 10(a) of the Federal Reserve Act, which authorized Reserve Banks, with the consent of five members of the Board, to make advances to groups of five or more member banks (for example, a clearinghouse) on the basis of any satisfactory asset, even though the asset was not otherwise eligible for discount if, among other things, it did not have adequate amounts of eligible paper. It added Section 10(b), which provided Reserve Banks with authority, until March 1933, to make advances on the basis of any satisfactory asset if the borrowing bank had insufficient eligible paper; the rate, however, would have to be at least 1 percent higher than the regular rate.[16] The scope of discount-window lending was further broadened by the Emergency Relief and Construction Act of July 21, 1932. A paragraph was added to Section 13 making it possible for Reserve Banks, in exigent circumstances and with affirmative authority of the Board, to discount eligible paper for any individual, partnership, or corporation unable to obtain credit from other banking institutions. The scope of discount-window lending was again broadened in 1933 and 1934.[17]

After passage of the 1932 Act, the OMPC did increase its purchases of securities in the open market, but it reverted to relative inaction in the second half of the year. Between July and December 1932, its purchases of government securities only amounted to $50 million.

Bank reserve positions, nevertheless, did improve over the second half of 1932, largely as a result of an inflow of gold of almost $600 million. The resulting increase in bank reserves did not stem the continued decrease in bank loans and investments or in the money supply.[18]

Worst of all, the economy continued to deteriorate. In March 1933, when the Roosevelt administration took office, gross domestic product (GDP) had declined about 30 percent in real terms since 1929. Industrial production had been more than cut in half from its level in August of 1929. There were close to 13 million workers unemployed, about 25 percent of the labor force. Prices had declined about 25 percent below their 1929 level. The money supply had fallen precipitously, depending on definitions, from between 25 and 35 percent.[19]

The financial system was in ruin. In the three-year period from 1930 through 1932, more than 5,000 banks failed. In the first two months of 1933, the number of failures rose rapidly. Most banks had both liquidity and solvency problems resulting from declines in the value of their assets. Entire classes of other financial institutions, such as building and loan associations, had effectively perished. Real-estate values had declined precipitously. Defaults on mortgages and bankruptcies were widespread. The international gold standard, which had been painfully restored in the 1920s, broke down under the weight of the worldwide economic slump.

In February 1933, groups of banks began to suspend payments. Rumors of bank failures circulated widely, leading to runs. Panic materialized. On February 14, the governor of Michigan proclaimed an eight-day "banking holiday." Other states followed suit. The peak of the panic coincided with the inauguration of the new president on March 4.

CONFLICT, DENIAL, AND PARALYSIS

In the early 1930s, Federal Reserve officials were bewildered. Lester Chandler's careful review of System documents during the period revealed that "the ... thinking within the Federal Reserve ... was as varied, confused, and conflicting as that outside."[20]

In 1932, disparate views were expressed at OMPC meetings about the existence of what was then considered a large volume of excess reserves—rising from $234 million in June to a little over $500 million in December

Table 4.1
Reserves, Earning Assets, and Number of Banks: 1929–1938
(Amounts in Millions of Dollars)

		Member Bank Reserves			Number of
Year	**Month**	**Total**	**Excess**	**Loans & Investments**	**Commercial Banks**
1929	June	$2,314	$42	$35,711	24,504
	December	2,395	48	35,934	24,026
1930	June	2,392	54	35,656	23,251
	December	2,415	73	34,860	22,172
1931	June	2,404	129	33,923	21,309
	December	2,069	60	30,575	19,375
1932	June	2,062	234	28,001	18,449
	December	2,435	526	27,469	17,802
1933	June	2,211	363	24,786	13,949
	December	2,616	766	25,220	14,440
1934	June	3,790	1,685	27,175	15,353
	December	4,037	1,748	28,150	15,519
1935	June	4,979	2,438	28,785	15,478
	December	5,716	2,983	29,985	15,325
1936	June	5,484	2,593	30,259	15,243
	December	6,665	2,046	33,000	15,120
1937	June	6,878	876	32,739	14,976
	December	6,879	1,071	31,752	14,843
1938	June	7,878	2,762	30,721	14,737
	December	8,745	3,226	32,070	14,652

Source: Board of Governors of the Federal Reserve System, Banking and Monetary Statistics: 1914–41, Washington DC, 1943. Reprint 1976; Member Bank Reserves: Table 101, pp. 369–72 (monthly averages); Loans and Investments of Member Banks: Table 18, pp. 72–75 (end of month). Number of Commercial Banks: Table 1, p. 16 (end of month).

(Table 4.1).[21] So, for example, Governor George Norris of The Federal Reserve Bank of Philadelphia was skeptical that more excess reserves would promote an expansion of credit. Governor William Martin of The Federal Reserve Bank of St. Louis pointed out that the fear of failure was preventing banks from using their excess reserves, and that if that fear were abated, banks would put their excess reserves to use. A number of officials believed the System had done all that it could usefully do. Some believed that further easing was harmful, impeding the liquidation necessary to initiate a recovery; some didn't believe that lower long-term interest rates would stimulate the economy. Some were skeptical about the efficacy of the principal tool that could have eased conditions further—open market operations. Most, if not all, were concerned about the inflationary implications of easy monetary conditions, afraid that low interest rates would ignite speculation.

Governor Eugene Meyer of the Federal Reserve Board addressed the OMPC on January 4, 1933. He indicated that on recent visits to seven Reserve Banks, he found the directors generally approved of the System's policies over the past two years. He expressed the view that the System had been remarkably free from public criticism. His chief concern was the "agitation" in Congress for inflationary measures.[22]

Policy discussions at the meeting centered on whether the System should reduce its portfolio of government securities and, if so, by how much. Most of the governors were convinced that it was important to do so immediately. However, they were fearful that the reduction would be seen as a reversal of the System's easy-money policy and increase the danger that Congress would adopt some "radical inflationary proposal."

Several governors expressed their concern about maintaining the present levels of excess reserves at existing levels. The Conference resolved to allow up to $125 million Treasury bills to run off in January, to the extent that there was a return flow of currency to the banks, but not to bring excess reserves to less than $500 million. There seemed no foreboding that the financial system was approaching a precipice.

If Governor Meyer was right in January that System policies had been remarkably free from public criticism, he was about to be wrong. As late as the April 1932, Walter Lippmann, the nation's leading political columnist, had argued, in defense of the Federal Reserve, that "[t]he history of currencies shows conclusively that once the sovereign, be it a king or popular legislature, assumes the right to change the value of money…, that currency is headed to destruction.… In so far as it is possible by monetary policy to deal with the situation, the only agency in which the American people can afford to put their trust is the Federal Reserve System."[23] Two weeks after Meyer's pronouncement, Lippmann professed that he had lost trust.

> The Chicago Reserve Bank has a different policy from the New York Reserve Bank, the commercial bankers are restive at the policy of the Federal Reserve System ... there is no firm and decisive leadership in the banking world.... The handle with which to control the situation is ready for Mr. Roosevelt, if he will grasp it.... The President can, by the sheer influence of his enormous power, impose that unity which has been so deplorably lacking since the onset of the depression.[24]

In the absence of a coherent Federal Reserve policy to meet the developing emergency, Congress might have intervened through legislation. It held a short session in December 1932 that produced nothing of significance. Nor, apparently, was the Hoover administration able to do anything useful. In his *Memoirs*, written almost twenty years after the events, Herbert Hoover recalled that his last efforts to check the growing panic were frustrated by a frozen Federal Reserve Board. In February 1933, he asked the Board for its proposals and specifically to comment on a plan for the Federal guarantee of bank deposits and on the establishment of clearinghouse systems to issue certificates in distressed communities. The Board equivocated, refusing to either support Hoover's proposals or make proposals of its own.

Hoover, who bore the brunt of public enmity, looked back through a political lens. He observed that the Federal Reserve System had been created by a Democratic administration and had developed in the public's mind "... as the remedy to the whole problem of booms, slumps, and panics, contributing to optimism and the belief in the 'New Era' ... [in which] the economic system was ... completely immune from financial crises."[25] It "was the primary agency of the government in matters of banking and currency." Also, he believed, "[I]t was in a position to take some leadership, which might persuade Roosevelt or the Congress to undertake constructive action." However, he found that "[t]he majority of the Board seemed paralyzed."[26] With nothing seeming to work and with his influence at its nadir, he concluded that the Reserve Board "...was indeed a weak reed for a nation to lean on in time of trouble."[27]

In retrospect, it is clear that Federal Reserve policy, which had failed in 1928 and 1929, had also been flawed in the early 1930s. It had failed to ease monetary conditions sufficiently and to prevent the economic decline and panic conditions that had developed.[28] As the country moved toward the worst of times, it appeared to increasing numbers that it was not only Federal Reserve policy that was flawed but the organization itself.

RESPONSE OF THE ROOSEVELT ADMINISTRATION

By the time President Franklin Roosevelt took office on March 4, 1933, the economy and the financial system had literally collapsed. On March 4, inauguration day, Governor Herbert Lehman closed all the banks in New York. On March 5, Roosevelt, acting under war powers enacted in October 1917, ordered a four-day banking holiday, March 6–9. It was later extended. The Treasury Department regulated the closures and also supervised reopenings, which began on March 13.

It was not immediately clear how the new administration would deal with the Federal Reserve. It appeared, for a time, that it would be willing to consider serious proposals for radical change. The Reserve Banks were closed with all the other banks on March 6.[29]

Administration Attitudes toward the Federal Reserve

To some in the Roosevelt administration, the Federal Reserve System was, at best, a misguided institution and, at worst, a dangerous adversary controlled by Wall Streeters, who reflected the lenders' point of view and also ignored the plight of debtors and the injuries that had been leveled on the farmers. John Skelton Williams, had he lived, would have felt comfortable.

Roosevelt had some background in economics.[30] It appears that he followed developments with regard to Federal Reserve policy and had some opinions.[31] He fully accepted the Democratic Party's platform on banking that included opposition to deposit insurance, a call for improved bank supervision, restrictions on the use of Reserve Bank credit for speculative purposes, and the separation of commercial and investment banking. However, during his campaign for the presidency, he would not amplify on the effects of his likely policies, cautioning only that special interests should not be allowed to dominate the economy.[32] Raymond Moley said later that he and others close to Roosevelt believed that any discussion of banking was politically dangerous.[33]

Roosevelt's cryptic public statements appear to have cloaked strong sentiments. In 1932, he suggested to his close adviser Rex Tugwell that he believed Wilson had made a mistake expending so much time and capital on the Federal Reserve. "As a result, nothing much else on the progressive agenda had been converted into law—only that one thing.... The Federal Reserve struggle had taken most of the precious first year and just about all the credit Wilson had...."[34]

In consequence, Roosevelt may have entered office with the view that the Federal Reserve was not of prime importance. His early appointments to the Board seem to suggest as much. In June 1933, he appointed J. J. Thomas and M. S. Szymczak to fill vacancies. Thomas had been chairman of the Democratic State Committee in Nebraska. Szymczak had been active in the Cook County Democratic organization in Illinois. He was an associate of the Chicago reform mayor, Anton Cermak, who had been shot in an assassination attempt on Roosevelt in 1932. Neither had experience in banking or finance and little else in their backgrounds to commend them to the position. Of Szymczak's appointment, Lippmann wrote, "Thus, for example, when one considers the momentous action that has to be taken in dealing with money and credit, it is distinctly alarming to find the President making a merely political appointment to the Federal Reserve Board."[35]

At the same time, Roosevelt seems to have had a profound distrust of the people he believed dominated banking and controlled the Federal Reserve. He had articulated some generalities about "money changers" in his March 4 inaugural address. "Practices of the unscrupulous money changers stand indicted in the court of public opinion, rejected by the hearts and minds of men.... The money changers have fled from their high seats in the temple of our civilization. We may now restore that temple to the ancient truths."[36] In September, he was a little more specific in writing to his Secretary of the Treasury, William Woodin, hoping that "... our banking and economist friends would realize the seriousness of the situation from the point of view of the debtor classes...."[37] In October, he informed his cabinet members, along with several others including Harry Hopkins and Henry Morgenthau Jr., who was not yet Secretary of the Treasury, that bankers were " ... in a conspiracy to block the Administration program ... banks were not lending any money on even good security and that they were seriously hampering the business recovery."[38] In a November 21 letter to Colonel House, he framed his thoughts within the context of the Jackson-Biddle Bank War:

> The real truth of the matter is, as you and I know, that a financial element in the larger centers has owned the Government ever since the days of Andrew Jackson—and I am not wholly excepting the Administration of W. W. [Woodrow Wilson]. The country is going through a repetition of Jackson's fight with the Bank of the United States—only on a far bigger and broader basis.[39]

Proposals for Radical Change

By March 1933, there had emerged a smorgasbord of plans for restructuring the monetary system. There were proposals to devalue the dollar in terms of gold, to abandon the gold standard, to monetize silver, to issue new fiat currency, and to order the Federal Reserve to restore the 1926 price level and/or to purchase large quantities of securities.[40] Some wanted to nationalize banking. Tugwell had a plan whereby the postal savings system would take over the deposit and checking transactions of banks while separate corporations would provide commercial credit.[41] Economists at the

University of Chicago proposed that the Federal government own and manage the Federal Reserve banks. The System would then issue Federal Reserve notes in any amount needed to meet the demands of bank depositors, guarantee deposits of all member banks, and extend credit to nonmember banks in distress.[42] The Economic Policy Commission of the American Bankers Association observed that "probably the most astonishing and disappointing feature of the bank crisis was the demonstrated impotence of the Federal Reserve system to retain control of the situation." Among other things, it proposed that the Federal Reserve Board's powers be augmented and that the Reserve Banks be converted to branches of the Board.[43]

Emergency Measures

The first order of business was to stem the bleeding. As noted, on Saturday, March 5, by presidential proclamation, Roosevelt declared a four-day banking holiday. He prohibited banks from paying out gold to prevent hoarding and forbade gold exports without Treasury permission. He called for a special session of Congress the following Thursday.

When Congress convened on March 9, the administration had its legislative proposals ready. The Emergency Banking Act of 1933, passed the same day, extended the banking holiday and detailed a plan for reopening the banks that were deemed sound. Among its principal provisions was authority for the president to regulate Federal Reserve member banks and for national banks to issue preferred stock to the public or to the Reconstruction Finance Corporation (RFC) in order to increase capital. As mentioned, it authorized Reserve Banks to make advances on the security of any acceptable asset and permitted them to make similar advances to any individual, partnership, or corporation on the basis of notes secured by government bonds.[44] Roosevelt announced on March 11 that the Reserve Banks would reopen on March 13.

An urgent goal of the administration was to increase prices, particularly farm prices.[45] There followed over the next weeks and months a flood of executive orders and legislation designed to reverse the grinding deflation that had accompanied and exacerbated the economic collapse. On April 5, the president ordered all gold and gold certificates turned in to the Treasury. On April 19, he followed up on his March 5 order by prohibiting the export of gold. On June 5 the gold clause in all contracts was abolished. Gold was, thereby, removed from monetary use.

The Agricultural Adjustment Act of 1933, aimed at reducing the production and supply of farm products, became law on May 12. The Thomas Amendment to this Act gave the president authority to devalue the dollar, reducing its gold content by as much as half. It also authorized the president, acting through the Secretary of the Treasury, to direct the Federal Reserve Board and the Reserve Banks to engage in open market operations and to purchase securities directly from the Treasury in the amount of up to $3 billion. If the System refused to undertake these purchases or if purchases did not raise the price level, the president was authorized to direct the secretary of the treasury to issue $3 billion of unsecured United States notes (greenbacks) to purchase outstanding government securities. It, thus, confronted the Federal Reserve with overriding government authority, similar to that in the Overman Act during World War I.

In its meeting of April 22, 1933, the OMPC discussed the power given the president to direct the Federal Reserve Banks to purchase government securities. It decided:

> ... that during the period of the emergency it would be advisable for the Federal reserve banks, so far as possible and consistent with their own position and requirements, to cooperate with the Treasury with a view to facilitating any necessary issues of government securities or to support the market for government securities in order to make such public issues possible.[46]

As matters turned out, the president's authority to compel the Reserve Banks to purchase more securities was never used.

Banking Reform

By the time Congress began serious deliberations on banking reform, the banking system was again in operation. In the first months after the banking holiday, almost 13,000 institutions resumed operations. The Banking Act of 1933 was the first effort to reform the failed system. It was followed by a series of laws over the next two years, the most important for the Federal Reserve being the Banking Act of 1935.

Expansion of System Authority in 1933 and 1934

The Banking Act of June 16, 1933, made wide-ranging changes. Among other things, the Act implemented a plank in the Democratic Party platform of 1932 calling for the separation of commercial and investment banking (Glass-Steagall provisions). It also prohibited interest payments on demand deposits and imposed ceilings on time and savings deposits to be regulated by the Federal Reserve Board. It also established deposit insurance on a temporary basis and made provisions for a permanent plan to be implemented subsequently.

A number of provisions affected the Federal Reserve. The Act replaced the OMPC with the new Federal Open Market Committee (FOMC).

The new committee, also composed of representatives from each of the twelve Reserve Banks, voted to sustain its executive committee as it had previously existed, including representatives of the Reserve Banks of Boston, Philadelphia, Cleveland, New York, and Chicago, with the New York representative as chairman.[47] This was the first legislation in which Congress acknowledged the Federal Reserve's use of open market operations as an instrument of policy. With an expression of concern about inflation, given the relatively high level of excess reserves, the Act also gave the Federal Reserve Board authority to raise reserve requirements if at least five members, with approval of the President, found that "an emergency existed by reason of credit expansion."[48]

The Act also bestowed on the Board what proved, in the short run, to be ineffective regulatory authority over bank holding companies.[49] Over time, however, holding companies grew in importance and, as discussed below, the Board's regulatory authority became effective, giving it a central position among bank regulatory agencies.

The Act also elevated the status of the Board in several ways. It raised the salaries of Board members and lengthened their terms of office from ten to twelve years, presumably increasing their independence from the executive branch and from Congress. It further strengthened the Board by establishing that its funds were neither public nor appropriated moneys.[50] It, thus, freed the System from audit by the Government Accounting Office (GAO).[51]

The following year, the Securities Exchange Act of 1934 gave the Board authority to establish margin requirements on the extension of credit collateralized by stock. Further legislation in June 1934 authorized the Reserve Banks to lend directly and to participate in long-term loans to established commercial and industrial firms, if the firms were in sound condition and unable to secure credit from normal sources at reasonable rates.[52]

Monetary Policy without the Federal Reserve

The Banking Act of 1933 and the legislation that followed in 1934 expanded the power of the Federal Reserve. The new laws gave no evidence that Congress was willing to entertain radical proposals for change in the System. The radical proposals simply remained waiting, to the dismay of those who had hoped for a fundamental restructuring.[53] Nevertheless, through the first two years of the Roosevelt administration, little use was made of the central bank.

Circumventing the System. In the first two years of the Roosevelt administration, the government undertook major monetary actions without the assistance of the Federal Reserve. The gold standard was abandoned by a series of measures that took gold out of circulation and prohibited the holding of gold by U.S. citizens and its export. Of particular importance was the Gold Reserve Act of January 31, 1934, which reduced the gold content of the dollar, effectively raising the mint price of gold to $35 per ounce. Gold owned by the Federal Reserve was turned in to the Treasury in exchange for gold certificates. The result was an increase in Treasury deposits at the Reserve Banks. The profit for the government in this transaction augmented the Treasury's stabilization funds.

The Treasury's capacity to undertake monetary policy through open market operations, using Treasury funds, was thereby strengthened.[54] It aimed at reducing long-term interest rates and supporting the market for government bonds.[55] It became clear that the monetary actions of the Treasury would have as much, if not greater, impact on bank reserves and currency than those of the Federal Reserve.[56]

In addition to augmenting available credit through Treasury actions, the new administration also provided increased resources to the RFC that permitted an increased volume of loans and other funds be made available to commercial banks and other financial institutions. It provided, through the Federal Housing Administration, insurance on long-term, amortized residential mortgages. It revitalized Federal savings and loan associations through the new Federal Home Loan Bank System. It established the Federal National Mortgage Association (Fannie Mae) to purchase mortgages insured by the Federal Housing Administration and, for agricultural cooperatives, a central bank with twelve regional banking institutions.[57]

The Administration's Indifference. In 1933 and 1934, it may have appeared that the administration, having found it possible to undertake monetary policy without the Federal Reserve, was indifferent to the System. Henry Morgenthau, as acting Secretary of the Treasury, met with the executive committee of the FOMC in November 1933. Since its May 23 meeting, the Federal Reserve had been purchasing government securities, initially at a rate of $25 million a week and later increasing to larger amounts. At the end of October, however, its purchases had dropped off. By the time Morgenthau met with the FOMC, it was not purchasing government securities at all.

A memorandum prepared by Harrison describes the meeting. Morgenthau told the FOMC that President Roosevelt wished the Federal Reserve banks to consider buying $25 million a week of government securities, "... partly to support the government bond market now and partly looking forward to the December financing." Harrison relates that:

> All the members of the committee were unanimously opposed to our reentering the government bond market, especially for this purpose ... we all agreed that the Federal reserve banks should not revive open market operations just now, and Acting Secretary Morgenthau was equally definite in his judgment that we should not do so.

> He then called attention to the fact that the Treasury, through various governmental funds, has bids in for bonds slightly under the market price and that it would be better to continue this operation, as a means of support, rather than to raise the question with the Federal reserve banks.[58]

Reading this memorandum, it is hard to say whether Morgenthau was genuinely persuaded by the Executive Committee of the FOMC, had backed-off the presidential request for other reasons, or was simply misunderstood by Harrison. In any event, a year-and-a-half later he displayed a profound indifference to Federal Reserve policy. In 1935, Morgenthau commented on the behavior of the FOMC in testimony on a banking bill then under consideration. Asked by Glass, in a number of different ways, whether he had the cooperation of the Federal Reserve's Open Market Committee, Morgenthau responded:

> ... I have been in the Treasury, now, about a year and a half, and it so happened that it was the week that I came into the Treasury that was the last week of the Open Market Committee purchases of securities, and from that day to this they have not increased their holdings ... as to their effectiveness, during the past year and a half I must say that they have played a very unimportant role....[59]

Glass continued, "Have you any substantive reason to anticipate that you cannot get on in agreement with the existing Open Market Committee?" Morgenthau responded, "The relationship is such that we can get on perfectly well, because there is nothing really to have a row about."

Beneath this facade of detachment, there remained both dissatisfaction and anxiety. Morgenthau told Marriner Eccles on March 19, 1935, that the Federal Reserve Board had not cooperated with the Treasury and was therefore not suitable to determine open market policy. In May, he told Senator Glass' subcommittee that the Open Market Committee was not courageous and had not acted to the benefit the country. He proposed that Reserve Bank stock be purchased by the Federal government.[60]

LEGISLATIVE RESURRECTION

The avalanche of legislation in the early 1930s had, nevertheless, left standing the issue of what, if anything more, was to be done with the Federal Reserve System. It was finally resolved by Title II of the Banking Act of 1935.

The Perceived Need for Reorganization

The Roosevelt administration's initial detachment and/or indifference toward the Federal Reserve did not reflect its concerns about the Federal

Reserve and the banking community. Detachment and indifference would hardly have suggested any urgency to reorganize the System. In any event, by 1935, aloofness had been replaced by anxiety about the latent power of the Reserve Banks and/or the banking community to do damage to the administration's recovery programs. In particular, Morgenthau and Eccles, who was appointed Governor of the Board in November 1934, entertained concerns about possible financial sabotage.

An example of the suspicions that existed is revealed in a Harrison memorandum from January 1934 concerning a meeting with Winthrop Aldrich, chairman of the Chase National Bank. It dealt with Chase's sale of government securities. Harrison states:

> I pointed out that ... there was a good deal of feeling in Washington last month that New York banks were selling government securities as part of a conspiracy to depress government bonds and thus to defeat the government's program. In order to negative these rumors we asked all the New York banks to give us daily reports of their holdings of government securities and, on the basis of my findings, I was able to assure the president that there was no deliberate attack on the government bond market on the part of New York banks.... [R]ecent figures show that in the past two or three weeks the total holdings of government securities by New York banks have gone down approximately $150,000,000, of which about $50,000,000 are a reducing in the holdings of the Chase National Bank. This question becomes particularly important in view ... that the government will have to borrow up to $6,000,000,000 of new money between now and June.[61]

In explanation, Aldrich told Harrison that he was not fully aware of the details and added that "... he hoped ... that these sales of long-term securities would put the Chase National Bank in a much better position to do its part in financing the government's future requirements...."

Another example involved a Treasury financing in 1935, scheduled for June 15. Bankers advised that the financing should be held in May. Roosevelt's view was that the bankers "wanted Morgenthau to advance the financing to May because they wanted to keep the Treasury from conducting a successful operation in June, just before the Republican convention."[62]

Roosevelt's distrust was also expressed in familiar "Bank War" terms. When Morgenthau testified in May 1935 before Glass' subcommittee, the President was asked by newspaper reporters whether he supported the proposal that the government purchase Reserve Bank stock. Roosevelt replied, off the record, that during the fight between Andrew Jackson and the Second Bank of the United States, one of Jackson's advisers suggested the government obtain a majority interest in the Bank. Jackson rejected the idea. Roosevelt went on to say, "That's a hundred years ago but it would have solved the banking situation at that time in a much more satisfactory way...."[63]

Eccles, in his autobiography, made the administration's concerns explicit.

> For the immediate purpose ... regarding the Banking Act of 1935, the more important point ... is that in November 1934 many of us knew that Roosevelt was preparing to ask Congress for at least four billion dollars to launch a work-relief program of some sort.... In the event the program was approved, it was clear that the Federal Reserve System would be the channel through which the banking system would have to absorb the securities and provide the credit basis by which the program would be financed. But under the prevailing Reserve setup a group of private individuals in the Reserve banks had the latent power to block the program by damming needed funds or by withholding the sort of action in Federal Reserve operations that could maximize in the economy the benefits sought through a resumption of large-scale spending. Thus the urgency to overhaul the Federal Reserve System.[64]

It was, then, neither political rhetoric nor simple ideology that motivated a proposed reorganization of the Federal Reserve. It was a practical judgement that the System, along with bankers, could do damage. This judgement implied that they also had the power to help. In its proposals to reorganize the Federal Reserve in 1935, the administration appears to have been searching for assistance in support of its debt management comparable to the assistance provided by the Federal Reserve in World War I.

The Eccles Memorandum

Marriner Eccles was a Utah banker and businessman who presided over a regional conglomerate that included, among other holdings, commercial banks, a savings bank, a hotel, a milk product company, and a lumber company. He had come to national attention during his testimony before the Senate Finance Committee in February 1933, where he advocated deficit financing for unemployment relief and public works.[65] He believed the federal program could be financed through a government bond issue or through the issuance of currency by the Treasury and put into circulation through the Federal Reserve Banks.[66]

In early 1934, at Morgenthau's invitation, Eccles was appointed Assistant to the Secretary of the Treasury. In June, Morgenthau recommended him to fill a vacancy of the Federal Reserve Board. In response to President Roosevelt's inquiry as to his thoughts about the Federal Reserve System, Eccles submitted a memorandum on November 3, outlining his concerns and proposing a reorganization (see Table 4.2).[67] The memorandum was brief, only three pages. It was not very elaborate but contained powerful vision.

The primary theme was that Federal Reserve policy had been a failure because of the way the System was organized. The causes, as Eccles saw

Table 4.2
Marriner Eccles' Memorandum
November 3, 1934

Importance of Monetary Control

- Production, income and employment determined by the supply of money (M) and the rate of monetary expenditures (V).
- Control of M and, through M, MV necessary because, without conscious control, M changes perversely, expanding when rate of spending increases and contracting when rate of spending decreases.
- The first importance of monetary control is to assure adequate support for emergency financing involved in recovery programs.
- Also necessary in future, that a recovery does not result in an undesirable inflation or a depression.

Performance of Federal Reserve System in Recent Years

- Federal Reserve System's performance has been poor; characterized by inertia and indecisive action.
- "[N]o reason to suppose ... organization ... will function any better in the future."

Basis for Poor Performance

- Poor performance the result of diffusion of power and responsibility. [Over one hundred individuals are responsible, in various degrees, for the formulation of policy].
- Shared responsibility dilutes personal responsibility.
- Stalemate from disagreements between Reserve Banks and Board possible.
- Reserve Bank Governors, not mentioned in Federal Reserve Act, have attained positions of major importance in influencing policy and dominate System.
- Bank Governors "profoundly influenced by a narrow banking rather than a broad social point of view."

Reorganization Proposal

- Concentrate authority and responsibility in the hands of small policy formulating body; that is, the Board, even if private ownership and local autonomy of the Reserve Banks is maintained.
- Control over open market operations, the most important instrument of Reserve System policy, to be shifted to Board [Federal Open Market Committee currently composed of the twelve Governors. The Board only has the power to approve or disapprove Reserve Bank decisions; cannot initiate a buying or selling policy on its own. Banking Act of 1933 effected no material change].

- Power over appointment of Reserve Bank Governors should be conferred on Board—appointed annually by their Boards of Directors subject to the approval of the Federal Reserve Board.
- Prestige of Board members and their salaries to be elevated.

Source: Eccles, Marriner. "Desirable Changes in the Administration of the Federal Reserve System." Memorandum given to the president, November 3, 1934. Reproduction in Roosevelt Papers, Franklin D. Roosevelt Library, Hyde Park, NY.

them, were (1) "the diffusion of power and responsibility" for policy in the System leaves no one feeling responsible and can result in "a complete stalemate" and (2) the Governors of the Reserve Banks effectively controlled open market operations, the most important tool of policy, and were "profoundly influenced by a narrow banking rather than a broad social point of view." ("Private interests, acting through the Reserve banks," he asserted years later in his autobiography, "had made the system an effective instrument by which private interests alone could be served.")[68] He proposed a remedy that would relieve the Reserve Bank Governors of their role in policy making and concentrate monetary policy authority in the Board; that is, in a small group with a social point of view.[69]

Eccles' presentation to Roosevelt concluded with the President approving but warning Eccles that "it will be a knock-down and drag-out fight to get it through. But we might as well undertake it now as at any other time. It seems to be necessary."[70]

The Banking Act of 1935

Perceptions of the problem to be solved by modifying the Federal Reserve differed. Glass saw the System as being subservient to the Treasury, something he claimed was never intended. He also saw the Board as diminished by comparison to the Reserve Banks. Morgenthau believed that neither the Open Market Committee nor the Board had cooperated adequately; that the Treasury had borne the entire burden of monetary policy over the past several years.[71] Both Eccles and Morgenthau saw the problem as one of excessive authority in the hands of those who managed the Reserve Banks.

The conflicts revolved around Title II of the administration's banking bill. The opposition to Eccles' views, as Roosevelt had predicted, proved formidable.

Lines of Authority and Legislative Deliberation

The key reform of Title II was a reconstituted open market committee. Eccles' initial proposal was that the FOMC be composed of the Chairman of the Board, two additional Board members, and two Governors of Reserve Banks, to be elected annually by all twelve Governors. Morgenthau agreed. Eccles, however, changed his mind. In testimony in March 1935, he proposed that the Board as a whole should be responsible for open market operations, with five Reserve Bank Governors serving in an advisory capacity.[72] Morgenthau, disagreeing, opted for the alternative of government ownership of Reserve Bank stock.[73] Glass, whose House subcommittee would consider the banking bill, was vigorously opposed to Eccles' proposals.

It was clear from the outset, then, that there would be a fight over Title II. On February 9, Lippmann wrote:

> In regard to the proposed changes in the Federal Reserve system [as contained in the Eccles bill] the first question is whether we are to have a debate or an uproar, analysis or epithets, an exchange of ideas or an exchange of hysterical slogans. Even before the full text of the new bill was available to many persons, certainly before any one could have had time to study it, the cry was raised that it is un-American, unconstitutional, undemocratic and revolutionary.[74]

Glass believed it important to preserve the active participation of the banking community in Federal Reserve policy-making. Early in the Roosevelt Administration, he saw the System in danger of "being crushed by government." The Federal Reserve, he argued, "was never intended ... [to] be used as an adjunct of the Treasury ... and particularly was it never contemplated that it should be so used to such an extent as recently has been done as to very materially curtail the capabilities of the Federal Reserve banks to serve the business interest of the country."[75] He was particularly disturbed by the failure of the Banking Act of 1933 to remove the Secretary of the Treasury from the Board.[76]

He also believed, in 1933, that the Board had been diminished in importance relative to the Reserve Banks. Glass' committee proposed to strengthen the Board by extending Board members' tenure of office, requiring that at least two members be men of experience in banking, and eliminating of the Secretary of the Treasury from the Board. His committee had also proposed giving greater authority to the Board over open market operations and the management of foreign affairs.

By 1935, Glass was concerned about the diminished role Eccles proposed for the Reserve Banks and vigorously opposed the proposal. He felt that for the Federal Reserve to serve the business interest of the country, it was necessary to retain the policy-making participation of the Reserve

Banks. In this view, he was supported by the banking community, which now also opposed ceding complete control of the most important Federal Reserve policy tool to a government agency.

Glass also resented Eccles personally. He had worked to prevent his confirmation as Governor of the Board. He had told Morgenthau in March that he should disengage himself from the banking bill. "Don't get yourself out on the end of a limb.... This is Eccles' bill and he doesn't know what he is talking about."[77]

Eccles later expressed the belief that Harrison had turned to Glass for protection and that he had flattered the now seventy-seven-year-old "father of the Federal Reserve System" to secure his support for establishing the kind of organization that had permitted the New York Reserve Bank to dominate.[78] Whatever the truth of this allegation, Glass apparently did keep Harrison apprised of his strategy. Harrison recorded the substance of a telephone conversation with Glass in June 1935.

> In discussing the Banking Bill, he said he thinks that "I have them badly whipped both in the sub-committee and in the big committee" ... they had voted unanimously to put off consideration of Title II until his return to Washington late next week.... I then asked Senator Glass what was his plan of action. He chuckled and said his plan would be to take up Title II when he gets back next week with a view to amending it in such fashion as to make it objectionable to the administration. Senator Glass told me that Senator Reynolds of No. Carolina ... was going to support him. He also said that Senator Wagner ... wants "to go along" but that he may need to be stiffened from time to time.[79]

Legislative combat got underway shortly after the bill was introduced in February 1935. The convoluted course of the fight that ensued in 1935 need not be repeated here.[80] Section II of the banking bill, as developed by Eccles, was changed in detail, and possibly in significance, on passage. The results are discussed below.

Principal Provisions of the 1935 Act

Title I of the Banking Act of 1935 established Federal Deposit Insurance on a permanent basis, under the auspices of the Federal Deposit Insurance Corporation. Title II contained the amendments to the Federal Reserve Act that modified the organizational structure of the System.

In brief, Title II established a new Board of Governors composed of seven appointed members without the Secretary of the Treasury or the Comptroller of the Currency whose ex officio positions were eliminated. The new title of Governor was bestowed on the Board members, and a Chairman and Vice Chairman replaced the old Governor and Deputy

Governor positions. The Reserve Bank position of Governor was renamed President.

Members of the Board of Governors were given fourteen-year terms, without reappointment; the member appointed chairman by the president of the United States was provided a four-year, renewable term. Reserve Bank presidents, still selected by their boards of directors, were provided five-year, renewable terms, subject to the approval of the Board of Governors.

The Act established a new FOMC composed of the seven Governors and five Reserve Bank presidents who were to serve on a rotating basis. The roles of Reserve Bank presidents, as members of the FOMC, were distinguished from their roles as CEOs of their banks. In the former capacity, they were obliged to represent the broader public interest, not their boards of directors. The authority of the Reserve Banks to undertake open market operations independently or to decline to engage in such operations was rescinded. Open market operations were to be conducted only under the authority of the FOMC.

The 1935 Act also strengthened the Board. It liberalized its authority to alter reserve requirements, now on the vote of a majority (four members) and up to twice the existing level. The 1933 Act had authorized Reserve Banks to establish their discount rates subject to the review and determination of the Board. The question of whether the Board could compel a Reserve Bank to change its rate remained open. The 1935 Act required that each Reserve Bank establish its discount rate every fourteen days *or more often*, as required by the Board, thus resolving the issue.

What the Act Did and Did Not Accomplish

The 1935 Act, as noted, provided the new Board of Governors with final authority over discount rates and provided it with a majority on the FOMC. New powers provided by this Act and the Banking Act of 1933, including the power to adjust reserve requirements and to regulate bank holding companies, were assigned to the Board. The legislation included all the necessary paraphernalia designed to highlight the shift in authority from the Reserve Banks to the Board, including the promotion of the Board members to governors, an extension of their terms of office, increases in salary, and the demotion of Reserve Bank governors to presidents. The Board, moreover, could now exercise a critical influence in the selection of Reserve Bank presidents. It would no longer be possible for the president of any Reserve Bank, whatever the force of his personality and competence, to lead the System as Strong had in the 1920s. Passage of the 1935 Act effectively reserved that role to the Chairman of the Board. Ever since, the System has been identified in the public mind with well-known chairmen such as Marriner Eccles, William McChesney Martin, Arthur Burns, Paul Volcker, and Alan Greenspan. Further, by eliminating the Secretary of the Treasury and the Comptroller of the Currency as ex officio members, the legislation also suggested that the new Board would be better insulated from political pressure emanating from the Treasury Department.

The result has been an understandable impression that the Banking Act of 1935 altered the organizational character of the Federal Reserve System materially, reducing the Federal Reserve Bank of New York and other Reserve Banks to the status of subsidiaries, if not branches, of the parent Board of Governors and that it eliminated the influence of the Secretary of the Treasury. The System, thereby, became an independent agency of the federal government, removed from political considerations, rather than either a privately controlled association or a joint venture.

This perception is, at best, an exaggeration. One element of the exaggeration, with respect to insulation from the Treasury, was pointed out by Friedman and Schwartz in their *Monetary History of the United States*: "[T]he Treasury does not need actual representation on the Board of Governors to exercise considerable influence upon its actions."[81] This soon became apparent as the Federal Reserve System was again enlisted in war finance during World War II and, thereafter, served the Treasury's purposes through a long postwar period that lasted until an accord was reached in 1951.

Nor did the 1935 Act eliminate the influence, potentially a dominating influence, of the privately owned Reserve Banks in System decision-making. Eccles recognized this in 1938 in testimony before the House Banking Committee on a bill, proposed by Wright Patman, to have the government purchase the stock of the Reserve Banks. He stated:

> ... I am in favor of placing the open-market committee's function with the Board of Governors, which is a public body appointed by the President and confirmed by the Senate, to represent the public interest.... I feel that a committee which is entrusted with monetary policies as important as those given to this committee should consist entirely of persons representing the public interest.... To have one of the most important instruments of credit policy in the hands of a different body from the Board, ... could result in a policy adopted by the Board being nullified by the committee. To be sure, the Board has a majority of the committee, but this means that the Board, in order to make its policy prevail against the unanimous opposition of the bank representatives on the open-market committee, must be unanimous itself. The Board might, for example, reduce reserve requirements and thereby increase excess reserves .... by a vote of 5 to 2. The open-market committee ... by combining the five votes of the presidents with the two minority votes of the Board, might ... reduce the open-market portfolio by an amount sufficient to offset the decrease in reserve requirements. Whether this course of events is probable or not, it is certainly possible.... In my opinion, it should not be possible.[82]

Populist congressmen, from Wright Patman in 1935 to Henry Gonzales in 1993 (discussed in Chapter 7) have given deference to continued Reserve Bank influence by introducing bills to have the federal government purchase Reserve Bank stock. As with Eccles, they have not been persuaded that Reserve Bank presidents do not represent their members in System deliberations, including those in the FOMC.

Whether or not they have represented their members, Reserve Bank presidents have been influential. The Board and its Chairman, in formulating monetary policy, still must deliberate with the Reserve Bank presidents. Even though the Board was provided with ultimate authority in altering discount rates and changing reserve requirements by the 1935 Act, such decisions are, of necessity, coordinated in the FOMC, where Reserve Bank presidents have a vote. Moreover, the practical necessities of lending at the discount window and supervising banking organizations are dealt with on a day-to-day basis at the Reserve Banks, whose officials, as a matter of course, have "front-line" information to support their views.[83] Such information is, necessarily, influential in managing the discount facility and in bank regulation, and it may also be important as an input into monetary policy decisions. As matters turned out after World War II, some Reserve Bank presidents proved quite capable of getting their strongly believed differences from the Board into the public domain and in building separate groups of supporters.

There is also reason to believe that Reserve Bank representation of their members is, to a degree, welcomed by the Board. Among other things, the Board has made clear a need to sustain a close relationship with banks to obtain the kinds of information needed for monetary policy decisions.[84] Such relationships, typically requiring consideration of each other's interests, exist at the Reserve Banks, not at the Board.

There is another reason. Banking organizations in trouble may need Federal Reserve assistance. In other kinds of exigent circumstances, the System has needed banks' assistance. This need was made clear in the System's exercise of its fiscal agency responsibilities during World War I. It was also clear to Eccles, who believed bank support was needed for deficit financing during the 1930s. As discussed in the next chapter, the value of the System's ability to obtain bank support to achieve foreign-policy objectives, this time in a Mexican debt crisis, was again illustrated in the early 1980s. None of this, it is worth noting, relates to any political assistance the System might obtain from a supportive banking community, about which some of its critics have complained.

There is, then, good reason to believe that the Banking Act of 1935 did not materially alter the basic character of the Federal Reserve System as a joint venture. Legislation notwithstanding, the Reserve Banks have continued to be partners with the Board, certainly no worse than junior partners, in the operations of the Federal Reserve.

If the 1935 Act did not materially alter the basic character of the joint venture, what did it do? A singular characteristic of the System, from its origin, was its organizational complexity. The System included so many elements, which were intended to have some influence over policy, that conflict was inevitable.[85] The Reserve Banks were established as semi-independent. The Federal Reserve Board's authority over discount rates, open market transactions, and other Reserve Bank operations and policies, while significant, was not clearly distinguished from the autonomy afforded the Reserve Banks and was compromised by some of the practices that had developed. Paul Warburg indicates that, in 1914, he was concerned that the Reserve System might have to be administered as "... individual central banks, entirely independent of one another and kept as far apart as possible so that the only connecting link between them would be the Reserve Board."[86]

The System had, nevertheless, effected a significant degree of coordination in its early years. This emerged under the domination of the Treasury during World War I and through Governor Strong and the Federal Reserve Bank of New York in the 1920s.[87] At the same time, the trend toward centralization of power in the Board was evident long before the changes made by the legislation of the 1930s.[88] However, with no indisputable final authority, the course of this trend had been marred by disputes between the Board and the Reserve Banks with respect to both discount rates and open market operations.[89]

The elevation of the Board in the 1930s and the shift in authority from the Reserve Banks established an indisputable final authority. It thereby eliminated the abrasive disputes that had weakened the System in the late 1920s and early 1930s. The Reserve Banks could continue to participate in policy-making and other System decisions, but they could no longer assert autonomy.

In addition, the Banking Act of 1935 provided a potentially effective voice for the debtor's point of view. In the depressions of 1920–1921 and 1930–1933, few if any in the System seemed concerned with the devastating effects of deflation. All were ultrasensitive to the possibility of inflation. The Board, appointed by a President who had come into office attacking deflation, now had sufficient authority to deal with price-level instability in both directions.

The organizational change did not, however, produce any notable change in monetary policy, at least in the short run. Eccles made clear that vigorous expansionary actions were not called for. In testimony before the House Banking Committee in March 1935, he stated, "... Under present circumstances there is very little, if anything, that can be done." It was at that point that Congressman William Goldsborough intervened with a phrase that became famous, "You mean you cannot push a string." Eccles agreed. "That is a good way to put it, one cannot push a string ... there is very little, if anything that the reserve organization can do toward bringing about recovery." It is only in "... a condition of great business activity ... to a point of credit inflation [that] monetary action can very effectively curb undue expansion."[90]

In 1936, with the economy still operating at levels well below full employment but continuing to recover, it was hardly in "a condition of great business activity." However, the growing levels of excess reserves produced by an inflow of gold, which grew to unprecedented levels of about $3 billion in December of 1935, fed an obsession with inflation that ensnared Eccles and other System officials (Table 4.1). The Board doubled reserve requirements in two steps in 1936 and 1937.

Raising reserve requirements in the course of a fragile recovery was a tragic mistake, not far different from the one the Federal Reserve made in the last half of 1932. In this case, the recovery stalled, and the economy contracted. Chandler wrote, "Thus this 'depression within a depression' set back recovery at least two years. If mistakes in monetary and fiscal policies did not precipitate the recession, they certainly contributed to its severity and duration."[91]

SURVIVAL AND GROWTH

A key element in both the Banking Act of 1933 and 1935 was the elevation of the Board relative to the Reserve Banks. John R. Commons, in 1934, had observed the curious nature of the joint venture that had been stacked in favor of the Reserve Banks. Congress, in establishing the Federal Reserve System had united "... the bulk of the banks.... Then ... [appointed] a Federal Reserve Board to supervise this stupendous bankers' government of its own creation, but with low salaries and insecurity of tenure in dealings with men of fabulous salaries and the shrewdest of ability which modern capitalism enlists in establishing its supremacy."[92] A major purpose of the Banking Acts was to redress the balance by extending Board tenure and raising Board salaries as well as shifting authority.

Despite the shift in authority from the Reserve Banks to the Board, the System survived with the joint venture intact. Eliminating central banking, as Andrew Jackson had eliminated the Second Bank of the United States, was, in 1933, no longer a serious option. The performance of the Federal Reserve during World War I and in the 1920s, particularly in its development of open market operations, had shown a potential not only to assist the government in national emergencies but also to smooth out the business cycle.[93] Central banking had taken on a political as well as an economic importance that had not existed when the Federal Reserve Act was passed, not just in the United States but also throughout the world. In 1936, Vera Smith found it suitable to begin her classic work *The Rationale for Central Banking*, by stating, "In the present century, centralised banking systems have come to be regarded as the usual concomitant, if not one of the conditions of the attainment of an advanced stage of economic development. The belief in the desirability of central bank organisation is universal."[94]

Central banking, of course, could have taken other forms; for example, a central bank completely under the control of Presidential appointments, as Eccles had wanted, or in the Treasury, as Morgenthau rejected. The Banking Act of 1935 did add a potentially vigorous debtor's point of view to the System that would presumably reside in the reconstituted Board. In this respect, it did more than had been done in 1923 by adding a farm representative to the Board. Still, the Reserve Banks and their banker constituencies remained partners. The question remains as to why there was no radical change in the organizational structure of the Federal Reserve System.

A possible answer is that the Federal Reserve System was salvaged through the efforts of Carter Glass. He was adamant about both elevating the Board and retaining the commercial character of the System.[95] He was successful in opposing Eccles' proposal to eliminate Reserve Bank presidents from the FOMC. It hardly seems likely, however, that Glass could have frustrated Eccles had Roosevelt been determined to effect a radical reorganization in the System along the lines proposed by either Eccles or Morgenthau.

To a limited extent, the question has been addressed in the literature. Allan H. Meltzer, in his recent *A History of the Federal Reserve*, suggests the possibility that Federal Reserve policy was not widely seen as a failure in the early 1930s. Hoover's "weak reed" comment, he states "... was not the generally accepted view at the time."[96] It can be inferred that, without the assignment of blame but with a realization that the System was handicapped by divided authority and insufficient powers, the process of strengthening it could, then, proceed in the Banking Acts of 1933 and 1935.

Another possibility is suggested by Susan E. Kennedy in her carefully documented *The Banking Crisis of 1933*. She found that President Roosevelt had, in 1933, a wide range of options from which to choose in reorganizing the banking system. However, even in the grim days of the crisis, he "... chose to avoid radical solutions, ... when a more conventional approach would serve as well.... The man who found it politically profitable to castigate the money changers in his inaugural address was not prepared to bar them from the temple entirely."[97] If this was the case, it can be inferred that Roosevelt believed it unnecessary to alter the Federal Reserve System in any radical way; moreover, avoiding the effort to do so was politically expedient.

Kennedy's conclusion is supported by Helen Burns, who, in *The American Banking Community and New Deal Banking Reforms, 1933–35*, emphasizes Roosevelt's conservative approach to banking. She states, with respect to his first appointments of Thomas and Szymczak to the Federal Reserve Board, that they "... can be regarded as signposts...;they show that the new president contemplated no immediate radical changes in the banking structure of the country." By the spring of 1933, "[b]ankers appeared to be reassured about Roosevelt's policies."[98]

A. Jerome Clifford, in *The Independence of the Federal Reserve System*, focused on System behavior rather than the attitude of the President. He concluded that the System's survival could be traced to its "... remarkable elasticity of adjustment in adapting itself to the new environment. This resiliency enabled the System not only to cooperate actively with the government but also to retain and broaden basic powers.... The existence of cooperation probably also explained why Congress put five of the Presidents of the Federal Reserve Banks on the Federal Open Market Committee...."[99]

Instances that throw light on the nature of the cooperation to which Clifford refers are available. As noted, when the OMPC discussed the Thomas Amendment at its meeting on April 22, 1933, it decided "... that during the period of the emergency it would be advisable for the Federal reserve banks, ... to cooperate with the Treasury ... [to facilitate] any necessary issues of government securities or to support the market for government securities in order to make such public issues possible."[100] Even more revealing was a memorandum prepared by W. Randolph Burgess for the directors of the Federal Reserve Bank of New York on March 21, 1935, as deliberations on the Banking Act got underway.

> If, for example, we should decide that we ought to reverse our present course and reduce our holdings of government securities, what prospect is there that our reversal of policy would accomplish our purpose, or that the reversal might not of itself become destructive? Through its stabilization fund the government could exercise a dominant influence over member bank reserves. It could also resort, if it chose, to paper money inflation. Moreover, with the whole question of central banking now very much in the air, the government could readily alter fundamentally the entire central banking, and also the commercial banking machinery of the country. It seems clearly that we could act effectively only with the consent and cooperation of the Administration.[101]

Burgess' warning is reminiscent of Strong's memorandum to Carl Snyder in early 1922, discussed in Chapter 3, about a strategic misstep: "Must we ... close our eyes to the gathering storm and run the risk of being swept away? If one goes so far ... then do we not set ourselves above the Congress, above the Administration, and constitute ourselves the last court of resort in all matters affecting the economic welfare of the country...?"

From the Federal Reserve's point of view, cooperation was necessary for organizational survival. It could well have been the decision to cooperate that allowed the President to retain a conservative posture, persuading him that there was no necessity to make radical changes in the organizational structure of the System.

Whatever the reasons for its survival, the System clearly emerged from this episode a stronger institution. Strengthening the Board and establishing a more rigorous definition of the lines of authority had eliminated the internal conflicts, which had emanated from the existence of semi-autonomous Reserve Banks and a Board with vaguely defined overall authority that had plagued its policy making through the 1920s. Further, the System was granted new authority in both implementing monetary policy through open market operations and making changes in reserve requirements. A foundation was laid for future strength in the supervisory area through the Board's establishment as the sole federal regulator of bank holding companies. As noted above, and as will be discussed below, this latter authority was destined to expand substantially the scope of Federal Reserve influence.

CONCLUSIONS

The Federal Reserve was in jeopardy in 1933. Its jeopardy was reflected in the attitude of Roosevelt and others in his administration, in its own disunity, and in the desperate economic and financial conditions to which it responded with paralysis. The future of private banking was uncertain. The Federal Reserve experiment that joined the Federal government and private commercial bankers was very much threatened.

By March 1933, it was clear that the Federal Reserve System was presiding over the destruction of the financial system. It confronted a cool, if not hostile, administration that seemed primed to "rip things up." The leaders of the Federal Reserve may not have been aware that, to Franklin Roosevelt, the System was the second coming of the Second Bank.

In the Emergency Banking Act of March and the Thomas Amendment of April, both the administration and Congress seemed poised for a federal takeover of monetary policy. As matters developed, the Treasury was able and willing to fill the gap.

While some advocated nationalizing the banking system and eliminating the Federal Reserve, the more compelling argument was to alter significantly the distribution of authority in the joint venture. A clear line of authority to an elevated Board of Governors in Washington was put into place. An intention was to augment the borrower's point of view in the complex of interests that composed the System. Nevertheless, in the end, the joint venture was sustained.

In its first critical decision in 1936 to double reserve requirements, the new Board made a serious mistake. The decision would probably have been no different had power remained with the Reserve Banks.

chapter **5**

Stagflation and the Monetary Experiment of 1979–1982

"Few agencies have ever faced such daunting problems and survived, let alone emerged with their power and public respect enhanced."

Donald Kettl[1]

The Federal Reserve emerged from the Great Depression and World War II into another postwar era in which, after a lengthy lacuna, its value in meeting newly formulated national goals of economic growth, high levels of employment, and price stability was widely acknowledged. "The Federal Reserve System is charged with the formulation as well as the execution of monetary policy," declared the Commission on Money and Credit in 1961. "Its mandate and structure are therefore of first importance in appraising governmental means of achieving national economic goals."[2] Further, "[a] strong advocate for the claims of monetary stability is needed within the government, and the central bank is the natural home of such advocacy."[3]

It was not long, however, until financial and economic instability again became overwhelming. During the 1970s, the economy was simultaneously beset by slow growth, high unemployment, and inflation—conveniently labeled "stagflation." As in the previous episodes, many questioned Federal Reserve policy.

As the 1970s drew to a close, with conditions worsening, the System undertook a risky experiment to expunge inflation. The new policy allowed interest rates to fluctuate violently, helped produce two recessions, administered a savage blow to the savings and loan business, and imposed serious damage on housing, the construction industry, and farming. The oppressive effects generated new demands for a change in the way monetary policy was administered and for a radical alteration in the System.

POST-WORLD WAR II DEVELOPMENTS

During World War II, the System again aided in war finance by supporting the huge increase in Treasury debt and lowering its cost. It "pegged" interest rates at low levels as banks accumulated huge volumes of government securities with the reserves the System provided. After the war, it continued in thrall to the Treasury until an accord was reached, with the help of Congress, in 1951. It thereafter reemerged free to undertake monetary restraint as needed.

Through the 1950s and into the early 1960s, monetary policy proved reasonably effective. Recessions in 1953–1954 and 1957–1958 were moderate. Prices generally trended upward but at a relatively slow rate. Interest rates remained relatively low and fluctuated modestly. Assisted by a tax cut, the economy achieved full employment in 1964, with prices rising only 1.3 percent during the year. The Keynesian fiscal prescription, along with an accommodative monetary policy, seemed to have put the ghosts of the Great Depression to rest.

As matters turned out, 1964 was the brink of another precipice. The conflict in Vietnam escalated in 1965, creating a national emergency that placed the domestic requirements for tight money at odds with the federal government's foreign policy objectives and concern about the cost of its debt. Conflict with President Lyndon Johnson's administration developed when the chairman of the Board, William McChesney Martin, indicated intent to raise the discount rate at the end of 1965.

The conflict proved to be of minor importance and was papered over.[4] However, the next several years were tumultuous. The economy expanded rapidly. The unemployment rate fell to 3.8 percent in 1966 and remained less than 4 percent through the remainder of the decade. Prices, however, began to rise rapidly. Federal Reserve efforts to restrain inflation resulted in higher market rates of interest, impacting both commercial banks and savings institutions whose depositors found investments that paid higher returns than law and Federal Reserve regulation (Regulation Q) permitted them to offer. These depositories competed by offering toasters and electric blankets.[5]

By the end of the decade, inflation had become a serious problem. Consumer prices increased about 5.5 percent in 1969, and interest rates rose to relatively high levels. In December 1969, a brief recession developed.

In 1970, the unemployment rate reached 4.9 percent, while the inflation rose to a 5.7 percent rate.

The domestic problem was compounded by growing balance-of-payments difficulties. Deficits and an associated accumulation of dollars in foreign hands had increased dramatically. At the end of World War II, the United States had held the preponderance of the world's gold stock, about 75 percent. Under the Bretton Woods Agreement of 1944, the dollar had been defined in terms of gold, at $35 per ounce, and made convertible for foreign governments and official institutions. Other currencies were defined in terms of the dollar. By the late 1960s, the U.S. gold stock had fallen to less than $15 billion, and the possibility of a run on the dollar, led by France, threatened to drain the remaining U.S. gold reserve.[6]

In August 1971, with prices rising at unacceptable rates and balance-of-payments deficits soaring, President Nixon abandoned the Bretton Woods Agreement, prohibiting the exchange of foreign-held dollars for gold, and also instituted wage and price controls. Subsequently, agreement was reached among the major trading nations to allow exchange rates to "float."

STAGFLATION: 1973–1979

On October 16, 1973, the staff of the Federal Open Market Committee reported that "... the economy currently is running at close to a 'flat-out' rate."[7] The FOMC indicated some concern that the economic expansion was weakening, but it concluded that the probability of a near-term recession was not great. The Committee's staff expected that growth would continue, though more slowly than over the past several years. At the same time, it was concerned about inflationary pressures. In 1972, consumer prices had risen only 3.2 percent. In the first nine months of 1973, prices increased at an annual rate of more than 6 percent.

The economy did take a turn for the worse—but not in the way the FOMC anticipated. On October 17, the day after FOMC's meeting, the Organization of Petroleum Exporting Countries (OPEC) raised the price of oil dramatically and imposed an oil embargo on the United States and other oil-consuming countries the group termed "unfriendly." There is no indication in the FOMC's "Minutes of the Meeting" or in its "Memorandum of Discussion" that either Chairman Arthur Burns or anyone else had forewarning of the action to be taken by OPEC the next day.[8]

By the end of 1973, the price of oil had doubled, from about $2.50 a barrel to about $5 a barrel. Prices were sharply increased again in January 1974, to $11.65 a barrel. The embargo against the United States was sustained until the spring.

The embargo and oil price increases induced a recession in the United States. The economy began to contract in November 1973; it continued to decline for almost the next year and a half—to March of 1975. The recession proved to be the deepest and longest since the end of World War II. By March 1975, the unemployment rate had risen to 8.6 percent and real gross domestic product (GDP) had fallen about 2.5 percent.

The increased cost of oil not only raised the prices of petroleum products consumed directly by consumers but also raised costs of production throughout the energy-consuming industrial sector of the economy. Higher costs of production raised the prices of consumer products and simultaneously tended to reduce output and employment. Over these months, during which higher oil prices filtered through the entire economic system, consumer prices rose almost 15 percent while unemployment remained high.

In the spring of 1975, as inflation ate away at the real cost of oil, the economy again began to grow. In 1976, real GDP increased 5.6 percent. It increased 4.6 percent in 1977 and 5.5 percent in 1978. Nevertheless, unemployment remained high and inflation remained a serious problem. The unemployment rate was almost 8 percent in 1976, a little more than 7 percent in 1977 and a little more than 6 percent in 1978. During 1976 and 1977, consumer prices increased about 6 and 8 percent respectively. Then inflation began to accelerate seriously. Between December 1978 and September 1979, consumer prices increased at an annual rate of more than 13.5 percent. From the end of the recession in March 1975 to January 1979, prices had gone up almost 30 percent (see Table 5.1).

High levels of unemployment and accelerating inflation were accompanied by rising interest rates.[9] In 1973, both the federal funds rate and the prime rate averaged about 8 percent, and the rate on corporate bonds (Aaa) averaged about 7.5 percent. The comparable averages for 1979 were more than 11 percent for the federal funds rate and more than 12.5 percent for the prime rate. The average rate on bonds had risen to 9.6 percent.[10] Over the same years, the Federal Reserve's discount rate had increased from 6.5 to 10 percent.

The coexistence of relatively high levels of unemployment and accelerating inflation inspired the economist, Arthur Okun, to construct a "Misery Index" that added the rate of inflation to the unemployment rate. (Table 5.2). In 1973, with the unemployment rate at 4.9 percent and the inflation rate at 6.2 percent, the Misery Index stood at 11.1. By 1979, it had risen to 17.2.

A second oil shock occurred in the wake of the Iranian Revolution and the overthrow of the Shah in 1979. At the beginning of the year, the acquisition price of imported crude oil was $15.50 per barrel. By January 1980, OPEC had raised the price to more than $30 per barrel.

Table 5.1
Stagflation in the Late 1970s and Early 1980s

Year	Real Gross Domestic Product	Consumer Price Index (1982–1984 = 100)
1973	$4,123.4	44.4
1974	4,099.0	49.3
1975	4,084.4	53.8
1976	4,311.7	56.9
1977	4,511.8	60.6
1978	4,760.6	65.2
1979	4,912.1	72.6
1980	4,900.9	82.4
1981	5,021.0	90.9
1982	4,919.3	96.5

Sources: Department of Labor, Bureau of Labor Statistics.

THE FEDERAL RESERVE'S NEW OPERATING PROCEDURES

The oil shock of 1973, stagflation through the remainder of the decade, and the second oil shock in 1979 created a new and difficult environment for a monetary policy. The Federal Reserve had become accustomed to meeting the problems of inflation and unemployment sequentially, not simultaneously.

The Stagflation Problem

Relatively high levels of unemployment and the wasted resources this entailed were problems the Federal Reserve had confronted in the 1930s and during earlier recessions after World War II. Keynesian economic analysis prescribed a relatively easy monetary policy that included rapid increases in bank reserves and the money supply. This prescription was expected to lower interest rates, which that would, in turn, stimulate spending and promote growth. The strategy had worked in the past. It did not seem to be working in the late 1970s.

Inflation was a problem the Federal Reserve had also confronted in the postwar period. Conventional analysis prescribed a relatively tight monetary policy that restrained the growth of reserves and the money supply. It was expected that a slower growth in money and higher interest rates would slow spending and rising prices.

Table 5.2
The Misery Index

Year	Unemployment Rate (Percent)	Inflation Rate (Percent)	Misery Index
1973	4.9	6.2	11.1
1974	5.6	11.0	16.6
1975	8.5	9.1	17.6
1976	7.7	5.8	13.5
1977	7.1	6.5	13.6
1978	6.1	7.6	13.7
1979	5.8	11.4	17.2
1980	7.1	13.5	20.6
1981	7.6	10.3	17.9
1982	9.7	6.2	15.9
1983	9.6	3.2	12.8
1984	7.5	4.3	11.8
1985	7.2	3.6	10.8
1986	7.0	1.8	8.8
1987	6.2	3.7	9.9
1988	5.5	4.1	9.6
1989	5.3	4.8	10.1
1990	5.6	5.4	11.0
1991	6.8	4.2	11.0
1992	7.5	3.0	10.5
1993	6.9	3.0	9.9

Source: Economic Report of the President, Washington D.C. 2003.

Notes: The Unemployment Rate is the percent unemployed as a percent of the Civilian Labor force. The Inflation Rate is the year-to-year change in the monthly average for the Consumer Price Index.

With costs of production and prices rising, in part as a result of the oil shocks, economic growth slowed. Monetary restraint to constrain inflation could only work by slowing growth further, depressing the economy, and producing even higher levels of unemployment. The Federal Reserve was damned if it restrained monetary growth, thus contributing to stagnation, and damned if it didn't, thus contributing to inflation.

Over time, the problem became more daunting. Relatively easy monetary policy to spur economic growth, as measured by money-supply growth, became a signal to market participants that more inflation was on the way. The result of such inflationary expectations was rising, rather than falling, interest rates.

Congressional Attempts to Constrain Monetary Growth

The inflation problem worsened during the decade, with price increases accelerating. A widespread belief developed that the Federal Reserve was not adequately limiting money growth.

In 1975, House Concurrent Resolution 133 directed the chairman of the Board to testify before Congress on the Federal Reserve's money-growth goals for the coming year. In 1978, the Full-Employment and Balanced Growth Act (Humphrey-Hawkins) required the Federal Reserve to establish money-supply targets.[11] Nevertheless, the money supply continued to increase rapidly, often exceeding the target range. In 1978, M1, the narrow definition of money that included, for the most part, checkable deposits and currency, increased substantially, about 7.5 percent, and in 1978, it increased 8.6 percent. In deference to the slow growth of the economy, in recognition of nonmonetary causes of inflation, in conformity with its traditional aversion to interest-rate volatility, and despite the lip service Federal Reserve spokesmen gave to controlling inflation, the System seemed incapable of imposing the degree of monetary tightness that would stem the inflationary tide.

An Aversion to Money-Supply Targeting and Interest-Rate Volatility

If monetary ease served no constructive purpose, monetary restraint was the only alternative.[12] To a number of economists, and "monetarists" in particular, monetary restraint required better control of the money supply. As discussed, the Federal Reserve had been reluctant since the 1920s to chain itself to the quantity theory of money or to target the money supply. Among other things, money-supply targeting implied volatile interest rates.[13] At the end of the 1970s, monetary restraint to curb inflation seemed to require interest rates climbing rapidly and to levels that could not easily be predicted.

The Federal Reserve had been wary of interest-rate volatility since its experience in the post–World War I years discussed in Chapter 3. Its concerns were confirmed by the political conflict generated in breaking away from the Treasury in the post–World War II years.[14] Among other things, its spokesmen argued that, while economic stability required interest rates to fluctuate to some degree, fluctuations need not be great. Even a fraction of a percent increase in rates would have considerable restraining effects on lending policies of banks.[15]

Federal Reserve concerns were also supported by the generally accepted Keynesian economic analysis of the day. Keynes had argued that economic expansions rarely achieved full employment and that it would be a mistake to choke off a boom by raising the rate of interest.

> Thus an increase in the rate of interest, as a remedy for the state of affairs arising out of a prolonged period of abnormally heavy new investment, belongs to the species of remedy which cures the disease by killing the patient.[16]

He observed that in the United States in 1928 and 1929, interest rates, which had risen, should have fallen to encourage investment, a view with which George Baker Sr. of First National, as noted in Chapter 4, would have agreed.

Keynes' distrust of interest rate increases to achieve economic stability was elaborated in the 1950s by Harvard economist Alvin Hansen. He compared reliance on changes in interest rates to the well-known, classical economic remedy for depressions—falling wages. "Analogous to the thinking which found price stability in wage instability is the theory that stability of the commodity price level can be achieved by a deliberate fluctuation, even a violent fluctuation, in security prices and capital values."[17] Hansen went on: "Nowadays it is not possible ... to stabilize commodity prices via interest-rate policy without causing instability in capital values.... *No central banker is prepared to bring down upon the economy a collapse of capital values*."[18] (Emphasis added.)

In this intellectual framework, the Federal Reserve's posture was to "lean against the wind," placing pressure on bank reserve positions in periods of expansion, forcing them to borrow but permitting borrowing only for short periods, thereby transferring pressure to increasing numbers of banks. In periods of contraction, it would ease pressure, facilitating the repayment of debt at the discount window. Borrowing at the discount window was to be restricted by nonprice rationing standards imposed by discount officers at each Reserve Bank and by the presumed reluctance of banks to borrow except for short periods as the result of unexpected developments. The discount rate would not, therefore, have to be varied significantly over the business cycle and would not be a source of interest-rate volatility.[19]

A New Monetary Strategy

By 1979, it had become clear that, whatever the Federal Reserve had been doing, it was not working. In an October 1979 surprise, the FOMC, led by its recently appointed chairman, Paul Volcker, adopted a new approach to monetary restraint, more or less abandoning the System's traditional aversion to money-supply targeting and interest-rate volatility.

Volcker's Views

Volcker was nominated by President Jimmy Carter to be Chairman of the Board of Governors of the Federal Reserve System on July 25, 1979. He had exemplary credentials. He had worked at the Federal Reserve Bank of New York and Chase Manhattan and also served in several capacities in the Treasury Department, including undersecretary. Prior to his appointment as Chairman, he had been President of the Federal Reserve Bank of New York.

At his confirmation hearings before the Senate Banking Committee, he provided his views on the economy's problems and an idea as to how he intended to attack them. He indicated that the problem of simultaneous unemployment and inflation was, in large measure, the result of "... a change of psychology on the part of the American people.... [A]ctions that are interpreted as dampening the inflation rate have a favorable impact on the climate of financial markets ... whereas actions that are interpreted as inflationary, which may include easier money ... have a rather perverse effect on financial markets that is counterproductive."[20] He made clear that his priority was stopping inflation and that to do so, expectations would have to be altered. "The top single priority seems to me ... to deal with this problem of inflation...."[21] He added, "The first priority is to demonstrate ... that we don't face a situation where inflation inevitably has to rise. And I hope ... we can get that psychology turned around through persistence and disciplined policies...."[22]

On the question of interest-rate movements, Volcker was understandably vague. In answer to a question from Senator Nancy Kassebaum of Kansas about whether he felt that interest rates should be higher, he responded:

> I don't think I want to begin my career as Chairman by projecting just where interest rates might be or where they should be. I guess that's something we have to continue to look at as time passes, and it depends on too many crosscurrents in the economy for it to be sensible for me to try to make a prediction at this point.[23]

Volcker was not vague on the emphasis he placed on slowing down the growth of the money supply, but he did not want to be pinned down as to just how fast he believed money growth should decelerate. In a written question, Senator William Armstrong of Colorado noted that Volcker had said he would like to slow the growth rate of money to near zero while accommodating real economic growth through increased monetary velocity.

Armstrong asked: "Over what period of time would you expect to achieve this goal?" Volker responded:

> You may recall that I noted that a very low rate of monetary growth would be consistent with overall price stability. Under present circumstances that condition must be considered an objective that can be reached only over a period of years and toward which we should move in prudent steps.... I cannot now reasonably suggest a precise date for reaching the objective of essential stability in the stock of money and the general price level.[24]

Not everyone was happy about Volcker's priorities. Senator Paul Sarbanes of Maryland, complained: "... all the talk is on the question of lowering aggregate demand and letting, in effect, the whole economy go soft...."[25] On the other hand, some were not convinced that Volcker was a true anti-inflation warrior. The Virginia Tax Association opposed his nomination, citing its profound interest because "inflation is the cruelest tax of all" and revealing its belief that "unredeemable Federal Reserve Notes" should be phased out and replaced by a "constitutional currency."[26]

> Will [Mr. Volcker] do anything to prevent the Federal Reserve from continuing to create these irrepressible and intolerable pressures for inflation, and we submit the record shows that he will not, and therefore should not be confirmed as Chairman of the Federal Reserve Board.[27]

Decision and Implementation

In each year after 1975, the Board had, in its annual reports, recognized that inflation had become a serious problem and had pledged to deal with it. For whatever reason, it hadn't. With the continuation and acceleration of rising prices, business, labor, borrowers, and lenders had come to expect continually rising prices. Inflation had been compounded by the emergence of inflationary expectations. Both had been worsened by the System's loss of credibility as an inflation fighter.

In preparation for a rare Saturday meeting on October 6, 1979, Chairman Volcker engaged the FOMC in a telephone conference on Friday. He had already distributed a staff memorandum proposing a change in operating procedures, adopting "reserve aggregates" as a guide to open-market operations. He believed the aggregates would afford better control of the money supply than interest rates.[28] Volcker closed the session with the suggestion that the proposed change in the operating procedures was so extraordinary as to raise the expectation of extended discussion and dispute.[29] "I would hope that we can finish in three hours but if you ask me whether that's a certainty, it is not. It's about as good as the money-supply figures."[30]

The Saturday meeting began a little after 10:00 a.m. and lasted to about 4:00 p.m. The proposed change in operating procedures was adopted, accompanied by an increase in the discount rate, higher reserve requirements, and new target ranges for money-supply growth. It was expected that the new procedures would result in higher interest rates and that the Committee would not have close control of the level they reached.

Higher rates were generally welcomed. The Chairman indicated that he didn't "think we can sit here today and say it would be a terrible thing if interest rates [the Federal funds rate] went up to 14 or 15 percent on the new technique."[31] Board member Henry Wallich, a Yale University economist, believed "[w]e are much more constrained in the other technique by the appearance of very high interest rates." The main argument in favor of the new strategy was that interest rates became a biproduct of restraint.[32]

The press was alerted that an announcement would be made after the meeting. The Pope was in town at the time, and CBS was short of staff. According to Joe Coyne, the Board official in charge of public affairs, CBS called and asked if the announcement was really important. Coyne's remembered response was, "You'll remember this long after the Pope has left town."[33]

Volcker then announced to the press a set of actions adopted to moderate the growth of the money supply and to dampen inflation. The Reserve Banks would increase the discount rate from 11 to 12 percent. The Board would impose new reserve requirements on the growth of certain liabilities at large banks.[34] He also related the change in System operating procedures that would focus its day-to-day open market operations on a measure of aggregate reserves, namely "nonborrowed reserves," to afford it greater control of the money supply.[35]

Instead of trying to constrain interest rates, the FOMC would hereafter concentrate on controlling bank reserves and money. "Previously," the Board's *Annual Report for 1979* dryly observed, "open market operations had been directed at maintenance of the federal funds rate in a relatively narrow range thought to be consistent with the achievement of monetary growth objectives. It was felt that this procedure had become less reliable in an environment of rapid and variable inflation."[36] Speaking to the American Bankers Association a few days later, Volcker explained that a change in policy was needed to break inflation and inflationary expectations. He told the bankers, "This is a time of testing...."[37]

The new operating procedures were seen by some as the adoption of monetarism; that is, the System accepted the money supply as its principal target, to be achieved by controlling, not the federal funds rate, but a closely related aggregate-reserve target. The System adopted nonborrowed reserves as the aggregate on which it would focus rather than the monetary base (total bank reserves plus currency held by the public) that monetarists believed would provide better control of the money stock. Still, it was a closer approximation to the monetarists' choice than what the System had been doing.

Unleashing Interest Rates

The practical details of the new procedure can usefully be contrasted with the old. Prior to October 1979, the FOMC's policy directive to the manager of the trading desk at the Federal Reserve Bank of New York had specified the objective of keeping money-supply growth within certain ranges. But it also specified that the method for achieving this aim would be through adjusting the federal-funds rate. So, for example, at the FOMC meeting on December 19, 1978, the directive stated that the manager should aim for an annual rate of growth of the most basic definition of money (M1) in the December-January period of between 2 and 6 percent,[38] and he should maintain a weekly average federal-funds rate within the range of 9.75 and 10.5 percent. If money-supply growth turned out to be significantly above the midpoint of the established range, the manager should raise the federal-funds rate "in an orderly fashion" within its range, and if money growth approached the lower limit of the range, the funds rate should be lowered within its range.[39]

Reaching for a money-supply target by varying the federal-funds rate was a modification of an older Federal Reserve strategy that had the manager varying borrowed reserves; that is, borrowing from the Federal Reserve's discount window. The FOMC understood that the volume of reserves it provided was closely related to the federal-funds rate and the amount borrowed at the discount window and that the manager's transactions would simultaneously influence both. However, it did not relate its strategy to changes in the money supply until after the mid-1970s when, as discussed above, it was forced to do so by Congress.

The FOMC's views on interest rates as a target, circa 1970, had centered mainly on constraining wide swings without specifying any particular target rate or range. Once the System resigned itself to meeting the congressional requirement of establishing money supply goals, it took the position that the best way to do so was by setting a federal-funds rate target. In this design, it believed it could continue to maintain a grip on interest rates.

The policy adopted on October 6, 1979, relaxed this grip. As noted, this was a drastic departure from traditional Federal Reserve policy. A few years ago, Stephen Axilrod provided perspective on the change:

> The only time the Fed held firmly to a money guide and let interest rates go more or less where they might was in the famous and historically unique 1979–82 period.... The federal funds rate was permitted to vary without constraint (within a broad

range). This was termed 'practical monetarism' by then Chairman Paul Volcker, and the policy approach was adopted as a way of bringing inflation down fairly quickly and reestablishing the credibility of the Fed....[40]

Employment and Interest-Rate Effects

Whether the aim of the FOMC was to better control the money supply or to raise interest rates without taking direct responsibility, as matters turned out it achieved neither. After about a year of experience with the new operating procedures, it became clear that it had missed its money-supply targets badly[41] and that interest-rate volatility was more extreme than had been expected. The calamitous results were laid directly at the Federal Reserve's door, not only by politicians and academics but also by farmers, builders, and community groups.

In January 1980, with prospects for still more inflation, another recession began. The unemployment rate, which was at 6 percent in December 1979, increased to 7.8 percent in July 1980. The recession was short-lived, but in the subsequent expansion that began in the summer of 1980, the unemployment rate did not decline significantly. After a year, in July 1981, it was still 7.2 percent. Then another recession began that did not bottom out until November 1982, by which time the unemployment rate had soared to 10.8 percent. Overall, between 1979 and 1982, the economy was stagnant and the GDP did not grow at all.[42]

Interest rates began to rise shortly after the FOMC adopted its new operating procedures in October 1979 (see Figure 5.1). In the third quarter of 1979, the prime rate averaged about 12 percent and the corporate bond rate (Aaa) averaged about 9.3 percent. In the first and second quarters of 1980, while the economy was contracting, the prime rate jumped to more than 16 percent and the bond rate to 11–12 percent. With the economy expanding thereafter, interest rates first dropped and then began to rise again. By the fall of 1981, the prime rate had topped 20 percent; in early 1982, the bond rate averaged more than 15 percent.

INTEREST RATES: 1979–1982

Interest rate movements of these magnitudes created enormous uncertainty. It is unlikely that members of the FOMC anticipated that interest rates would become as volatile and reach the levels they did. Over the next two years, rates reached heights they had not come close to in the previous 120 years.[43]

It is certain that financial market participants were, to say the least, surprised. Publicly available interest-rate forecasts became conspicuously unreliable. In Table 5.3, the predictions of a well-known economic forecasting

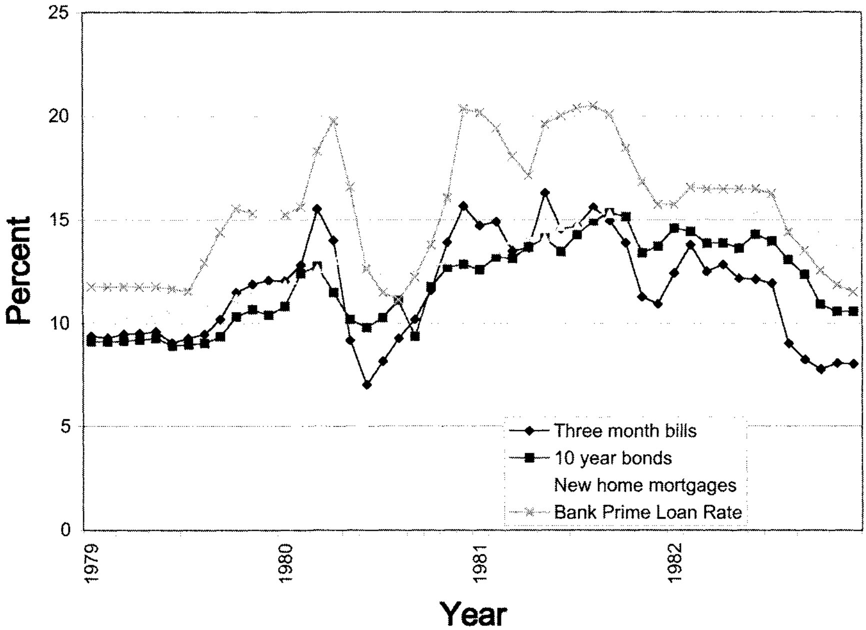

Figure 5.1
Interest Rates: 1979–1982

service, the UCLA National Business Forecast, are compared to actual interest rates. The percentage difference between actual and forecasted rates was consistently in double digits, and, in a number of quarters, the difference was greater than 50 percent.

A question that may be answered eventually is whether the FOMC would have done anything differently in October 1979 had it foreseen the interest-rate volatility its policies were to generate. The inflation problem was considered so severe that it may not have.[44] However, the concerns created by the interest-rate movements were also intense. The Board has now released transcripts of FOMC meetings in 1979 and thereafter that, with careful examination, may throw considerable light on the Committee's discomfort with the interest-rate gyrations of the early 1980s.[45] By the summer of 1981, when the prime rate, after falling from its 20 percent heights, had again risen to over 20 percent, there were at least some on the Committee who believed that the tight posture could not be sustained much longer unless substantial results were soon achieved in reducing the rate of inflation.[46]

Inflation Contained, Credibility Restored

As noted above, it had been the acceleration of inflation that precipitated the Federal Reserve's change in operating procedures. Between January

Table 5.3
Interest Rate Forecasts
1979–1982

		Prime Rate			Aaa Corporate Bond Rate		
Forecast Date	**Forecast Period**	**Forecast** (1)	**Actual** (2)	**Percent Difference** [(1)−(2)]/(2) (3)	**Forecast** (4)	**Actual** (5)	**Percent Difference** [(4)−(5)]/(5) (6)
December 1978	1st Qtr. 1979	11.60%	11.75%	−1.28%	9.50%	9.29%	2.22%
	2nd Qtr. 1979	10.50	11.72	−10.38	9.30	9.39	−0.96
	3rd Qtr.1979	8.70	12.12	−28.20	8.80	9.29	−5.27
	4th Qtr.1979	7.30	15.08	−51.59	8.50	10.54	−19.38
December 1979	1st Qtr.1980	13.14	16.40	−19.86	10.57	12.14	−12.96
	2nd Qtr.1980	11.79	16.32	−27.77	10.39	11.20	−7.26
	3rd Qtr.1980	11.53	11.61	−0.69	10.43	11.58	−9.90
	4th Qtr.1980	10.99	16.73	−34.32	10.33	12.83	−19.49
December 1980	1st Qtr.1981	14.74	19.21	−23.28	12.60	13.16	−4.28
	2nd Qtr.1981	13.32	18.93	−29.64	12.19	13.98	−12.82
	3rd Qtr.1981	13.68	20.32	−32.69	12.16	14.92	−18.50
	4th Qtr.1981	13.93	17.01	−18.12	12.23	14.62	−16.33
December 1981	1st Qtr.1982	12.57	16.27	−22.74	14.32	15.01	−4.60
	2nd Qtr.1982	12.53	16.50	−24.06	13.55	14.51	−6.62
	3rd Qtr.1982	13.74	14.72	−6.64	13.22	13.75	−3.88
	4th Qtr.1982	14.27	11.96	19.35	13.21	11.88	11.23

1979, when the first recession began, and July 1980, when it reached bottom, consumer prices continued to increase at the double-digit annual rate of about 12.5 percent. In the subsequent expansion that lasted to mid-1981, consumer prices increased at the somewhat reduced rate of about 9.5 percent.

It was, however, during the long recession that began in July of that year that the inflation rate finally diminished. Over the entire sixteen-month recession, consumer prices increased at only an annual rate of about 5.25 percent. In the twelve-month period after November 1982, the inflation rate fell to about 3 percent. The Misery Index that, in 1979, had been 17.2 and had climbed to 20.6 in 1980, dropped in 1982 to 12.8 (Table 5.2).

A favorable development had been a decline in the price of oil in the wake of the Iran-Iraq War. After reaching a peak of almost $39 a barrel in January 1981, the price fell to about $32 in the spring of 1982 and to less than $30 in 1983. There was suddenly an oil glut, and oil prices continued to fall for several years.[47]

By the end of 1983, it could be confidently stated that the worst of the turbulence was over. The Board could report in its Annual Report that:

> Conditions in the national economy took a decided turn for the better.... Real gross national product rose 6 percent over the four quarters of the year.... Rising production spurred gains in employment.... At the same time ... prices ... showed further progress toward lower inflation.[48]

Interest rates fell back to more normal levels, with short-term rates dropping to less than 10 percent and becoming more stable.

In 1979, the Federal Reserve had renewed its vows to fight inflation, and this time it persisted in sustaining a tight money policy for about three years. Regardless of its accuracy in hitting its money-supply targets, regardless of the unanticipated interest-rate volatility, and notwithstanding two recessions and substantial economic destruction, it was clear by 1983–1984 that the System had won its battle against inflation, eradicated inflationary expectations, and restored its credibility as an inflation fighter.

Back to the Same Old Used-to-Be?

By the summer of 1982, with the long recession not yet over and inflationary forces largely spent, the Federal Reserve began to ease monetary restraint. It lowered the discount rate from 12 to 11.5 percent on July 19, 1982.[49] The Committee, thereafter, retreated from the operating procedures it had adopted in October 1979 and returned to earlier methods that incorporated interest-rate targets.[50] As Axilrod put it:

> In any event, the policy of practical monetarism lasted for only about three years, until it had to be abandoned as the demand for money proved to be even more unpredictable and more highly interest elastic than thought and as focus shifted to encouraging economic growth following the sharp recession and the surprisingly low rate of inflation that resulted from the policy. The Fed's relationship to interest rates was then restored to center stage—well not quite, since the Fed remained reluctant, as ever in those days, to admit that it made a decision to set any particular interest rate.[51]

COLLATERAL DAMAGE

With inflation conquered and credibility restored, the Federal Reserve could declare victory, but at what price? Construction had been particularly hard hit. As mortgage rates went up with other interest rates, numerous newly completed projects could not obtain permanent financing or be sold. Prospects for those under construction were dismal. Developers walked away from properties. Banks and savings institutions were left with substantial amounts of "real estate owned" on their balance sheets.

Savings and loan institutions were devastated. With relatively low-rate, long-term mortgages embedded in their portfolios, it was unprofitable to pay rising market rates for deposits. However, not paying meant losing deposit funds and having to sell low-rate mortgages whose market value had declined precipitously—for many an even less palatable option. As one knowledgeable analyst wrote: "In October 1979 the Federal Reserve made a decision with ruinous results for the thrift industry.... (It) changed from a policy of stabilizing interest rates to ... slowing money-growth rates to combat inflation. This lead to ... unprecedented increase in thrifts' costs ... with almost no corresponding increase in revenues...."[52] The rise in interest rates pushed almost all S&Ls into insolvency, as measured by market value.

With both regulatory and legislative support, however, the S&Ls remained in business. With little or no capital, however, they had little or nothing to lose and everything to gain by taking inordinate risks. Between 1980 and the end of 1988, there were about 900 failures. At the end of 1988, there were more than 700 additional institutions that either had no capital or so little that they should have been closed. A chairman of the Home Loan Bank Board termed the result for S&Ls a "financial holocaust."[53] High-stakes gambling continued until, in 1989, Congress arranged a bail out that eliminated insolvent S&Ls along with their principal federal regulator, the Home Loan Bank Board.

REPERCUSSIONS

The roller-coaster economy and the interest-rate extremes of 1979–1982 produced widespread protests from industry, labor, and community groups, complaints in Congress, and challenges from a number of economists. Disaffection with the Federal Reserve sparked serious proposals for radical change in both its policy and in the organization itself.

Uprising in the Street

High interest rates stirred some of the fiercest political attacks the Federal Reserve ever experienced. Builders mailed miniature 2 × 4s, nine inches long, to the Board members in Washington, reminding them that high interest rates were destroying their businesses. Others mailed house keys, presumably representative of the houses they could not buy because of high mortgage rates. One day, farmers, a principal debtor class, drove their tractors onto C Street, blockading the principal entrances to the Eccles and Martin buildings. Gail Cincotta and her Association of Community Organizations for Reform Now (ACORN) organized protests around the country, demanding lower rates.

In response, the Board organized meetings in eleven major cities and in Washington at the Eccles Building to hear complaints and to explain its policies. It sent top Washington officials to organize and chair the meetings. In Washington, Chairman Volcker met with the protestors.[54]

The protests were broader-based than any with which the Federal Reserve had ever had to deal—and more clamorous than any since the farm protests of 1921 and 1922. In the end, Volcker bestowed medals on the Board officials who chaired the protest meetings—purple hearts.

Political Discontent

Some in Congress, particularly members of the House Subcommittee on Domestic Monetary Policy, had been complaining at least since 1976 that the Federal Reserve was allowing an excessively high rate of money expansion and found the cause in its policy aimed at stabilizing interest rates.[55] The problems in the economy provided a platform for some, such as Congressman Ron Paul of Texas, who had long favored radical reorganization of the Federal Reserve on general principles.

> I believe the committee is still looking at the Federal Reserve through rose-colored glasses. Throughout its 65 year history, the Federal Reserve has pursued a policy of deliberate inflation and manipulation of the money supply, a policy which has caused numerous recessions, massive unemployment, double-digit price inflation, international

> exchange crises and the largest and longest depression in our national history.... [T]he committee should consider legislation to curtail the Federal Reserve's discretionary powers and to begin the process of depoliticizing money altogether.[56]

Congress, however, was not prepared to move in any such direction. In October 1979, a week after the FOMC's change in operating procedures, Volcker appeared before the Senate Banking Committee. Chairman William Proxmire's opening statement contained words of encouragement:

> ... I want to make it clear that I support the actions taken by the Board. High interest rates are painful; nobody really likes them ... but I think it's important for everybody to realize that unless the growth of money and credit is constrained inflation will get worse, not better, and we will not be able to have a stable growing economy with high employment.... It's going to be extremely difficult ... but I think that persistence is something that is ... very important....[57]

After a year of experience with the new procedures, however, the chairman of the House Subcommittee on Domestic Monetary Policy, Parren J. Mitchell, had enough.

> ... I must say that I find monetary policy during the past year has been very disturbing.... if we have continued policy of the sort we have in recent years, it is almost inevitable that the Congress is going to pass some legislation to control the supply of money in this Nation.[58]

Henry Reuss, chairman of the parent Banking Committee was discouraged.

> Interest rates are trending ominously higher, ... They are about 16 percent now. This is a terrible thing, both from the standpoint of fighting inflation and from the standpoint of getting out of our recession and doing something about unemployment.[59]

By mid-1981, Reagan administration officials were more than uneasy. "The administration had no idea," Assistant Treasury Secretary Paul Craig Roberts wrote later, "that the Federal Reserve was about to slam on the brakes and throw us all through the windshield."[60]

All this discomfort was bound to produce congressional activity of one kind or another. The number of bills relating to the Federal Reserve rose dramatically during 1980 and 1981.[61] In early August 1982, Senate Minority Leader Robert Byrd called "sky high interest rates" the nation's "public enemy no. 1," and he introduced a bill cosponsored by thirty other Democrats to order the Fed to bring down interest rates to within 4 percent of the inflation rate.[62]

Academic Complaints

While the "American street" insisted on lower interest rates and a number of congressmen became predictably agitated, an unusually aggressive protest emerged from some academic economists. Economists had often criticized Federal Reserve policy while generally accepting the System as both an essential and effective institution. The System served both as a career for economists and a revolving door for academics. The characteristic Federal Reserve attitude had been to embrace their academic critics, at arms length—welcoming their interest and ingenuity while bristling at what was perceived as their congenital naivete.[63]

In the late 1970s and early 1980s, the traditional relationship was strained. Academic criticism, particularly from monetarists led by Milton Friedman, expressed deep dissatisfaction with both the Federal Reserve's monetary and bank regulatory policies and, further, with the organization itself. Influential academics made their criticisms known to congressional committees and publicly advocated effective dismemberment of the Federal Reserve.

Monetary Policy

Monetarists criticized Federal Reserve strategy in selecting particular indicators of monetary ease and tightness; they criticized it for constraining interest rates and focusing on credit rather than money; they criticized it for suggesting it could not control the money supply that increased too rapidly or not rapidly enough; they criticized it for maintaining easy money too long in the 1970's and then having to brake too hard in 1979.[64] They condemned the Federal Reserve's loss of credibility.

In 1973, the Federal Reserve System acquired an influential new critic—the Shadow Open Market Committee. The Committee comprised a number of prominent monetary economists, the best known of whom were also monetarists. Twice a year, it reviewed FOMC actions, published studies on monetary theory and policy, and offered its independent recommendations. Through the 1970s and into the 1980s, the "Shadow" dogged a Federal Reserve that it believed was principally responsible for inflation.[65]

By the early 1980s, such criticism encompassed the structural organization of the Federal Reserve. In 1962, Friedman had proclaimed that the Federal Reserve's policy record reflected an organizational defect, that its policies were subject to "accidents of personality," that such accidents created instability arising from shifts in the people in charge, and that the dispersal of responsibility promoted a shirking of responsibility in times of uncertainty.[66] He added that the System also hides its mistakes by obfuscating and excuses failure by blaming fiscal policy.[67] He further argued that Federal Reserve independence had fostered a bankers' point of view that emphasized credit-market conditions and interest rates and tied the System to the discredited real bills doctrine.[68]

Experience in the late 1970s and early 1980s expanded Friedman's critique of the System's organizational structure. Having "... documented an extraordinary record of bureaucratic inertia, of mistakes that have not been corrected despite their widespread recognitions," he asked, "Why the enormous resistance of the Fed to moving to monetary aggregates?" He then answered, "Fundamentally, I believe, because monetary aggregates permit far more effective monitoring of performance and accountability for achieving targets than money market conditions."[69] Further, the avoidance of responsibility stems from not being forced to change its ways. Not being constrained by the market, by elections, or by the normal governmental budgetary process, the System has not suffered the consequences of its mistakes.[70] It cripples legitimate criticism by pitting one group of economists against another, so as be free to pursue its own choices.[71]

Dissatisfaction with the existing organizational structure of the Federal Reserve System produced at least two distinct kinds of proposals for change: (1) a monetarist proposal that Federal Reserve operations and targets be constrained by a "rule" having the force of law,[72] and (2) a resuscitation of the proposal to have the president of the United States select Reserve Bank presidents.[73] Strangely, these ideas, with significantly different lineage and vastly different implications for monetary policy, brought together monetarists and Democratic Party populists in opposition to the Federal Reserve. The alliance was particularly surprising in light of the long-existing opposition of populists, such as Congressman Wright Patman, to tight-money policies and high interest rates, in contrast to the willingness of monetarists to ignore interest rates in favor of money-supply control.[74]

Friedman illuminated the basis for the alliance in 1982 by suggesting that the alternative to his proposal that the Federal Reserve adopt a money-supply rule was to subject it to greater congressional and administration control; that is, on bottom, to eliminate its independence.

> There is, I believe, only one realistic alternative.... to require by law that the ... Governors submit their resignations at the end of any year in which the growth of a specified monetary aggregate has departed from the ... targets by more than a designated amount. Unfortunately, I do not really think that's feasible. The only two alternatives that do seem to me feasible over the longer run are either to make the Federal Reserve a bureau in the Treasury under the Secretary of the Treasury, or to put the Federal Reserve under direct congressional control. Either involves terminating the so-called independence of the system. But either would establish a strong incentive for the Fed to produce a stabler monetary environment that we have had.[75]

Elimination of independence, either through a money-supply rule or greater government control would abolish the influence of the banking community. On this, populists and monetarists could agree—the former because they believed bankers expressed their private interests at the expense of the public interest and the latter because they believed bankers focused on misleading criteria for policy.

Deregulation and Banking Policy

Monetary policy critics were joined by another group of economists in the 1980s that targeted the Federal Reserve's authority to supervise and regulate banking organizations. Legislative and regulatory restrictions imposed on commercial banks, savings banks, S&Ls, and credit unions had developed in the United States through the nineteenth century. They had been augmented in the twentieth century and, particularly, during the 1930s.[76] For these regulated institutions, there existed restrictions on deposit rates of interest, branch banking, the kinds of assets they could hold, and the activities in which they could engage. They were differentiated from one another by differential restrictions that constrained their powers and activities.

By the late 1970s, it had become clear that rising interest rates had made existing restrictions on deposit rates of interest untenable as well as undesirable and that depository institutions, with ample incentive, were in process of circumventing legislative-based restrictions. In 1980, Congress began the legislative process of deregulation with passage of the Depository Institutions Deregulation and Monetary Control Act. The Act permitted commercial banks, savings institutions, and credit unions to offer checkable deposits on which interest could be paid. It instituted a phase-out of interest maximums on time and savings deposits. It expanded the powers of savings institutions and credit unions, moving them closer to those of commercial banks.

The monetary control features of the Act addressed a long-standing Federal Reserve concern. For years commercial banks had been withdrawing from membership in the System, relying on public trust in FDIC insurance. The principal reason for withdrawal was the high cost of meeting the System's reserve requirements, on which interest was not paid. Reserve requirements imposed by states on nonmember banks were far less costly. The cost for members became greater in the 1970s as interest rates rose, and the outflow of member banks became a flood.

The Federal Reserve argued that monetary policy suffered as a result and that differential requirements for members and nonmembers provided competitive advantage to the latter. It had repeatedly proposed legislation to extend reserve requirements to nonmember banks. In these arguments, it was repeatedly opposed by monetarists and others who argued that it did not need reserve requirements at all to implement monetary policy effectively. If the Federal Reserve were to adopt a rule for monetary growth, it needed neither reserve requirements nor the discount window; it only needed open market operations.[77] As matters turned out, the monetary control features of the 1980 Act provided the Federal Reserve with more than it had been asking. It extended System reserve requirements not only to nonmember banks but also to all institutions offering deposits subject to check.

There had developed, in the 1970s, both anecdotal and empirical support for reform of the bank regulatory system.[78] With three federal agencies regulating commercial banks, separate federal agencies for S&Ls and credit unions, and fifty state bank supervisors, there existed overlaps of responsibility and duplication of effort that resulted in excessive cost, either through redundancy or in efforts to divide responsibility and coordinate. The arrangement imposed differential costs on competing depository institutions and generated conflict among the agencies that tended to undermine supervisory discipline.[79] Differentially burdensome regulatory environments induced competing depository institutions to seek out the most attractive ones and tended to erode regulation. Arthur Burns, as chairman of the Federal Reserve Board, termed the arrangement a "competition in laxity."[80]

Reserve requirements and the discount window had placed the Federal Reserve in a hands-on relationship with its members. So did the other aspects of its other regulatory and supervisory authority. Of principal importance, it had developed into a critically important regulator and supervisor through its singular authority with respect to the bank holding companies. Since passage of the Bank Holding Company Act in 1954 and its amendments in 1970, bank holding companies had become the principal corporate mechanism for geographic expansion through multiple offices and for entry into new activities. All large banking organizations had been organized as bank holding companies to take advantage of the flexibility the organizational form offered. All large bank mergers were effected through holding companies.

By the early 1980s, a substantial number of economists had begun to view the Federal Reserve's approach to regulation and supervision as overly restrictive. They were joined in this view by some bankers and by the other Federal banking agencies that viewed the expansion of the Federal Reserve's regulatory domain as intrusive.

A number of economists favored proposals that would diminish or eliminate the System's regulatory and supervisory authority. It was argued that, with a money-supply rule, there was no need for the Federal Reserve to be involved in bank regulation.[81] Some contended that even without the adoption of such a rule, the Federal Reserve had never demonstrated a need for regulatory and supervisory authority. They also contended that the assertion that information on loans and other materials collected by examiners was useful in formulating monetary policy had never been supported by objective evidence.[82] They argued that to the extent such information might be needed, it could be obtained from other agencies.[83]

Some further argued that it was undesirable to combine bank regulation with monetary policy responsibilities on the grounds that it is not feasible to adjust regulatory standards counter-cyclically.[84] Some saw the Federal Reserve's regulatory responsibilities as a distraction from its responsibilities in the monetary policy area, making it desirable to relieve the Federal Reserve of its regulatory responsibilities.[85]

In December 1982, the Task Group on Regulation of Financial Services was organized under the leadership of then-Vice President George Bush to reassess financial regulatory structure. It provided an opportunity for proposals to reorganize the Federal bank regulatory agencies. The Task Group heard arguments that would have completely stripped the Federal Reserve of its regulatory authority over bank holding companies and state member banks, dividing its holding-company authority between the comptroller of the currency, the FDIC, and state supervisory agencies.

The Federal Reserve took the challenge seriously. It published a "White Paper" specifying more clearly than it had ever done in public why such proposals should not be accepted. Its fundamental argument was that monetary policy periodically imposes severe pressure on bank-reserve positions, bank liquidity, the value of bank assets, and, indirectly, on the ability of bank borrowers to repay their loans. The standards established by other agencies may not be adequate for monetary policy purposes.

> [T]he failure of supervisors ... adequately to have foreseen potential strains ... can either constrain the ability of the central bank ... to meet monetary policy objectives or create a situation in which ... monetary restraint pushes the stability of the system ... beyond the breaking point.

The "White Paper" also stated:

> ... supervisory arrangements should encourage continuing concern with the ability of the banking system to withstand potential pressure even during long periods of fair weather, when temptations may develop to cater to the instincts of the most aggressive banking entrepreneurs.[86]

Further, it argued that evaluation and modification of standards can only be accomplished through an active supervisory role.[87] Finally, the paper stated that, as a lender of last resort, the System required the leverage provided by supervisory authority to reduce the likelihood that its services as such would be needed.[88]

In these arguments the Federal Reserve was supported by an analysis that suggested a continuous stream of current information on the condition of banks was needed to ascertain the likely effects of monetary policy.

While it would not be possible to anticipate a particular shock, more could be done in preparation.[89] Few concrete results emanated directly from the Bush Task Group. It did not, however, recommend the elimination of the Federal Reserve's supervisory and regulatory authority.

THE MEXICAN RESCUE

In the summer of 1982, with the recession ongoing, uncertainty continuing as to whether inflation was really under control, the Federal Reserve's credibility still fragile, and many continuing to vent their anger, came the Mexicans threatening to default on $80 billion of debt, much of it owed to American banks. The crisis was handled in a way that reminded people exactly what it was the Federal Reserve was really good at.

The roots of the Mexican problem lay in the efforts of the Mexican government to finance social programs and industrialization through increased foreign debt.[90] The government expected to service and repay its debt through the sale of oil. When interest rates in the United States rose in the early 1980s, Mexico's payments on variable-rate borrowing soared, and with the decline in demand for oil in the stagnant American economy, its ability to service its debt deteriorated.

Mexico, nevertheless, refused to devalue its peso, and by 1981 it had begun to suffer from a flight of capital on fears that, sooner or later, devaluation was inevitable. By the beginning of 1982, foreign investors were only willing to extend short-term credit at high interest rates.

On August 12, 1982, the Mexican finance minister, Silva Herzog, informed the United States, the International Monetary Fund (IMF), and the Federal Reserve that Mexico could no longer service its debt obligations because it had, for all practical purposes, run out of reserves.[91] According to a Treasury analysis, Mexico had liquid reserves at the time of less than $200 million. Losing dollars at a rate of at least $100 million a day, it would be broke by Monday, August 16.

Mexican officials arrived in Washington on the morning of Friday, August 13. They first went to the IMF where they were told that an assistance plan might be developed but would take some time. They then met with Volcker at the Board.

Volcker's concerns centered on the stability of commercial banks in the United States. The defaults of Poland in 1981 and Argentina in July 1982 had weakened some important institutions. American bank exposure to Mexican debt was larger than it had been in the case of Poland and Argentina. Loans to Mexico accounted for 44 percent of the capital of the nine largest banks in United States and 35 percent of capital of the fifteen largest regional banks. There was a concern that Brazil, a country to which the Bank of America and Citibank, the two largest U.S. banks, had made large loans, might follow Mexico into default.

Volcker recognized that Mexico's immediate requirement was for a debt-payment moratorium and for short-term financial assistance. He suggested a meeting at the Federal Reserve Bank of New York that would include the leading American bankers.[92] An agreement was reached to organize a small committee of American bankers, the Bank Advisory Committee, to deal with Mexico.[93] In, thereafter, speaking to a meeting of bankers that held Mexican debt, the Mexican minister asked for a ninety-day stay. The Bank Advisory Committee supported the request.

Foreign central banks had also to be brought into the negotiations. Volcker suggested a meeting in Basel, Switzerland, at the Bank for International Settlements (BIS). He called central bankers in Great Britain, Canada, France, Germany, Japan, and Switzerland. At a meeting on August 18, he proposed that as much as $1.5 billion be provided to Mexico by central banks, with the Federal Reserve providing about half. The IMF proposed an arrangement that would bring Mexico $4 billion over three years, but only after domestic austerity measures were approved by Mexico.

Mexico, however, needed $2 billion immediately. After considerable negotiation, a bridge loan was worked out with the U.S. Treasury.[94]

These arrangements appeared satisfactory until the president of Mexico, Jose Ramon Lopez Portillo, signed decrees on August 31 that seemingly disavowed the agreements. One was to nationalize Mexican banks and the other to establish exchange controls. In response, a number of banks demanded immediate repayment.

To avoid the disaster that would result if the checks of Mexican banks in New York failed to clear, the Federal Reserve deposited money, advanced by the BIS, to the accounts of Chemical Bank and Manufacturers Hanover. Volcker, with the backing of other central bankers, informed Mexican officials that branches of Mexican banks in New York should resist demands for repayment by other banks.

The shock to bankers was alleviated when Volcker spoke, in early November in Boston, on the same evening that a deal with the IMF was finally consummated. His statement expressed a long-existing fact of financial life, but one rarely articulated:

> ... there exists a community of interests among borrowers and lenders, among governments and private businesses, and among the developing and the industrialized countries in working together....

The deal also provided a new commitment "... where new loans facilitate the adjustment process and enable a country to strengthen its economy and service its international debt in an orderly manner, new credits should not be subject to supervisory criticism."[95]

Volcker's implied promise, that regulatory restrictions would be relaxed and that the Federal Reserve stood behind the credit that banks would extend to Mexico, facilitated bankers' acceptance of a second ninety-day moratorium on Mexican debt.

During these efforts to resolve Mexico's debt problems, Volcker demonstrated again how the Federal Reserve could uniquely serve the federal government's interests. He mobilized the leading American banks in forbearance and foreign central banks in providing new loans. He persuaded all that it was in the interests of the United States and other countries, not just creditor banks, that Mexico not default. In this role, he performed the way Benjamin Strong had on the outbreak of World War I.

One consequence was to remind Congress and the administration that the Federal Reserve could be counted on in a crisis that threatened the well-being of the financial system. The reminder came in time to provide the Bush Task Group with evidence that the System might have a point in insisting on a hands-on supervisory relationship with banks.[96]

The Mexican rescue revealed not only the strategic role of the Federal Reserve as an intermediary but also the symbiotic relationship between the banking community and government—a kind of relationship that has existed since the development of modern banking in the Western world.[97] A year or so after the Mexican crisis was resolved, the Treasury asked Congress for an additional $8.5 billion for the IMF in support of loans to developing countries. It was clear that these funds would help repay their indebtedness to American banks. In testifying in favor of the request, Secretary of the Treasury Donald Regan, revealed the practical workings of what Chairman Volcker had termed a "community of interests...."

> There is a widespread concern that an increase in IMF resources will amount to a bail-out of banks at the expense of American taxpayers. Many would contend ... that they've dug themselves and the rest of us into this hole through greed and incompetence and now we intend to have the IMF relieve them of the consequences.... Errors in judgment were made, and excesses on the part of both borrowers and lenders are now evident.... But we should not ignore the fact that the banks performed an invaluable function during the 1970s in taking primary responsibility for recycling the OPEC surpluses to deficit nations. Had the banks not performed this task, the strains on the international financial system would have been much greater and the amount of official financing from governments, including the United States, would have far exceeded the amounts now being sought.[98]

In asking for the appropriation, Regan performed like an even older finance minister, George Montagu, Great Britain's Chancellor of the Exchequer in 1696. In the summer of that year, the British government needed additional funds to finance its war against France. Montagu asked the Bank of England for financial assistance. The Bank, under serious pressures itself, with its notes circulating at a discount, its stock falling, facing a run, and forced to suspend cash payments, promised to do the best it could. Montagu, thereafter, wrote to William Blathwayt, Secretary-at-War. Like Regan almost 300 years later, he expressed his appreciation: "The bank notwithstanding all the hardships ... are yet resolved to venture all for the Government and I hope what they do in our distress will not be forgotten in theirs...."[99]

SURVIVAL AND GROWTH

As in 1921, 1922 and the early 1930s, the Federal Reserve System again confronted extraordinarily difficult problems in the 1970s and early 1980s. Again, many argued they were of its own making. The threat to its organizational viability emanated from plausible proposals for radical change in its structure and functioning.

In the end, none of the proposals were successful. They did not disappear, but with the Federal Reserve's widely recognized "victory" over inflation, any likelihood of success evaporated.[100] The Bush Task Force of 1982 was certainly not the end of the debate on regulation and supervision. Yet neither it nor a later Treasury Study in 1991 proposed any Federal Reserve exodus from the field. When Congress ultimately got around to "modernizing" the financial system in 1999, it put the issue to rest by expanding Federal Reserve supervisory and regulatory authority.

In 1976, the Sunshine Act had given considerable deference to the Federal Reserve, permitting it to close any meeting on a variety of grounds, such as if the discussion was to cover information that might feed speculation.[101] Thereafter, Congress imposed some significant constraints on the System. The 1978 Humphrey-Hawkins bill introduced systematic congressional oversight, requiring the FOMC to establish monetary targets and the Chairman to appear regularly and subject himself to inquiries from congressional committees about Federal Reserve policy and progress in meeting its monetary targets. As noted, in 1978, Congress restored GAO audits, with exceptions for monetary policy, international transactions, and the FOMC. These changes proved to be relatively minor limitations on Federal Reserve autonomy.

Beginning in the late 1960s and through the 1970s, Congress also passed a series of laws designed to provide consumers with better information about credit and to prohibit unfair and deceptive and discriminatory practices. In general, these laws assigned responsibility for developing regulations to the Board. Enforcement was implemented by the Reserve Banks and other federal agencies.[102]

Perhaps the most serious threat to the Federal Reserve during these years came from its loss of members. Inflation and the rise in interest rates during the 1970s increased the opportunity cost of meeting System reserve requirements and created a substantial incentive for member banks to withdraw from the System. Between 1974 and 1978, the Federal Reserve System lost more than 200 member banks while the number of nonmembers increased by a little less than 500. National banks that were required by law to be members changed to state charters so that they could withdraw.[103] Federal Reserve officials contended that continued membership attrition jeopardized the effectiveness of monetary policy and the Fed's ability to serve as a lender of last resort. "I am concerned," wrote Chairman Arthur Burns to the *New York Times* in 1977, "that the execution of monetary policy would become less precise.... I do not like to contemplate the ultimate consequence of having fewer and fewer banks enjoy ready access to the System's discount window...."[104] On another level, the concern might have been expressed that the loss of members weakened the Federal Reserve's favorable position as an intermediary between the banking community and the government.

In 1980, close to the height of misgivings about Federal Reserve policy, Congress passed the Monetary Control Act, extending reserve requirements not only to nonmember commercial banks but also to all depository institutions. It, thus, put the membership issue to rest, regardless of the level of interest rates. The Act made Federal Reserve services available to all depository institutions, also putting Burns' concern about the availability of the discount window to rest. The Act also required that the Federal Reserve price its services (excluding, of course, credit extended at the discount window) to recover full costs, including profit. It, thus, placed the System in competition with private providers of similar services.

In the end, after three years of drastic restraint, the Federal Reserve's reputation as an inflation fighter was restored. Its authority was both stabilized and broadened.

After a careful examination of the episode, Donald Kettl, a Yale political scientist, concluded:

> Few agencies have ever faced such daunting problems and survived, let alone emerged with their power and public respect enhanced. Yet not only did Volcker's Fed take interest rates to 20 percent ... to break the back of a persistent inflation, but Volcker also used the strategy to build unprecedented power for the agency and its chairmanship.[105]

As for Congress, "Even when the angriest Fed-watchers launched their strongest attacks on the Fed's autonomy, they could not convince their colleagues to take a forceful stand.... Members of Congress proved unable to put the Fed under final attack."[106]

It is possible that the attacks on the Federal Reserve were never as serious as they seemed. Kettl suggested that "congressional action, has been a strange amalgam of constant complaint punctuated by calls for the chairman's impeachment, reluctant acknowledgment of the need to restrain the economy, and a strong incentive to keep congressional fingerprints off the tools of restraint."[107] It "preferred having the Fed there as an institution to be scapegoated."[108]

Kettl suggested a second explanation for this "strange amalgam," which he called "Volcker's shield of flexibility." "After the Fed for decades had fought against monetarism, he embraced it when it promised protection for a dramatic increase in interest rates. When in 1982 the costs of continued allegiance to monetary targets seemed too high, Volcker pleaded once again the need for the Fed to apply its judgment to economic problems."[109]

It is worth noting that Volcker, like Glass and Strong before him, may well have been exceptional in navigating the Federal Reserve through troubled waters. However, the capacity to adapt, particularly when threatened, would seem to have been a characteristic of the Federal Reserve System from its origin. The organizational sources of this capacity are discussed in the next chapter.

One additional point merits comment. It may be that during these years there was little if any chance that the Federal Reserve's structure would not be radically altered, regardless of any real or imagined policy errors. It had, in other words, arrived as a permanent fixture in the American financial landscape, an organization of extraordinary influence.

In the course of this arrival, sometime in the mid- to late 1960s, it acquired the popular name by which it is now universally known—"The Fed." Earlier, the term had been no more than slang and sometimes a derisive epithet. From its origin, bankers had referred to their Reserve Banks as "the Federal." In congressional hearings and reports and in the economic literature, the organization had typically been referred to as the Federal Reserve, the Federal Reserve System, or the Federal Reserve Banking System. In a major study of the financial system undertaken by the Commission on Money, Banking and Credit published in 1961, it was consistently referred to in these terms. There is no reference to "the Fed" or, for example, to "the Fed of New York."[110]

As the central bank's influence became more widely appreciated, however, the Federal Reserve System became "The Fed." It's a more euphonious designation. It takes less space in print. It is also more easily combined with appropriate curse words; for example, "the damned Fed." At the same time, the emergence of a seemingly friendly diminutive with the arrival of the central bank to its current stature may also reflect an effort to diminish the inevitable public discomfort that attends the presence of an overwhelmingly powerful institution.

CONCLUSIONS

During the late 1970s and early 1980s, the Federal Reserve seemed to be in serious jeopardy. It was under political pressure, in the broadest context, for letting inflation get out of control in the 1970s. The pressure increased after October 1979 when a new chairman, Paul Volcker, orchestrated an unconventional shift in Federal Reserve operating procedures and policy that he hoped would divert the trajectory of price inflation and move the economy toward stability. The System relaxed its long-existing constraints on interest-rate movements in an effort to reign in the growth of the money supply and to reestablish its own credibility. The new approach sent interest soaring and sparked two destructive recessions. High interest rates and recession combined to demolish real-estate values, seriously injuring the construction industry, farmers, and anyone wanting to purchase a house. Congressmen issued stern warnings. Academic economists proposed radical changes in structure.

In the end, the Federal Reserve System again prevailed. Its credibility was restored and its reputation enhanced. It grew in authority and stability when, in the midst of the crisis, Congress extended reserve requirements to all depository institutions. Further, it secured its position as a supervisor and regulator and as the sole authority over bank holding companies.

In retrospect, and whatever the appearance, the Federal Reserve's organizational viability may never have been in serious jeopardy. Whatever the merits of its monetary policies, it had repeatedly proved its value to the Federal government in emergencies. In the Mexican debt crisis, it again provided Congress and the administration with a demonstration of its emergency response.

This page intentionally left blank

chapter 6

The Federal Reserve's Ascent

"[A]daptation is . . . a property of an organism . . . that is favored by selection. . . . In every generation, all individuals that survive the process of elimination are de facto 'adapted'. . . ."

Ernst Mayr[1]

The Federal Reserve System's growth from an organization with limited powers and an uncertain future to one of the most formidable institutions in the world has been episodic. In the three periods of economic distress reviewed above, during which its policies were widely perceived as ranging from misguided to catastrophic, it faced credible threats of radical restructuring or even extinction, but it survived intact and acquired powers critical to its current success. It was during these periods that key changes occurred that distinguish the Federal Reserve today from the organization Congress established in 1913. This chapter examines the System's distinctive pattern of growth and its capacity to survive in difficult circumstances.

GROWTH PATTERNS

The events examined in each of the episodes reviewed in Chapters 3–5 are sufficiently similar to be classified into four overlapping phases: (1) economic distress, (2) a perception that Federal Reserve policy was an important cause of the distress, (3) the emergence of credible threats to the Federal Reserve's organizational integrity, and (4) the elevation of the System's authority and influence. A brief review highlights the pattern.

Post–World War I Problems

Inflation in 1919 and 1920 followed by a sharp deflation and depression through mid-1921 created serious economic problems, particularly in the farm sector. The Federal Reserve raised the discount rate too late, then held it at levels that were too high for too long. It confronted a threatening political backlash—an angry farm belt, an incensed ex-Comptroller of the Currency, and a major congressional inquiry. Hearings by the Joint Commission for Agricultural Inquiry in 1921, which were the first congressional investigation of the Federal Reserve, appeared to place the System in jeopardy.

The Joint Commission's report was only mildly critical of the Federal Reserve; its proposals for change were relatively minor. The Federal Reserve emerged largely unscathed.

Resolution of this first organizational crisis left the System wide latitude for independent monetary policy. In 1922 and 1923, without legislative authorization, it developed open market operations as a tool of monetary policy, initiated a redesign of the discount window to facilitate its use, and elaborated the targets at which it would aim. It realized, over the next several years, a soaring approbation beyond anyone's expectations.

The Great Depression

The stock market crash of 1929, followed by deflation, depression, and financial panic in the next four years, ushered in a decade of excess capacity and high levels of unemployment. Federal Reserve policies between 1929 and 1933 were, at least dimly, considered at the time to have contributed to the disaster. In March 1933, the System confronted a president and an administration that had little trust in its policies going forward and that were willing and able to make radical institutional changes. Not only did some high officials in the administration back fundamental change, if not elimination, of the Federal Reserve, but, for a time, so did many others in traditionally conservative circles.

In the Banking Acts of 1933 and 1935, however, Congress made clear that the Federal Reserve System would not be discarded. It augmented the power of the Board relative to the Reserve Banks, but it sustained the organizational structure of the System and reserved an important role in policy formulation for the Reserve Banks. It strengthened the System in several ways. Open market operations were legitimized by legislative recognition. Constraints on lending at the discount window were relaxed. The Board was provided with the authority to alter reserve requirements. It was given new regulatory authority over bank holding companies that, though ineffective at the time, would, in the future, raise the System to a paramount position as a bank regulator. Board funds were established as neither public nor appropriated moneys, thereby freeing the Board from GAO audit. Most importantly, it clarified lines of authority, thus repressing the propensity for internal conflict that had plagued the organization during the 1920s.

Stagflation and Operational Change

For the better part of a decade, beginning in 1973, the Federal Reserve confronted a stagnant economy that was plagued by accelerating inflation. By late in the decade, its efforts to control inflation had lost credibility. After the FOMC adopted a new and more restrictive monetary policy in October 1979, with a focus on monetary aggregates, there followed three difficult years in which there were two recessions, unprecedented interest-rate volatility, and significant damage to important sectors of the economy.

Serious proposals for radical reorganization and even dissolution were proposed. Nobelist Milton Friedman recommended that it be made a bureau in the Treasury. Bankers, other bank regulators, and academics argued that it should be relieved of its regulatory authority.

Congress imposed some restraints on the System during this period. It required that the FOMC establish money-supply targets and that the Chairman of the Board periodically report to Congress. GAO audit was reintroduced but not for key functions, including monetary policy. The impact on the organization and its operations were minor.

On the other hand, Congress again elevated System authority by extending reserve requirements to all depository institutions. It, thus, eliminated the continuing problem of membership withdrawals because of the high costs of holding required reserves. With its ultimate success in overcoming inflation in 1982, the System was in a position to resist proposals that its supervisory functions be shifted to other agencies. It, thus, retained a strategic position for a subsequent expansion in this area.

A CAPACITY TO ADAPT

Through these threatening periods that culminated in the expansion of powers and influence, the System's capacity to adjust its behavior successfully was manifest. Its success is surprising in light of a frequently expressed view that, historically, it has been a sluggish bureaucracy.

Adaptation

Independent observers have identified behavioral adjustments the Federal Reserve made in the early 1920s, the 1930s, and the 1980s that were critical to its survival. The kinds of adjustments described in previous chapters can properly be characterized as "adaptation." In biology, the process of adaptation involves "... the property of an organism, whether a structure, a physiological trait, a behavior, or anything else that ... is favored by selection. ..."[2] In fact, it isn't nature that selects; rather it is the organism that, because of the superior physiology of individual survivors, has the capacity to better cope with the environment.[3]

Economists have defined organizational adaptation analogously. Organizations have set ways of doing things and possess capabilities to address external conditions on the basis of routines; that is, there exist within the organization patterns of activity based on what the individuals who compose them know.[4] If an organization behaves in the future as it has in the past, success or failure would simply depend on the state of the environment.[5] However, organizations may also have the capability to discover, consider, and evaluate changes in their way of doing things in response to changes in the environment.[6] A change in behavior would be considered successful if the organization's chance for survival is improved.

Adaptation, then, implies an "... interactive adjustment of behavior to the environment."[7] One element of interactive organizational adjustment is learning; that is, "... acquiring information or competence useful for the performance of some action or task."[8]

The Federal Reserve's Adaptive Behavior

The Federal Reserve System has survived substantial changes in economic, financial, and political conditions. Its interactions in hostile environments have been described in previous chapters and can be evaluated, in general, on the basis of the framework outlined above.

Regarding the stagflation and interest-rate volatility of the late 1970s and early 1980s, one careful observer traced the Federal Reserve's survival to "Volcker's shield of flexibility"; that is, to his and/or the System's willingness to adopt new operating procedures that, in 1979, moved it toward monetarism and, three years later, away. Volcker and other System leaders believed the 1979 change would be accepted in important political and academic circles and would tend to promote tolerance of the extraordinarily high interest rates he considered necessary to overcome inflation. The strategy was seen by monetarists as opportunistic and designed to avoid responsibility. It was, nevertheless, an innovative response in a hostile environment aimed at achieving a necessary, long-run objective without self-destructing. Volcker, on behalf of the Federal Reserve, provided another example of adjusting to an unanticipated shock in confronting the Mexican debt crisis that developed in the summer of 1982 and facilitating a rescue.

Whether the change in procedures moderated criticism of the Federal Reserve is, at best, moot. It clearly did not eliminate the political firestorm that accompanied the increase in interest-rate volatility and the rise in rates to unprecedented levels. Even in the midst of the economic distress that accompanied the System's remedy, with the battering by community groups, builders, farmers, and some prominent political leaders and academics, neither Congress nor the administration found it expedient to even try to make the Federal Reserve a bureau in the Treasury, to eliminate its discount window or its powers to set reserve requirements, or to amputate its supervisory and regulatory authority. In the middle of the turmoil, Congress found it expedient, instead, to expand the scope of Federal Reserve influence by imposing reserve requirements on all depository institutions and ignoring the calls for redistributing the System's regulatory authority.

Other analysts have independently observed that the Federal Reserve survived the depression years because Roosevelt was not prone to accept radical solutions if he believed acceptable results could be obtained through conventional arrangements. The conventional arrangement represented by the Federal Reserve proved adequate for his purposes. One observer has traced its adequacy to "its elasticity of adjustment," as evidenced by the Federal Reserve's willingness to cooperate with the Roosevelt administration.

The question of Federal Reserve cooperation was an important focus during the deliberations on the administration's banking bill in 1935 that determined the System's fate. Carter Glass objected that the administration had effectively secured the System's cooperation by subjugating it, that the Federal Reserve required some degree of independence from the Treasury, and that it should retain its commercial character. On the other hand, Secretary of the Treasury Morgenthau vigorously complained that the Federal Reserve had been uncooperative, and Marriner Eccles was determined to establish an organizational structure that would assure the System's cooperation with the administration in the future.

The contemporary views of Glass, Morgenthau, and Eccles appear, in retrospect, to conflict with what actually occurred, as well as with each other. First, it is likely that the views expressed may have been exaggerated in the ongoing political struggle. Morgenthau, for example, had also told Glass in 1935 that he had little interest in Federal Reserve cooperation. The Treasury had, almost from the start of the Roosevelt administration, been engaged in monetary policy on its own. The Federal Reserve had essentially withdrawn from the field, neither conducting open market operations nor making loans at the discount window. Morgenthau had told Glass, as noted in Chapter 5, that he got along "... perfectly well [with the Federal Reserve] because there is nothing really to have a row about."

In fact, important examples of Federal Reserve cooperation at critical junctures during this period are provided in Chapter 4. The examples, however, reflect cooperation in the spirit of Benjamin Strong's memorandum to Carl Snyder in 1922, which discussed the necessity of System cooperation with the Treasury during World War I and thereafter—an admonition not to "close our eyes to the gathering storm and run the risk of being swept away?"[9]

Cooperation is, in this sense, motivated by survival instincts. The OMPC, contemplating the Thomas Amendment, recognized in the spring of 1933 "... that during the period of the emergency it would be advisable for the Federal reserve banks ... to cooperate with the Treasury ... to support the market for government securities in order to make such public issues possible."[10] W. Randolph Burgess told the directors of the Federal Reserve Bank of New York two years later that "[i]f ... we should decide ... to ... reduce our holdings of government securities, what prospect is there that our reversal of policy would accomplish our purpose, or that the reversal might not of itself become destructive?... Moreover, with the whole question of central banking now very much in the air, the government could readily alter fundamentally the entire central banking, and also the commercial banking machinery of the country. It seems clearly that we could act effectively only with the consent and cooperation of the Administration."[11]

Glass could, then, look at the Federal Reserve's cooperation and complain that it was forced. Morgenthau could, at the same time, find System cooperation to be superficial and tenuous. To A. Jerome Clifford, writing on Federal Reserve independence thirty years later, the System's survival was a product of its "remarkable elasticity of adjustment" that permitted it to cooperate.

Eccles, however, saw the Federal Reserve's "cooperation-for-survival" adjustment as a warning flag. He was concerned that, in circumstances not so threatening, cooperation would be withheld. He explained the urgency in 1935 for shifting authority to the Board as resulting from the latent power of a group of individuals in the Reserve banks to block the deficit-financing program needed for recovery. Eccles appears to have wanted Federal Reserve officials to support the program and to intervene if necessary, perhaps as Harrison had done with Winthrop Aldrich at Chase in 1933; that is, through its banking community contacts, to secure the cooperation of bankers as it had during World War I. He saw the Depression as a national emergency, comparable to war.[12]

In conflict with both Morgenthau, who wanted the federal government to purchase Reserve Bank stock, and Eccles, who wanted to eliminate Reserve Bank representatives from the FOMC, Glass insisted that the commercial character of the System be sustained, Reserve Banks be represented on the FOMC, and the joint venture be retained. His success in achieving these results may have facilitated the kind of cooperation Eccles and Morgenthau wanted. Once the assurance of System cooperation was fortified by clarifying and shifting power to the Board, there was good reason to increase the System's powers once more to whatever extent seemed useful.

The System's ability to make policy mistakes but adjust successfully in the hostile environments that developed can also be seen in its withdrawal from objectionable policies in the spring and summer of 1921, when political disaster threatened in the wake of a destructive deflation. It is also observable in the rapid accumulation of learning that occurred from the end of the war through the early 1920s. As noted in Chapter 3, key System officials realized that gold-reserve ratios were a flawed guide to policy, that it was not practical to model discount rates on the Bank of England's penalty rate, that open market operations were a useful tool for stabilization over the business cycle, and that, to make the new instrument effective, borrowing at the discount window would have to be constrained—and not by the politically disastrous progressive rate schemes that several Reserve Banks had adopted. Further, the officials inferred that if the use of borrowed funds for speculative purposes, the bête noire of prewar financial panics, were to be suppressed, Reserve Bank officials would have to monitor and guide the asset management of its member banks, at least while borrowing at the discount window.

In 1922, with the criticism of the Joint Commission still fresh in mind, the Federal Reserve began a complete reformulation of monetary policy, the results of which were made public in the Board's *Annual Report for 1923*. The speed with which the seemingly unwieldy and mistake-prone organization found an innovative and successful strategy was remarkable to observers in the 1920s and is remarkable to this day.[13]

The capacity of the Federal Reserve to adapt successfully is further reflected in other historical examples. It was evident in the System's active participation in war finance in 1917–1918, an activity that had not been anticipated by Congress when it passed the Federal Reserve Act in 1913. This experience suggested, among other things, that the cooperation of the banking community would be needed to meet System objectives. One implication was that System officials would need to sustain a close, hands-on relationship with member banks, through the discount window and through bank supervision. The close relationship with banks and bankers again proved useful during the Mexican debt crisis in 1982.

A capacity to adapt was evident even earlier in intra-System relationships. Paul Warburg, who as an original Board member participated in the System's early evolution, observed that the Reserve Banks might have been administered as twelve central banks, "entirely independent of one another." Instead, they "chose the thorny ... path [of cohesion] leading to bitter struggles in the beginning, but opening a route to unparalleled success in the end."[14]

Cohesion meant the centralization of authority. The organization of the Governor's Conference, under Strong's leadership, in December 1914, has generally been viewed as facilitating the collective behavior of the Reserve Banks.[15] An understanding of the potential for open market operations as a tool of policy and the groundwork for coordinated operations can be traced to the Conference's early deliberations and decisions.

A Sluggish Bureaucracy?

This view of the Federal Reserve as an institution that has coped successfully in adverse circumstances is not the conventional wisdom. Rather, the Federal Reserve has been frequently depicted as a sluggish organization, highly resistant to change.

The organizational design of the System has typically been seen as a source of its deficiencies. It will be recalled that Milton Friedman stated in 1982 that he had "... documented an extraordinary record of bureaucratic inertia, of mistakes that have not been corrected despite their widespread recognition."[16] He found the cause in the absence of a "bottom line."

Even relatively friendly critics, like Alan Blinder, the Princeton economist who served as Vice Chairman of the Board in the mid-1990s, have pointed to the "bureaucratic sluggishness" of the System.[17] Decision-making by Committee, he pointed out, is likely to be sluggish because its members must aggregate preferences, seek common ground, and produce a group decision. They are slow-moving, especially when they seek near-unanimity, as in the case of the FOMC. He hypothesized that decisions made by committees are more inertial and exacerbate problems of central banks in retaining both easy and tight money too long.[18]

The conflict between the experience revealed in the episodes reviewed and these judgments may be more apparent than real. Policy decisions at the Federal Reserve may well involve long, drawn-out committee deliberations and time-consuming efforts to achieve consensus. On the other hand, behavioral adjustments under threat to organizational survival appear to have quickly generated consensus.

SOURCES OF SUCCESS

The System's success has, as noted, been sometimes attributed to System leaders—to Benjamin Strong in its early days, to Mariner Eccles and possibly George Harrison in the 1930s, and to Paul Volcker in the 1979–1982 period. As noted earlier, such attribution confronts all the well-known difficulties of explaining the good fortune of having the right leader at critical times. It has been recognized that for biological organisms, survival may simply be a matter of luck, the result of stochastic processes. However, it appears, that most of it is the result of physiology; that is, to the internal machinery of the organism's body.[19] In the case of the Federal Reserve, there remains the question of whether there is anything distinguishable about the System's internal machinery that fed its remarkable elasticity of adjustment.

Does the Federal Reserve possess some properties or traits embedded in its organizational structure that permit it to cope successfully? Based on the analysis of earlier chapters, at least two instrumental properties are readily apparent. These are: (1) the sensitivity of its leaders to threats, flowing from the conditions under which the Federal Reserve came into existence; and (2) the Federal Reserve's ability to assist the federal government in emergencies.

Sensitivity to Threat

Federal Reserve officials and critics might well agree that the System has been sensitive to threats in times of economic distress. Sensitivity to organizational jeopardy seems to have been the target of immoderate criticisms of the System's alleged dissembling, excessive secrecy, and efforts to avoid responsibility in the 1980s and early 1990s.

An organization's capacity to adapt, however, depends on the capacity of its managers to recognize the need. In the case of the episodes reviewed, that means sensitivity to threats to the preservation of the organization. Among autonomous central banks, the Federal Reserve has not been unique in this regard. Joseph Schumpeter observed some time ago, with regard to the Bank of England in the nineteenth century, "… the reticence of its official spokesmen, who even when they were forced to say something, did their best to confine themselves to innocuous trivialities that would give as little scope to hostile criticism as possible.… Moreover, any … announcement of policy would have brought down upon [it] … hosts of unbidden advisers, everyone of them convinced that he knew much better what [it] … ought to do—and there would [be] … the danger of public outcries for legislation to force … [it] to take, or to refrain from taking, particular courses of action." The Bank of England walked a tightrope to avoid "laughter or indignation," forbearing commitments that it could not be sure it could fulfill.[20]

For the Federal Reserve, there may have been additional reasons for sensitivity in the "long string of happenings"[21] that shaped the political compromises of 1913 and, arguably, the mind-sets of the System's early leaders. The Bank War of the early 1830s was sparked by conflict between those who viewed the Second Bank as necessary to sustain monetary stability and to assist the Federal government in its financial affairs and those who saw it as a delegation of the government's constitutional prerogatives to a privately controlled monopoly with an inordinate power to affect peoples' lives. Though some of the issues of the day were transitory, in one form or another these conflicting views persisted.[22] By the latter part of the nineteenth century, the concept of such a monopoly was no longer uniquely identified with government grants of corporate charters. Yet the interests of farmers/borrowers of the rural South and Middle West conflicted with those of bankers/lenders of the Northeast. The former looked to government for a remedy to what they perceived as the concentration of money power. On the other hand, lenders saw the protesters as "inflationists" and the easy money they proposed as tantamount to robbery. They objected to government intervention in private markets as a violation of personal liberties. The continuing question, from Jackson to the Federal Reserve, was how should the banking community and the federal government relate to one another in monetary matters? Up to 1913, it had been impossible to resolve the question so as to establish anything resembling a central bank.

Economic reality, in the form of a succession of financial panics that devastated both lenders and borrowers, compelled the compromises of 1913. Neither the panics nor the ad hoc private remedies that had developed to meet them were permanently acceptable to either lenders or borrowers, particularly given the existence of European institutions that were identified as central banks and recognized as capable of addressing the problem.

The conflicts, however, did not disappear with the establishment of the Federal Reserve System. They were internalized in its organizational structure and operational authority—in the regionally dispersed joint venture that affiliated the Federal government with the banking community. The System's diversity, coupled with a law sufficiently ambiguous to generate confusion, appeared sufficient to dilute the authority granted and to quiet both those who feared the augmentation of private power and those who feared government intervention. The expectations about how the System would function when it was established were so minimal that the Board felt obliged to make clear in its first Annual Report that the System was to be more than an "emergency institution" that went into action when a financial panic threatened.

The Federal Reserve Act was a recipe for internal dispute. It not only left questions as to how the System would function but also how its individual components would relate to one another and how the federal government and the banking community would interact with it. As a result, it left a question as to how acceptable the Federal Reserve would be over time.

In these circumstances, it is not surprising that the Bank War of the early 1830s remained a well-remembered experience. It will be recalled that it had troubled Carter Glass when the Federal Reserve bill was close to passage. It later served as an object lesson for Adolph Miller that the Federal Reserve should avoid, at all costs, creating a perception that it "was an arbiter of ... economic destiny...."[23] Even presumably sensible merchants had felt that "the spectre of Andrew Jackson ... stood at the portals of Congress to destroy any attempt to centralize banking."

It is also not surprising that conflict should develop between the Board and the Reserve Banks over which entities were to control the levers of monetary power. Conflicts that ran through the System were endemic in the socioeconomic framework of the country.

Coming into existence as the kind of institution the American people had previously found intolerable, it was by no means certain in 1914 that the Federal Reserve would survive for very long. Sensitivity to threats was, thus, woven into the fabric of the organization at its origin. It is not, then, surprising that early Federal Reserve officials believed the Federal Reserve System was "on trial," recognized a need to address questions of organizational survival and growth, and contemplated adjustments of policies and behavior in response to changes in the environment.

Established too late to help moderate the financial crisis that developed with the outbreak of World War I in 1914, the System did little over the next two years to demonstrate its value. As late as 1916, Strong had despaired its plight as "... a sort of excrescence." He looked forward to an exigent circumstance that would prove the System's worth, meeting "... the test of a real crisis."[24] As late as 1921, Miller felt obliged to ruminate on "... what it was that really brought the Second Bank of the United States to the brink of dissolution...."

The System, as an exposed institution, put in place internal mechanisms, such as research departments, intended to help in searching for ways of operating in menacing environments. Both the sensitivity to threat and the internal mechanisms became elements of the System's internal workings, part of its physiology, passed on through successive generations. The conditions under which it was established were conducive to heightened sensitivity as well as to institutional "learning" and other forms of adaptation.

Emergency Response

The Federal Reserve System's willingness and ability to adjust its behavior and contribute to war finance from 1917 to 1919 provided evidence to political authorities that it was a uniquely valuable institution. Its contribution, as discussed in Chapter 3, was probably a critical element in its success before the Joint Commission for Agricultural Inquiry in 1921. Its value in national emergencies was appreciated by Eccles in 1935, and it again made a substantial contribution to war finance during World War II. The demonstration of its value in the Mexican debt crisis in 1982 was, by comparison, incidental.

The System's capacity to mobilize the banking community in support of administration objectives during World War I contributed to salvaging its organizational structure during the 1930s. The value of the joint venture was confirmed during and following World War II. Between 1914 and today, roughly 20 percent of the Federal Reserve's existence has been in full-time service to the emergency objectives of various administrations. This calculation does not include its mixed functioning during periodic financial emergencies, such as the one in 1982.

The System's capacity to respond effectively in financial emergencies derives, in part, from its banking community connections. It has, in a number of critical instances, been able to secure the necessary support of banking organizations in the interest of national objectives. It is reasonable to believe that Congress and successive administrations have understood this attribute.

Milton Friedman, it was noted, pointed out almost twenty-five years ago that the Federal Reserve had repeatedly made policy mistakes but did not pay any price because it was subject to neither market nor political pressure. Historically, Federal Reserve officials have not spoken in private or acted as if this were the case. They were concerned with its survival, at least through the mid-1930s, and with the preservation of its supervisory authority, through at least the early 1990s.

Once the System's potential value in national emergencies was recognized, an understanding developed that its unique organizational structure was an advantage. Thereafter, any material change in organizational structure or diminishment of powers, whether because of policy mistakes or on general principles, became extraordinarily difficult. Congress and administrations could condemn policy mistakes and try to have them corrected; populists could rail about the infamy of member-bank ownership of the Reserve Banks; monetarists could argue that a technical bureau in the Treasury was all that was needed. However, to alter materially the System's organizational structure would require assurances that the Federal Reserve's value as an emergency responder would not be compromised or that some substitute would be available. After World War I, the bar for significant organizational revision was substantially raised.

The sensitivity of System leaders to the continual need to adapt was, then, accompanied by awareness in Congress and successive administrations that the Federal Reserve was a uniquely valuable institution. The political stability this afforded has, in turn, probably contributed to the System's capacity to adapt effectively.

Other Traits

There are, no doubt, additional distinguishing traits that also contribute to the Federal Reserve's success in transcending threatening circumstances. Any search would include the following traits:

Leadership

The prestige and challenges of the Federal Reserve's mission have been attractions to highly competent individuals. The long and staggered terms for Board members and the extended terms for Reserve Bank officials facilitate long-term planning. Until recently, when outside opportunities became far more attractive financially, Board membership and Reserve Bank presidencies were seen as the culmination of a lifetime career.

Staff

The intelligence with which plans for change are devised and implemented is partly dependent on the contributions of that Federal Reserve's staff. The continuity of staff, supported by extensive career opportunities in the System, creates a reservoir of experience that can sustain internal routines over time. It also provides seasoned advice in critical circumstances and diverse points of view that can be sifted and winnowed in the course of internal debate.

Independence

The independence that provides the Federal Reserve with the capacity to alter its policies and operational procedures without legislation is also conducive to adaptation. The independence of the System has been augmented by its ability to generate revenues sufficient to support whatever staff its officials decide is needed, free of the congressional budget process.

Centralization of Authority

The complexity of the Federal Reserve System is an inevitable characteristic of its diverse nature. Complexity/diversity may contribute to the quality of the decisions made and to the support generated externally when they are implemented, but it has often been considered detrimental to policy-making. In 1935, Karl Bopp observed that "[t]he structure ... is so complicated that a consistent long-run policy is scarcely possible."[25] He counted 139 individuals within the System alone who were supposed to have some influence over policy. In 1997, Alan Blinder's experience on the FOMC led him to state that "[w]e all ... know that committees can be slow-moving creatures—especially when they seek near-unanimity, as the FOMC does." He hypothesized "... that decisions made by committees tend to be more inertial than decisions made by individuals. Had Newton served on more faculty committees at Cambridge, his first law of motion might have stated that a committee in motion tends to stay in motion in the same direction unless acted upon by an outside force."[26]

The System's complexity means that decisions are made by committees with diverse backgrounds and interests, which would hardly seem conducive to timely adaptation. When such committees seek consensus, rather than simply abide by majority rule, the problem would seem to be exacerbated.[27]

Nevertheless, from its origin, there appears to have existed in the Federal Reserve System a tendency toward centralization of authority. It was initially exhibited in the establishment of the Governor's Conference of 1914–1915 under the leadership of Benjamin Strong and in Strong's dominance during the 1920s. It was muted with Strong's death in 1928 and during the economic distress of the early 1930s but reestablished with the elevation of and shift of authority to the Board in 1933 and 1935. Thereafter, strong chairmen, who have represented the System to Congress, the President, and the public, from Eccles to Alan Greenspan, have dominated System policy. Centralization of authority has been particularly evident in recent years.[28]

To some degree, the early tendency to centralize authority in the System was a response to the invariable disputes over authority between Reserve Banks and the Board emanating from the vagueness of the Federal Reserve Act. It also derived from technical and policy problems with which the System had to deal; for example, initially, the need for cooperation in the purchase and sale of securities so as to avoid conflict with the Treasury and, later, the recognized impracticability of maintaining different discount rates at the Reserve Banks.

The existence of a strong central authority, which others tend to follow because they are persuaded and/or believe it prudent not to display internal disputes, probably permits more timely adaptation than might be expected of so complex an institution. Strong was instrumental in the implementation of coordinated open market operations in 1922 and 1923, based on the learning of earlier years. Harrison at the New York Reserve Bank was a key to System cooperation with the Roosevelt Administration in the 1930s. Volcker led the System's policy adjustment the fall of 1979—perhaps in the nick of time.

CONCLUSIONS

The economic problems in each episode reviewed were attributable, at least in part, to failed Federal Reserve policy. However, none of the numerous proposals to reorganize or eliminate the Federal Reserve ever got very far. Congress and administrations repeatedly turned a blind eye to proposals of successive generations of critics for fundamental change in the organizational structure of the System. In none of these cases was the System's freedom of action seriously constrained. In each, the System, at least from the point of view of its critics, snatched organizational gain from the jaws of failure. Over time its influence and authority ratcheted upward.

During these episodes, and in fact from its origin, the Federal Reserve has shown a capacity to change successfully its behavior in difficult environments. It rode out a storm in the early 1920s because it did not "close its eyes to the gathering storm"; it weathered another crisis in the 1930s because its elasticity of adjustment permitted it to cooperate with a suspicious administration; it prevailed again from the late 1970s through the early 1980s because of its shield of flexibility. Adaptation has been the way in which the Federal Reserve has navigated through troubled waters.

Its adaptive capacities can be traced to its organizational structure—a complex and diverse joint venture. Its structure reflected not simply attributes required to meet the economic and financial problems for which it was created but also compromises made necessary by the political conflicts that reflected long-existing monetary controversies in the United States. The threats to organizational integrity growing out of these controversies were internalized in the organizational structure of the joint venture and, it is reasonable to believe, in the minds of System leaders.

The capacity to adapt would not have salvaged the Federal Reserve if it had nothing to contribute. It showed early that, despite policy errors, it had the ability to mobilize the banking community in support of the federal government in national emergencies. This capacity, seemingly a product of its structure, provided a defense against radical organizational change, even when its policies might misfire.

This page intentionally left blank

chapter 7

Final Remarks

"The Reserve System is no longer an experiment. It has justified the expectations of its creators."

Marriner Eccles, 1939[1]

Through the critical episodes reviewed in earlier chapters, the Fed has adjusted its behavior and policies when necessary. It has responded effectively to national emergencies. Its transcendence has revealed its adaptability.

While criticism is never completely absent, there have been no major episodes that have put the organization in jeopardy since the early 1980s. The experience of recent years, nevertheless, tends to confirm both the Federal Reserve's capacity to adapt and its propensity for expansion. Its past sheds light on its likely future.

SUMMARY OF FINDINGS

The analysis developed above of the Federal Reserve's origin and ascent can be briefly summarized:

1. The Federal Reserve System was established as a joint venture, blending the interests of both the banking community and the federal government.
2. The System's assumption of fiscal agency functions during World War I revealed its value in financial emergencies to the Federal government. This value derived, at least in part, from its organizational structure, which provided close relationships

with the banking community. While some have viewed the banking community, Congress, and the President as separate constituencies, it early became apparent that the Fed's closeness to bankers could also be of value to the government.

3. Federal Reserve innovations in 1922 and 1923 reflected an extraordinary adaptation to a new environment and reflected significant learning that had developed over the previous three or four years.
4. During the 1930s, administration officials recognized the value of the System in supporting its recovery program. A sufficient number in Congress believed that maintaining meaningful banking-community participation in System policy formulation was necessary. Congress further strengthened the System by augmenting its monetary powers and by clarifying the lines of authority within.
5. The survival of the Federal Reserve during this period is traceable, in part, to its willingness to cooperate with the administration.
6. In the late 1970s and early 1980s, the System's organizational integrity was sustained, in part, because of its willingness to relax its constraints on interest rates and focus on monetary aggregates; that is, to move toward monetarism.
7. The danger to the System may not have been as great as imagined by some at the time. Congress showed reluctance to effect any significant reorganization. At the height of economic difficulties, it expanded the System's influence by extending reserve requirements to all depository institutions. It can be speculated that Congress was aware of the value of the System in its existing organizational form.
8. In the three episodes reviewed, the System has manifested a capacity to adapt, both in the interest of achieving its policy objectives and in the interest of preserving the organization.
9. Correspondence and memoranda of early Federal Reserve leaders suggest they had an existential view of the System. They were aware of threats to the organization and of opportunities for development and, consequently, of the need to adjust behavior and policies in the rapidly changing economic and political environment of the early twentieth century.
10. It is plausible that the historical context within which the Federal Reserve was established encouraged concerns about organizational preservation and, thereby, laid the groundwork for organizational adaptability. It is also plausible that these concerns were reinforced in early crises, transmitted over time to successive generations of leaders, and became part of the System's weltanschauung.
11. From its origin, the System possessed a number of traits that supported its capacity to adapt. These included the ability to attract and keep high-quality leaders and staff, the related capacity to rationalize decision-making in a highly complex institution, and independence from the congressional budgetary process.
12. The perceived value of the Federal Reserve in national emergencies has interacted with its capacity to adapt to deter any significant reduction in authority or influence. Because Congress has been reluctant to make radical changes, even when Federal Reserve policies appear to have contributed to economic distress, the Federal Reserve has had time to adapt.
13. Rather than diminish System authority, Congress has expanded it significantly in each period of economic distress, despite plausible arguments that Federal Reserve policies contributed to the distress. This seemingly perverse behavior is explainable on the assumption that Congress has not consider radical reorganization or elimination a practical option. Augmenting System authority was seen as increasing the likelihood of its future success.

RECENT YEARS

Even though there have been no economic or organizational crises since the early 1980s, the experience of recent years tends to confirm the Federal Reserve's capacity to adjust its policies in response to changes in the environment. With its victory over inflation twenty-three years ago, attacks on the Federal Reserve subsided, but they did not disappear. After 1982, as noted in Chapter 5, the FOMC returned to short-term interest-rate targets. The Shadow Open Market Committee severely criticized this change, anticipating that it was likely to produce the same kind of inflationary problems that had developed in the 1970s, which had required drastic restraint to overcome.

In 1990, however, as the economy slid into a recession, the Federal Reserve was again severely criticized but this time for excessively tight money and for manufacturing a "credit crunch."[2] Tight money impacted both banks and bank borrowers.[3]

Some of the most extreme accusations ever made by well-known professional economists emanate from this period. One critic argued that the Federal Reserve's monetary policy failures could be traced to actions that were aimed at self-preservation; rather than focusing on economic objectives, they were tailored to curry favor with important constituencies.[4] Some framed their critiques in psychological terms, arguing that Federal Reserve behavior, including excessive secrecy and dissembling, exhibited characteristics of a mental illness. Articles in this vein included titles such as "The Psychopathology of Monetary Policy"[5] and "Minimizing Regret: Cognitive Dissonance as an Explanation of FOMC Behavior."[6] In the latter, it was argued that Federal Reserve policy-makers are motivated by unconscious defense mechanisms aimed at reducing anguish.[7]

The recession, however, did not last long. By 1993, the economy was in recovery.[8] It was then that the House Banking Committee discovered what it termed "The Federal Reserve's 17-Year Secret." In May 1976, the FOMC decided that it would no longer create detailed minutes of its deliberations. These detailed minutes had previously been made public in a "Memorandum of Discussion" for each meeting. The Banking Committee later discovered, however, that the deliberations in subsequent FOMC meetings for which minutes were not prepared in written form had been recorded.[9]

The chairman of the Banking Committee, Representative Henry Gonzales, accused Federal Reserve officials of deceiving Congress in their testimony. Among other things, he proposed a bill (HR 28, 1993) that would have established a Federal Reserve Accountability Commission to report to Congress on disclosure and related issues. The bill provided for the appointment of Reserve Bank presidents for five-year terms by the president of the United States and a change in the composition of Reserve Bank boards to include six public members selected by the Board of Governors and three elected by member banks. It failed, as had similar bills in the past.

By the mid-1990s, the Federal Reserve again found itself in a struggle with the other federal banking agencies over its role in the comprehensive "financial modernization" legislation being considered by Congress. It was criticized for its expansionist ambitions.

The term "financial modernization" referred to the expansion of permissible activities for commercial banking organizations, including activities such as investment banking, merchant banking, and insurance.[10] Deliberations in the 1990s were prolonged, in part, by the question of what Federal agency or agencies should oversee banking operations in the new activities.

On one level, the issue involved the corporate framework through which the activities, long considered more risky than those normally permitted for commercial banks, would be permissible. Two practical possibilities were considered: (1) through holding company subsidiaries and (2) through subsidiaries of the commercial bank itself. While the argument proceeded along the lines of which alternative would better insulate deposit-insured commercial banks from loss, the underlying dispute involved whether the new activities would be supervised by their principal federal bank supervisors or by the Fed.[11] If they were lodged in bank subsidiaries, supervision and regulation would be divided among the Comptroller of the Currency (national banks), the Federal Reserve (state member banks), and the FDIC (insured nonmember banks). If they were lodged in affiliates of holding companies, they would be regulated and supervised by the Federal Reserve alone. A related issue arose as to the need for an "umbrella regulator" to establish uniform standards if more than one federal agency were to be involved. The Federal Reserve proposed itself. Other federal agencies objected.

Throughout, the Federal Reserve continued to adjust both its policies and its behavior. As noted, it withdrew from a more-or-less single-minded attention to monetary aggregates in the early 1980s and returned to federal-funds targeting. This did not, apparently, obscure its focus on the price level and inflation. Through the 1990s and into the new millennium, it has been successful in controlling inflation.

In the course of the expansion in the 1990s, the Federal Reserve finally adjusted to the long-standing criticisms of secrecy and obfuscation. Beginning as an experiment in 1994 and formalized in 1995, it began to announce policy decisions with respect to interest-rate targets immediately after the FOMC meetings at which they were made.[12]

A common complaint against the Federal Reserve's banking policy was that it was overly restrictive in permitting bank combinations and activity expansion. Beginning in the 1980s, the Fed adjusted policy in both areas. The Fed was known as a restrictive agency with respect to mergers in the 1960s and 1970s and was said to be concerned more than other federal banking agencies with antitrust issues and concentration. The adjustment reflected a belief that few, if any, mergers were likely to have substantial anticompetitive effects in the deregulated environment that was developing.[13] The new, more liberal approach by the Fed was of particular importance in that practically all large bank mergers were combinations of holding companies over which it had jurisdiction. Over the last twenty years, the only mergers denied by the Federal Reserve on competitive grounds have been proposed combinations of small banks in rural areas.[14]

The Fed also was reputed to be overly restrictive in permitting banks to expand into new activities, and, again, its decisions were critical because such expansion was primarily through bank holding companies over which it had sole authority. Beginning in the mid-1980s and extending into the 1990s, the System became less restrictive. Of principal importance, it reinterpreted both the Bank Holding Company and the Glass-Steagall Acts to permit subsidiaries of the bank holding company to engage in investment banking activities from which they have been foreclosed since the Banking Act of 1933, and it expanded the volume of such permissible activity in subsequent years. Its new, more relaxed policies in both the merger and activities areas interlocked in its 1998 approval of the Citicorp/Travelers combination. The merger created the largest banking organization in the United States, but it could not be fully consummated without new legislation to permit banking organizations to engage in insurance and other activities.[15]

In the end, Federal Reserve accommodations and adjustments contributed to further success. Most importantly, by the end of the 1990s, economic expansion with little inflation and a booming stock market helped the System achieve a level of acclaim, again led by a strong and charismatic leader, Alan Greenspan, that it had not enjoyed since the 1920s. When the stock market bubble burst in 2001 and the economy began to contract, it was further applauded for its reduction of interest rates to the lowest levels since the 1950s. In easing monetary conditions to the extent it did and in expressing concern about deflation, the Fed gave clear evidence that it would not repeat the errors of the early 1930s.

Financial modernization legislation, as noted in Chapter 1, was finally passed in November 1999 (the Gramm-Leech-Bliley Act). The Act repealed restrictive sections of the Glass-Steagall Act (Banking Act of 1933) and amended the Bank Holding Company Act to provide opportunities for banks to combine with a wide range of other financial institutions. It permitted the full combination of Citicorp and Travelers. All newly permissible activities could be housed in affiliates of holding companies (financial holding companies), with some in subsidiaries of commercial banks (financial subsidiaries).[16] The Federal Reserve was designated the umbrella regulator for all holding companies and became the federal agency principally responsible for developing regulations under which activity expansion would take place.[17] The Gramm-Leech-Bliley Act, Governor Laurence Meyer opined in 2001, "grants the agencies the authority to move toward mixing banking and commerce at the margin, as markets and technology begin to dim the already less than bright line between them."[18] It made the Fed the principal arbiter of the most momentous change in the financial system since the 1930s.[19]

THE FUTURE

Half a decade into the new millennium, the Federal Reserve's critics in Congress and elsewhere are relatively quiet. There continues to be criticism of its policies, but only fringe groups still argue for radical reorganization or elimination. If its serious policy mistakes of the past did not lead to any radical change in its organizational structure, it is unlikely that policy mistakes in the future will do so. In bad economic times, it will no doubt be blamed; criticism is likely to focus on its Chairman, today a charismatic lightning rod.

In the process of becoming bullet proof, the Fed has also become a colossus, with an influence that extends not only to the current levels of income, employment, and prices, but through the structure of the financial sector and in its developing intersections with commercial and industrial activity. It is not completely clear at this point how, if at all, Federal Reserve authority and influence may further expand in the future. Continued expansion of Federal Reserve authority could emerge from either the Federal Reserve's own perceived needs for additional powers and/or from the propensity of legislators to channel new authority and responsibility to the Fed because of its stature, experience, and, possibly, because no budgetary expense need be recorded. The result is an enormous concentration of power in a single Federal agency that is more autonomous than any other and one in which a single individual, the Chairman, has assumed an increasingly important role.[20]

Whether it is necessary to have any Federal agency of such size and influence is an unavoidable question. Is it necessary to have the same organization that is responsible for monetary policy also be responsible for the organizational structure of the economy through which monetary policy is transmitted? Is it necessary to have the same organization also responsible for the development of new payments systems, consumer credit regulations, and so on?

Any responsible evaluation would require careful review of the existing organization and any potential conflicts of interest as well as a consideration of objections to concentrations of power. This is not to suggest the existence of any evidence that the agglomeration has perverted Federal Reserve decision-making, but there is good reason for periodic review in the light of the traditional American rejection of concentration of power, even in the hands of public officials.

CONCLUSIONS

The evolution of the Federal Reserve has been a story of success. Established as a small and almost impoverished institution, it leaped at opportunity when it presented itself, survived several serious organizational crises resulting, in part, from its own mistakes, prevailed over a succession of serious and prominent opponents who wanted to dismantle it, and has emerged, in the twenty-first century, if not as the most powerful institution in the world, as the most influential organization ever established by Congress.

Looking at the organization today, one gets little sense of its tumultuous history. Few if any in Congress, the administration, or the general public have, in recent years, given much thought to the possibility of changing it in some radical way, much less eliminating it.

The tranquility that, in recent years, has enveloped the Federal Reserve stands in stark contrast to its origin and ascent. It was forged in political combat that reflected controversies that extended back a century. The compromises that permitted it to come into existence constituted a breakthrough, justified by the need to address recurrent financial crises, but it was designed to meet the needs of a world that was about to change in ways that made its policies irrelevant if not perverse. With a limited mandate, few powers, and a legacy of political controversy, its purpose was muddled. It adjusted and has been doing so ever since. Throughout its history, its glorious "ups" have been followed by dangerous "downs." Its existence has been anything but placid.

Throughout, nevertheless, it has grown and extended its authority, acquiring key powers that transformed it in the process of organizational crises that jeopardized its existence. It could be criticized and, indeed, condemned for its policy mistakes, but Congressional preference has, over the years, been amply revealed.

With passage of the Gramm-Leech-Bliley Act of 1999, the Federal Reserve now operates the principal policy levers that affect both the level of economic activity and the structure of the financial and nonfinancial sectors of the economy. This is in addition to its influence on consumer-credit extensions and allocations, on the developing payments systems, and in international financial relations. Its decisions, thus, affect the lives of all who work, earn income, spend, save, and borrow; that is, everyone. The effects are not simply short-run impacts of monetary policy but long-run effects of structural change that will influence financial and economic relationships into the indefinite future.

The process of evolution does not necessarily lead to anything that can be labeled "perfection." So the expansion of the Federal Reserve's scope and power should not be taken to mean that the System is moving toward some ideal state. In fact, just the opposite could be argued. In its striving for self-preservation, through competence and adaptability, it has become extraordinarily powerful. The Fed has concentrated authority and influence well beyond anything that would have been tolerated when it was established or even in more recent years. In its "long, strange journey," it has taken on so many things it was never intended to do that it has become something it was never intended to be. Such concentrations were the target at which the Federal Reserve System was aimed some ninety years ago. Its evolution invokes admiration, but there is also irony in an organization that has been so successful as to become what it was meant to supplant.

Notes

CHAPTER 1: INTRODUCTION

1. Williamson, 1999, p. 306.

2. Newly permissible activities provided by the Gramm-Leech-Bliley Act were designated as "financial in nature," "incidental to financial activities," "complementary," and "merchant banking." The Board of Governors was given responsibility for determining "financial" and "incidental" activities in consultation with the Treasury. "Complementary activities," which are understood to be "nonfinancial" in character and therefore "commercial," were to be the sole province of the board, to be determined on a case-by-case basis [Section 4(j)]. The board and the Treasury were to issue joint regulations to implement merchant banking authority. The board was also designated "umbrella regulator" for both bank holding companies and the new "financial holding companies" permitted to engage in all the new permissible activities. See Shull, 2000, pp. 12 *ff.*

3. Hamilton's letter to Morris, April 30, 1781, as reprinted in Ferguson, 1973, pp. 32, 42–43.

4. For an author who has emphasized the goal of promoting the market for acceptances, see Broz, 1997.

5. *Annual Report of the Federal Reserve Board*, 1914, p. 18, Federal Reserve Papers.

6. *Annual Report of Federal Reserve Board*, 1915, p. 19, Federal Reserve Papers.

7. Data on the Federal Reserve System is from Board of Governors, *Annual Report for 2003*, pp. 260 *ff.*, Federal Reserve Papers.

8. Board of Governors, *Annual Report for 2003*, p. 288, Federal Reserve Papers.

9. For an evaluation of the expansion in regulatory authority provided the Federal Reserve, see Shull, 2002.

10. In addition to the currency the System provides in the form of Federal Reserve Notes, it has maintained, since its origin, a check collection system. In 2003, it handled more than 15 billion checks. It also oversees a wire transfer system and runs automated clearinghouses. See, for example, Lacker and Weinberg, 1998, pp. 1–25.

11. For a review of the legislation and the Federal Reserve's role as regulator, see Spong, 1990, chap. 7.

12. See Sicilia and Cruikshank, 2000, p. 21.

13. For example, the Bank of England was nationalized in 1946.

14. System policy as a cause for stagflation in the 1970s is still under discussion among economists. See Board of Governors, Spring 2004, pp. 153–55, Federal Reserve Papers.

15. Friedman, 1962; and Friedman, February 1982, p. 118.

16. Friedman and Schwartz, 1963, pp. 411 *ff.*

17. Auerbach, July 1991, pp. 46–58. See also Friedman, February 1982, p. 115; Mayer, 1990, pp. 251–54; and Havrilesky, July 1991. The charge that the Federal Reserve obfuscates to avoid responsibility is considerably older. It was leveled by Charles Hardy, a well-known monetary economist of the 1930s, who told his students that the Federal Reserve "accumulated a sufficient number of these statistical series, so that it is impossible for any person to say definitely whether they are following the information or not ... it is a great convenience, from the administrative standpoint, that no one can definitely point to your records and say that you have not followed the official criteria." Lecture for December 11, 1939, in Hardy, 1949, p. 15. See also Friedman, 1962, pp. 232–34.

18. Vennard, 1963, pp. 37–38; see also Allen, 1971; and Griffin, 1995.

19. See, for example, Clifford, 1965, pp. 125–26 and pp.147 *ff.*; and Kettl, 1986, pp. 164, 184.

20. See Williamson, 1999.

21. See, for example, Porter, 1980, pp. 156–88.

22. See Mayr, 1991, pp. 86–87; Nelson and Winter, 1982, pp. 9, 10; and Day, 2002, p. 278.

23. See, for example, Nelson and Winter, 1982; and Dopfer, 2001.

24. Hawley, 1999, p. ix.

25. Krugman, December 14, 2001. See also Krugman's articles complaining about the political partisanship on the part of Alan Greenspan with respect to the growing federal deficit on February 7, 2003 and February 14, 2003.

26. *Forbes*, 2003, p. 33.

CHAPTER 2: THE FEDERAL RESERVE'S LEGACY

1. Hurst, 1982, p. 41.
2. Winter, 1988, p. 178. See also Knudsen, 1995, pp. 201–5.
3. Glass, 1927.

4. Glass, 1927, pp. 110–11.

5. Hamilton had first developed a bank proposal in 1779; two years later, he presented his views on the value of a national bank in a letter to Robert Morris. See Syrett, 1962, pp. 237 *ff.*; and Ferguson, 1973, p. 43.

6. The proposal for the Bank of the United States was contained in Hamilton's *Report on Public Credit and on a National Bank.* The Bank of the United States was modeled on the Bank of England (Dunbar, 1904). The early banks were expected to lend to the governments that chartered them and to operate as providing banking services to merchants. In Pennsylvania, each bank chartered was required to lend to the state as a condition of the charter (Dewey, 1910, pp. 209 *ff.*, Government Publications). A detailed description of the precise services the early banks were expected to provide the governments that chartered them and the privileges they received in return can be found in Shull and Hanweck, 2001, pp. 48 *ff.*

7. Hamilton defended his proposal against the opposition of Thomas Jefferson, who believed the federal government did not have the constitutional authority to charter bank. He argued that the usefulness of banks "pleads strongly against the supposition, that a government clothed with most of the important prerogatives of sovereignty, in relation to its revenues, its debt, its credit, its defense, its trade, its intercourse with foreign nations, is forbidden to make use of that instrument as an appendage to its own authority." Hacker, Vol. I, 1947, p. 299.

8. Syrett, 1962, p. 331.

9. State banks chartered around the same time were developed in the same image. As the economic historian Charles Dunbar phrased it, they were all to be "private establishments employed as a public agents" (Dunbar, 1904, p. 91). Bray Hammond, who served as Assistant Secretary to the Board of Governors, expressed the idea somewhat differently, alluding to an implicit contract. "The realistic view was that the community, whether shrewdly or not, had adapted private initiative and wealth to public purposes, granting privileges and exacting duties in return." Hammond, 1957, p. 67.

10. See Holdsworth, 1910, pp. 87 *ff.*, Government Publications. Jeffersonians continued to argue that the Bank was unconstitutional. They further argued that it had not proven its worth, it favored Federalists over Republicans (predecessors of the Democrats) in making loans, and that it was controlled by "foreigners"—"Two-thirds of the stock was held by foreigners and the bank was subservient to British interests" (p. 87). The question was indefinitely postponed in the House by a vote of 65 to 64. In the Senate, Vice President Clinton broke a 17-to-17 tie (p. 97).

11. New England banks proved to be an exception to these general developments.

12. Its capital was fixed at $35 million, of which one-fifth was to be subscribed to by the United States. The government subscription was to be paid in specie or in 5 percent bonds.

13. No notes less than $5 were to be issued, and all notes less than $100 had to be payable to the bearer on demand.

14. The penalty imposed on the Bank for refusing to pay its notes or deposits in specie, on demand, was 12 percent until fully paid.

15. The Bank paid no interest on government funds but did pay the government a bonus of $1.5 million per year. It was not required to make any loans to the government; in any event, it could not lend the government more than $500,000 without authority of law.

16. U.S. Treasury Department, 1991, pp. xxvi–4, Government Publications.

17. Govan, 1959, pp. 5 *ff.*; see also Hammond, 1957, pp. 287 *ff.*; and James, 1938, pp. 553–54.

18. Hammond, 1957, p. 324. Like the central banks that developed in Europe later in the century, Hammond has argued that Biddle was guided in his policies as to whether credit should be "easy" or "tight" by the trade balance with foreign countries (pp. 307–25). If there were a favorable trade balance with foreign countries, with the dollar tending to rise in value relative to other currencies and gold and silver flowing into the country, the Second Bank would make credit readily available and be lenient in demanding specie payments from state banks. If there were an adverse trade balance, with a tendency for the dollar to fall in value and specie to flow out of the country, the Bank would restrict credit and ratchet up the demands for specie payments. In the latter case, he provided a safety valve through open credits with Baring Brothers, his bank's London correspondent. See also Redlich, Part I, 1968, p. 136. Timberlake takes issue with the idea that the Second Bank was intended to be a central bank, but suggests that "by virtue of its most favored position in the financial fabric, [it] could discreetly assume certain central banking functions" (Timberlake, 1978, p. 30). He suggests that the Second Bank "became one of the most notable examples of incipient central banking during the nineteenth century" (p. 27); and cites Henry Clay's observation that "the bank was collecting money for the Treasury, it was a depository for the money; and ... it had sizable amounts of money flowing though it ... had every opportunity under the 'right' kind of leadership to manipulate that stock, in ways either good or evil ... [but] the right to undertake intervention in the money market, for good or evil, had not been delegated to it" (p. 32).

19. Jacob Viner, as quoted in Hammond, 1957, p. 324.

20. Hammond, 1957, p. 311.

21. Gouge, 1968 (1833), p. 44.

22. Jackson defeated Henry Clay by 219 electoral votes to 49 and with a popular vote of 688,242 to 473,462.

23. White, 1897, p. 12.

24. Aldrich, January 16, 1911, Government Publications.

25. As reprinted in Warburg, 1930, p. 580.

26. A more recent academic debate was sparked by Arthur Schlesinger Jr. in *The Age of Jackson*. See Schlesinger, 1945; and Hammond, 1957, chap. 11.

27. The total amount of greenbacks ultimately authorized came to $450 million. Congress also approved another $50 million in fractional paper currency, in denominations as little as 3 cents. At the end of the war, there remained about $433 million in greenbacks and $26 million in fractional paper currency outstanding.

28. In the summer of 1864, the gold value of greenbacks had depreciated to as little as 39 cents to the dollar. At the end of the war, in August in 1865, the value of greenbacks had risen somewhat. $100 in gold would buy $144.25 in greenbacks. Robertson, 1968, p. 55.

29. Redlich, 1968, Vol. II, p. 105.

30. It was not until 1874 that Congress passed the Specie Resumption Act, which provided for the convertibility of greenbacks to gold after January 1, 1879. Congress, however, returned to a bimetallic standard in 1876 in passing the Bland-Allison Act. Specie payments were resumed in 1879, with the circulation of greenbacks fixed at $346 million. The difficulties of establishing official values for silver and gold plagued the country through the rest of the century. In 1890, a Republican Congress passed the Sherman Silver Purchase Act, requiring the Treasury to purchase 4.5 million ounces of silver bullion a month and to issue legal tender Treasury notes to pay for it. These notes were to be redeemable in gold or silver at the discretion of the secretary of the treasury. (By interpretation, all notes were redeemed in gold.) Because silver was overvalued relative to gold, almost the entire output of the American silver mines was purchased under the Act. In 1893, when $87 million in gold was exported as a result of an unfavorable balance of trade, President Cleveland demanded repeal of the Sherman Silver Purchase Act.

31. Sprague, 1910, Government Publications. Edwin Kemmerer, the well-known Princeton University "money doctor" listed numerous minor crises and panics. Kemmerer, 1910, Government Publications.

32. See Mitchell, 1913, pp. 544 *ff.* Mitchell found that crises typically occurred in the transition from prosperity to depression.

33. Deposit banking developed as an unintended consequence of the National Banking Act. In 1865, when Congress imposed a 10 percent tax on state bank notes, it believed it had effectively hamstrung the state banks' operations and that they would be forced to join the National Banking System. For a few years thereafter, this seemed to be the case. However, the state institutions soon found, as British banks had discovered a half-century earlier, that they didn't need to issue notes to conduct a banking business. They could provide deposits, which proved to be a more convenient substitute. State banks grew rapidly in the 1880s and 1890s. Less stringently regulated, they became powerful competitors for national banks.

34. Unlike other forms of currency, national bank notes did not satisfy statutory reserve requirements, but they could be exchanged for currency that did. This included gold and silver (specie), greenbacks, and silver certificates. See Cagan, 1963, pp. 25 *ff.*

35. Gorton, 1984, pp. 4, 5.

36. Gorton, 1985, pp. 280–81.

37. A distinction is sometimes made between clearinghouse certificates and clearinghouse loan certificates. The former were used to settle clearinghouse balances, as a substitute for specie and other legal reserves. A typical clearinghouse arrangement had one bank serving a central function and holding the specie reserves of other member banks in return for large-denomination clearinghouse certificates used to settle daily balances. The clearinghouse loan certificates, on the other hand,

were issued in financial emergencies to the public through loans to members approved by clearinghouse policy committees. Timberlake, 1984, pp. 4, 5.

38. As quoted in Timberlake, 1984, p. 8. The murky legal problems confronting the clearinghouses might have been remedied by incorporation under federal law that would have provided them with the authority to issue notes as they had been doing. At least one bill to do so was introduced in the House of Representatives in 1896. It was never passed. Timberlake, 1984, pp. 9, 10.

39. Cannon, 1913, pp. 21–22.

40. Gorton, June 1985, pp. 278–79, n. 7.

41. Cannon, 1913; and Redlich, 1968, Vol. II, pp. 284–85.

42. Redlich, 1968, Vol. II, p. 285. See also *Report of the Committee to Investigate the Concentration of Control of Money and Credit*, 1913, pp. 18–32. Cannon described in detail the kinds of restrictions imposed in a 1913 address to the Syracuse Chamber of Commerce in New York. He cited example after example of competitive restrictions imposed by clearinghouses, including market sharing, fixing interest rates on loans and deposits, the prohibition of interest rates on checking deposits, regulating advertising, fixing rates on collection of out-of-town checks, and more. He concluded his detailed description of competitive restraints by saying to his audience, "I could go on for some time, but I do not desire to weary you by giving details as to the methods which are being pursued by some of the two hundred and thirty associations in this country. I have taken the liberty of citing only a few examples ... so that there is some foundation for the suggestion that these associations should be incorporated and made responsible for their acts ... the extensions of Clearing House activities, whether good or bad in themselves, involve a dangerous exercise of power, unless the whole system is brought under proper governmental regulation." Cannon, 1913, pp. 8–13.

43. Timberlake, 1978, p. 176.

44. Miron, 1986, p. 130.

45. Short-term interest rates, responding to changes in the demand for and supply of currency and bank reserves, varied widely during the course of each year. During the spring planting and fall harvesting, the entire system was put under pressure. Short-term rates could range from 1 percent in midsummer to 25 percent in the fall. See Timberlake, 1978, p. 177.

46. Timberlake, 1978, p. 177.

47. "If the Secretary of the Treasury were given $100 million to be deposited with the banks or withdrawn as he might deem expedient, and if in addition he were clothed with authority over the reserves of the several banks, with power to contract the nation-bank circulation at pleasure, in my judgement no panic as distinguished from industrial stagnation could threaten either the United States or Europe that he could not avert. No central or Government bank in the world can so readily influence financial conditions throughout the world as can the Secretary under the authority with which he is now clothed." As quoted in Friedman and Schwartz, 1963, pp. 149–50.

48. Friedman and Schwartz, 1963, p. 150.

49. The origins of the recession and crisis that followed are reviewed, among other places, in Mitchell, 1913, p. 515.

50. Gross & Kleeberg, another brokerage firm, had failed, alleging that the Heinze brokerage firms would not pay for the stock purchased for their accounts.

51. Sprague, 1910, pp. 246–48. C. F. Morse was one of the directors of Mercantile and sat on the boards of seven other banks. Morse apparently gained control over three of these by using the shares of one bank to collateralize loans used to purchase shares in the other banks.

52. Sprague, 1910, p. 249.

53. Sprague, 1910, pp. 248–49.

54. Chernow, 1990, p. 123.

55. Friedman and Schwartz, 1963, pp. 159–60.

56. Sprague, 1910, p. 286.

57. Friedman and Schwartz, 1963, pp. 159–60.

58. Friedman and Schwartz, 1963, p. 161.

59. Friedman and Schwartz, 1963, pp. 162–63.

60. Morgan had done so before. In the period from 1893 through the crisis of 1907, Morgan had supported financial markets and the U.S. government in times of crisis. In doing so, some viewed him as acting like a central bank. Morgan had close ties to England, and populists saw him as an extension of foreign interests and well as being a domestic villain. Morgan also participated with the English Rothchilds in the crisis of 1894–1895. In 1895, Morgan, with August Belmont, arranged a sale of U.S. bonds abroad to bring gold to the Treasury, whose reserves were close to depletion. See Friedman and Schwartz, 1963, pp. 111–12, n. 35; and Chernow, 1990, pp. 74–77.

61. Chernow, 1990 p. 124.

62. Chernow, 1990, pp. 123–24.

63. Chernow, 1990, p. 125.

64. Sprague, 1910, pp. 251–53. Sprague states: "Had the Knickerbocker Trust Company been a bank and a member of the clearing house, it is highly probably that it would have been assisted [by the clearinghouse].... Apparently no proposal to assist the company was considered, ... Relations between the banks and the trust companies had been somewhat strained for a number of years. The banks complained of the unfairness of competition with institutions which were not required to hold a large cash reserve. In 1903 the clearing house had adopted a rule which required all trust companies clearing through members of the association to accumulate a reserve which, though smaller than that of the banks was considerably larger than was held by most of the trust companies."

65. Friedman and Schwartz, 1963, p. 160.

66. Mitchell, 1913, pp. 552–53.

67. Andrew, 1907.

68. *Changes in the Banking and Currency System of the United States*, 1913, pp. 29–30, Government Publications. It noted that this was a role that it had acquired after the demise of the Second Bank and the establishment of an Independent Treasury system.

69. See Chernow, 1990, pp. 122–25.

70. Herbert L. Satterlee, Morgan's son-in-law, as quoted in Chernow, 1990, p. 125.

71. See Wicker, 2000, pp. 91, 92.

72. Rhoades, 1912, pp. 7, 8.

73. As reprinted in Gregory, 1929, p. 203.

74. Mitchell, 1913, pp. 550–51. Mitchell went on to say: "In any of these European countries the shock to confidence would have been allayed by the prompt intervention of the other banks. A syndicate of the strongest financial institutions in the country would have taken charge of the embarrassed concern and guaranteed payment to its depositors. More important still, the central bank would have taken the lead in a policy of lending freely to all necessitous business men who could provide adequate security for repayment. Most important of all, a restriction of payments on the part of the leading banks would not have been made—it would not even have been feared. Failures would not have been avoided, for enterprises which had become insolvent through mismanagement or misfortune would have gone into the hands of receivers; but the bankruptcies would not have been swelled by the inability of solvent concerns to secure bank accommodations. Interest rates would have risen, but not to 10 and 12 per cent, and commercial paper would not have become unsaleable. The process of liquidation would have proceeded with its concomitant decline in prices and volume of trade; but the transition from prosperity to depression would have been far less violent."

75. Schumpeter, 1954, p. 406.

76. The Gold Standard Act of 1900 formally established the gold dollar as the single official unit of value. It defined the gold dollar as containing 25.8 grains of gold, nine-tenths fine. All other forms of currency were to be maintained, by the Treasury, at parity with the gold dollar. The Secretary of the Treasury was to establish a reserve fund of $150 million in gold coin and bullion to be used for redemption purposes and was authorized to negotiate loans to maintain the reserve. Provisions were made for retirement of the Treasury notes of 1890. The price of gold remained at the price established in 1900 until it was increased by executive order in 1933 and then by formal devaluation in January 1934 under the Gold Reserve Act that raised its price to $35 per ounce.

77. The Bank's monopoly privileges were established by the end of the seventeenth Century and were repeatedly fortified in the eighteenth century. In the last quarter of that century, however, and in the early decades of the nineteenth century, the Bank, its monopoly privileges notwithstanding, was joined by a large number of relatively small note-issuing country banks and, thereafter, by new joint-stock banks that found deposits payable on demand a good substitute for note issue.

78. Bagehot, 1927 (1873), pp. 36, 37.

79. Sayers, 1957, p. 11. The Bank Charter Act of 1844 made clear the Bank's position as the sole issuer of bank notes in the London area and guardian of gold reserves. However, its recognition of the Bank's Banking Department as operating as any other bank belied the central position of the Bank of England.

80. Sayers, 1957, p. 18.

81. Sayers, 1957, p. 18.
82. Sayers, 1957, pp. 16–17.
83. Sayers, 1957, p. 12.
84. Sayers, 1957, p. 12.
85. The crisis was precipitated by the inability of Baring Brothers to sell the South American securities it had acquired. Its potential failure threatened its outstanding acceptances and, thereby, the entire banking system. Gregory, 1929, p. xxxviii.
86. "Leading Article," *The Times*, November 15, 1890, as republished in Gregory, 1929, p. 189.
87. In the first half of the eighteenth century, references can be found to the kind of assets banks held, "but only in a few instances was any reason given why the banks ought to hold any particular kind." See Mints, 1945, p. 18.
88. Smith, 1937 (1776), p. 288.
89. Bills of exchange had been well known in the Arab world in the tenth century, used to facilitate trade between buyers and seller in distant locations. They had emerged with the revival of commerce in Europe at the end of the Middle Ages. To pay for a purchase of goods, materials, or storage, the seller would draw a draft (order to pay) on the buyer or his representative (banker) for the agreed-upon amount at some future time; for example, six months. Prior to maturity, the draft could be sold at a discount, thus providing the holder with a liquid asset. If accepted by a bank or some other well-known, reputable firm as an "unconditional promise to pay," it would acquire the legal characteristic of negotiability. Its marketability would, then, be improved enormously.
90. See Mints, 1945, pp. 18–19; and Humphrey, 1982.
91. Cameron, 1967, pp. 52 *ff.*
92. See Mints, 1945, pp. 206–7; and Humphrey, 1982, p. 11.
93. It has been suggested that the early twentieth-century bank reform actually began in 1896 with the Indianapolis Monetary Convention, a gathering of bankers who called for monetary revision (Rothbard, 1994, pp. 94 *ff.*). Others have argued that it began two years earlier with the so-called Baltimore Plan, presented at the convention of the American Bankers Association in 1894.
94. Link, 1954, p. 44.
95. For a description of the controversy engendered by the proposal, see Link, 1954, pp. 42 *ff.*; Link, 1956, pp. 200 *ff.*; and White, 1983, chap. 2. Also see Timberlake, 1984, pp. 13, 14.
96. The tax ranged from 5 to 10 percent per month, increasing with the time the notes remained outstanding. In 1913, it was reduced to 3–6 percent.
97. The establishment of the National Monetary Commission is provided for in Sections 17, 18, and 19 of the Act. See *Report of the National Monetary Commission*, 1912, p. 3, Government Publications.
98. The Commission held "... hearings in the United States and in other countries. It visited England, France, and Germany, and the banks of Canada, Scotland, Switzerland, Italy, and Sweden." It enlisted the "the world's best experts.... Leading financial editors, bankers, Government officials, and university professors in Europe

and America and in the Orient were employed to prepare papers upon the actual operations of banks and upon their separate functions and mutual relations." *Report of the National Monetary Commission*, 1912, p. 5, Government Publications.

99. In 1907, the currency of the United States consisted, for the most part, of gold coins and gold certificates, silver coins and silver certificates, U.S. notes (greenbacks), and national bank notes. Paper currency, except for national bank notes, was redeemable in gold at the Treasury. National bank notes, as noted, were secured by government bonds and a government pledge that amounted to the extension of its "full faith and credit." The amount of currency in circulation outside the Treasury in 1907 was about $2.805 billion, with gold coins and certificates constituting about $1.166 billion (Friedman and Schwartz, 1963, pp. 179–82). Different types of currency were limited in different ways. Both gold and national bank notes had increased after 1896, but gold coins and gold certificates could not grow faster than the gold supply permitted. National bank notes were constrained by the willingness and ability of national banks to purchase the government securities to back them. Silver certificates were issued to replace the Treasury notes of 1890 and had increased only to the extent of the Treasury's purchases of silver prior to the repeal of the Sherman Silver Purchase Act in 1893. The same constraint applied to the minting of silver dollars. Greenbacks had been fixed in amount by the Act of 1878.

100. Aldrich, January 16, 1911, Government Publications.

101. *Report of the National Monetary Commission*, January 9, 1912, pp. 10 *ff.*, Government Publications.

102. A revision of the original proposal can be found in Aldrich, October 14, 1911, Government Publications. The bill for a National Reserve Association was introduced into Congress by Senator Theodore E. Burton, a member of the National Monetary Commission. It never received official consideration. See *Changes in the Banking and Currency System of the United States*, 1913, p. 9, Government Publications.

103. *Report of the National Monetary Commission*, 1912, p. 15, Government Publications.

104. Link, 1954, pp. 44, 45.

105. *Money Trust Investigation*, Hearings, 1912, Government Publications; and *Report of the Committee to Investigate the Concentration of Control of Money and Credit*, 1913, Government Publications. Some of report's proposals found their way into the Clayton Act of 1914. Enforcement of a provision to restrict interlocking directorates among banks was made a Federal Reserve responsibility. While the report of the Pujo Committee did not achieve the results its proponents had hoped, it conditioned the atmosphere within which the Democratic Party deliberated on monetary reform and, as can be seen below, had an effect on structural design of the Federal Reserve. Some of its findings were also influential twenty years later in providing a backdrop for passage of the Glass-Steagall provisions of the Banking Act of 1933 that separated commercial and investment banking.

106. Link, 1956, pp. 199 *ff.*

107. As quoted in Link, 1956, p. 201.

108. Woodrow Wilson, "A Nonpartisan Talk to the Commercial Club of Omaha," October 5, 1912, reprinted in Link, 1978, p. 343.

109. Woodrow Wilson, "Campaign Address in Topeka, Kansas," October 8, 1912, reprinted in Link, 1978, p. 380.

110. Link, 1956, p. 211.

111. Link, 1954, pp. 44–45, n. 41.

112. Link, 1954, pp. 43–44.

113. Letter from Carter Glass to Woodrow Wilson, November 7, 1912, reprinted in Link, 1978, pp. 530–31.

114. Letter from Woodrow Wilson to Carter Glass, November 14, 1912, reprinted in Link, 1978, p. 547.

115. Link, 1978, p. 643.

116. Letter from Carter Glass to H. Parker Willis, December 29, 1912, reprinted in Link, 1978, pp. 643–44.

117. Letter from Parker Willis to Carter Glass, December 31, 1912, reprinted in Link, 1978, p. 650.

118. As quoted in Link, 1956, p. 208.

119. As quoted in Link, 1956, p. 208.

120. McAdoo dropped the plan on June 9 and pledged his support of the Glass bill. Link, 1956, pp. 205 *ff.*

121. See Link, 1956, pp. 212–14. Brandeis came to the White House on June 11, 1913. At a meeting at the White House on June 17, Wilson announced his position to the principals. Glass was not happy, asking Wilson to reconsider, which he did not.

122. *Changes in the Banking and Currency System of the United States*, 1913, p. 10, Government Publications.

123. *Changes in the Banking and Currency System of the United States*, 1913, p. 10, Government Publications.

124. *Changes in the Banking and Currency System of the United States*, 1913, pp. 11, 12, Government Publications.

125. "Without allowing itself to entertain any prepossessions either for or against the central bank idea, the committee carefully examined this notion.... It reached ... the following conclusions: (1) the idea of centralization or cooperation or combined use of banking resources, is the basic idea at the root of central banking argument ... (2) It is not necessary in order to obtain the benefits ... that there should be one single central bank ... (3) Equally good results can be obtained by the federating of existing banks ... (4) In the United States, with its immense areas ... there is no argument either of banking theory or of expediency which dictates the creation of a single central banking institution ... (5) It is therefore necessary to abandon the idea of a single central banking mechanism ... (6) It was ... decided that ... there should be no necessary attempt to base the result of the bill upon the central banking idea." *Changes in the Banking and Currency System of the United States*, 1913, p. 12, Government Publications.

126. The Republicans reported the so-called Hitchcock bill.

127. For a relatively brief legislative history of the Federal Reserve Act, see Hackley, 1973, chap. 2.

128. Tugwell, 1968, pp. 442–43.

129. Attendees at the Jekyll Island meeting included Paul Warburg, Henry Davison of J.P. Morgan & Co., Frank A. Vanderlip, president of National City Bank, Benjamin Strong of Bankers Trust, A. Piatt Andrew, assistant secretary of the treasury, and Nelson Aldrich.

130. The first conference papers, issued on Friday evening, May 8, was titled *The Fed and the Power Elite*. This was to be followed by a paper on Saturday morning titled *The Morons at the Fed*. A copy of the announcement is in the author's file.

131. See, for example, Allen, 1971, pp. 44 *ff*.

132. See Warburg, 1930. Friedman and Schwartz agreed with Warburg (1963, p. 171, n. 59).

133. See Greider, 1987; and Chernow, 1990 pp. 181–82.

134. With respect to the need for improving the market for acceptances in the United States, see Warburg, 1910.

135. Andrew, 1907, p. 520.

136. Loans were to be repaid out of proceeds from the sales of the products they were used to produce or purchase. The purpose was both to encourage banks to invest in short-term commercial paper, an asset that was deemed safe for banks, and to encourage the development of secondary markets for these investments. Hackley notes that "the House Banking and Currency Committee referred to the creation of a market for commercial paper as one of the 'essential features of reform' and stated that the discount function was the 'fundamental business purpose' of the legislation." Hackley, 1973, p. 3.

137. The 1913 Act imposed the following reserve and collateral requirements: *Reserve Requirements*: Gold reserve against deposits at Federal Reserve Banks = 35 percent; Gold reserve against Federal Reserve notes = 40 percent. *Collateral Requirements*: Collateral in the form of commercial paper against Federal Reserve notes = 100 percent. The Federal Reserve, thereby, had a double requirement against Federal Reserve notes. They had to be backed by at least 40 percent gold and had to be fully collateralized (100 percent) by eligible (commercial) paper.

138. Hackley, 1973, p. 169.

139. Section 11(b) of the original Act gave the Board authority to either permit or require the Reserve Banks to discount the paper discounted by other Reserve Banks at a rate fixed by the Board.

140. Willis, 1923, pp. 1605–26, 1985.

141. John R. Commons tells a somewhat different story. As Glass' bill went through Congress, it was integrated with a bill authored by Senator Owen, Chairman of the Senate Banking Committee. Owen included a provision that the Federal Reserve have the duty to stabilize prices. Wilson opposed the provision, and it was dropped in the Conference Committee. Commons, 1963 (1934), p. 64.

142. Commons, 1925, pp. 43–44. Through the 1920s, well-known economists such as Irving Fisher of Yale and John R. Commons of Wisconsin promoted legislation to make price stability the objective of the Federal Reserve System.

Benjamin Strong, the influential governor of the New York Reserve Bank, supported the objective but did not support legislation to require it. For a history of the movement in the 1920s, see Fisher, 1934.

143. The Federal Reserve Act, 1913, Sec. 14, gave the Reserve Banks authority to "purchase and sell in the open market at home or abroad, ... cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities by this act made eligible for rediscount, with or without the indorsement of a member bank." In addition, "Every Federal reserve bank shall have power ... (b) to buy and sell, ... bonds and notes of the United States and bills, notes, revenue bonds, and warrants."

144. *Banking and Currency*, 1913, p. 26, Government Publications.

145. *Changes in the Banking and Currency System of the United States*, 9, 1913, p. 54, Government Publications. Provision of an outlet for the profitable use of funds for Reserve Banks was modified by the phrase, "when it was sought to facilitate transactions in foreign exchange or to regulate gold movements."

146. The reason was given as follows: "The desirablility [sic] of enabling Federal reserve banks to make their rate of discount effective in the general market at those times and under those conditions when rediscounts were slack and when therefore there might have been accumulation of funds in the reserve banks without any motive on the part of member banks to apply for rediscounts or perhaps with a strong motive on their part not to do so." See *Changes in the Banking and Currency System of the United States*, 1913, p. 54, Government Publications.

147. For an authoritative description of the non-par System before and after the establishment of the Federal Reserve, see Vest, 1940, pp. 89–96.

148. Banks argued they were performing a service in transmitting funds to distant places for which a charge was warranted. At the time of the Civil War, exchange charges had been as high as 1.5 percent of the face value of the check, but they had fallen considerably by 1913, typically to about 0.25 percent.

149. Rural banks would send checks through correspondent banks that agreed to absorb the charges, or they would route the checks through a series of banks until they reached one with offices in the same town as the bank on which it was drawn so it could be presented at its window and paid at face value.

150. This provision was the result of the direct intervention of Woodrow Wilson, which came in the form of a letter to Senator Owen. See Vest, 1940, p. 91.

151. See Duprey and Nelson, 1986, pp. 18–29.

152. Duprey and Nelson, 1986, pp. 18–29.

153. As quoted in Link. 1956, pp. 220–21.

154. Section 22(g)(h) of the Federal Reserve Act does restrict insider loans to "related interests," but it does so principally for reasons of safety and soundness, not competition.

155. See Spong, 1990, p. 19.

156. Like clearinghouses, the Reserve Banks could supervise their members. Unlike clearinghouses, they could not explicitly support price-fixing and market-sharing agreements, though for many years they did nothing to prevent

them and, in the 1930s, along with other supervisory agencies, probably encouraged them. See Shull, 1996, p. 262.

157. Federal Reserve Board, *Annual Report for 1914*, p. 18, Federal Reserve Papers.

158. Warburg, 1930, p. 166. Also see the following pages for some of the problems created for the Board in these circumstances.

159. Andrew, 1907, p. 560.

160. Laughlin, 1908.

161. "The securities markets were badly demoralized, prices fell with alarming rapidity, and the country was exposed to a serious and disastrous drain of gold. The whole situation demonstrated afresh, and to a striking degree, the dependence of our banking system upon the call-loan market ... protected by stock-exchange collateral." Federal Reserve Board, *Annual Report for 1914*, p. 6, Federal Reserve Papers.

162. Bloomfield, 1959, p. 13, n. 8.

163. Smith, 1936, p. 148.

164. Smith, 1936, pp. 1–3.

165. Gregory, 1929, p. xxxvii.

166. Hawtrey, 1932, p. 117.

167. See Deane and Pringle, 1994, p. 54. Deane and Pringle provide no reference with regard to this identification.

168. Timberlake, 1978, pp. 34–35.

169. See, for example, *The Times*, November 15, 1890, as reprinted in Gregory, 1929, p. 189.

170. Deane and Pringle, 1994, p. 55.

171. As reprinted in Gregory (ed.), 1929, p. 203.

172. *Changes in the Banking and Currency System of the United States*, 1913, pp. 11–12, Government Publications.

173. See Link, 1978, p. 564. The comment was made in a discussion with Colonel House, as reported by House to President-elect Wilson in a letter dated November 28, 1912.

CHAPTER 3: A SHOCK TO THE SYSTEM: 1919–1922

1. Chandler, 1958, p. 137.

2. U.S. Treasury Department, 1919, pp. 25, 30, Government Publications.

3. The final war bond issue was termed the "Victory Loan" and floated following the war in April and May of 1919.

4. Though the Federal Reserve Act had enabled the Federal Reserve Banks to serve as fiscal agents for the Treasury, their service was to be at the discretion of the Secretary of the Treasury. Secretary McAdoo did not designate the Banks as fiscal agents until November 23, 1915, with Treasury funds to be transferred to them on January 1, 1916. See Federal Reserve Board, *Annual Report for 1915*, p. 6, Federal Reserve Papers; and Willis, 1923, pp. 1113–14, 1120–21. The Reserve Banks, thereafter, replaced the Independent Treasury in receiving and disbursing

government funds. Strong clearly had more than this in mind when he wrote to Pierre Jay on April 22, 1917. (See reference to the letter below in "The Role of War Finance," and Note 90.) After entry into the war, the arrangement was made to leave Treasury funds on deposit with the banks that purchased government securities; funds were only transferred to Reserve Banks when needed by the Treasury. Willis, 1923, pp. 1119–20.

5. See Anderson, 1964, pp. 10–13.

6. Anderson, 1964, pp. 6, 7; and Wicker, 1966, pp. 8–21.

7. Wicker, 1966, p. 14.

8. Federal Reserve Board, *Annual Report for 1919*, p. 68, Federal Reserve Papers.

9. Federal Reserve Board, *Annual Report for 1920*, p. 11, Federal Reserve Papers. The Reserve Banks were also authorized by the Board to discount notes of nonmember banks collateralized by government securities when endorsed by a member bank if the proceeds had been or were to be used to purchase Treasury obligations.

10. The Committee on War Finances of the American Economic Association was highly critical.

11. U.S. Treasury Department, 1918, p. 21, Government Publications.

12. Leffingwell, 1921, p. 31.

13. Agricultural Inquiry, 1921, Government Publications. See Williams' "Address before the Peoples' Reconstruction League," made in Washington on April 15, 1921, as reprinted in "Hearings," p. 5.

14. Chandler, 1958, p. 102.

15. Wholesale prices peaked in September 1918, leveled off, and then declined through February 1919, as did business in general. Expansions and contractions, as indicated in the text, are as dated by the National Bureau of Economic Research.

16. The Reserve Banks, during these years, established a variety of rates for different types and maturities of paper. The 4 percent rate at the New York Bank was the lowest rate it established. See Board of Governors, 1976 (1943), p. 439, Federal Reserve Papers. For an explanation of the several rates, see p. 422.

17. Federal Reserve Board, *Annual Report for 1920*, p. 1, Federal Reserve Papers.

18. Wicker, 1966, pp. 21–34. Among other things, higher rates would depress bond prices and the Treasury had pledged support to purchasers of previous issues. At least some Federal Reserve officials felt a similar moral commitment to bankers who had previously purchased bonds and sold them to customers.

19. U.S. Treasury Department, 1919, pp. 56–57, Government Publications. See the letter from William McAdoo, secretary of the treasury, to banks and trust companies, reprinted in *Annual Report of the Secretary of the Treasury on the State of the Finances*.

20. *Agricultural Inquiry*, 1921, p. 12, Government Publications. See also Wicker, 1966, pp. 29–30; and *Stabilization*, 1926–1927, pp. 1076–77, Government Publications.

21. Federal Reserve Board, *Annual Report for 1920*, p. 11, Federal Reserve Papers.

22. Federal Reserve Board, *Annual Report for 1920*, p. 12, Federal Reserve Papers.

23. Federal Reserve Board, *Annual Report for 1920*, pp. 1, 2, Federal Reserve Papers.

24. Harding, 1925, pp. 216–17. According to Harding, the rationale for rate reductions was that the condition of the Reserve Banks had improved. By the end of May 1920, the gold holdings of the Reserve Banks had increased about $448 million while their loans had declined $972 million and the amount of Federal Reserve notes in circulation had decreased about $376 million.

25. Meltzer, 2003, p. 127.

26. Meltzer, 2003, pp. 114–15.

27. Heflin, Speech, 1922, Williams Papers.

28. Federal Reserve Board, *Annual Report for 1920*, p. 15, Federal Reserve Papers.

29. Wilson accepted the resignation to take effect at close of business, March 2, 1921, with reluctance. In a letter to Williams, he said, "You have been done a gross injustice by the way in which the Senate Committee has handled the question of your reconfirmation." Wilson to Williams, 1921, Williams Papers.

30. By 1921, there were close to 30,000 banks in the United States, most of them small and in rural areas. They had suffered from the deflation along with their customers. About 9,000 members of the Federal Reserve System were classified as "country banks," principally in areas outside of major cities.

31. The Federal Reserve struck back, proposing that the comptroller's responsibilities be transferred to the Federal Reserve.

32. William Jennings Bryan had lumped Thomas Fortune Ryan with J. P. Morgan and August Belmont as "a member of the privilege-hunting, favor-seeking class." See Chernow, 1990, p. 149.

33. Kane, 1922, p. 444.

34. Wicker, 1966, p. 55.

35. Glass to Williams, 1921, Williams Papers. In addition, Strong was sensitive to Glass' hostility and, while maintaining his position that the discount rate should be raised, had attempted to smooth things over. In December 1919, he wrote to Russell Leffingwell, "Now that the war is over, the time has come to abandon a policy designed for military purposes.... Unfortunately Mr. Glass has not agreed with my feelings ... and one of the results, I fear, has been to drive him to the view ... that in some way I have led a revolt in the system, the object of which, while not openly expressed, was to assert the dominating position of the Reserve System in controlling the policy of the Treasury.... I am ... writing to ask if you will arrange ... for us to have a talk.... I don't want to feel that at least in his mind the last five years' work have been thrown away, nor, indeed, now that he is about to enter the Senate, where his influence in legislation affecting the Reserve Banks will be very great, that the result of this difference of views may lead to a decision ... to attempt some changes in the Federal Reserve Act.... This is a matter about

which I feel very strongly indeed, because if I come back to the Reserve Bank, I would like to find it here just as I left it" (Strong to Leffingwell, December 19, 1919, Strong Papers). Leffingwell gave Strong's letter to Glass, who wrote to Strong on December 31, 1919. Glass' response was cordial but somewhat equivocal. "I fully appraise the value of the work you have done and that our differences ... have not arisen through any distrust of your absolute sincerity ... had I not liked you so much personally and so keenly appreciated your fine service I would long ago have made a sharp issue of our opposing views, for I put the Federal Reserve System as I have dreamed of it and worked with it above any other human interest" (Glass to Strong, December 31, 1919, Strong Papers). See Friedman and Schwartz, 1963, pp. 226–28, for details of the conflict between the Treasury and the Federal Reserve during 1919. At one point, Strong indicated he would resign rather than continue the policy that existed (p. 227).

36. Bryan to Williams, 1921, Williams Papers.

37. *Agricultural Inquiry*, 1921, Government Publications; and *Report of the Joint Commission of Agricultural Inquiry*, 1922, Government Publications. Some have seemed to imply that Williams' charges led to the formation of the Joint Commission, but this is erroneous. See, for example, Kettl, 1968, p. 28, who notes, "Congress in 1921 established a Joint Commission ... to investigate Williams' sensational charges," and Wicker, 1966, p. 55, who states that Williams' charges "led ultimately to the first Congressional investigation of Federal Reserve monetary policies. A Joint Commission of Agricultural Inquiry was appointed...." According to Governor Harding, Williams' charges had independently led the Board to request an investigation by the Senate Banking and Currency Committee. The Board's request was referred to the Joint Commission, which had already been established and which, thereafter, included the adequacy of credit resources, among other agricultural issues, on its agenda (Harding, 1925, p. 219). For the Board's view of the investigation, see Federal Reserve Board, *Annual Report for 1921*, p. 1, Federal Reserve Papers.

38. *Agricultural Inquiry*, 1921, pp. 3–231, Government Publications.

39. *Agricultural Inquiry*, 1921, p. 5, Government Publications.

40. *Agricultural Inquiry*, 1921, p. 43, Government Publications. He went on to cite as evidence of this that "in the latter part of 1915, while European War was raging ... three or four members of the board made a determined effort to secure the closing up of 4 or the 12 Federal reserve banks. In the early part of this year the governor of the Federal Reserve Board proposed the disestablishment or removal of the only two Federal reserve banks located south of the States of Virginia and Missouri, namely the Federal reserve bank of Atlanta and the Federal reserve bank of Dallas."

41. Indicative of the agitated reception accorded Williams by some Joint Commission members, his effort, at the beginning of his testimony, to insert his speeches on the Federal Reserve into the record produced a debate (*Agricultural Inquiry*, 1921, pp. 6–10, Government Publications). Ogden Mills of New York objected, making the puzzling claim that the Joint Commission was not particularly interested in Williams' charges against the Federal Reserve and that he was

only called to testify because of "his knowledge of the general credit situation." Therefore, Mills argued, "the introduction of speeches in toto, containing a lot of irrelevant matter, should not be permitted in this record" (*Agricultural Inquiry*, 1921, p. 6, Government Publications). After a lengthy debate, Williams' speeches were admitted on a 5–4 vote (p. 6).

42. *Agricultural Inquiry*, 1921, p. 38, Government Publications. See also Williams' letter to W. P. G. Harding reprinted on pp. 162–64.

43. *Agricultural Inquiry*, 1921, p. 39, Government Publications.

44. *Agricultural Inquiry*, 1921, pp. 36–48, at p. 39, Government Publications.

45. *Agricultural Inquiry*, 1921, p. 38, Government Publications. A similar statement is made in a letter Williams sent to Harding on March 26, 1921 (p. 228).

46. *Agricultural Inquiry*, 1921, p. 41, Government Publications.

47. *Agricultural Inquiry*, 1921, p. 42, Government Publications. He went on to say "that the process of deflation has been accompanied by loss and suffering and danger which could have been avoided or greatly ameliorated by intelligent study and comprehension of the facts.... For example, on the 18th of October last I pointed out to the board some of the appalling shrinkages in values which had already taken place; for instance, the loss of $500,000,000 in wheat, of two billions in corn, of a billion in cotton."

48. *Agricultural Inquiry*, 1921, p. 45, Government Publications.

49. "Augusta Address," *Agricultural Inquiry*, Hearings, 1921, p. 45, Government Publications.

50. *Agricultural Inquiry*, 1921, pp. 45–46, Government Publications.

51. *Agricultural Inquiry*, 1921, p. 19, Government Publications.

52. Harding, 1925, p. 209.

53. *Agricultural Inquiry*, 1921, pp. 226–27, Government Publications.

54. Friedman and Schwartz, 1963, pp. 237–39. They say, "There can be little doubt that Federal Reserve policy was a further and not unimportant factor contributing to the severity of the [cyclical] movement.... It is interesting to speculate on what the course of events would have been if the Federal Reserve Act had not been passed...." They also note, "Given the mistake in 1919, it was probably another mistake to raise the discount rates a further notch in June 1920, and it was certainly a mistake to maintain those rates so long. Though easier money in the second half of 1920 might not have prevented a sizable price decline, it certainly would have moderated its magnitude."

55. Miller to Joint Conference, 1921, pp. 7, 8, Strong Papers.

56. Miller to Joint Conference, 1921, p. 8, Strong Papers.

57. Strong, at the age of 42, was appointed governor of the New York Reserve Bank at its first board meeting on October 5, 1914, six weeks before it opened. He had an extensive background in finance, having been initially employed by Cuyler, Morgan and Co., an investment and financial management firm, and subsequently serving as assistant secretary of the Atlantic Trust Co., then at Bankers Trust Co. as secretary (1904), vice president (1909), and president shortly before his appointment as governor.

58. Chandler, 1958, p. 179.

59. *Agricultural Inquiry*, 1921, pp. 451 *ff*., Government Publications.

60. *Agricultural Inquiry*, 1921, p. 453, Government Publications.

61. *Agricultural Inquiry*, 1921, p. 495, Government Publications.

62. *Agricultural Inquiry*, 1921, pp. 497 *ff*., Government Publications.

63. *Agricultural Inquiry*, 1921, p. 502, Government Publications. In an exchange with Senator Lenroot, Strong justified the failure of System to raise discount rates in a timely way by saying, in effect, that he should talk to the Treasury if he had complaints. As fiscal agent, the Federal Reserve is the servant of the Treasury (p. 503).

64. *Agricultural Inquiry*, 1921, pp. 503–4, Government Publications.

65. *Agricultural Inquiry*, 1921, p. 505, Government Publications.

66. Chandler, 1958, pp. 173–75.

67. Federal Reserve Board, *Annual Report for 1920*, p. 12, Federal Reserve Papers.

68. Strong to Leffingwell, February 6, 1919, Strong Papers. Strong recognized that "[t]he process of deflation is a painful one, involving loss, unemployment, bankruptcy and social and political disorders ... that mistakes by the present treasury Administration from now on will bring retribution ... which is now beginning ... during the distasteful days of paying the damages.... Our danger is ... that we have established a higher level of prices than formerly ... merchants and manufacturers who have permitted their inventories to pile up on them at these prices must now struggle through a costly period of liquidation.... Notwithstanding the hardships and losses resulting, I believe ... it is inevitably necessary that our banking position must be gradually deflated. If this is not done, we may face the necessity of either continuing the gold export embargo, to the detriment of the rest of the world's financial position, or else lose a large amount of gold at a time when it would be inconvenient for us to do so, and necessarily force a more radical readjustment in interest levels than we have yet found necessary to employ."

69. *Agricultural Inquiry*, 1921, p. 505, Government Publications.

70. Harding, 1925, pp. 220–21.

71. *Report of the Joint Commission of Agricultural Inquiry*, 1922, p. 15, Government Publications.

72. *Report of Joint Commission of Agricultural Inquiry*, 1922, pp. 148–50, Government Publications. The Commission stated, "The approval of these recommendations will, it is believed, effectively and safely bridge the present gap in the two kinds of credit [commercial and farm] without the necessity of establishing any new or untried machinery and without sacrificing any of the fundamental principles upon which both the farm loan system and the Federal Reserve System must rest" (p. 150).

73. The definition of agricultural paper was not fully developed in the original Act but left to the Board to define. It was clear that it was to include paper based on livestock. See Hackley, 1973, p. 46.

74. Hackley, 1973, p. 47.

75. Hackley, 1973, pp. 50–51.

76. Hackley, 1973, pp. 51, 52.

77. See Bopp, 1935, p. 11.

78. Federal Reserve Board, *Annual Report for 1922*, p. 36, Federal Reserve Papers.

79. Among other things, it had collected a substantial portion of the country's gold reserve, it had begun to impose pressure for par collections, its new currency had been seen as a notable advance, it had begun to moderate seasonal swings in interest rates, and it was aggressively supporting a market for banker's acceptances.

80. Differences among Reserve Banks in administering the discount window had long been suspected in the 1950s and 1960s. They were documented in a System study in the mid-1960s. Such differences were considered objectionable, and the Board undertook a serious effort to eliminate them. See Shull, August 1972, pp. 65 *ff.*

81. Harding, 1925, p. 220.

82. Friedman and Schwartz, 1963, p. 239.

83. Keynes, 1960 (1930), p. 232.

84. See *Report of the Joint Commission on Agricultural Inquiry*, 1922, pp. 11–12, Government Publications.

85. See Harding, 1925, p. 209; and Meltzer, 2003, p. 128, n. 111.

86. In a confidential memorandum to Carl Snyder in 1922, he wrote, "The reaction ... of 1920–21 was an outburst of abuse of the Federal Reserve System. All ... the evils of deflation ... were charged to us.... The farm bloc was organized, has obtained a legislative veto power.... Another outgrowth has been the appearance of Messrs. Ford, Edison, et al., as proponents of cheap money. There is likely to be associated with them such men as Bryan ... all of that gang of inflationists and political propagandists" (Strong to Snyder, February 28, 1922, p. 1, Strong Papers).

87. "Editorial," 1921, p. 4, Williams Papers.

88. See, for example, Chandler, 1958; Friedman and Schwartz, 1963; and Meltzer, 2003.

89. As quoted in Chandler, 1958, p. 101.

90. As quoted in Chandler, 1958, p. 101.

91. As quoted in Chandler, 1958, p. 105.

92. See Chandler, 1958, pp. 120–21.

93. Strong to Leffingwell, February 6, 1919, p. 3, Strong Papers.

94. Strong to King, November 17, 1921, p. 2, Strong Papers.

95. Strong to King, January 30, 1922, pp. 1, 2, Strong Papers. Thirty years later, Milton Friedman enlarged on the criticism of the Federal Reserve operations during World War I, arguing that the establishment of the Federal Reserve System had the effect of reducing the reserve requirements of the banking system and. thereby, increasing the deposit and money multipliers. Its discount window practices also increased the amount of money created by the government. See Friedman, 1952 (1994), p. 237.

96. An early example of the Federal Reserve's assistance to the Treasury with respect to communications with bankers is illuminated in a letter from

J. F. Curtis, Secretary and legal counsel at the Reserve Bank, to Benjamin Strong the day after war was declared. Curtis wrote that he had finally got in to see Secretary McAdoo. "McAdoo told me that he couldn't publicly write the big bankers and financiers to confer with him, though he is anxious to get their views, because the politicians on the hill would howl that the Bankers had arranged a high rate to suit themselves and get the profit and had taken McAdoo into camp. He said it was already intimated here that he was the friend of Wall Street! (I only smiled—not laughed.) So I said if he felt that way there was a method of getting the view of the bankers quietly without their coming to Washington, and he replied that he wished I would see some of them and explain the political situation of which he is afraid and get their views as best we could, which I will begin to do on Monday." Curtis to Strong, 1917, p. 1, Strong Papers.

97. Strong to McAdoo, November 25, 1918, Strong Papers.

98. Strong, Lecture, April 11, 1921, pp. 5, 6, Strong Papers.

99. Strong, Lecture, June 19, 1922, pp. 3, 4, Strong Papers.

100. Strong, Lecture, June, 19, 1922, pp. 8, 9, Strong Papers.

101. Chandler, 1958, p. 102.

102. See Shull and Hanweck, 2002, pp. 18–19.

103. *Report of the Joint Commission of Agricultural Inquiry*, 1922, p. 15, Government Publications.

104. Miller to Joint Conference, 1921, pp. 2, 3, 8, Strong Papers.

105. Miller to Joint Conference, 1921, pp. 10, 11, Strong Papers.

106. Miller to Joint Conference, 1921, p. 14, Strong Papers.

107. Strong had come to the conclusion that a penalty rate was not applicable to American conditions. In England, the Bank dealt principally with brokers who discounted bills. Banks in England generally made advances to their customers on overdraft accounts that did not provide paper that could be discounted. In the United States, the Federal Reserve dealt with commercial banks that invested in a wide variety of assets that carried a wide range of market rates. See *Agricultural Inquiry*, 1921, pp. 516–17, Government Publications; and Miller to Joint Conference, 1921, p. 14, Strong Papers.

108. See Strong's testimony in *Agricultural Inquiry*, 1921, pp. 696–97, Government Publications.

109. Miller to Joint Conference, 1921, pp. 1, 2, Strong Papers.

110. Federal Reserve Board, *Annual Report for 1914*, p. 129, Federal Reserve Papers.

111. On the development of research at the Board, see Kohn, 2004, pp. 2–3.

112. Strong to Snyder, February 28, 1922. pp. 2, 3, Strong Papers.

113. Strong to Snyder, February 28, 1922, p. 3, Strong Papers.

114. Strong to Snyder, February 28, 1922, p. 4, Strong Papers.

115. Section 14 of the Federal Reserve Act of 1913 authorized the Reserve Banks to "purchase and sell in the open market at home or abroad,... cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities by this act made eligible for rediscount, with or without the indorsement of a member bank." In addition, "Every Federal reserve bank shall have power ... [b] to

buy and sell, . . . bonds and notes of the United States and bills, notes, revenue bonds, and warrants."

116. *Stabilization*, 1926, pp. 309–11, Government Publications.

117. Keynes, 1960 (1930), pp. 255–56.

118. Commons, 1963 (1934), pp. 192–93. For the exposition, see Commons, 1925. Commons was first brought to Strong's attention in a note sent by Carl Snyder in December 1922, shortly after Commons had become president of the National Monetary Association. Snyder attached a letter Commons had drafted that he described as, "Submitted for criticism and punching. You may like to look at it as the work of a rather odd but very sincere mind." Commons had also told Snyder "that Senator LaFollette of Wisconsin had always been, and still is, a sound money man, . . . if Senator LaFollette were provided with full information regarding the credit and currency situation . . . and his interest solicited, that that would be the end of any kind of dangerous legislation in the Senate" (Snyder to Strong, 1922, Strong Papers). Strong's reaction was unfavorable. In replying to Snyder, he said, Commons "impresses me as exhibiting an unintelligent prejudice against the Federal Reserve System, very little knowledge of what transpired, and convinces me that he is a dangerous man to have at the head of your organization [the National Monetary Association]" (Strong to Snyder, December 26, 1922, Strong Papers). Snyder replied after the New Year, "I fear you attached undue importance to Prof. Commons' proposed letter. It was . . . merely a very rough try-out, and clearly indicated both the questions in his own mind and his lack of definite information on certain points which he wished to know about. . . . I have formed the impression that he is a very sincere and earnest sort of man, and represents a point of view and has a following that should be very valuable to the Federal Reserve System" (Snyder to Strong, 1923, Strong Papers). A rocky beginning, however, apparently developed smoothly, at least from Commons' point of view. He writes, "I spent much time with the Federal Reserve bank in New York and the Federal Reserve Board at Washington. I learned from Governor Benjamin Strong . . . how he operated with the bank rate and the open market operations to 'mop up' credit or to expand credit on the money market, and how they had to regulate credit in order to enable England to return to the gold standard" (Commons, 1934, p. 192).

119. Mayer, 1974, p. 401.

120. See Harris, 1933, chap. 7; and Anderson, 1965, pp. 8, 9. See also Chernow, 1990, p. 182, for some circumstantial evidence of Strong's awareness as to how the Bank of England operated.

121. Federal Reserve Board, *Annual Report for 1914*, p. 156, Federal Reserve Papers. The discussion of open market operations is in "Circular No. 8" sent to the Reserve Banks by the Board on October 17, 1914, and reproduced in the *Annual Report* on pp. 155–56. The circular further states, "Much has been said of the effect of the open market transaction in enabling the reserve bank to get funds out into active use at times when they would otherwise be out of use. There are some limitations upon this idea that have probably not been sufficiently considered. Under ordinary circumstances the reserve banks will not compete with their own

members." The Board's concern about competing with its members was carefully articulated. "And while they [Reserve Banks] may be expected to compete with certain individual banks ... under special or peculiar circumstances, they will naturally do so only when such action is rather urgently demanded. A quite different condition of affairs will exist with reference to the open market transactions relating to paper put out in other districts. In so far as this represents a field of activity which is not occupied, or occupied only in a limited degree by individual banks, the reserve banks may be expected to become active buyers of paper originating in such other districts."

122. *Changes in the Banking and Currency System of the United States*, 1913, pp. 52–53, Government Publications. A discussion of the reasons for authorizing open market operation can also be found in the Senate Report. See *Banking and Currency*, 1913, pp. 26, 124, Government Publications.

123. For the "Q & A" undertaken by The National Monetary Commission, see "Report of Answers to Questions Addressed to the Governor and Directors of the Bank of England" in *Interviews on the Banking and Currency Systems,* 1910, pp. 7–33, Government Publications. The same material is reproduced in Gregory, 1929, p. 318.

124. Sayers, 1957, p. 12; see also Meltzer, 2003, pp. 142 *ff.*

125. Sayers, 1936, pp. 26–27; and Sayers, 1957, pp. 49–50. See also Clapham, 1945, pp. 382 *ff.* Clapham notes, "How 'secret' the operations proved is hard to say. The City knew when the Bank was taking money in; its knowledge, though never precise, is reflected regularly in the financial press." For additional indications that the open market operations had long been understood, see Meltzer, 2003, pp. 141 *ff.*

126. Chandler, 1958, pp. 206 *ff.*

127. Chandler, 1958, pp. 208 *ff.* The Committee established by the Governors Conference on May 2, 1922, was formally known as The Committee of Governors on Centralized Execution of Purchases and Sales of Government Securities by Federal Reserve Banks. Its explicit aim was to meet the objections of the Treasury to uncoordinated transactions (pp. 213–15).

128. Chandler, 1958, pp. 219–20.

129. Commons, 1925, p. 49.

130. As quoted in Commons, 1925, p. 49.

131. It was necessary to redesign the discount facility so that member-bank borrowing did not offset monetary restraint imposed by open market transactions during periods of tight money. In the wake of System withdrawal from progressive rates in 1921, the Board undertook to establish a set of rules for administering the discount window. It imposed restrictions on continuous borrowing, except in unusual circumstances, and alerted banks that borrowing should normally be short-term and not for speculative investments or to earn a profit; that is, by investing borrowed funds in higher yielding assets. In enforcing these rules, the Reserve Banks would undertake surveillance. It, thus, imposed a form of nonprice rationing, in general conformity to its view that banks were, or at least, should be reluctant to borrow, in order to constrain the extension of credit at the discount

window, regardless of whether or not banks held eligible paper and/or government securities. Shull, 1972, pp. 33–38.

132. See Chandler, 1958, pp. 206–7.

CHAPTER 4: COLLAPSE AND REVIVAL: 1929–1935

1. Roosevelt to House, November 21, 1933, as quoted in Schlesinger, 1959, p. 248.

2. Federal Reserve policy seemed directed toward managing short-term interest rates with a view to stabilizing the price level. Prices were, in fact, stable through much of the decade. In 1921, rates on three- to six-month treasury notes and certificates averaged close to 5 percent. They fluctuated between 2 and 5 percent until the middle of 1927. Short-term rates began rising after mid-year in 1927, and three- to six-month Treasury notes reached about 4.5 percent around the time of the crash in October 1929. Rates on long-term bonds declined through most of the 1920s. U.S. government bonds were less than 3.5 percent, and Aaa corporate bonds were a little greater than 4.5 percent in 1927. In 1928 and 1929 long-term rates rose somewhat, but government bonds were still less than 4 percent and Aaa corporate bonds less than 5 percent in October of 1929. In 1928 and 1929, the yield curve became inverted.

3. Burgess, 1927 pp. 294–95.

4. See Hoover, 1952, pp. 250–51; The Baruch and Fisher statements are as quoted in Galbraith, 1961, p. 75.

5. For a detailed description and analysis of the conflict between the Reserve Banks and the Board, see Chandler, 1971, chap. 4; and Anderson, 1971.

6. A meeting with a vice president of the First National Bank and a subsequent meeting with George Baker Sr. was reported in Harrison with Welldon and Baker, April 18 and April 23, 1929, Harrison Papers. Later meetings with George Baker Sr. and George Baker Jr. were detailed in Harrison with Baker, May 14, 1929, Harrison Papers.

7. A suit was brought by Frank G. Raichle in his capacity as a private citizen. He complained that the Federal Reserve Bank of New York and the Federal Reserve System had spread propaganda concerning a shortage of money, set about to restrict the supply of credit for investment purposes, and had caused stock and bond prices that he owned to fall in value, thus depriving him of property without due process of law. See *Raichle v. Federal Reserve Bank of New York* in Federal Reserve Board, August 1929, pp. 572–77, Federal Reserve Papers.

8. Harrison had told Baker that his plan to reduce rates would fail because the demand for credit would continue to increase. Within a day or two after their initial conversation on April 23, call-money rates rose to the extraordinary rate of 14 percent (Harrison with Baker, May 14, 1929, p. 1, Harrison Papers). Raichle's suit was dismissed by a district court but appealed. The dismissal was upheld by the circuit court, which "could see no basis for the contention that it is a tort for a Federal reserve bank to sell its securities in the open market, to fix discount rates which are unreasonably high, or to refuse to discount eligible paper, even though

its policy may be mistaken and its judgement bad." The Court observed: "The remedy would make the courts, rather than the Federal Reserve Board, the supervisors of the Federal Reserve system and would involve a cure worse than the malady." Federal Reserve Board, August 1929, p. 572, Federal Reserve Papers.

9. See, for example, Chandler, 1971, p. 83. Whether there was any policy that the Federal Reserve could have chosen that would have prevented the bubble and the subsequent crash without precipitating a depression is moot. The Federal Reserve was still unable to find a successful policy in the late 1990s when Alan Greenspan again resorted to "direct pressure" in his warning about "irrational exuberance." On the difficulties of sustaining long-term prosperity, see Minsky, 1972, pp. 95–136. Minsky has argued that sustained growth gives rise to euphoria that cannot be broken by the central bank without terminating growth. Preventive monetary medicine becomes a game of economic brinkmanship, designed to prevent euphoria during prolonged expansions and tightening money just so far. In such circumstances, there are no clear-cut policy rules for monetary management.

10. For a relatively recent analysis of the causes of the Depression, including a careful discussion of its global impact, see Bernake, 2000, chaps. 2–4.

11. The Board mandated a change in January 1930 to include the representatives of all twelve Reserve Banks, an executive committee composed of members from New York, Chicago, Philadelphia, Boston, and, subsequently, Cleveland, and a change in name from the Open Market Investment Committee to the Open Market Policy Conference. The purpose was apparently to extend Board authority over open market purchases and to provide each Reserve Bank with representation. See Chandler, 1971, pp. 132–33.

12. Meltzer, 2003, p. 298.

13. Chandler, 1971, p. 153; and Meltzer, 2003, pp. 323–24.

14. For a discussion of efforts to save the bank and the withdrawal of support by the New York Clearing House Association, see Friedman and Schwartz, 1963, pp. 309–10, n. 9.

15. Under then-existing law, the Reserve Banks had a 40 percent reserve requirement against outstanding Federal Reserve notes and a 35 percent reserve requirement against deposit liabilities. Reserve requirements could be satisfied by gold or "lawful money." The law also imposed collateral requirements on Federal Reserve notes that required 100 percent in gold, gold certificates, and/or eligible paper. Gold held as reserves against Federal Reserve notes also served as collateral for the notes. However, the gold serving as collateral for notes could not be counted as reserves for deposits. If a Reserve Bank had 60 percent of its Federal Reserve notes collateralized by eligible paper, with the remaining 40 percent collateralized by gold, the latter would also satisfy the reserve requirement for notes. If, however, the eligible paper held by Reserve Banks fell to, say, 50 percent of its notes, additional gold would have to be drawn from reserves against deposit to meet the collateral requirement. Because Federal Reserve officials anticipated a reduction in borrowing, and therefore eligible paper, they expected open market purchases, in increasing deposits, would drain available gold; they became reluctant to purchase securities. The "free gold" issue has received extensive attention

in the academic literature. For a brief discussion of the System's point of view, see Goldenweiser, 1949, pp. 56–57. For an analysis by critics who believed the System could have circumvented the problem, see Friedman and Schwartz, 1963, pp. 399–406. For a somewhat less negative analysis, see Chandler, 1971, pp. 181 *ff.* See also, Meltzer, 2003, pp. 355 *ff.*

16. Hackley, 1973, pp. 100–101.

17. Subsequently, the Emergency Banking Act of March 9, 1933, augmented this provision, authorizing Reserve Banks to extend credit to individuals, partnerships, and corporations on the basis of their promissory notes secured by government obligations. Nonmember banks were included. Glass' reaction was that "it broadens—in a degree that is shocking to me—the currency and credit facilities of the Federal Reserve Banking System." Hackley, 1973, pp. 121–22. In 1934, Section 13(b) was added to the Federal Reserve Act (Industrial Advances Act of June 19, 1934) authorizing Reserve Banks to make advances of working capital to businesses, with maturities up to five years under certain circumstances. This provision was ultimately repealed by the Small Business Investment Company Act of 1958 (Hackley, 1973, p. 133 *ff.* See also Fettig, 2002).

18. Chandler, 1971, pp. 204–8.

19. Chandler, 1971, chap. 7.

20. Chandler, 1971, p. 129.

21. See Chandler, 1971, chap. 9.

22. Open Market Policy Conference, 1933, pp. 1, 2, Federal Reserve Papers.

23. Lippmann, April 14, 1932, p. 126.

24. Lippmann, January 17, 1933, p. 3.

25. Hoover, 1952, pp. 6, 7.

26. Hoover, 1952, p. 210.

27. Hoover, 1952, p. 212.

28. Criticism of the Federal Reserve System for the part it played in the contraction, deflation, and crises of the 1929–1933 period became widespread in later years. As was the case for System policy in 1919–1921, Friedman and Schwartz again suggested that the country might have been better off had the System never been established (1963, pp. 391, 441).

29. For the steps leading up to the closing of the Reserve Banks, see Moley, 1966, pp. 160–61.

30. At Harvard, he had taken both introductory courses and a course in money and banking. See Fusfeld, 1956. The analysis that John Maynard Keynes was in process of developing, and that came to fruition with publication of his *General Theory* in 1936, apparently had little influence on him. Years later, Frances Perkins, Roosevelt's secretary of labor, related that when Keynes left Roosevelt's office in May 1934, he commented that he had hoped that the president would have known more about economics. When she then entered Roosevelt's office, the president remarked, "I didn't understand a word that man said." (The story was told by Perkins in an address sponsored by the Economics Department and the Law School at the University of Wisconsin in 1956, attended by the author, and is more or less corroborated by other references cited in Schlesinger, 1960, pp. 405–6.)

31. In an October 12, 1931, letter to Strabe V. Claggett, Roosevelt had indicated he was "very happy that the plan worked out in Washington this week [with respect to Federal Reserve policies] seems to be so well received in every part of the country." In December, however, after the Federal Reserve stopped open market purchases, he wrote to the economist Harry Gunnison Brown: "Alas what a great change has taken place in the Board since the days of Woodrow Wilson. Apparently, today it is the tail to Secretary Mellon's kite." As quoted in Fusfeld, 1956, p. 292, n. 9. Fusfeld points out that the letter to Brown did not explicitly approve Brown's advocacy of large open market purchases.

32. See Burns, 1974, pp. 22 *ff.*; and Kennedy, 1973, p. 59.

33. Moley, 1966, p. 131.

34. Tugwell, 1968, p. 443.

35. Lippmann, June 14, 1933, p. 69. Reappointed twice, Szymczak remained on the Board for twenty-nine years, serving longer than any governor, before or since. Other political appointments followed. Harold Ickes discusses in his diary the appointment to the Board in February 1936 of Ralph Morrison, a wealthy Texas businessman with no relevant background, who was the beneficiary of a special plea by Vice President Garner. Morrison resigned two months later in May 1936. Ickes, 1954, p. 37.

36. As reprinted in Commager, 1938, pp. 417–18.

37. As quoted in Phillips, 1994, p. 38.

38. Ickes, 1954, pp. 108–9.

39. As quoted in Schlesinger, 1959, p. 248.

40. Chandler, 1971, p. 272.

41. Schlesinger, 1959, p. 5. See also Phillips, 1994, pp. 40–41; and Kennedy, 1973, p. 167; but see Moley, 1966, pp. 177–80, who says that he knew of no such plan.

42. Kennedy, 1973, pp. 166–67. See also Phillips, 1994, pp. 48 *ff.*

43. "Report of the Economic Policy Commission," American Bankers Association, April 10–12, 1933, as quoted in Burns, 1974, p. 82.

44. See Note 16, supra.

45. See Patrick, 1993, pp. 296–307.

46. Open Market Policy Conference, April 22, 1933, p. 1, Federal Reserve Papers.

47. See Federal Reserve Board, *Annual Report for 1933*, p. 44, Federal Reserve Papers.

48. Chandler, 1971, p. 304.

49. The Act defined holding companies as corporations owning more than 50 percent of the stock of one or more member banks. To vote for bank directors of their subsidiaries, they were required to apply to the Board to secure voting permits. The Board, in granting such permits, was to consider the financial condition of the applicant, the character of its management, and the likely effect of granting the permit on each subsidiary member bank. It was given supervisory authority over the holding company and its subsidiaries aimed at maintaining the

soundness of the organization. The Act also added Section 23A to the Federal Reserve Act, establishing limits and collateral requirements for the extension of credit from member banks to their holding company affiliates. As matters turned out, holding companies could exercise control of subsidiary banks with far less than a 50 percent share, and thus could avoid regulation. Even when they did own 50 percent or more, they exercised control without voting their stock, again avoiding any need for voting permits and, of course, regulation.

50. Section 10 of the Federal Reserve Act (para. 4) was amended to state that Board funds "shall not be construed to be Government funds of appropriated moneys."

51. See Kettl, 1986, p. 154 *ff.* At its origin, the Federal Reserve had been subject to audit by the Treasury Department, with responsibility transferred to the GAO in 1921 when that organization was established. After the Banking Act of 1933, the auditors employed by the Board examined the Reserve Banks and outside auditors examined the Board. In 1978, the Federal Banking Agency Audit Act (PL 95-320) restored GAO audit, except for monetary policy, international transactions, and FOMC activities.

52. As indicated above, in Note 16, Section 13(b) was added to the Federal Reserve Act by the Industrial Advances Act of June 19, 1934. This provision was repealed in 1958, as noted above. However, the Federal Deposit Insurance Corporation Improvement Act of 1991 added a paragraph to Section 13 permitting Reserve Banks to advance credit to individuals, partnerships, and corporations that are not depository institutions in exigent circumstances and with the approval of five members of the Board.

53. See Schlesinger, 1959, p. 5.

54. Devaluation increased the official price of gold, from $20.67 to $35 per ounce. The increase in the value of gold held by the Treasury permitted it to print additional gold certificates, which were deposited with Federal Reserve Banks, further increasing its deposits.

55. Blum, 1959, pp. 343–44.

56. Chandler, 1971, pp. 244–45.

57. Chandler, 1971, pp. 263–64.

58. Harrison, Conversations, 1933, pp. 2, 3, Harrison Papers.

59. *Banking Act of 1935*, April 19–June 3, 1935, pp. 312–14, Government Publications.

60. Blum, 1959, p. 348.

61. Harrison with Aldrich, 1934, Harrison Papers.

62. Blum, 1959, p. 354.

63. Blum, 1959, p. 349.

64. Eccles, 1951, p. 187. Even after passage of the Banking Act of 1935, concerns about the banking community remained. In early 1936, the Vice President reported, in a cabinet meeting, a rumor to the effect that the Federal Reserve Board's Advisory Committee was trying to organize a boycott of government bonds to undermine the government's credit (Ickes, 1954, pp. 534–35). Also see Schlesinger, 1959, p. 429.

65. Eccles' testimony can be found in *Investigation of Economic Problems*, 1933, pp. 703–33, Government Publications.

66. *Investigation of Economic Problems*, 1933, p. 720, Government Publications.

67. Eccles to Roosevelt, 1934, Roosevelt Papers. Eccles indicates that, in preparing his memorandum, he was assisted by Laughlin Currie, at the time an economist working in the Treasury Department (Eccles, 1951, p. 166).

68. Eccles, 1951, p. 166.

69. Eccles to Roosevelt, 1934, Roosevelt Papers.

70. Eccles, 1951, p. 175.

71. At one point, he told Eccles that "[t]he Federal Reserve System was shot full of politics, and he wanted to make it over into a system run by independent, disinterested experts" (Blum, 1959, p. 348).

72. Morgenthau, who had supported Eccles' initial proposal, resisted placing all authority in the Board, whose lack of cooperation he resented. Ultimately, he proposed that the federal government purchase member bank stock in the Reserve Banks. In testimony, he told Glass' Committee that the nation had suffered because three different agencies, the Federal Reserve Board, the Open Market Committee, and the Treasury, had partial authority over credit. He believed the authority should be in a single agency but not in the Treasury. See Blum, 1959, pp. 346–48.

73. Blum, 1959, pp. 346 *ff.*

74. Lippmann, 1935, p. 184.

75. As quoted in Westerfield, 1933, pp. 727–28.

76. Westerfield, 1933, pp. 728–29.

77. As quoted in Blum, 1959, p. 347.

78. Eccles, 1951, p. 179.

79. Harrison with Glass, 1935, Harrison Papers.

80. See, for example, Blum, 1959, p. 345 *ff.*

81. Friedman and Schwartz, 1963, pp. 445–46, n. 25.

82. Eccles, 1938, as reprinted in Weissman, 1973, pp. 142–44.

83. It remained possible for the Reserve Banks to establish differential standards for borrowing at the discount window. When such were discovered, in 1967, the Board moved quickly to impose uniform standards. See Shull, 1972, pp. 44–55, 66, 67 and table 12.

84. See, for example, the Board of Governor's "White Paper" on this issue. Board of Governors, 1984, Federal Reserve Papers.

85. Karl Bopp, then 26 years old and later to become president of the Federal Reserve Bank of Philadelphia, said in 1932: "The structure of the Federal Reserve banking system ... is so complicated that a consistent long-run policy is scarcely possible." Bopp, 1932, p. 379.

86. Warburg, 1930, pp. 141–42.

87. Bopp, 1935, p. 20. Bopp indicates that Strong's domination of System policy was effected with the support by the Secretary of the Treasury.

88. Bopp, 1935, p. 79.

89. On conflicts over discount rates and open market operation, see Chandler, 1971, pp. 6, 7; and Bopp, 1935, pp. 46 *ff.* Discount rates, under the 1913 Act,

were to be established by the directors of each Reserve Bank, "subject to review and determination by the Federal Reserve Board." The Attorney General had ruled that no Reserve Bank could establish a rate without the approval of the Board, and the Board could substitute a rate if it didn't like the rate the Reserve Bank had proposed. So, in effect, the Board had a veto, but questions remained as to whether the Board could initiate a rate change. In October 1927, the Board required the Chicago Reserve Bank to reduce its rate from 4 to 3.5 percent, but the adverse criticism that followed persuaded it not to take any further initiative in changing rates. The Act placed open market operations in the hands of each of the Reserve Banks "in accordance with rules and regulations prescribed by the Federal Reserve Board." The Board did not initiate open-market policies but asserted authority over the Open Market Investment Committee (OMIC). It did not initiate policy, but the Committee did not carry out operations disapproved by the Board. On conflicts during the 1920s, see Wueschner, 1999, chaps. 5, 6; Hoover, 1952, pp. 17 *ff.*; and Wicker, 1965.

90. *Banking Act of 1935*, March 18, 1935, p. 377, Government Publications.

91. Chandler, 1970, p. 186.

92. Commons, 1934, pp. 890–91.

93. As John Maynard Keynes put it, what had been made clear was the feasibility of "currency management ... in conditions which are virtually independent of the movements of gold." See Keynes, 1960 (1930), p. 258.

94. Smith, 1936, p. 1.

95. Westerfield, 1933, p. 727.

96. Meltzer, 2003, p. 413.

97. Kennedy, 1973, p. 168.

98. Burns, 1974, pp. 108–109.

99. Clifford, 1965, pp. 125–26. See also pp. 147 *ff.*

100. Open Market Policy Conference, April 22, 1933, p. 1, Federal Reserve Papers.

101. Burgess to directors of the Federal Reserve Bank of New York, 1935, Federal Reserve Papers.

CHAPTER 5: STAGFLATION AND THE MONETARY EXPERIMENT OF 1979–1982

1. Kettl, 1986, p. 101.

2. *Money and Credit*, 1961, p. 81.

3. *Money and Credit*, 1961, p. 85.

4. Bach, 1971, pp. 120 *ff.*

5. The Banking Act of 1933 imposed interest-rate maximums on time and savings deposits at commercial banks to constrain competition, a perceived cause of bank failure. Maximums were not imposed on savings and loans until 1966, when the Interest Rate Adjustment Act was passed after competition between banks and S&Ls had intensified. By the mid-1960s, it had become clear that the

latter, with the preponderance of their assets in long-term, fixed-rate mortgages, could not operate successfully with the Federal Reserve periodically raising Regulation Q maximums as market rates increased. The Act was aimed at placing banks and S&Ls on a comparable basis; that is, "leveling the playing field." The Federal Reserve, thereafter, could attempt to constrain credit expansion by allowing maximums to remain below market rates without causing disadvantages for either type of institution. In the late 1960s, this practice resulted in massive outflows of funds from both types of institutions into assets that did pay market rates, such as government securities—a phenomenon termed "disintermediation."

6. For a brief and entertaining review of these events, see Bernstein, 2000, chap. 19.

7. Federal Open Market Committee, 1973, p. 14, Federal Reserve Papers.

8. Ten days before the FOMC's October 16 meeting, on the holiest of Jewish holidays, Yom Kippur, the Egyptian army attacked Israel from across the Suez Canal. Simultaneously, Syrian forces move into the Golan Heights. Israel ultimately repelled the invaders, but a cease-fire was not arranged until November. At the October 16 meeting, not much was made of the war's likely impact on the economy. "Chairman Burns thought [the war] ... had more significance for defense spending than ... [the staff report suggested].... [He] suggested.... there no longer was any likelihood that the Administration's defense budget would be cut by $5 billion.... Indeed, it was reasonable to assume that the Administration would now ask for larger defense appropriations" (Federal Open Market Committee, 1973, pp. 17–18, Federal Reserve Papers).

9. Rising interest rates were generally accepted as a product of the inflationary expectations that had become embedded in the minds of borrowers and lenders. They increased more or less in accordance with the understanding generally attributed to the economist Irving Fisher that people and institutions who loaned and invested money in an inflationary environment would expect to be compensated for the loss of real value in the flow of repayments they received from borrowers.

10. *Economic Report of the President*, 2003, p. 362, Government Publications.

11. The Humphrey-Hawkins Act elaborated the congressional economic objectives originally established by the Employment Act of 1946. The 1978 Act specified a five-year objective of reducing the unemployment rate to 4 percent for the entire labor force (3 percent for those older than 20) and reducing the rate of inflation to 3 percent. It required, among other things, the Chairman of the Board to specify growth ranges for monetary aggregates each February and to present FOMC projections for inflation and output during the year. Each July, the chairman's report was to reassess the Federal Reserve's objectives and projections and set preliminary targets for the following year. The reporting requirements reflected the influence of the monetarists, discussed below.

12. This section draws on Hanweck and Shull, 1995, chap. 2.

13. In the 1920s, the Federal Reserve had rejected the proposals that price stability should be the legislated objective of monetary policy. Economists who

made such proposals understood that the result would be substantial interest-rate fluctuations. "If we are to have stability of the general credit situation, which means relative stability of the general price level, then we cannot have stability of the rate of interest on money" (Commons, 1925, p. 51). "If the Treasury (or other borrowers) had to pay more, so be it" (Gephart, 1925, pp. 67–68). A description of efforts during the 1920s by the Stable Money Association to have Congress legislate a price-stability objective for the Federal Reserve can be found in Fisher, 1934. Benjamin Strong, for example, didn't disagree with the outcome desired by the Stable Money Association, but he opposed legislation that would codify price stability as the Federal Reserve's objective. There were several reasons Federal Reserve officials were opposed. Aversion to interest-rate volatility was one and is discussed below in the text. Opposition also reflected a belief that, as a practical matter, the System could not meet such a commitment, there being considerable slippage between the money stock and the price level. Moreover, in a less sophisticated age, the distinction between stabilizing the general price level and controlling individual prices of goods and services was less than clear to many. Some feared that any explicit attempt by the Federal Reserve to control prices would reawaken American's traditional anxiety about the concentration of power.

14. Senator Paul Douglas of Illinois, a former president of the American Economic Association, was a principal architect of the accord that freed Federal Reserve policy from Treasury control in 1951. Highly critical of the Truman administration's willingness to ignore money-supply growth, he observed on the Senate floor in February 1951 that the quantity theory of money is "supposedly known to every student of elementary economics" (Douglas, 1971, p. 332). In an interrogation in March 1952 of Leon Keyserling, who was then chairman of the Council of Economic Advisers, Douglas was intensely critical of Keyserling's failure to accept the logic of the theory. See *Monetary Policy and the Management of the Public Debt*, 1952, pp. 169–70, Government Publications. Years later, Douglas regretted his single-minded focus. In his *Memoirs*, he concluded that he had been "... substantially correct.... But I was not wholly so." His confessed that his faith in "... the rigid quantity theory as the sole factor in the general price level" had waned. He also explained why Congressman Wright Patman, who ".... consistently denounced it [the Accord] as an infamous agreement," had never forgiven him for his role in its establishment. "He comes from ... (Texarkana) where interest rates used to be the highest in the nation and has a justifiable abhorrence of them. I once suggested that he should cultivate an equal abhorrence of rising prices" (Douglas, 1971, p. 335).

15. Robert Roosa, a vice president at the Federal Reserve Bank of New York, agreed with the general sentiment that wide swings in rates were less acceptable and less useful than they once had been (Roosa, 1951, pp. 272–86). He argued, however, that they were less necessary to impose monetary restraint. A policy of monetary restraint that raised long-term rates moderately would reduce the value of the longer-term assets now held by banks. At the relatively low market rates then existing, even an increase of one-eighth or one-half of 1 percent in long-term rates would result in a substantial percentage decrease in market value.

The reduction would deter banks from selling assets and, therefore, restrain their willingness to make new credit available. They would be locked-in by the structure of their portfolios and by "a widespread phobia [among bankers] concerning capital losses on security sales. . . ." (Roosa, 1951, pp. 288–90, n. 29).

16. This statement can be found in Keynes, 1936, p. 323. Relevant analysis can be found on pp. 80 *ff.* and chap. 17.

17. The issue is discussed in Hansen, 1957, p. 52. See also Miller, 1956, p. 23. Miller states: "One form of instability is used to fight another, and the instability deliberately introduced is allegedly unobjectionable—despite the vast changes in society's economic fabric—since it presumably helps to produce a 'higher' stability." The "changes in society's economic fabric" included the extensive development of capital instruments and markets.

18. Hansen, 1957, pp. 53–54. The sectors Hansen saw as endangered by higher interest rates (and "a collapse of capital values") included "stable industries," presumably such as automobile manufacturing, farming, and services, small and growing businesses without large internal sources of funds, and state and local governments. He did not include financial institutions among those endangered.

19. In the 1920s, as noted, the Federal Reserve abandoned efforts to control lending at the discount window by establishing a penalty rate. It, instead, developed a scheme for nonprice rationing that was associated with the presumed reluctance of banks to borrow. In the early 1950s, the System reestablished nonprice restrictions on borrowing at the discount window under a revised Regulation A. It expected to operate principally through open market operations. It elaborated this arrangement in the 1960s, providing so-called "adjustment credit" at less than market rates of interest. See Shull (1972) and Board of Governors, *Report of a System Committee*, 1971, Federal Reserve Papers. It was not until January 2003 that it finally abandoned this arrangement, providing short-term "primary credit" as a "back-up source of liquidity" at rates greater than the targeted federal funds rate. It, thus, abandoned its traditional reliance on nonprice rationing to discourage excessive borrowing in favor of a penalty-rate differential of about 100 basis points. See Board of Governors, October 31, 2002, "Extensions of Credit by Federal Reserve Banks," Federal Reserve Papers.

20. *Nomination of Paul A. Volcker*, 1979, pp. 4, 5, Government Publications.

21. *Nomination of Paul A. Volcker*, 1979, p. 20, Government Publications.

22. *Nomination of Paul A. Volcker*, 1979, p. 29, Government Publications.

23. *Nomination of Paul A. Volcker*, 1979, p. 20, Government Publications.

24. *Nomination of Paul A. Volcker*, 1979, p. 15, Government Publications.

25. *Nomination of Paul A. Volcker*, 1979, p. 37, Government Publications.

26. White, Statement to the Committee on Banking, Housing, and Urban Affairs, 1979, pp. 59, 63–64, Government Publications.

27. White, Statement to the Committee on Banking, Housing, and Urban Affairs, 1979, p. 60, Government Publications.

28. The memorandum was prepared by Steven Axilrod of the Board and Peter Sternlight, who was the manager of the Open Market Account at the Federal Reserve Bank of New York. The author was informed by Joe Coyne, at the time

an Assistant to the Board, that while Volcker was still President of the Federal Reserve Bank of New York, he had asked Axilrod to develop a plan for targeting the money supply and that the planning was accelerated.

29. The author was told by Joe Coyne that the Chairman had also talked to a number of the members individually before the meeting to prepare them for the changes he was proposing and that it was rare for the Chairman to discuss his views with members of the FOMC prior to a meeting. Author's interview, December 18, 2003.

30. See "FOMC Transcript," October 5, 1979, p. 5, in Federal Open Market Committee, 1979–1982, Federal Reserve Papers. In 1976, the Sunshine Act substantially exempted the Federal Reserve from a number of requirements. Of importance, it did not require that transcripts be kept of closed meetings. The FOMC, thereafter, stopped making transcripts of meetings available. In 1994, it became widely known that tapes of subsequent FOMC meetings had been made. The Federal Reserve has, since, been in process of transcribing these tapes and releasing the transcripts.

31. "FOMC Transcript," October 6, 1979, p. 20, in Federal Open Market Committee, 1979–1982, Federal Reserve Papers.

32. "FOMC Transcript," October 6, 1979, p. 19, in Federal Open Market Committee, 1979–1982, Federal Reserve Papers. Several years later, in February 1984, Wallich explained more fully in a statement published in the *Journal of Commerce*: "Basically, we needed higher interest rates. I doubt that they could have been achieved by decision.... But putting the decision in the hands of the market and allowing things to take their course, that was more acceptable." Governor Nancy Teeters told the *Journal* on the same day that "[i]t was a camouflage for raising interest rates" (as quoted in Kettl, 1986, p. 177). More recently, Axilrod suggested that there were diverse reasons for changing procedures and that the FOMC did want better control of the money supply: "... the policy was presented to policymakers largely on the technical grounds that if the FOMC wanted closer control over money, such control was more likely to be achieved with a nonborrowed reserves day-to-day target than if the Committee attempted to judge, with whatever help the staff could give, the day-to-day federal funds rate the Desk should aim for" (Axilrod, 2000, p. 71).

33. Author's interview, December 18, 2003.

34. These included CDs in denominations of $100,000 or more with maturities of less than one year, Eurodollar borrowing, and federal funds of more than a base-period level.

35. See also Kettl, 1986, pp. 175–76.

36. Board of Governors, *Annual Report for 1979*, p. 19, Federal Reserve Papers.

37. Kettl, 1986, pp. 175–76.

38. The M2 target range was set between 5 and 9 percent.

39. Board of Governors, *Annual Report for 1978*, pp. 260–61, Federal Reserve Papers.

40. Axilrod, 2000, pp. 71, 72.

41. In early 1981, Milton Friedman observed that "... monetary growth had varied over a wider range since Oct. 6, 1979, than in any period of comparable

length for at least the last two decades" (Friedman, 1981, p. 20). After the experiment was over, in 1982, he told the Joint Economic Committee that if what the Federal Reserve had done was monetarism, he was not a monetarist. He pointed out that "[a]n absolutely essential feature of the monetarist policy is steadiness in the rate of monetary growth. Since October 1979, monetary growth has been more unstable than in any other comparable period that I know about in the whole history of the Federal Reserve System. If this be monetarism, I am not a monetarist." Friedman's views are in *Monetarism and the Federal Reserve's Conduct of Monetary Policy*, 1982, p. 9, Government Publications.

42. Kettl, 1986, pp. 187–88.

43. Historical data on both short-term and long-term interest rates can be found in Homer, 1977; and Macaulay, 1938.

44. This statement reflects the judgement of Joe Coyne as indicated in discussion with the author on December 18, 2003.

45. The transcripts of FOMC meetings that were taped and associated staff reports can be found at www.federalreserve.gov/fomc/transcripts.

46. The recorded comments of Vice Chairman Solomon at the FOMC meeting of August 18, 1981, reflects this concern: "The real crunch is going to be next year when, I think we are going to be blown out of the water. Unless we can show an inflation rate decline to 5 percent, when the Administration is disappointed in all of its projections and we have a stagnant economy and the supply-siders are beginning to turn against us and everybody else is turning against us, it's quite clear that people will not understand why we are still continuing with such a high level of interest rates.... Aside from that kind of defense, I don't think we will be able to sustain this kind of monetary policy next year." "FOMC Transcript," August 18, 1981, p. 36, in Federal Open Market Committee, 1979–1982, Federal Reserve Papers.

47. Energy Information Administration, 2002.

48. Board of Governors, *Annual Report for 1983*, p. 3, Federal Reserve Papers.

49. See Kettl, 1986, p. 183.

50. For a review of how and why the FOMC altered its operating procedures over the 1980s, see Meulendyke, 1998, pp. 48 *ff.* The Committee first abandoned M1, the basic definition of the money supply, as a target and focused on broader definitions. In the latter half of 1982, the FOMC concluded that M1 had lost its earlier significance as a target because the Deregulation and Monetary Control Act of 1980, which permitted banks to offer interest-bearing transactions accounts not included in M1, had grown substantially. In 1983, it dropped its efforts to hit its money-supply targets by controlling nonborrowed reserves and returned to borrowed reserves, a proxy for money-market conditions that it had originally adopted in the 1920s. Toward the end of the decade, it switched its focus again from borrowed reserves to the federal-funds rate on the belief that by so doing it could limit interest-rate fluctuations as well as exercise control over the monetary aggregates.

51. Axilrod, 2000, pp. 71, 72.

52. Brumbaugh, 1988, p. 15.

53. Gray, Statement before the House Committee on Banking, Finance and Urban Affairs, 1984, pp. 1598–1623, Government Publications.

54. These statements reflect the memories of Joe Coyne and William Wiles of the Board. Author's interview December 18, 2003. See also Kettl, 1986, p. 187.

55. *The Impact of the Federal Reserve System's Monetary Policies on the Nation's Economy*, 1976, pp. 49–50, Government Publications.

56. *Employment and Inflation Goals of the Humphrey-Hawkins Act and the Conduct of Monetary Policy*, 1979, pp. 143–44, Government Publications.

57. *Federal Reserve Policy Actions*, 1979, pp. 1, 2, Government Publications.

58. *Recent Monetary Policy Developments*, November 19, 1980, pp. 1, 3, Government Publications.

59. *Recent Monetary Policy Developments*, Hearings, November 19, 1980, p. 50, Government Publications.

60. As quoted in Kettl, 1986, p. 180.

61. See Kettl, 1986, pp. 162–63.

62. Kettl, 1986, p. 182.

63. The relationship between Federal Reserve officials and academic economists has reflected a characteristic tension between practitioners and outside analysts. Benjamin Strong, for example, had cordial relations with numerous academics. While he valued their views, he could also express what became, in the Federal Reserve, a conventional criticism. So, for example, in recommending to Leffingwell that he read the 1919 Report on the Committee on War Finance of the American Economic Association, Strong wrote: "They will bore you some, make you mad some, but also, they will help you some. Professor Bogart ... annoys me, as he will you.... Their trouble is the usual and, ancient one, of approaching the problem on the theoretical basis of 100% perfection, but leaving out of account entirely the human factor, i.e., what is possible to do, rather than what ought to be done" (Strong to Leffingwell, February 6, 1919). Twenty-five years later, Karl Bopp, a former academic economist himself who later became President of the Federal Reserve Bank of Philadelphia, had much the same thing to say: "Many false prophets will rise, saying, 'Here is the solution,' or 'There is the solution.' And there will be neither flaw in the logic of some of these prophets—except relevancy to the real world—nor lack of cogency in their rhetoric" (Bopp, 1944, p. 272).

64. See Friedman, 1982; and, in partial rebuttal, Romer and Romer, 1989, pp. 121–70.

65. A sampling of the commentary of the Shadow Open Market Committee is illuminating. In September, 1977, it reported: "The growth rate of money ... has returned to the high levels of [previous years].... Accelerating inflation and an enhanced risk of recession are mainly the result of the inappropriately expansionary monetary policy that the Federal Reserve pursued during the past two years, and particularly during the past six months" (Shadow Open Market Committee, 1977, p. 1). In September 1979, it observed: "For several years, the [Shadow]

Committee has urged the Federal Reserve to adopt a policy of steady, preannounced reductions in money growth. If that policy had been adopted and maintained for the past three years, it would have been possible for us to enter the 1980s with low inflation, low market interest rates and less uncertainty about the future.... The Federal Reserve's practice of using interest rates as a target of monetary policy not only increased the recent variability of interest rates, but also the problem of stagflation" (Shadow Open Market Committee, 1979, p. 7).

66. Friedman 1962, p. 234.

67. Friedman, 1962, pp. 232–34. The charge that the Federal Reserve obfuscates to avoid responsibility is an old one that was leveled at least as long ago as the late 1930s. The well-known monetary economist Charles Hardy told his students in 1939 that the Federal Reserve "accumulated a sufficient number of these statistical series, so that it is impossible for any person to say definitely whether they are following the information or not.... it is a great convenience, from the administrative standpoint, that no one can definitely point to your records and say that you have not followed the official criteria." See Hardy, 1940, p. 15.

68. Friedman wrote: "... an independent central bank will almost inevitably give undue emphasis to the point of view of bankers.... since the banking community is concerned primarily with the credit market, central banks are led to put altogether too much emphasis on the credit effects of their policies [i.e., on interest rates] and too little emphasis on the monetary effects of their policies [i.e., on the money supply]." Friedman, 1962, pp. 234 *ff.* See also D'Arista, 1971, pp. 125–26, Government Publications; and Weintraub, December 1971, pp. 7–9, Government Publications.

69. Friedman, 1982, p. 115.

70. Friedman, 1982, pp. 103, 114.

71. See Friedman, 1982, p. 105, n. 8. Friedman observed that in the periodic meetings of academic consultants that the Board organized in the 1960s and 1970s, "... [t]he choice of the particular consultants invited to attend seemed designed to guarantee offsetting and contradictory advice, leaving the Fed free to pursue its own devices." Governor and former Yale professor Henry Wallich did not consider this a malevolent scheme. "When Keynesians and monetarists disagree," he noted, "the Board and the FOMC will be reasonably safe in the middle. If they duck in between, the two sides will be shooting at each other" (as quoted in Mayer, 1990, p. 244). It is worthwhile to point out that it would have been irresponsible to exclude prominent economists with differing views from academic consultant meetings.

72. It is worth noting that Friedman concluded in 1962 that it would be best to legislate rules for the conduct of monetary policy that would permit the public to control policies through its political representatives but immunize policy from the whims of political authorities. His choice at the time was a rule instructing the central bank to achieve a specified rate of growth in the supply of money (Friedman, 1962, pp. 242–43).

73. In line with his long-existing views, Wright Patman introduced several bills that would radically change the organization of the System. These included

the retirement of the stock held by commercial banks in the Reserve Banks, expanding the Board of Governors to twelve members including the Secretary of the Treasury, eliminating the Federal Open Market Committee, and requiring an annual audit by the General Accounting Office. Such a bill would not have eliminated the constituency issue but would constrain Federal Reserve autonomy. On the other hand, the establishment of a rule of one kind or another would substantially eliminate the constituency issue and autonomy. In at least one analysis, central bank independence and reliance on a rule become almost indistinguishable as the result of defining "independence" as a legal mandate to reduce the rate of inflation to 0–2 percent. See Woods, Mills and Capie, 1993, pp. 11, 27. The rule permits the central bank to choose its instruments and strategy but not its ultimate objective.

74. Friedman's testimony in 1964 at hearings held by Congressman Wright Patman's House Banking Committee regarding the first fifty years of the Federal Reserve System revealed a basis for the confluence of views. Friedman stated that he believed placing the Federal Reserve under direct control of the administration and Congress to reduce its degree of independence would make policy mistakes less likely (*The Federal Reserve After Fifty Years*, 1964, vol. 2, p. 1160, Government Publications). If a rule such as he proposed were adopted, the Federal Reserve could simply become a bureau in the Treasury. However, if it were left with discretion for controlling the quantity of money, the objective should be to have an organization subject to the control of the president and Congress, as are the Commerce and Treasury Departments (*The Federal Reserve After Fifty Years*, 1964, vol. 2, pp. 1164–65, Government Publications).

75. Friedman, 1982, p. 118.

76. For reviews of past proposals see U.S. Treasury Department, 1991, pp. ix–6 to ix–8, Government Publications; *Blueprint for Reform,* 1984, pp. 32–33, Government Publications; and Horvitz, 1983, pp. 44–45. See also, Shull, 1992.

77. Timberlake, 1993, pp. 365 *ff.*

78. Robertson, 1966; Hackley, 1969; and Lapidus, 1980.

79. *Blueprint for Reform*, 1984, p. 29, n. 16, Government Publications; Shull, 1980; Huston, 1985; and Hackley, 1969.

80. Burns, 1975. Of particular importance, problems have been solved inefficiently or remained unsolved because the agencies have difficulties in "sharing responsibility; ... problems of interagency coordination may ... [undermine] confidence in the financial system." *Blueprint for Reform*, 1984, p. 31, Government Publications.

81. According to Goodfriend and King: "There is a consensus among professional economists that monetary policy can be executed without supporting financial regulation. This consensus reflects an understanding of the central role of open market operations" (Goodfriend and King, 1988, p. 3). If the Federal Reserve were required to follow a money-supply rule, there would be no reason, in the normal course of operations, for it to have any interest in the condition of individual banks. Its lender-of-last resort responsibilities would be exercised through open market operations; private lending, to the extent needed, would replace the

discount window (Goodfriend and King, 1988, pp. 13–15, 17). On the other hand, Milton Friedman did not see any urgency in having the Federal Reserve withdraw from supervision and regulation if a monetary rule were adopted. In that case, he contended: "The Federal Reserve governors, who now devote 90 percent of their time, not to monetary control but to their regulatory functions, could spend 99 percent of their time on such regulatory functions. They would do far less harm that way than the harm which they have been doing with the additional 9 percent they now spend on monetary control" (Friedman, 1982, p. 117).

82. Benston and Marlin, 1974, pp. 19–20; Petersen, 1977, pp. 34–35; and Benston, 1983, pp. 231, 240.

83. Benston and Marlin, 1974, pp. 21 *ff.*

84. Petersen, 1977, p. 34; and Horvitz, 1983, pp. 258–59.

85. Benston, 1983; Petersen, 1977; Benston and Marlin, 1974; and Horvitz, 1983; Friedman, 1982, p. 115.

86. Board of Governors, 1984, pp. 549–50, Federal Reserve Papers.

87. Board of Governors, 1984, pp. 551–52, Federal Reserve Papers.

88. Board of Governors, 1984, pp. 548–49, Federal Reserve Papers.

89. See, for example, Minsky, 1972, pp. 124–29; Minsky, 1975; and Guttentag and Herring, 1986. Accounting systems that reveal bank exposure to nonspecific events of varying impact would inform supervisors and give them some leverage in confronting bank managements. More complex models, with regional as well as national banking sectors, could simulate economic and financial shocks.

90. Bailey and Cohen, 1987, pp. 7 *ff.* In 1976, Mexico had found itself unable to service its debt and had received help from the International Monetary Fund (IMF) and the United States.

91. The day-to-day development of the Mexican rescue had been laid out by the journalist, Joseph Kraft. The narrative below is drawn from his book, *The Mexican Rescue*, 1984. See also Schwartz, 1989, p. 15; and Monteagudo, 1994, p. 75. See also Lever and Huhne, 1985; Persico, 1982, pp. 140–54, 169–76; and Kuczynski, 1988, pp. 69–82.

92. Volcker also provided Silva with a list of private numbers, permitting him to contact, over the weekend, the principal officials of Citibank, Bank of America, Chase, Chemical, Morgan Guaranty, Bankers Trust, and Manufacturers Hanover. He understood that it was crucial that the Mexican officials discuss their problems with their commercial bank creditors. Further, they would have to pay interest on the bank debt to avoid its classification by examiners as nonaccruing. Under banking regulations, nonaccruing loans would be deducted from capital, pushing the affected banks toward insolvency.

93. Kraft, 1984, pp. 9–10.

94. The Treasury's deal, which was tied to oil imports, was hung up on the price of oil. By Saturday, August 21, there still was no deal. A deal was finally struck the next day. In providing financial assistance, the United States purchased Mexican oil for $27.40 per barrel, at a time when the world price was $32. Mexico felt it was unfairly treated.

95. As quoted in Kraft, 1984, p. 49.

96. The Mexican rescue was a chapter in the continuing saga of international debt problems in the 1970s and 1980s. See Lever and Huhne, 1985, pp. 54 *ff.* See also Todd 1991, p. 254, for a discussion of the assertion that the Treasury encouraged American banks to recycle petro-dollars.

97. See Shull and Hanweck, 2001, chap. 2.

98. Regan, Testimony before House Subcommittee of the Committee on Appropriations, 1983, p. 17, Government Publications.

99. As quoted in Clapham, 1945, p. 40.

100. After the worst was over, in March 1984, the Shadow Open Market Committee remained edgy about inflationary prospects given the Federal Reserve's return to interest-rate targeting. "Current monetary actions are short-sighted and irresponsible. They increase inflation.... Unfortunately, the Federal Reserve has failed repeatedly to conduct a responsible, noninflationary monetary policy, and it is failing again.... Recently ... [it] relinquished control of money growth. It is repeating the major mistake of the seventies—holding the interest rate on bank reserves (Federal funds) in a narrow range. Under current, Federal Reserve operating procedures, actual monetary growth is a function of changes in market credit demand. Such an approach is inherently procyclical.... The result is an erratic, unplanned rate of money growth that is consistent with the Federal Reserve's announced targets only by chance. Erratic money growth, in turn, influences spending with a lag.... There is no easy way to correct the problems that present monetary procedures and lack of policy impose on the economy.... The prospects of another period of stagflation are increasing" (Shadow Open Market Committee, 1984, p. 6).

101. See Kettl, 1986, pp. 158–59.

102. The Consumer Credit Protection Act of 1968 established uniform disclosure of loan terms for lenders ("truth in lending"). The Fair Housing Act of 1968 prohibited discrimination in any part of credit transactions involving housing. The Act aimed at "redlining" in mortgage extensions to eliminate criteria without relevance to individual credit-worthiness. The Equal Credit Opportunity Act of 1974 prohibited discrimination in personal and commercial credit transactions. The Federal Trade Commission Improvement Act of 1975 directed bank regulatory agencies to respond to complaints of unfair or deceptive acts or practices of banks within their jurisdictions. The Home Mortgage Disclosure Act of 1975 required disclosure of mortgage loan data by geographic area for each bank. The Consumer Leasing Act of 1976 requiring disclosure of the terms of personal property leases. The Community Reinvestment Act of 1977 required depository institutions to address the credit needs of their communities, particularly low- and moderate-income neighborhoods.

103. Board of Governors, January 1980, p. 261, table 72, Federal Reserve Papers; and Rose, 1977.

104. Burns, 1977.

105. Kettl, 1986, p. 191.

106. Kettl, 1986, p. 164.

107. Kettl, 1986, p. 164.

108. Statement of Ken Guenther as quoted in Kettl, 1986, p. 164. The Board had long ago accepted the fact that during periods of tight money it has served as a scapegoat. "It is not unusual ... for some bank officers in declining loans to seek to evade direct responsibility.... [finding] in the Federal Reserve Board or the Federal Reserve Bank a much more satisfactory buffer...." Federal Reserve Board, *Annual Report for 1921*, p. 96, Federal Reserve Papers.

109. Kettl, 1986, p. 184.

110. See *Money and Credit*, 1961.

CHAPTER 6: THE FEDERAL RESERVE'S ASCENT

1. Mayr, 2001, p. 150.

2. Mayr, 2001, p. 150.

3. Mayr, 1991, pp. 86–87.

4. Nelson and Winter, 1982, pp. 97, 399 *ff.* "Routines" constitute organizational memory.

5. Nelson and Winter, 1982, pp. 134 *ff.*

6. Nelson and Winter, 1982, p. 207.

7. Day, 2001, pp. 277–79.

8. Day, 2001, p. 278.

9. Strong to Snyder, 1922, Strong Papers.

10. Open Market Policy Conference, April 22, 1933, p. 1, Federal Reserve Papers.

11. Burgess to Directors of the Federal Reserve Bank of New York, 1935, Federal Reserve Papers.

12. Eccles' views in this respect were expressed in an address on November 9, 1939, the twenty-fifth anniversary of the opening of the Federal Reserve Bank of St. Louis. See Weissman, 1973, p. 275. He noted, among other things: "While the Reserve System was conceived as a mechanism designed primarily for a peaceful gold standard world, it proved capable of rapid adaptation to a world suddenly transformed from peace to war, and from a gold basis to a managed currency basis. The system discharged with great credit the heavy responsibilities that were thrown upon it, particularly in connection with financing our own participation in that struggle...."

13. For a general discussion of organizational adaptation under the stimulus of adversity, see Nelson and Winter, 1982, p. 11.

14. Warburg, 1930, pp. 141–42.

15. The Conference was originally supported by the Secretary of the Treasury and the Federal Reserve Board. See Bopp, 1935, pp. 72 *ff.*

16. Friedman, 1982.

17. Blinder, 1997, pp. 26–30.

18. Blinder suggests a number of additional problems in the way the Federal Reserve operates (Blinder, 1997, pp. 4–11). These include the difficulty of obtaining a consensus in the FOMC on precise targets for unemployment and inflation, disagreements on models, and failure to reach agreement on the basic

conceptual framework for monetary policy, including the ultimate targets and their relative weights. He states: "I do not believe that the Fed or any other central bank comes close to the technological frontier in dealing with model uncertainty" (pp. 10–11). However, he disputes the academic literature that has suggested the existence of an inflationary bias (pp. 21 *ff.*). "I firmly believe that this theoretical problem is a nonproblem in the real world because central bankers have found simple, practical ways to solve it. . . . [O]ne way . . . is to install a quite 'conservative' person to lead the central bank. . . . This, I believe, is common practice around the world. Indeed the noun 'central banker' practically cries out for the adjective 'conservative'" (p. 22).

19. Mayr, 1991, pp. 86–87.

20. Schumpeter, 1954, p. 696.

21. Winter, 1988, p. 178.

22. See Hammond, 1957, p. 443. Many saw the Bank's operations, supported by the government, as imposing unreasonable constraints on the extension of credit and the profitability of other banks and private firms. Among other transitory issues were the rivalry between financial interests in New York and Philadelphia, animosity toward the idea of corporations, and hostility toward all banks and the paper currency they put into circulation.

23. Miller, "Remarks to the Joint Conference," 1921, pp. 7, 8, Strong Papers.

24. See Chandler, 1958, p. 101.

25. Bopp, 1935, p. 7.

26. Blinder, 1997, p. 27.

27. Why the principal Federal Reserve committees, which include the FOMC, the Board, and the Governors Conference, seek consensus rather than simply tolerating majority rule raises a different question that merits consideration.

28. Examples of a Chairman being overruled by the Board or the FOMC have been sufficiently jarring to merit extensive commentary. When the Board threatened to outvote Paul Volcker on a cut in the discount rate in February 1986, Volcker threatened to resign. As a result, the proposed cut was delayed. See Jones, 1991, chap. 4. A recent Governor has provided a detailed example of how carefully individual Board members relate to the Chairman's position. See Meyer, 2004, pp. 85–100.

CHAPTER 7: FINAL REMARKS

1. Eccles, 1973, p. 273.

2. Among others, Milton Friedman argued that the Fed imposed excessively tight money in the early 1990s, with a resulting credit crunch that slowed down the recovery that had began in July 1990 (Friedman, 1992). The recession, which began in July 1990, lasted about eight months.

3. In the late 1980s, bank problems had been compounded by the loss of traditionally profitable bank customers to the commercial paper market. The financial assets of commercial banks increased far more slowly between 1981 and

1990 than the assets of many other important financial institutions. Profit rates dropped to extraordinarily low levels. In 1987, insured commercial banks showed a return of .08 on assets and 1.29 on equity. Returns remained depressed through 1991. In addition, bank-failure rates rose to levels unseen since the Great Depression. Only eleven commercial banks had failed in 1981; more than 200 failed in 1989. The capital of some of the largest was impaired by substantial amounts of bad foreign and real-estate loans. Some, like the Bank of New England, closed their doors. Others, like Citibank, approached, if it did not reach, insolvency.

4. Auerbach, 1991. At the time of the article, Auerbach was on the staff of the House Banking Committee.

5. Havrilesky, 1991.

6. Mayer, 1990.

7. Mayer, 1990, pp. 251–54. Imputing unconscious psychological processes, in particular certain defense mechanisms, to Federal Reserve behavior is objectionable on several grounds. There exists theory as to the source and nature of these mechanisms in individuals, but the difficulties of testing are well known. There is little, however, to suggest that such mechanisms are applicable to organizations. Even if the leap were plausible, it would seem to require personal observation and interaction between researchers and policy-makers rather than speculation based on inherently ambiguous public behavior. This is to say nothing of the problems of testing. Without a basis for establishing such judgements and with no prospects for testing, the application of the concepts of psychopathology to the Federal Reserve is literally psychobabble.

8. By October 1993, monetary policy had forced short-term interest rates to their lowest levels since the 1960s, but long-term rates remained relatively high. The result was one of the steepest yield curves of the century. The gap between long-term and short-term rates gave banks an opportunity to borrow at low rates and lend at upwards of 300 basis points higher in risk-free, long-term Treasury securities. Many invested heavily in Treasury and agency securities while limiting direct lending. They substantially improved their profitability without increasing risk. With bank profits rising to record levels, bank capital also increased substantially. The number of bank failures declined to insignificance.

9. See *The Federal Reserve's 17-Year Secret*, 1994, Government Publications. As matters turned out, Arthur Burns, chairman of the Board in the mid-1970s and deceased in 1993, was identified as responsible for creation of the tapes. The extent to which other members of the FOMC knew their comments were being taped and/or of the existence of the tapes is unclear. The Board has undertaken to transcribe the FOMC tapes, working back over the years. Transcriptions of FOMC meetings in 1979 have recently been made public, as cited in Chapter 5. The tapes provide a rich source of new information as to the workings of the Committee in the late 1970s and thereafter.

10. Serious legislative proposals for liberalizing limits on bank activities developed in the late 1980s and early 1990s during a period when many banks, including some of the largest, were in serious distress. For a review of earlier proposals, see Litan, 1987, pp. 144 *ff.* Under the pressure of insufficient bank

capital, a plan to expand permissible financial activities for holding companies and for commercial ownership of these companies was developed in U.S. Treasury Department in February 1991. For further background, see *Financial Services Modernization Act of 1999*, Senate Report, 1999, Government Publications.

11. As to the differential effects in insulating affiliated commercial banks from losses incurred in holding company affiliates and bank subsidiaries, they appeared to be slight, if not trivial. See Shull and White, 1998.

12. Meulendyke, 1998, p. 55.

13. Among other things, multiple-office banking restrictions, with respect to branching and bank holding acquisitions of banks, were liberalized at both the state and federal levels in the early 1980s. This change permitted combinations that had not been legally possible before. The Riegle-Neal Act of 1994 effectively repealed the McFadden Act, which had created a barrier to interstate branching. For an elaboration of the change in policy, see Shull and Hanweck, 2001, chap. 4.

14. Beginning in the 1980s and extending through the 1990s, a bank-merger movement of unprecedented proportions got underway. Mergers involving large banking organizations increased dramatically. Between 1980 and 1998, there were about 7,400 mergers of commercial banking organizations. So-called "megamergers" included combinations of Chase Manhattan and Manufacturers Hanover with Chemical Banking Corporation, Security Pacific and Continental Bank with Bank America Corporation, C&S/Sovran with NCNB Corporation, Barnett with Nations Bank, Core State with First Union, and Nations Bank with Bank of America. Citicorp, the largest of all, merged with Travelers, the giant insurance firm, toward the end of the decade. More recently, large bank mergers have included Wachovia with First Union and Fleet with Bank of America. For the nation as a whole, concentration in the largest organizations has increased substantially.

15. The merger was approved by the Board on September 23, 1998. The approval was conditioned on Citigroup conforming to Bank Holding Company Act standards within two years. The nonconforming Travelers' activities included insurance underwriting, general insurance agency activities, securities underwriting and investments in commercial companies beyond that permitted bank holding companies, controlling mutual funds, real estate management and investment, trading in physical commodities, and oil and gas exploration.

16. Under the Act, well-capitalized and well-managed bank holding companies with a satisfactory Community Reinvestment Act rating can elect to become financial holding companies. A financial holding company may, either de novo or through acquisition, engage in any activity that has been determined to be financial in nature, incidental or complementary, as well as all pre-approved activities that are listed in Section 4(k) of the Act and any other Fed-approved activity, without prior notice. Financial subsidiaries of national and state banks may engage in some of the newly authorized activities. In general, but with some exceptions, the activities that are prohibited include: (1) insurance or annuity underwriting (except for underwriting permitted prior to January 1, 1999), (2) insurance company portfolio investments, (3) real estate investment and development, and (4) merchant banking. See Shull, 2000.

17. As indicated in Chapter 1, some of the Board's regulatory determinations are made jointly with the Treasury Department.

18. Meyer, 2004.

19. For an elaboration, see Shull, 2002.

20. Over the years, the length of time Governors have remained on the Board has declined. See Shull, 1995–1996. The decline in length of service is probably related to an expansion of attractive opportunities in the private sector. One effect has been to augment the relative position of the Chairman who, at least in recent years, has served over an unusually long period. Even more so than in the past, the Chairman has become the focal point of System policy and operations.

This page intentionally left blank

Bibliography

BOOKS, MONOGRAPHS, AND ARTICLES

Allen, Gary. *None Dare Call It Conspiracy*. Rossmoor, CA: Concord Press, 1971.

Anderson, Clay J. "Evolution of the Role and the Functioning of the Discount Mechanism." *Reappraisal of the Federal Reserve's Discount Mechanism*. Vol. 1. Board of Governors of the Federal Reserve System, August 1971, pp. 133–63.

Anderson, Clay J. *A Half-Century of Federal Reserve Policy-Making: 1914–64*. Philadelphia, PA: Federal Reserve Bank of Philadelphia, 1965.

Andrew, A. Piatt. "The Treasury and the Banks under Secretary Shaw." *Quarterly Journal of Economics* 21 (August 1907): 529–69.

Auerbach, Robert D. "Institutional Preservation at the Federal Reserve." *Contemporary Policy Issues* 9 (July 1991): 46–58.

Axilrod, Stephen. "The Role of Interest Rates in Federal Reserve Policymaking: Discussion." In *The Evolution of Monetary Policy and the Federal Reserve System over the Past Thirty Years. Conference Proceedings*, eds. Richard Kopche and Lynn E. Browne. Boston, MA: Federal Reserve Bank of Boston, 2000, pp. 70–75.

Bach, G. L. *Making Monetary and Fiscal Policy*. Washington DC: The Brookings Institution, 1971.

Bagehot, Walter. *Lombard Street*. 1873. Reprint, London: John Murray, 1927.

Bailey, Norman, and Richard Cohen. *The Mexican Time Bomb*. New York: Twentieth Century Fund, Priority Press, 1987.

Benston, George. "Federal Regulation of Banking: Analysis and Policy Recommendations." *Journal of Bank Research* 13 (Winter 1983): 216–44.

Benston, George, and John T. Marlin. "Bank Examiners' Evaluation of Credit." *Journal of Money, Credit and Banking* 6 (February 1974): 23–46.

Bernake, Ben S. *Essays on the Great Depression*. Princeton, NJ: Princeton University Press, 2000.

Bernstein, Peter L. *The Power of Gold*. New York: John Wiley & Sons, 2000.

Blinder, Alan S. "From Both Sides Now: What Central Bankers Could Learn from Academics—and Vice-Versa." CEPS Working Paper No. 40, May 1997.

Bloomfield, Arthur I. *Monetary Policy Under the International Gold Standard: 1880–1914*. New York: Federal Reserve Bank of New York, October, 1959.

Blum, John Morton. *From the Morgenthau Diaries: Years of Crisis, 1928–1938*. Boston: Houghton Mifflin Co., 1959.

Bopp, Karl. *The Agencies of Federal Reserve Policy*. Columbia, MO: University of Missouri, 1935, p. 183.

Bopp, Karl. "Central Banking at the Crossroads." *American Economic Review* 34 (March 1944): 260–87.

Bopp, Karl. "Two Notes on the Federal Reserve System." *Journal of Political Economy* XL (June 1932): 379–91.

Broz, J. Lawrence. *The International Origins of the Federal Reserve System*. Ithaca, NY: Cornell University Press, 1997.

Brumbaugh, R. Dan. *Thrifts under Siege*. Cambridge, MA: Ballinger Publishing Co., 1988.

Burgess, W. Randolph. *The Reserve Banks and the Money Market*. New York: Harper & Brothers, 1927.

Burns, Arthur. "Letter, on Checking Accounts and Fed Membership." *The New York Times*, Monday, July 11, 1977.

Burns, Arthur. "Maintaining the Soundness of Our Banking System." Address to the Convention of the American Bankers Association, Honolulu, Hawaii, October 21, 1975.

Burns, Helen M. *The American Banking Community and New Deal Banking Reforms: 1933–1935*. Westport, CT: Greenwood Press, 1974.

Cagan, Phillip. "The First Fifty Years of the National Banking System—An Historical Appraisal." In *Banking and Monetary Studies*, ed. Deane Carson. Homewood, IL: Richard D. Irwin, 1963.

Cameron, Rondo, with the collaboration of Olga Crisp, Hugh T. Patrick [and] Richard Tilly. *Banking in the Early Stages of Industrialization*. New York: Oxford University Press, 1967.

Cannon, James G. "Clearing Houses and Currency." Address delivered at the annual banquet of the Chamber of Commerce, Syracuse, NY, March 27, 1913.

Carosso, Vincent P. *The Morgans*. Cambridge, MA: Harvard University Press, 1987.

Chandler, Lester V. *American Monetary Policy, 1928 to 1941*. New York: Harper & Row, 1971.

Chandler, Lester V. *America's Greatest Depression, 1929–1941*. New York: Harper & Row, 1970.

Chandler, Lester V. *Benjamin Strong*. Washington, DC: The Brookings Institution, 1958.

Chandler, Lester V. "Selective Credit Control." *Reappraisal of the Federal Reserve's Discount Mechanism*, Vol. 2. Board of Governors of the Federal Reserve System, August 1971, pp. 15–21.

Chernow, Ron. *The House of Morgan.* New York: Simon & Schuster, 1990.

Clapham, John. *The Bank of England, A History.* Vol. II. Cambridge, UK: Cambridge University Press, 1945.

Clifford, A. Jerome. *Independence of the Federal Reserve.* Philadelphia: University of Pennsylvania Press, 1965.

Commager, Henry Steele. *Documents of American History.* New York: F. S. Croft & Co., 1938.

Commons, John R. *Institutional Economics.* New York: The Macmillan Co., 1934.

Commons, John R. *Legal Foundations of Capitalism.* 1924. Reprint, Madison, WI: The University of Wisconsin Press, 1957.

Commons, John R. *Myself.* 1934. Reprint, Madison, WI: The University of Wisconsin Press, 1963.

Commons, John R. "The Stabilization of Prices and Business." *American Economic Review* 15 (March 1925): 43–52.

Day, Richard. "Adapting, Learning and Economizing." In *Evolutionary Economics: Program and Scope*, ed. Kurt Dopfer. Boston: Kluwer Academic Publishers, 2001.

Deane, Marjorie, and Robert Pringle. *The Central Banks.* London: Hamish Hamilton Ltd., 1994.

Dopfer, Kurt, ed., *Evolutionary Economics: Program and Scope.* Boston: Kluwer Academic Publishers, 2001.

Douglas, Paul. *In the Fullness of Time, The Memoirs of Paul H. Douglas.* New York: Harcourt Brace Jovanovich, Inc., 1971.

Dunbar, Charles F. "Some Precedents Followed by Alexander Hamilton." In *Economic Essays*, ed. O.M.W. Sprague. New York: The Macmillan Co., 1904.

Dunbar, Charles F. *The Theory and History of Banking*, 5th ed. New York: G.P. Putnam's Sons, 1929.

Duprey, James N., and Clarence W. Nelson. "A Visible Hand: The Fed's Involvement in the Check Payments System." *Federal Reserve Bank of Minneapolis Quarterly Review*, 10 (Spring, 1986): 18–29.

"The Early Days of the Bank of New York," undated pamphlet.

Eccles, Marriner, C. Address delivered at the twenty-fifth anniversary of the opening of the Federal Reserve Bank of St. Louis, November 9, 1939. Reprinted in *Economic Balance and a Balanced Budget, Public Papers of Marriner S. Eccles*, ed. R. L. Weissman. New York: DaCapo Press, 1973.

Eccles, Marriner, C. *Beckoning Frontiers.* New York: Alfred A. Knopf, 1951.

Eccles, Marriner, C. Statement delivered at hearings before the House Committee on Banking and Currency, April 12–13, 1938. Reprinted in *Economic Balance and a Balanced Budget, Public Papers of Marriner S. Eccles*, ed. Rudolph L. Weissman. New York: DaCapo Press, 1973.

Energy Information Administration. "World Oil Market and Oil Price Chronologies: 1970–2002." February, 2002, www.eia.doc.gov.

Ferguson, James E., ed. *The Papers of Robert Morris, 1781–84.* Vol. 1. Pittsburgh, PA: Pittsburgh University Press, 1973.

Fettig, David. "Lender of More Than Last Resort." *The Region* 16 (December 2002): 14–19, 44–47.

Fischer, Gerald F. *American Banking Structure.* New York: Columbia University Press, 1968.

Fisher, Irving. *Stable Money: A History of the Movement.* New York: Adelphi Co., 1934.

Forbes, Steve. "Fact and Comment." *Forbes Magazine,* December 8, 2003, 33.

Friedman, Milton. "A Memorandum to the Fed." *The Wall Street Journal,* January 30, 1981, 20.

Friedman, Milton. "Monetary Policy: Theory and Practice." *Journal of Money, Credit and Banking* 14 (February 1982): 98–118.

Friedman, Milton."Price Income and Monetary Changes in Three Wartime Periods." *American Economic Review,* 52 (June 1952): 612–25. Reprinted in *War Finance,* Vol. III. ed. Larry Neal. Aldershot, England: Edward Elgar Publishing Limited, 1994, pp. 229–42.

Friedman, Milton."Should There Be An Independent Monetary Authority." In *In Search of a Monetary Constitution,* ed. Leland B. Yeager. Cambridge, MA: Harvard University Press, 1962, pp. 219–43.

Friedman, Milton. "Too Tight For A Strong Recovery," *Wall Street Journal,* October 23, 1992.

Friedman, Milton, and Anna B. Schwartz. *A Monetary History of the United States, 1867–1860.* Princeton, NJ: Princeton University Press, 1963.

Fusfeld, Donald R. *The Economic Thought of Franklin D. Roosevelt and the Origins of the New Deal.* New York: Columbia University Press, 1956.

Galbraith, John Kenneth. *The Great Crash.* Boston: Houghton Mifflin Co., 1961.

Gephart, W. F. "Discussion." *American Economic Review* 15 (March 1925): 67–68.

Glass, Carter. *An Adventure in Constructive Finance.* New York: Doubleday, Page & Co., 1927.

Goldenweiser, E. A. *Monetary Management.* New York: McGraw Hill Book Co., 1949.

Goodfriend, Marvin, and Robert G. King. "Financial Deregulation, Monetary Policy and Central Banking." *Economic Review* 74 (May/June 1988): 3–22.

Gorton, Gary. "Clearinghouses and the Origin of Central Banking in the United States." *The Journal of Economic History* XLV (June 1985): 273–83.

Gorton, Gary. "Private Clearinghouses and the Origin of Central Banking." *Business Review* (January/February 1984): 3–12.

Gouge, William M. *A Short History of Paper Money and Banking.* 1833. Reprint, New York: Augustus M. Kelley, 1968.

Govan, Thomas P. *Nicholas Biddle.* Chicago: The University of Chicago Press, 1959.

Gregory, T. E. "Introduction." In *Select Statutes, Documents & Reports Relating to British Banking, 1832–1928*, ed. T. E. Gregory. London: Oxford University Press, 1929.

Gregory, T. E., ed. *Select Statutes, Documents & Reports Relating to British Banking, 1832–1928*, Vols. I, II. London: Oxford University Press, 1929.

Greider, William. *Secrets of the Temple*. New York: Simon & Schuster, 1987.

Griffin, G. Edward. *The Creature from Jekyll Island*. Westlake Village, CA: American Media, 1995.

Guttentag, Jack, and Richard Herring. *Disaster Myopia in International Banking*. Essays in International Finance, No. 164, International Finance Section, Princeton University, September, 1986.

Hacker, Louis M. *The Shaping of the American Tradition*. Vols. I, II. New York: Columbia University Press, 1947.

Hackley, Howard. *Lending Functions of the Federal Reserve Banks: A History*. Board of Governors of the Federal Reserve System, Washington, DC, May 1973.

Hackley, Howard. "Our Discriminatory Banking System." *Virginia Law Review* 55 (December 1969): 1421–82.

Hammond, Bray. *Banks and Politics in America*. Princeton, NJ: Princeton University Press, 1957.

Hansen, Alvin. *The American Economy*. New York: McGraw Hill Book Company, 1957.

Hanweck, Gerald A., and Bernard Shull. *Interest Rate Volatility*. Chicago: Irwin Professional Publishing, 1995.

Harding, W. P. G. *The Formative Period of the Federal Reserve System*. London: Constable and Co. Ltd., 1925.

Hardy, Charles, "Lectures on Money and Banking, 1939–40." Washington, DC: Unpublished, 1940.

Harris, Seymour E. *Twenty Years of Federal Reserve Policy*, Vol. I. Cambridge, MA: Harvard University Press, 1933.

Havrilesky, Thomas. "The Psychopathogy of Monetary Policy." *Contemporary Policy Issues* IX (July 1991): 71–75.

Hawley, Ellis W. "Foreword." In *Charting Twentieth-Century Monetary Policy*, ed. Silvano A. Wueschner. Westport, CT: Greenwood Press, 1999.

Hawtrey, R. G. *The Art of Central Banking*. London: Longmans, Green and Co., 1932.

Homer, Sidney. *A History of Interest Rates*. New Brunswick, NJ: Rutgers University Press, 1977.

Hoover, Herbert. *The Memoirs of Herbert Hoover*, Vol. 3. New York: The Macmillan Co., 1952.

Horvitz, Paul. "Reorganization of the Financial Regulatory Agencies." *Journal of Bank Research* 13 (Winter 1983): 245–63.

Humphrey, Thomas M. "The Real Bills Doctrine." *Economic Review* 68 (September/October 1982): 3–13.

Hurst, James Willard. *Dealing with Statutes*. New York: Columbia University Press, 1982.

Huston, Thomas, H. "Dual Standards in Soundness and Safety Regulation." *Proceedings of a Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1985, pp. 542–51.

Ickes, Harold. *The Secret Diary of Harold L. Ickes: The Inside Struggle: 1936–1939*, Vol. 2. New York: Simon & Schuster, 1954.

James, Marquis. *The Life of Andrew Jackson*. New York: The Bobbs-Merrill Co., 1938.

Jones, David M. *The Politics of Money*. New York: New York Institute of Finance, 1991.

Kane, Thomas P. *The Romance and Tragedy of Banking*. New York: The Bankers Publishing Company, 1922.

Keegan, John. *The First World War*. New York: Alfred A. Knopf, 1999.

Kennedy, Susan E. *The Banking Crisis of 1933*. Lexington, KY: University Press of Kentucky, 1973.

Kettl, Donald F. *Leadership at the Fed*. New Haven, CT: Yale University Press, 1986.

Keynes, John Maynard. *General Theory of Interest, Income and Employment*. New York: Harcourt, Brace & Co., 1936.

Keynes, John Maynard. *A Treatise on Money*, Vol. II. 1930. Reprint, London: Macmillan & Co. Ltd., 1960.

Knudsen, Christian. "Theories of the Firm, Strategic Management and Leadership." In *Resource-Based and Evolutionary Theories of the Firm: Toward a Synthesis*, ed. C. A. Montgomery. Boston: Kluwer Academic Publishers, 1995.

Kohn, Donald L. "Research at the Federal Reserve Board." Remarks to the Models and Monetary Policy Conference, Board of Governors, Federal Reserve System, Washington DC, March 26, 2004.

Kraft, Joseph. *The Mexican Rescue*. New York: The Group of Thirty, 1984.

Krugman, Paul. "Eleven and Counting." *The New York Times*, December 14, 2001, A39.

Krugman, Paul. "Is the Maestro a Hack?" *The New York Times*, February 7, 2003, A25.

Krugman, Paul. "On the Second Day, Atlas Waffled." *The New York Times*, February 14, 2003, A31.

Kuczynski, P. P. *Latin American Debt*. Baltimore, MD: Johns Hopkins University Press, 1988.

Lacker, Jeffrey M., and John A. Weinberg. "Can the Fed be a Payment System Innovator?" *Quarterly Review* 84 (Spring 1998): 1–25.

Lapidus, Leonard, ed. *State and Federal Regulation of Commercial Banks*. Washington, DC: Federal Deposit Insurance Company, 1980.

Laughlin, J. Laurence. *Banking Reform*. Chicago: The National Citizens' League, 1912.

Laughlin, J. Laurence. "Guaranty of Bank Deposits." Address delivered before the State Bankers' Association of Nebraska, Lincoln, Nebraska, September 25, 1908. Unpublished.

Leffingwell, Russell C. "Discussion," *American Economic Review* 11 (March 1921): 30–36.

Lever, Harold, and Christopher Huhne. *Debt and Danger.* Boston: Atlantic Monthly Press, 1985.

Link, Arthur. *Wilson, The New Freedom.* Princeton, NJ: Princeton University Press, 1956.

Link, Arthur. *Woodrow Wilson and the Progressive Era, 1910–1917.* New York: Harper Brothers, 1954.

Link, Arthur, ed. *The Papers of Woodrow Wilson,* Vol. 25. Princeton, NJ: Princeton University Press, 1978.

Lippmann, Walter. "Cheaper Money and the Bonus." *New York Herald Tribune,* April, 14, 1932. Reprinted in *Interpretations, 1931–32,* Allan Nevins (ed.), The Macmillan Co., New York, 1932, pp. 123–26.

Lippmann, Walter. "The Eccles Bill." *New York Herald Tribune,* February 9, 1935. Reprinted in *Interpretations,* 1933–35, ed. Allan Nevins. New York: The Macmillan Co., 1936, pp. 184–87.

Lippmann, Walter. "The First Roosevelt Program Completed." *New York Herald Tribune,* June 14, 1933. Reprinted in *Interpretations, 1933–35,* ed. Allan Nevins. New York: The Macmillan Co., 1936, pp. 68–71.

Lippmann, Walter. "Governor Roosevelt's Candidacy." *New York Herald Tribune,* January 8, 1932. Reprinted in *Interpretations, 1931–32,* ed. Allan Nevins. New York: The Macmillan Co., 1932, pp. 259–63.

Lippmann, Walter, "The Power to Govern," *New York Herald Tribune,* January 17, 1933 as reprinted in *Interpretations, 1933–35,* ed. Allan Nevins. New York: The Macmillan Co., 1936, pp. 3–5.

Litan, Robert E. *What Should Banks Do?* Washington, DC: The Brookings Institutions, 1987.

Lodge, Henry Cabot. *The Works of Alexander Hamilton,* Vol. 3. New York: G. P. Putnam & Son, 1904.

Macaulay, Frederick R. *The Movements of Interest Rates, Bond Yields and Stock Prices in the United States Since 1856.* New York: National Bureau of Economic Research, 1938.

Mayer, Martin. *The Bankers.* New York: Weybright and Talley, 1974.

Mayer, Thomas. "Minimizing Regret: Cognitive Dissonance As an Explanation of FOMC Behavior." In *The Political Economy of American Monetary Policy,* ed. Thomas Mayer. New York: Cambridge University Press, 1990.

Mayr, Ernst. *One Long Argument.* Cambridge, MA: Harvard University Press, 1991.

Mayr, Ernst. *What Evolution Is.* New York: Basic Books, N.Y., 2001.

Meltzer, Alan H. *A History of the Federal Reserve,* Vol. I. Chicago: The University of Chicago Press, 2003.

Meulendyke, Ann-Marie. *U.S. Monetary Policy & Financial Markets.* New York: Federal Reserve Bank of New York.

Meyer, Laurence H. *A Term at the Fed: An Insider's View.* New York: Harper Collins Publishers, 2004.

Miller, Ervin. "Monetary Policy in a Changing World." *Quarterly Journal of Economics* 70 (February 1956): 23–43.

Minsky, Hyman. "Financial Instability Revisited: The Economics of Disaster." In *Reappraisal of the Federal Reserve Discount Mechanism*, Vol. 3. Washington, DC: Board of Governors of the Federal Reserve System, June, 1972, pp. 95–136.

Minsky, Hyman. "Suggestions for a Cash Flow-Oriented Bank Examination." Proceedings of a conference on bank structure and competition, Federal Reserve Bank of Chicago, Chicago, IL, 1975, pp. 150–84.

Mints, Lloyd W. *A History of Banking Theory*. Chicago: University of Chicago Press, 1945.

Miron, Jeffrey A. "Financial Panics, the Seasonality of the Nominal Interest Rate, and the Founding of the Fed" *The American Economic Review* 76 (March 1986): 125–40.

Mitchell, Wesley Clair. *Business Cycles*. Berkeley, CA: University of California Press, Berkeley, 1913.

Modigliani, Franco *Adventures of An Economist*. New York: Textere, LLC, 2001.

Moley, Raymond. *First New Deal*. New York: Harcourt, Brace & World, Inc., 1966.

Money and Credit. The Report of the Commission on Money and Credit, Prentice-Hall, Englewood Cliffs, N. J., 1961.

Monteagudo, M. "The Debt Problem: The Banker Plan and the Brady Initiative: A Latin American Perspective." *The International Lawyer* 28 (Spring 1994): 59–81.

Neal, Larry, ed. *War Finance*, Vol. 3. Brookfield, VT: Edward Elgar Publishing Co., 1994.

Nelson, Richard R., and Sidney G. Winter. *An Evolutionary Theory of Economic Change*. Cambridge, MA: Harvard University Press, 1982.

Persico, J. E. *The Imperial Rockfeller*. New York: Simon & Schuster, 1982.

Petersen, Manfred O. "Conflicts between Monetary Policy and Bank Supervision." *Issues in Bank Regulation*, Autumn, 1977, pp. 26–37.

Phillips, Ronnie J. *The Chicago Plan and New Deal Banking Reform*. Armonk, NY: M. E. Sharpe, Armonk, 1994.

Porter, Michael E. *Competitive Strategy*. New York: The Free Press, 1980.

Redlich, Fritz. *The Molding of American Banking*, parts I and II. New York: Johnson Reprint Corporation, 1968.

Rhoades, John H. "Who Shall Control Our Financial Destiny?" Address delivered before the Finance Forum of New York City, December 18, 1912.

Riefler, Winfield W. *Money Rates and Money Markets in the United States*. New York: Harper & Brothers, 1930.

Robertson, J. L. "Federal Regulation of Banking: A Plea for Unification." *Law and Contemporary Problems* XXXI (Autumn 1966): 673–95.

Robertson, Ross M. *The Comptroller and Bank Supervision*. Washington, DC: Office of the Comptroller of the Currency, 1968.

Romer, C. D., and D. H. Romer. "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz." In *NBER Macroeconomics Annual 1989*. Cambridge, MA: The MIT Press, 1989, pp. 121–70.

Roosa, Robert. "Interest Rates and the Central Bank." In *Money, Trade and Economic Growth, Essays in Honor of J. H. Williams*. New York: The Macmillan Co., 1951, pp. 272–86.

Rose, John T. "An Analysis of Federal Reserve System Attrition Since 1960." Staff Economic Study, No. 93. Washington, DC: Board of Governors of the Federal Reserve System, December 1977.

Rothbard, Murray N. *The Case Against the Fed*. Auburn, AL: The Ludwig von Mises Institute, 1994.

Sayers, Robert S. *Bank of England Operations: 1890–1914*. London: P. S. King & Sone, 1936.

Sayers, Robert S. *Central Banking after Bagehot*. Oxford, England: Clarendon Press, 1957.

Sayers, Robert S. "Open Market Operations in English Central Banking." In *Central Banking After Bagehot*, ed. Robert S. Sayer. Oxford, England: Clarendon Press, 1957.

Schiming, Richard C. "Mariner Eccles, Carter Glass and the Banking Act of 1935." Unpublished paper, 1993.

Schlesinger, Jr., Arthur M. *The Age of Jackson*. Boston: Little, Brown & Co., 1945.

Schlesinger, Jr., Arthur M. *The Age of Roosevelt: The Coming of the New Deal*, Vol. 2. Boston: Houghton Mifflin Co., 1959.

Schlesinger, Jr., Arthur M. *The Age of Roosevelt: The Politics of Upheaval*, Vol. 3. Boston: Houghton Mifflin Co., 1960.

Schumpeter, Joseph A. *A History of Economic Analysis*. New York: Oxford University Press, 1954.

Schwartz, Anna. J. "International Debts: What's Fact and What's Fiction." *Economic Inquiry* 27 (January 1989): 1–19.

Shadow Open Market Committee. "Policy Statement and Position Papers." September 19, 1977.

Shadow Open Market Committee. "Policy Statement and Position Papers." September 16–17, 1979.

Shadow Open Market Committee. "Policy Statement and Position Papers." March 11, 12, 1984.

Sherman, John. *Recollections of Forty Years in the House, Senate and Cabinet*. Vol. I. Chicago: The Werner Company, 1895.

Shull, Bernard. "Banking, Commerce and Competition Under the Gramm-Leach-Bliley Act." *The Antitrust Bulletin* XLVII (Spring 2002): 25–61.

Shull, Bernard. "Federal Reserve Independence: What Kind and How Much?" *Journal of Post-Keynesian Economics* 18 (Winter 1995–96): 211–30.

Shull, Bernard. "Federal and State Supervision of Bank Holding Companies," In State and Federal Regulation of Commercial Banks, ed. Leonard Lapidus. Washington DC: Federal Deposit Insurance Corporation, 1980, pp. 271–374.

Shull, Bernard. *Financial Modernization Legislation in the United States*. United Nations Conference on Trade and Development, Discussion Paper, No. 151, October, 2000.

Shull, Bernard. "How Should Bank Regulatory Agencies Be Organized?" *Contemporary Policy Issues* XI (January 1993): 99–107.

Shull, Bernard. "The Origins of Antitrust in Banking: An Historical Perspective." *The Antitrust Bulletin* XLI (Summer 1996): 255–88.

Shull, Bernard. "Report on Research Undertaken in Connection with A System Study." In *Reappraisal of the Federal Reserve's Discount Mechanism*, Vol. 1. Washington, DC: Board of Governors of the Federal Reserve System., 1972, pp. 29–75.

Shull, Bernard, and Gerald A. Hanweck. *Bank Mergers in a Deregulated Economy: Promise and Peril.* Westport, CT: Quorum Press, 2001.

Shull, Bernard, and Lawrence J. White. "The Right Corporate Structure for Expanded Bank Activities." *The Banking Law Journal* 115 (1998): 446–76.

Sicilia, David B., and Jeffrey L. Cruikshank. *The Greenspan Effect.* New York: McGraw-Hill, 2000.

Smith, Adam. *The Wealth of Nations.* 1937. Reprint, New York: Random House, 1776.

Smith, Vera C. *The Rationale of Central Banking.* London: P. S. King & Sons Ltd., 1936.

Spong, Kenneth. *Banking Regulation: Its Purposes, Implementation, and Effects.* Kansas City, MO: Federal Reserve Bank of Kansas City, 1990.

Steven, Ed. "The Founders' Intentions: Sources of the Payments Services Franchise of the Federal Reserve Banks." *Financial Services Working Paper*, No. 03-96, Federal Reserve Bank of Cleveland, December 1996.

Syrett, Harold C., ed. *The Papers of Alexander Hamilton, 1782–1786*, Vol. III. New York: Columbia University Press, 1962.

Thomas, Woodlief. "Lessons of War Finance." *American Economic Review* XLI. (September 1951). Reprinted in Larry Neal, *War Finance*, Vol. 3., Brookfield, VT: Edward Elgar Publishing Co., 1994, pp. 618–231.

Timberlake, Richard H. "The Central Banking Role of Clearinghouse Associations." *Journal of Money, Credit and Banking* 16 (February 1984): 1–15.

Timberlake, Richard H., *Monetary Policy in the United States.* Chicago: The University of Chicago Press, 1993.

Timberlake, Richard H. *The Origins of Central Banking in the United States.* Cambridge, MA: Harvard University Press, 1978.

Todd, Walker. "A History of International Lending." In *Research in Financial Services: Private and Public Policy*, Vol. 3, ed. G. Kaufman. Greenwich, CT: JAI Press, pp. 201–89.

Tugwell, R. G. *The Brain Trust.* New York: The Viking Press, 1968.

Vennard, Wickliffe B. *The Federal Reserve Hoax.* Boston: Forum Publishing Company, 1963.

Vest, George B. "The Par Collection System of the Federal Reserve Banks. *Federal Reserve Bulletin* 26 (February 1940): 89–96.

Warburg, Paul M. *The Federal Reserve System: Its Origin and Growth*, Vol. I. New York: The Macmillan Co., 1930.

Weissman, Rudolph L., ed. *Economic Balance and a Balanced Budget, Public Papers of Marriner S. Eccles.* New York: DaCapo Press, 1973.

West, Robert C. *Banking Reform and the Federal Reserve, 1863–1923.* Ithaca, NY: Cornell University Press, 1977, pp. 43–44.

Westerfield, Ray B. "The Banking Act of 1933." *Journal of Political Economy* 41 (December 1933): 721–49.

White, Eugene Nelson. *The Regulation and Reform of the American Banking System, 1900–1929.* Princeton, NJ: Princeton University Press, 1983.

White, Horace. "The Second United States Bank, Part II, The Bank War." *Sound Currency* IV (September 15, 1897): 1–12.

Wicker, Elmus R. *Crises in the Gilded Age.* Cambridge, England: Cambridge University Press, 2000.

Wicker, Elmus R. *Federal Reserve Monetary Policy, 1917–1933.* New York: Random House, 1966.

Wicker, Elmus R. "Federal Reserve Monetary Policy, 1922–33: A Reinterpretation," *The Journal of Political Economy*, Vol. LXXIII, No. 4, August, 1965, pp. 325–343.

Williamson, Oliver E. "Public and Private Bureaucracies: A Transaction Cost Economics Perspective." *Journal of Law, Economics and Organization* 15 (March 1999): 306–47.

Willis, H. Parker. *The Federal Reserve System.* New York: The Ronald Press, 1923.

Winter, S. G. "Knowledge and Competencies as Strategic Assets." In *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*, ed. D. J. Teece. Cambridge, England: Ballinger, 1987, pp. 162–63.

Winter, S. G. "On Coase, Competence, and the Corporation." *Journal of Law, Economics, and Organization* 4 (Spring 1988): 163–80.

Woods, G. E., T. C. Mills and F. H. Capie. *What It Is and What It Will Do For Us?* London: Institute of Economic Affairs, 1993.

Wueschner, Silvano A. *Charting Twentieth-Century Monetary Policy.* Westport, CT: Greenwood Press, 1999.

GOVERNMENT PUBLICATIONS, CONGRESSIONAL HEARINGS, AND REPORTS

Agricultural Inquiry. Hearings before the Joint Commission of Agricultural Inquiry. 67th Cong., 1st sess. Senate Concurrent Resolution 4, Part 13. Washington, DC: U.S. Government Printing Office, August 1–11, 1921.

Aldrich, Nelson W. *Suggested Plan for Monetary Legislation.* Submitted to the National Monetary Commission, U.S. Senate Doc. No. 784, 61st Cong., 3rd sess. January 16, 1911.

Aldrich, Nelson W. *Suggested Plan for Monetary Legislation*, Rev. Ed. Submitted to the National Monetary Commission, Washington, DC, October 14, 1911.

Banking Act of 1935. Hearings before the House Committee on Banking and Currency. 74th Cong., 1st sess., on HR 5357. March 18, 1935.

Banking Act of 1935. Hearings before a Subcommittee of the Senate Committee on Banking and Currency. 74th Cong., 1st sess., on S 1715 and HR 7617. April 19–June 3, 1935.

Banking and Currency. Report of the Senate Committee on Banking and Currency to accompany HR 7837, Report No. 133, 63rd Cong., 1st sess. November 24, 1913.

Blueprint for Reform: Report of the Task Group on Regulation of Financial Services. Bush Task Group Report. Washington, DC: U.S. Government Printing Office, July 1984.

Brunner, Karl, and Allan H. Meltzer. *The Federal Reserve's Attachment to the Free Reserve Concept.* Subcommittee on Domestic Finance of the House Committee on Banking and Currency. Washington, DC: U.S. Government Printing Office, May 7, 1964.

Changes in the Banking and Currency System of the United States. House Report No. 69, 63rd Cong., 1st sess. September 9, 1913.

Council of Economic Advisers. *Economic Report of the President.* Washington DC, 2003.

D'Arista, Jane W. *Federal Reserve Structure and the Development of Monetary Policy: 1915–35.* Staff Report, Subcommittee on Domestic Finance, House Committee on Banking and Currency. 92nd Cong., 1st sess. December 1971.

Dewey, Davis R. *The Second Bank of the United States.* National Monetary Commission, U.S. Senate Doc. 571. 61st Cong., 2nd sess. 1910.

Economic Report of the President. Washington DC. 2003.

Employment and Inflation Goals of the Humphrey-Hawkins Act and the Conduct of Monetary Policy. Hearings before the Subcommittee on Domestic Policy Monetary Policy of the House Committee on Banking Finance and Urban Affairs. 96th Cong., 1st sess. March 13, 14, 1979.

The Federal Reserve After Fifty Years. Hearings before the House Subcommittee on Domestic Finance of the Committee on Banking and Currency, Vols. 1–3, 88th Cong., 2nd sess. February/March, 1964.

Federal Reserve Policy Actions. Hearings before the Senate Committee on Banking, Housing, and Urban Affairs. 96th Cong., 1st sess. October 15, 1979.

The Federal Reserve's 17-Year Secret. Staff Report, House Committee on Banking, Finance and Urban Affairs, 103rd Cong., 2nd sess. January 27, 1994.

Financial Services Modernization Act of 1999. Senate Report Nos. 106–44. 106th Cong., 1st sess. April 28 1999.

Gray, Edwin J. "Statement." In *How the Financial System Can Best Be Shaped to Meet the Needs of the American People.* Hearings before the House Committee on Banking, Finance and Urban Affairs. April–June, 1984, pp. 1598–1623.

Holdsworth, John T. *The First Bank of the United States.* National Monetary Commission, Senate Doc. No. 571, 61st Cong., 2nd sess. 1910.

The Impact of the Federal Reserve System's Monetary Policies on the Nation's Economy. Staff Report of the Subcommittee on Domestic Monetary Policy of the House Committee on Banking, Currency and Housing. 94th Cong., 2nd sess. December 1976.

Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland, and Italy. National Monetary Commission, Senate Doc. No. 405, 61st Cong., 2nd sess. 1910, pp. 7–33.

Investigation of Economic Problems. Hearings before the Senate Committee on Finance. 72nd Cong., 2nd sess., Part 1. February 13, 14, 1933.

Kemmerer, Edwin W. *Seasonal Variations in the Relative Demands of Money and Capital in the United States.* National Monetary Commission, Senate Doc. 588, 61st Cong., 2nd sess. 1910.

Monetarism and the Federal Reserve's Conduct of Monetary Policy. Compendium of views prepared for the Subcommittee on Monetary and Fiscal Policy of the Joint Economic Committee of the United States, 97th Cong., 2nd sess. December 30, 1982.

Monetary Policy and the Management of the Public Debt. Hearings before a subcommittee of the Joint Committee on the Economic Report. 82nd Cong., 2nd sess. March 10, 1952.

Money Trust Investigation. Hearings before a subcommittee of the House Committee on Banking and Commerce. 62nd Cong., 2nd and 3rd sess. 1912–1913.

Nomination of Paul A. Volcker. Senate hearings before the Committee on Banking, Housing, and Urban Affairs. 96th Cong., 1st sess. July 30, 1979.

Recent Monetary Policy Developments. Hearings before the Subcommittee on Domestic Monetary Policy of the House Committee on Banking Finance and Urban Affairs. 96th Cong., 2nd sess. September 19, 1980.

Recent Monetary Policy Developments. Hearings before the Subcommittee on Domestic Monetary Policy of the House Committee on Banking Finance and Urban Affairs. 96th Cong., 2nd sess. November 19, 1980.

Regan, Donald T. "Testimony." In *Foreign Assistance and Related Programs Appropriations for 1984.* Hearings before a House subcommittee of the Committee on Appropriations, Part 6. 98th Cong., 1st sess. September 15, 1983.

"Report of Answers to Questions Addressed to the Governor and Directors of the Bank of England." In *Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland, and Italy.* National Monetary Commission, U.S. Senate Doc. No. 405, 61st Cong., 2nd sess. 1910.

Report of the Committee to Investigate the Concentration of Control of Money and Credit. Report No. 1593, 62nd Cong., 3rd sess. February 28, 1913.

Report of the Joint Commission of Agricultural Inquiry, Part II. HR 408, 67th Cong., 1st sess. 1922.

Report of the National Monetary Commission. U.S. Senate Doc. No. 243, 67th Cong., 2nd sess. January 9, 1912.

Sprague, O. M. W. *History of Crises under the National Banking System.* National Monetary Commission, Senate Doc. No. 538, 62nd Cong., 2nd sess. 1910.

Stabilization. Hearings before the House Committee on Banking and Currency. 69th Cong., 1st sess., Parts I, II. 1926–1927.

"Staff Memorandum." *The Federal Reserve System after Fifty Years.* Hearings before the Subcommittee on Domestic Finance of the House Committee on Banking and Currency. 88th Cong., 2nd sess. April 9–29, 1964, pp. 1985–2001.

U.S. Treasury Department. *Annual Report of the Secretary of the Treasury on the State of the Finances for 1917.* Washington, DC: U.S. Government Printing Office, 1918.

U.S. Treasury Department. *Annual Report of the Secretary of the Treasury on the State of the Finances.* Washington, DC: U.S. Government Printing Office, 1919.

U.S. Treasury Department. *Modernizing the Financial System: Recommendations for Safer, More Competitive Banks.* Washington DC, February 1991.

Warburg, Paul M. "The Discount System in Europe." National Monetary Commission, U.S. Senate, Doc. No. 402, 81st Cong., 2nd sess. 1910.

Weintraub, Robert E. "Introduction." In *Federal Reserve Structure and the Development of Monetary Policy: 1915–35.* Staff Report, Subcommittee on Domestic Finance of the House Committee on Banking and Currency, 92d Cong., 1st sess. December 1971, pp. 1–11.

White, Kenneth. "Statement." In *Nomination of Paul A. Volcker.* Senate Hearings before the Committee on Banking, Housing, and Urban Affairs. 96th Cong., 1st Sess. July 30, 1979, pp. 58–65.

FEDERAL RESERVE PAPERS AND PUBLICATIONS

Board of Governors of the Federal Reserve System. *Annual Report for 1978.* Washington, DC.

Board of Governors of the Federal Reserve System. *Annual Report for 1979.* Washington, DC.

Board of Governors of the Federal Reserve System. *Annual Report for 2002.* Washington, DC.

Board of Governors of the Federal Reserve System. *Annual Report for 2003.* Washington, DC.

Board of Governors of the Federal Reserve System. *Annual Statistical Digest, 1974–78.* Washington, DC, January 1980.

Board of Governors of the Federal Reserve System. *Banking and Monetary Statistics, 1914–41.* Washington, DC, 1943. Reprint 1976.

Board of Governors of the Federal Reserve System. "Extensions of Credit by Federal Reserve Banks." 12 C.F.R. 201 under "Press Release." October 31, 2002.

Board of Governors of the Federal Reserve System. "The Federal Reserve Position on Restructuring of Financial Responsibilities" (White Paper). *Federal Reserve Bulletin* 70 (July 1984): 547–57.

Board of Governors of the Federal Reserve System. "Report of a System Committee." *Reappraisal of the Federal Reserve's Discount Mechanism.* Vols. 1–3. Washington, DC, August 1971, pp. 27–75.

Board of Governors of the Federal Reserve System. "Summary of Papers Presented at the Second Conference of the International Research Forum on Monetary Policy." *Federal Reserve Bulletin* 90 (Spring 2004): pp. 153–60.

Burgess, W. Randolph. "Excess Reserves and Federal Reserve Policy." Memorandum to the directors of the Federal Reserve Bank of New York, March 21, 1935. Read by Burgess to the executive committee of Federal Open Market Committee on April 17, 1935.

Federal Open Market Committee of the Federal Reserve System. "Minutes of the Meeting of the Executive Committee," April 17, 1935.

Federal Open Market Committee of the Federal Reserve System. "Minutes of the Meeting of the Executive Committee," October 22–24, 1935.

Federal Open Market Committee of the Federal Reserve System. "Minutes of the Meeting of the Executive Committee," December 17–18, 1935.

Federal Open Market Committee of the Federal Reserve System. "Minutes of Actions, Memorandum of Discussion," Meeting of October 16, 1973.

Federal Open Market Committee of the Federal Reserve System. "Transcripts of Meetings," 1979–1982. www.federalreserve.gov/fomc/transcripts.

Federal Reserve Board. *Annual Report for 1914*. Washington, DC.

Federal Reserve Board. *Annual Report for 1915*. Washington, DC.

Federal Reserve Board. *Annual Report for 1919*. Washington, DC.

Federal Reserve Board. *Annual Report for 1920*. Washington, DC.

Federal Reserve Board. *Annual Report for 1921*. Washington, DC.

Federal Reserve Board. *Annual Report for 1923*. Washington, DC.

Federal Reserve Board. *Annual Report for 1926*. Washington, DC.

Federal Reserve Board. *Annual Report for 1928*. Washington, DC.

Federal Reserve Board. *Annual Report for 1933*. Washington, DC.

Federal Reserve Board. *Federal Reserve Bulletin* 15 (August 1929).

Federal Reserve Board. *Federal Reserve Bulletin* 26 (January 1940).

Federal Reserve Board. "Memorandum on Policy Governing Open Market Purchases by Federal Reserve Banks and the Administration Thereof," April 7, 1923.

Open Market Investment Committee of the Federal Reserve System. "Minutes of Meetings," May 1922–December 1925.

Open Market Policy Conference of the Federal Reserve System. "Minutes of Meeting." August 11, 1931.

Open Market Policy Conference of the Federal Reserve System. "Minutes of Meeting," January 4, 1933.

Open Market Policy Conference of the Federal Reserve System. "Minutes of Meeting," April 22, 1933.

ARCHIVAL MATERIAL

George Harrison Papers (Federal Reserve Bank of New York)

Harrison, George. "Conversation with Mr. Winthrop Aldrich, Chase Manhattan." Memorandum to Confidential Files, January 9, 1934. Harrison Papers. Archives of the Federal Reserve Bank of New York, File No. 2500.1.

Harrison, George. "Conversation with Mr. George Baker, Sr." Memorandum to Confidential Files, May 14, 1929. Harrison Papers. Archives of the Federal Reserve Bank of New York, File No. 2500.2.

Harrison, George. "Conversation with Mr. Welldon and Mr. Baker Sr., First National Bank." Memorandum to Confidential Files, April 18 and April 23, 1929. Harrison Papers. Archives of the Federal Reserve Bank of New York, File No. 2500.2.

Harrison, George. "Conversations during the course of a visit to Washington DC" Memorandum to Confidential Files, November 20, 1933. Harrison Papers. Archives of the Federal Reserve Bank of New York, File 2012.4.

Harrison, George. "Telephone Conversation with Senator Glass on Friday, June 14." Memorandum to Personal Files, June 15, 1935. Harrison Papers. Archives of the Federal Reserve Bank of New York, File No. 2021.0.

Benjamin Strong Papers (Federal Reserve Bank of New York)

Curtis, J. F. Letter to Benjamin Strong, April 7, 1917. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.152.

Glass, Carter. Letter to Benjamin Strong, December 31, 1919. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 012.1.

Miller, Adolph C. Letter to Benjamin Strong, July 6, 1922. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 212.1.

Miller, Adolph C. Remarks at Joint Conference of the Chairmen and Governors of the Federal Reserve Banks, Washington, DC, October 25–28, 1921. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 212.1.

Snyder, Carl. Memorandum to Benjamin Strong, December 5, 1922. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.45.2.

Snyder, Carl. Memorandum to Benjamin Strong, January 2, 1923. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.45.3.

Strong, Benjamin. Lecture at the Army War College, to be read to students June 19, 1922 (delivered October 26, 1922). Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 1500.05.

Strong, Benjamin. Lecture at General Staff College, April 11, 1921. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.211.

Strong, Benjamin. Letter (draft) to W.I. King, November 17, 1921. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 670.3.

Strong, Benjamin. Letter to W. I. King, January 30, 1922, pp. 1,2. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 670.3.

Strong, Benjamin. Letter to Russell Leffingwell, February 6, 1919, p. 3. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 012.4.

Strong, Benjamin. Letter to Russell Leffingwell, December 19, 1919. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 012.4.

Strong, Benjamin. Letter to William G. McAdoo, Nov. 25, 1918. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 012.1.

Strong, Benjamin. Letter to A. C. Miller, July 14, 1922. Strong Papers. Archives of the Federal Reserve Bank of New York, File No., 212.1.

Strong, Benjamin. Memorandum to Carl Snyder, February 28, 1922. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.45.1.

Strong, Benjamin. Memorandum, Benjamin to Carl Snyder, Dec. 26, 1922. Strong Papers. Archives of the Federal Reserve Bank of New York, File No. 320.45.2.

John Skelton Williams Papers (University of Virginia)

Bryan, William Jennings. Letter to John Skelton Williams, February 24, 1921. John Skelton Williams Papers. Archives, University of Virginia, Special Collections, Box 47, No. 10,040.

"Editorial." *Richmond Times-Dispatch*, February 23, 1921, p. 4. John Skelton Williams Papers. Archives, University of Virginia, Special Collections, Box 81, No. 10,040.

Glass, Carter. Letter to John Skelton Williams, June 17, 1921, John Skelton Williams Papers. Archives, University of Virginia, Special Collections, Box 47, No. 10,040.

Heflin, J. Thomas. "Speech," August 5, 1922 (legislative day, August 3). John Skelton Williams Papers. Archives, University of Virginia, Special Collections, Box 81, No. 10,040.

Wilson, Woodrow. Letter to John Skelton Williams, February 28, 1921. John Skelton Williams Papers. Archives, University of Virginia, Special Collections, Box 46, No. 10,040.

Roosevelt Papers, Franklin Roosevelt Library, Hyde Park, NY

Eccles, Mariner. "Desirable Changes in the Administration of the Federal Reserve System." Memorandum given to the president, November 3, 1934. Reproduction in Roosevelt Papers, Franklin D. Roosevelt Library, Hyde Park, NY.

This page intentionally left blank

Index

Note: Page numbers in *italic* type indicate tables or figures.

Academic economists, 143–49, 216 n. 63, 217 n. 71
Adams, John Quincy, 20
Adaptation, 87–88, 159–64, 171, 221 n. 12
Agricultural Adjustment Act (1933), 105
Agricultural Credits Act (1923), 80–81
Agricultural sector: in 1980s, 142; post–WWI, 73, 80–81, 199 n. 72
Aldrich, Nelson W., 41–43, 62, 192 n. 129
Aldrich, Winthrop, 110
Aldrich bill, 22, 41, 42–43, 46, 47
Aldrich-Vreeland Act (1908), 40–41, 64
American Bankers Association, 42, 93, 105, 135
American Banking Community and New Deal Banking Reforms, 1933–35, The (Burns), 122
American Economic Association, 216 n. 63
American Farm Bureau, 73
Anderson, Sydney, 75
Andrew, A. Piatt, 35, 53, 59, 192 n. 129
Argentina, 149
Armstrong, William, 133–134
Assets, bank, 39
Association of Community Organizations for Reform Now (ACORN), 142
Axilrod, Stephen, 136–137, 141

Bagehot, Walter, 37, 38–39, 61
Baker, George F., Sr., 96–97, 132
Baltimore Plan (1894), 189 n. 93
Bank assets, 39
Bank Charter Act (England, 1844), 37, 188 n. 79
Bank closures, 99, 103
Banker, George F., 34
Bank failures, 26, 96, 98, 99, 210–11 n. 5, 223 n. 3
Bank for International Settlements (BIS), 150

Bank Holding Company Act (1954), 147, 177
Banking Act (1933), 106–7, 114, 120, 190 n. 105, 207 n. 49, 210–11 n. 5
Banking Act (1935), 106, 113–21
Banking Crisis, The (Kennedy), 121
Banking holidays, 99, 103
Bank of England: central banking and, 20, 37–39, 60–62, 188 n. 79; as model for U.S. national bank, 4–5, 183 n. 6; monopoly privileges, 188 n. 77; open market operations, 38–39, 91–92; penalty rate, 87, 201 n. 107; self-preservation of, 165–66; war finance, 86, 151–152
Bank of France, 62
Bank of North America, 86
Bank of the United States, 5, 19, 183 n. 6, 183 n. 10. *See also* Second Bank of the United States
Bank of the United States (New York City), 98
Bank of Venice, 86
Bank supervision, 55, 56–57, 59. *See also* Regulation
Bank War, The, 5, 18, 20–22, 104, 166, 167
Baring crisis (1890), 39, 61, 189 n. 85
Baruch, Bernard, 96
Biddle, Nicholas, 5, 18, 20–22, 184 n. 18
"Biddle's Panic," 21
Bill market, 39
Bills of exchange, 189 n. 89
Bimetallic standard, 185 n. 30
Bland-Allison Act (1876), 185 n. 30
Blathwayt, William, 152
Blinder, Alan, 164, 170, 221 n. 18
Board of Governors, 8
Bonds, World War I, 64–65, 68
Bopp, Karl, 170, 216 n. 63
Brandeis, Louis, 45, 83
Brazil, 149–150
Bretton Woods Agreement, 127
Bryan, William Jennings, 23, 45, 74–75, 83, 196 n. 32
Burgess, W. Randolph, 95–97, 122, 162
Burns, Arthur, 117, 127, 147, 153, 223 n. 9
Burns, Helen, 122
Burton, Theodore E., 190 n. 102
Bush, George, 148
Bush Task Force. *See* Task Group on Regulation of Financial Services
Business cycles, smoothing out, 58, 87, 96, 121
Byrd, Robert, 143

Call loans, 33, 59, 96–97, 194 n. 161
Cannon, James, 27, 186 n. 42
Carter, Jimmy, 133
CBS, 135
Central bank: bias of, toward bankers, 217 n. 68; Biddle and, 20; concept of, 60–62; conservatism and, 222 n. 18; controversy over, 6, 18, 22, 36, 46, 61, 166, 183 n. 7, 191 n. 125; credit extended by, 184 n. 18; in England, 36–38; functions of, 60; necessity of, 120–21, 154–55; open market operations and, 39, 90–93; in other countries, 10; risks of, 58–59; Second Bank as, 184 n. 18
Cermak, Anton, 104
Chairman of Federal Reserve Board, 116–17, 222 n. 28, 225 n. 20
Chandler, Lester V., 63, 65, 78, 86, 92, 99
Chase National Bank, 110
Check payments system, 9, 55, 182 n. 10, 193 n. 148

Cincotta, Gail, 142
Citicorp, 178
Civil War, 84–86
Clay, Henry, 21, 184 n. 18
Clayton Act (1914), 56, 190 n. 105
Clearinghouses, 26–28, 182 n. 10, 185 n. 37, 186 nn. 38, 42
Cleveland, Grover, 185 n. 30
Clifford, A. Jerome, 122, 162
Commercial banks, 7, 9, 146–47, 149–50, 153, 176, 177–78, 210–11 n. 5, 223 n. 3
Commission on Money and Credit, 125
Commodity and farm prices, 23, *24*, 25
Commons, John R., 54, 90–91, 120, 192 n. 142, 202 n. 118
Community Reinvestment Act (1977), 220 n. 102
Comptroller of Currency, 56–57, 73–75
Congress: expectations for Federal Reserve Board, 58; Great Depression, 102, 109–20; 1970s–1980s, 131, 142–43, 152–54; post–WWI period, 75–82; recent years, 175–76. *See also* Legislation
Consensus, 170, 222 n. 27
Construction industry, 141–42
Consumer Credit Protection Act (1968), 220 n. 102
Consumer Leasing Act (1976), 220 n. 102
Consumer legislation, 152, 220 n. 102
Corelyou, George B., 34
Country banks, 196 n. 30
Cowperthwait, J. Howard, 22
Coyne, Joe, 135
Crises, financial: 1857, 27; 1914, 41; panics versus, 25
Criticism of Federal Reserve System: from academic economists, 143–49, 216 n. 63; agricultural sector, 73; Comptroller of Currency, 73–75; congressional hearings, 75–80; contemporary, 15–16, 175, 223 n. 7; in 1980s, 11, 137, 142–49; post–WWI, 72–81
Currency: in 1907, 190 n. 99; in 1914, 7; later nineteenth century, 23, 184 n. 27, 185 n. 30; national currency associations, 41. *See also* Gold; Pound sterling
Curtis, J. F., 201 n. 96

Davison, Henry, 192 n. 129
Deflation: Federal Reserve role in avoiding, 87, 119; post–WWI, 79, 199 n. 68
Democratic Party: banking platform, Roosevelt (F. D.) administration, 103, 106; Bryan and currency controversy, 23; on Federal Reserve, 83, 145; and Independent Treasury, 21; on interlocking directorates, 55; opposition to Aldrich plan, 43
Deposit banking, 25, 185 n. 33
Depository Institutions Deregulation and Monetary Control Act (1980), 146–47
Depression. *See* Great Depression
Discount rates: Great Depression, 96; 1970s, 128, 131–33, 135, 212 nn. 13, 15; 1979–1982, 136–41; post–WWI, 68–72, 74–75, 80, 87–88; as principal policy instrument, 7, 54; Reserve Banks and, 200 n. 80, 209–10 n. 89. *See also* Interest rates
Disintermediation, 211 n. 5

Douglas, Paul, 212 n. 14
Dunbar, Charles, 183 n. 9

Eccles, Marriner, 109, 111–15, 117–21, 161–63, 165, 168, 173, 221 n. 12
Eccles memorandum, *112–13*
Economist (London), 36, 61–62
Emergency Banking Act (1933), 105, 206 n. 17
Emergency Relief and Construction Act (1932), 98
England, 4–5, 36–40
Equal Credit Opportunity Act (1974), 220 n. 102
Europe, banking in, 36–40, 60–62, 188 n. 74
Evolutionary approach to organizations, 13–14, 160
Exchange rates, 127
Exuberance, investor, 97, 205 n. 9

Fair Housing Act (1968), 220 n. 102
Federal Advisory Council, 52, 93
Federal Deposit Insurance, 115
Federal Home Loan Bank System, 108
Federal Housing Administration, 108
Federal intermediate-credit banks, 81
Federal National Mortgage Association (Fannie Mae), 108
Federal Open Market Committee (FOMC), 8, 10, 106–9, 116, 118, 127, 132–38, 175, 176, 214 nn. 30, 32, 215 n. 50, 223 n. 9
Federal Reserve Act (1913), *49–52*; Aldrich bill versus, 47; Great Depression amendments, 98; passing of, 6, 18, 43–47
Federal Reserve Banks: board and management composition, 48, 53; charters of, 58; check payments system, 55; discount lending, 54, 200 n. 80; establishment of, 46; as fiscal agents for Treasury, 194 n. 4; Great Depression, 114–15; open market operations, 54, 91, 193 n. 143, 201 n. 115, 202 n. 121; original and current, comparison of, 6–10; powers and restrictions, 53–54, 117–18, 193 n. 143; Reserve Board relationship to, 56, 116–20, 209–10 n. 89; supervision of members, 193 n. 156; World War I, 64–65
Federal Reserve Board: chairman's powers, 116–17, 222 n. 28, 225 n. 20; composition of, 45, 46, 48, 81, 115–16, 225 n. 20; Reserve Banks relationship to, 56, 116–20, 209–10 n. 89
Federal Reserve notes, 7, 46, 53
Federal Reserve System: Board-Banks relationship, 56, 116–20, 209–10 n. 89; as bureaucracy, 164; centralization of authority in, 170–71; as compromise formation, 57–59, 166; Comptroller of Currency relationship to, 56–57, 73–75; conspiracy theories about, 12–13, 47; cooperation with government, 122–23, 151, 161–64, 168–69, 200–201 n. 96 (*see also* U.S. Treasury); criticism of (*see* Criticism of Federal Reserve System); executive office relation to, 48; as "The Fed," 153–55; funding of, 7–8; future of, 178–79; growth patterns, 157–59; independence of, 88–89, 107, 117, 145–46, 169, 209 n. 71, 212 n. 14; key historical episodes in, 10–11 (*see also* Great Depression; 1979–1982;

post–WWI period); lineage of, 4–6, 17–62; organizational structure, 48, *49–50*, 53, 57–59, 115–22, 144–45, 154, 164, 166–71; original and current, comparison of, 6–10; powers, 1–2, *3–4*, *50–52*, 53–56, 107, 116–17, 179–80; public opinion of, 9, 102; in recent years, 175–78; secrecy and obfuscation alleged of, 12, 175, 176, 182 n. 17, 214 n. 30, 217 n. 67, 223 n. 9; survival and growth (*see* Survival and growth of Federal Reserve System); transfers to Treasury, 8; withdrawal from membership in, 146, 153
Federal Trade Commission Improvement Act (1975), 220 n. 102
Financial modernization, 1, 176
First Annual Report (1914), 58, 59
First Bank of the United States. *See* Bank of the United States
First National Bank, 96–97
Fisher, Irving, 96, 192 n. 142, 211 n. 9
FOMC. *See* Federal Open Market Committee
Forbes, Steve, 16
Free banking systems, 61
Friedman, Milton, 11, 28, 77, 82, 117, 144–45, 159, 164, 168, 214–15 n. 41, 217 nn. 68, 71, 72, 218 n. 74, 222 n. 2
Full-Employment and Balanced Growth (Humphrey-Hawkins) Act (1978), 131, 152, 211 n. 9

Gilbert, S. Parker, 79
Glass, Carter, 12, 18, 43–47, 62, 69, 74–75, 83, 109, 113–15, 121, 161–63, 167, 196–97 n. 35
Glass-Steagall Act (1932), 1, 98, 177
Gold: standard, 7, 36, 87, 107; post–WWII stock of, 127; Roosevelt administration policies during Great Depression, 105, 107–8
Gold Reserve Act (1934), 108
Goldsborough, William, 120
Gold Standard Act (1900), 188 n. 76
Gonzales, Henry, 118, 175
Gouge, William, 21
Government Accounting Office (GAO), 107, 152, 208 n. 51
Governor's Conference (1914), 164, 170
Gramm-Leech-Bliley Act (1999), 1, 11, 177–78, 179, 181 n. 2, 224 n. 15
Great Depression, 95–124, 158–59; Banking Act (1935), 113–20; economic decline, 97–99; Federal Reserve prior to, 95–97; Federal Reserve reorganization, 109–13; policy failure, 97–102; reserves, earning assets, and number of banks, *100*; Roosevelt administration response, 102–20
Greenbacks, 23, 184 n. 27, 185 n. 28
Greenspan, Alan, 9, 16, 117

Hamilton, Alexander, 4–5, 19
Hammond, Bray, 20, 183 n. 9, 184 n. 18
Hansen, Alvin, 132
Harding, W. P. G., 77, 78, 81, 197 n. 37
Hardy, Charles, 182 n. 17
Harrison, George L., 78, 96–97, 108–9, 110, 115, 165, 171
Heflin, J. Thomas, 73
Heinze, F. A., 29
Herzog, Silva, 149

History of the Federal Reserve, A (Meltzer), 121
Holding companies, 107, 147–48, 177–78, 207 n. 49, 224 n. 15
Home Loan Bank Board, 11, 141–42
Home Mortgage Disclosure Act (1975), 220 n. 102
Hoover, Herbert, 102, 121
Hopkins, Harry, 104
House, Edward Mandell, 104
House Banking Committee, 175
House Subcommittee on Domestic Monetary Policy, 142–43
Humphrey-Hawkins Act (1978), 131, 152, 211 n. 9

Independence of the Federal Reserve System, The (Clifford), 122
Independent Treasury, 21–22, 53
Indianapolis Monetary Convention (1896), 189 n. 93
Inflation: 1970s, 125–31, 133–34, 138, 140, 211 n. 9; post–WWI, 66, 68
Interest rates, 1979–1982, 137–41, *138*, *139*, 142–143. *See also* Discount rates
Interlocking directorates, 55–56, 190 n. 105
International Monetary Fund (IMF), 149, 150, 151
Iran, 128

Jackson, Andrew, 5, 18, 20–22, 47
Jay, Pierre, 84
Jefferson, Thomas, 183 n. 7
Jekyll Island, Georgia, 12–13, 47, 192 n. 129
Johnson, Lyndon, 126
Joint Commission for Agricultural Inquiry, 75, 80–83, 85–86, 197 nn. 37, 40, 41, 199 n. 72

Kane, Thomas, 74
Kassebaum, Nancy, 133
Kennedy, Susan E., 121–22
Kettl, Donald, 125, 153–54, 197 n. 37
Keynes, John Maynard, 82, 90, 132, 206 n. 30
Keyserling, Leon, 212 n. 14
King, Wilfred, 84
Knickerbocker Trust, 33, 187 n. 64
Krugman, Paul, 15–16

LaFollette, Robert, 202 n. 118
Laughlin, J. Laurence, 59
Leadership, 169
Leffingwell, Russell C., 65, 79, 84, 196–97 n. 35
Legislation: consumer-oriented, 152, 220 n. 102; Great Depression, 98, 105–8, 113–20; 1970s–1980s, 146–49, 152; post–WWI, 80–81; response to Panic of 1907, 40–43. *See also specific laws*
Lehman, Herbert, 103
Lender of last resort, 38–39, 148, 153
Lending practices, 9
Lewis and Clark journals, 20
Liberty bonds, 64
Link, Arthur, 40
Lippmann, Walter, 101–2, 104, 114
Lombard Street (Bagehot), 61
Lopez Portillo, Jose Ramon, 150
Louisiana Purchase, 20
Louis XIV, King of France, 4
Ludwig von Mises Institute, 47

Madison, James, 19
Martin, William McChesney, 101, 117, 126
Mayr, Ernst, 157
McAdoo, William, 18, 45, 64, 75, 83, 84–85, 201 n. 96
McFadden Act (1927), 58
McKinley, William, 23, 28
Meltzer, Allan H., 121
Member-bank borrowing, 93, 203 n. 131

Mercantile National Bank, New York, 29
Mergers, 177, 224 n. 14
Mexico, 1982 financial crisis, 149–51
Meyer, Eugene, 101
Meyer, Laurence, 178
Miller, Adolph, 77–78, 87–88, 167
Mills, Ogden, 197 n. 41
Misery Index, 128, *130*, 140
Mitchell, Parren J., 143
Mitchell, Wesley Clair, 35, 36, 188 n. 74
Modernization, financial, 1, 176
Moley, Raymond, 103
Monetarism, 135–37, 144–45, 154, 214–15 n. 41
Monetary Control Act (1980), 153
Monetary instability, 22–25
Monetary policy: experiment of 1979–1982, 125–26, 133–55; post–WWII, 126–27; and stagflation of 1973–1979, 127–32. *See also* Interest rates
Money supply, in 1970s–1980s, 131, 133–37, 141, 215 n. 50
Monroe, James, 20
Montagu, George, 151–152
Montagu, Norman, 79
Morgan, J. P., 13, 32–35, 47, 187 n. 60
Morgenthau, Henry, Jr., 104, 108–11, 114–15, 121, 161–63, 209 n. 72
Morris, Robert, 5
Morse, C. F., 29, 187 n. 51
Mortgage rates, 141–42

National Banking Act (1863), 23, 185 n. 33
National bank notes, 23, 185 n. 34
National banks, 28, 153
National Citizens' League for the Promotion of a Sound Banking System, 42
National currency associations, 41
National Monetary Commission, 5, 40–41, 46, 62, 82, 91, 189 n. 98
National Republicans, 21
National Reserve Association, 190 n. 102
New York City Clearing House Association, 26–27, 29, 32–33, 35
New York Times, 22
Nixon, Richard, 127
Non-par banks, 55
Non-price rationing, 213 n. 19
Norris, George, 101

Oil prices, 127–28, 140
Okun, Arthur, 128
OMPC. *See* Open Market Policy Conference
Open market operations: Bank of England, 38–39, 91–92; Great Depression, 98–99, 101, 106–9, 114, 116; as monetary policy instrument, 88, 90–93, 107, 201 n. 115, 202 n. 121; Reserve Banks, 54, 193 n. 143, 201 n. 115, 202 n. 121
Open Market Policy Conference (OMPC), 98–99, 101, 106, 122, 162
Organizational evolution, 13–14, 160
Organization of Petroleum Exporting Countries (OPEC), 127, 128
Otto Heinze & Company, 29
Overend & Gurney, 38, 61
Owen, Robert L., 45, 46, 83

Panics, financial, 25–36; 1834, 21; 1837, 21–22; 1893, 27; 1907, 17, 27, 29–36, *30–32*, *34*; causes of, 26; crises versus, 25; definition of, 25; deposit banking and, 25; Great Depression, 99; management of, 26–28; outcomes of, 26

Patman, Wright, 117–18, 145, 212 n. 14, 217–18 n. 73
Patterson, William, 4
Paul, Ron, 142–43
Payments systems. *See* Check payments systems
Peel, Robert, 37
Pet banks, 21
Phelan Act (1920), 69
Poland, 149
Post–WWI period, 63–93, 158; agricultural sector problems, 73; commercial paper rates, *69–70*; comptroller versus Federal Reserve, 73–75; congressional hearings, 75–80; criticism of Federal Reserve, 72–81; economic disorder, 65–72; Federal Reserve Bank loans, *68*; industrial production, *71–72*; legislation, 80–81; price level and wholesale farm prices, *66–67*; survival and growth of Federal Reserve, 81–89
Pound sterling, 37
Price stability, 192 n. 142, 211–12 n. 13
Progressive Party, 43
Progressive rates, 70, 72, 74, 87
Proxmire, William, 142–43
Public opinion, 9, 102
Pujo, Arsène, 43, 83
Pujo Committee, 43, 56, 190 n. 105

The Rationale for Central Banking (Smith), 121
Real bills theory, 39–40, 53, 59
Recession: financial crisis as, 25; mid-1970s, 128; 1980s, 137, 140; post–WWI, 71–72
Reconstruction Finance Corporation (RFC), 105, 108
Regan, Donald, 151–52
Regulation, 107, 146–49, 218–19 n. 81. *See also* Bank supervision
Regulation Q, 126
Reichsbank, 62
Report of the Joint Commission of Agricultural Inquiry (1922), 80, 93
Republican Party, 19
Reserve Banks. *See* Federal Reserve Banks
Reserves: aggregates, during 1970s, 134, 136; excess, during Great Depression, 99, *100*, 101, 120; requirements for, 146–47, 192 n. 137, 205 n. 15
Reuss, Henry, 143
Rhoades, John Harsen, 35–36
Richmond Times-Dispatch, 83
Riegle-Neal Act (1994), 224 n. 13
Roberts, Paul Craig, 143
Roosa, Robert, 212 n. 15
Roosevelt, Franklin D., 47, 95, 103–4, 110, 113, 121–22, 161, 206 n. 30, 207 n. 31. *See also* Roosevelt (F. D.) administration
Roosevelt, Theodore, 43
Roosevelt (F. D.) administration, 102–20; attitudes toward Federal Reserve, 103–4, 109–11, 121–22; change proposals for Federal Reserve, 104–5; emergency measures, 105–6; Federal Reserve reorganization, 109–20; monetary policy without Federal Reserve, 107–9; powers of Federal Reserve expanded, 106–7
Runs on banks, 26, 99
Ryan, Thomas Fortune, 74, 196 n. 32

Sarbanes, Paul, 134
Savings and loan institutions, 141–42, 210–11 n. 5

Sayers, Robert, 37, 38, 92
Schumpeter, Joseph, 36, 165
Schwartz, Anna B., 28, 77, 82, 117
Seaboard Air Line Railway, 74
Second Bank of the United States, 5, 18–22, 61, 184 n. 18
Securities Exchange Act (1934), 107
Shadow Open Market Committee, 144, 216 n. 65, 220 n. 100
Shaw, Leslie M., 28, 59
Sherman Silver Purchase Act (1890), 185 n. 30
Smith, Adam, 39
Smith, Vera, 121
Snyder, Carl, 88, 202 n. 118
Specie Circular, 21
Specie payments, 22–23, 185 n. 30
Specie Resumption Act (1874), 185 n. 30
Sprague, O. M. W., 25, 79
Stable Money Association, 212 n. 13
Staff, 169
Stagflation, 125, 127–31, *129*
State banks, 19, 21, 23, 153, 183 n. 9, 185 n. 33
Stillman, James, 34
Stock market collapse, 26, 97, 205 n. 9
Strong, Benjamin, 12, 33, 69, 74–75, 76, 78–80, 83, 84–91, 123, 162, 164, 165, 167, 170, 171, 192 n. 129, 193 n. 142, 196–97 n. 35, 198 n. 57, 199 n. 68, 200 n. 86, 201 nn. 96, 107, 202 n. 118, 212 n. 13, 216 n. 63
Suggested Plan for Monetary Reform, 42
Sunshine Act (1976), 152, 214 n. 30
Survival and growth of Federal Reserve System: adaptation and learning, 87–88, 159–64, 171, 221 n. 12; emergency response, 168–69; evolutionary approach to, 13–14; explanations of, 12–14; Great Depression, 120–23; 1980s, 152–55; patterns in, 157–59; post–WWI, 81–89, 200 n. 79; sensitivity to threat, 165–67; sources of success, 165–71; war finance role, 83–87
Szymczak, M. S., 103–4, 122, 207 n. 35

Task Group on Regulation of Financial Services, 148–49, 151, 152
Thomas, E. R., 29
Thomas, J. J., 103, 122
Thomas, O. P., 29
Thomas Amendment (Agricultural Adjustment Act), 105, 122, 162
Thornton, Henry, 40
Title II, Banking Act (1935), 113–16
Travelers, 178
Trust Company of America, 34
Tugwell, Rexford Guy, 47, 103, 104

UCLA National Business Forecast, 137–138
Unemployment, in 1970s and 1980s, 128–31, 137
United Copper Company, 29
Untermyer, Samuel, 45, 83
U.S. Treasury: central bank in, 18, 45; and foreign debts, 149–150, 151; Great Depression, 108, 117; and open market operations of Federal Reserve, 93; policies for addressing panics, 28; transfers from Federal Reserve System, 8; World War I and after, 63–65, 68–69, 78–80, 84–86, 88, 200–201 n. 96; World War II, 117, 126. *See also* Independent Treasury

Van Buren, Martin, 21, 53
Vanderlip, Frank A., 192 n. 129

Victory Loan, 68
Virginia Tax Association, 134
Volcker, Paul, 12, 117, 133–35, 137, 142–43, 149–51, 153–55, 160–61, 165, 171, 222 n. 28

Wallich, Henry, 135, 217 n. 71
Warburg, Paul, 47, 58, 119, 164, 192 n. 129
War finance, 83–87, 117, 126, 151–152
War of 1812, 19
War of the League of Augsburg, 4
Washington, George, 19
Wealth of Nations, The (Smith), 39
Webster, Daniel, 21
White, Horace, 22
Wicker, Elmus R., 197 n. 37
Williams, John Skelton, 45, 65, 73–78, 83, 103, 196 n. 29, 197 nn. 37, 40, 41
Williamson, Oliver, 1
Willis, H. Parker, 44
Wilson, Woodrow, 18, 43–47, 56, 74, 83, 103, 196 n. 29
Wire transfer system, 182 n. 10
Woodin, William, 104
World War I, 55, 59, 64–65. *See also* Post–WWI period
World War II, 117, 126–27

About the Author

BERNARD SHULL is Professor Emeritus in the Department of Economics, Hunter College, and a special consultant for National Economic Research Associates (NERA). He has held various positions in the Federal Reserve System, including Associate Advisor to the Board of Governors; he was also Senior Economist in the Office of the Comptroller of the Currency. He has published widely in professional and academic journals on issues of monetary, banking, and financial policy, and is the co-author of two books, *Interest Rate Volatility* and *Bank Mergers in a Deregulated Environment* (Quorum, 2001).