AMANG BANKING

Dudley G. Luckett

MONEY AND BANKING

Third Edition

Dudley G. Luckett

Iowa State University

McGraw-Hill Book Company

New York St. Louis San Francisco Auckland Bogotá Hamburg Johannesburg London Madrid Mexico Montreal New Delhi Panama Paris São Paulo Singapore Sydney Tokyo Toronto

MONEY AND BANKING

Copyright © 1984, 1980, 1976 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

1234567890DOCDOC89876543

ISBN 0-07-038961-6

This book was set in Electra by Bi-Comp, Incorporated. The editors were Patricia A. Mitchell and Edwin Hanson; the designer was Charles A. Carson; the production supervisor was Charles Hess. The drawings were done by Fine Line Illustrations, Inc. R. R. Donnelley & Sons Company was printer and binder.

Library of Congress Cataloging in Publication Data

Luckett, Dudley G.

Money and banking.

Includes bibliographical references and index.

1. Money. 2. Monetary policy. 3. Banks and banking. I. Title.

HG221.L882 1984 332.1 83-12074 ISBN 0-07-038961-6

Preface

When I first began teaching monetary economics some twenty-five years ago, I followed the practice, common in those days, of rushing through the material on banking structure and financial markets. Banking was considered a very dull subject to teach, primarily because the practice of banking itself was so staid; very little had changed in the past twenty-five years, and it seemed unlikely that things would be much different over the next twenty-five. The exciting parts of the course were monetary theory and policy and, when one at last got to them, one began to develop delusions of grandeur: Maybe—just maybe—the students in the back row would finally wake up.

Nowadays, of course, matters are quite different. In the past few years we have been bombarded with so many institutional, political, and theoretical changes that one is hard-pressed just to stay current in the subject. Not the least of these changes is in the nature of banking, and in the innovations that have occurred in the financial markets. The institutional arrangements that were one outgrowth of the Great Depression remained stable for a remarkably long period—some forty years. They are now in the process of giving way to new arrangements. What these new institutions will be is anyone's guess, for at the very most, we can hope only to see the future through a glass, darkly. Additionally, monetary theory has changed markedly in the past few years, and, thus impelled, the conduct of monetary policy has also undergone radical change.

As a consequence of these developments, the third edition of this text is substantially different from its predecessor. To attempt to catalogue such extensive changes in the Preface would be fatuous. Instead, it should be sufficient here to suggest the underlying principles I have attempted to follow in revising the text, and to mention, briefly, what I consider the major innovations of this edition.

First the principles. The most obvious institutional change that has occurred in the past few years is the Depository Institutions Deregulation and Monetary Control Act, passed in 1980. While this act signals a very fundamental departure from past financial arrangements to people such as myself, who have been studying and researching the financial sector for many years, undergraduate students are likely to take a much more phlegmatic view of it. The act was passed, after all, when most of them were in their early adolescence, so

that they became aware of banking and finance under the present institutions, not the old. Accordingly, I have attempted to integrate the Monetary Control Act into the text without making much of a fuss about it.

I have followed much the same practice when dealing with international finance, though not for the same reason. For many years, international banking and finance have been relegated to two or three prefunctory chapters toward the end of textbooks, where the whole subject could easily be ignored. Indeed, it seems safe to say that international finance has been the most widely untaught and unassigned topic in courses on money and banking. But where in the past such a practice was unexceptionable. I believe that as teachers we can no longer afford this luxury. The world economy has simply become too large, too integrated, and, in a word, too important to be treated in such a cavalier fashion. I have therefore attempted to integrate the institutional material of international finance into the mainstream of the text. International banking, for example, is discussed in Chapter 3, along with such recent developments and current trends as electronic banking and interstate banking. Only those aspects of international finance that are peculiar to the world economy (e.g., the foreign exchange markets and the International Monetary Fund) are now contained in the international finance section.

This edition of the text also contains two new chapters. The first of these, Chapter 8, discusses the time-preference theory of "the" rate of interest. The purpose of this chapter is to explain the economic function of interest rates—how they allocate resources across time. It seems to me that the current generation of students is very goal-oriented, and that consequently, as academicians, we should occasionally remind students of how the *system* works. I feel compelled to add that Chapter 8 is entirely self-contained, so that instructors who do not share my prejudices, or who are too pressed for time, may either treat this chapter as a reading assignment or omit it.

The other new chapter, Chapter 13, has to do with modern bank management. I have become increasingly dissatisfied with the discussion of bank management contained in previous editions of my text, but have searched in vain for a more contemporary treatment that would be suitable for undergraduates. In the summer of 1979 I had the pleasurable experience of working in the research department of the Federal Reserve Bank of Kansas City on precisely this topic. Chapter 13 grew out of this experience. I find it a much more satisfying description of modern banking practices, and hope that other instructors will feel the same.

Notwithstanding the very substantial changes that have been made in this edition, the original conception of the text remains unaltered. Specifically, I have continued to make occasional use of the statistical technique of regression analysis, and to discuss professional research results when this could be done gracefully at a level understandable to undergraduates. The favorable response given this approach by instructors and students alike persuades me not only that the approach is viable, but also that it is the path undergraduate economics must take if the discipline is to be made believable to the public generally.

PREFACE XVII

I would like to extend more than merely token thanks to the people who have assisted me in revising this book. Among these, Tom Boggess has been particularly helpful. Tom spent a summer as my research assistant, and his aid in updating tables, figures, and other data was invaluable. Among those who were kind enough to comment on various parts of the book, I would like to thank, without implicating, James A. Stephenson of Iowa State University; Frank Zarnowski of Mt. St. Mary's College, Maryland; Vinod P. Maniyar of Christopher Newport College; Donald B. Billings of Boise State University.

Dudley G. Luckett

Contents

		Preface	xv
PART 1		INTRODUCTION	
		Chapter 1 Introduction and Plan of Book	2
	1-1 1-2 1-3 1-4	An Outline of Monetary Policy An Outline of This Book The Empirical Method in Applied Economics Review	3 5 6 12
		Appendix to Chapter One Regression Analysis	13
	A-1 A-2 A-3 A-4 A-5 A-6	Variance and Standard Deviation The Least-Squares Regression Equation The Coefficient of Determination (r²) Significance Summary Review	14 17 23 26 27 28
PART 2		THE COMMERCIAL BANKING INDUSTRY	
		Chapter 2 The Traditional Structure of American Banking	31
	2-1 2-2 2-3 2-4 2-5 2-6 2-7	Commercial Banking Dual Banking Unit Banking Branch Banking Bank Holding Companies Chain Banking Review	32 33 36 36 45 49
			vii

		Chapter 3 The Dynamic Structure of American Banking	51
	3-1 3-2 3-3 3-4 3-5 3-6 3-7	Interstate Banking	52 56 58 62 66 68
		Chapter 4 Bank Regulation and Supervision	71
	4-1 4-2 4-3 4-4	Bank Supervision and Regulation	72 75 81 83
		Chapter 5 Competition and Monopoly in Commercial Banking	84
	5-1 5-2 5-3 5-4 5-5 5-6 5-7 5-8	Entry Barriers Collusive Behavior in Banking Bank Concentration and Pricing Nonprice Competition	84 86 92 92 93 95 97
PART 3		NONBANK FINANCIAL INTERMEDIARIES	
		Chapter 6 The Theory of Portfolio Selection	105
	6-1 6-2 6-3	Portfolio Theory Portfolio Theory and Financial Intermediaries Review	106 112 113
		Chapter 7 Nonbank Financial Institutions	114
	7-1 7-2	Nonbank Depository Institutions Nondepository Financial Institutions	115 122

CONTENTS	ix
CONTENTS	ix

	7-3 7-4 7-5	Financial Agencies of the Government The Significance of Intermediation Review	126 130 131
PART 4		FINANCIAL MARKETS	
		Chapter 8 The Rate of Interest	135
	8-1 8-2 8-3 8-4 8-5	The Economic Function of Interest Rates The Investment-Opportunity Curve Time Preference	136 137 138 145 145
		Chapter 9 The Capital Market and the Money Market	146
	9-1 9-2 9-3	The Capital Market The Money Market Review	147 154 162
		Chapter 10 Interest Rates in the Money and Capital Markets	163
	10-1 10-2 10-3 10-4 10-5 10-6	Basic Principles The Algebra of Bond Prices, Yields, and Maturity The Risk Structure of Interest Rates The Term Structure of Interest Rates Interest Rates and Inflationary Expectations Review	163 168 171 173 181 184
PART 5		BANK MANAGEMENT	
		Chapter 11 Theories of Banking	107
	11-1 11-2 11-3 11-4 11-5 11-6	The Concept of the Balance Sheet The Nature of Banking Banking Theory: Historical Banking Theory: Contemporary Liquidity of the Banking System Review	187 188 189 190 <i>195</i> 198 199

	Chapter 12 Bank Management: Sources and Uses of Funds	200
12-1 12-2 12-3 12-4	Sources and Uses of Bank Funds The Bank's Capital Accounts Commercial Bank Profits Commercial Bank Liabilities	200 202 205 207
12-5 12-6	Commercial Bank Assets Review	212 218
	Chapter 13 Principles of Bank Management	220
13-1 13-2 13-3 13-4	The Short-Run Adjustment Problem Principles of Short-Run Bank Management Bank Management: A Case Study Review	220 224 230 234
	THE SUPPLY OF MONEY	
	Chapter 14 Money	237
14-1	The Functions of Money	238
14-2	The Importance of Money	240
		24
		244 245
		246
14-7	Near Money	247
14-8	Credit and Money	250
14-9	Review	251
	Chapter 15 The Supply of Money	252
15-1	The Economics of Deposit Creation	253
15-2	The Mathematics of Deposit Creation	257
15-3	Complications: The Currency Drain	261
	·	264
		267
		269 277
15-8	Review	277 278
	12-2 12-3 12-4 12-5 12-6 13-1 13-2 13-3 13-4 14-2 14-3 14-4 14-5 14-6 14-7 14-8 14-9 15-1 15-2 15-3 15-4 15-5 15-6 15-7	12-1 Sources and Uses of Bank Funds 12-2 The Bank's Capital Accounts 12-3 Commercial Bank Profits 12-4 Commercial Bank Liabilities 12-5 Commercial Bank Assets 12-6 Review Chapter 13 Principles of Bank Management 13-1 The Short-Run Adjustment Problem 13-2 Principles of Short-Run Bank Management 13-3 Bank Management: A Case Study 13-4 Review THE SUPPLY OF MONEY Chapter 14 Money 14-1 The Functions of Money 14-2 The Importance of Money 14-3 Kinds of Money: Fiat Standards 14-4 Kinds of Money: Fiat Standards 14-5 Kinds of Money: Deposit Money 14-6 The United States Money Supply 14-7 Near Money 14-8 Credit and Money 14-9 Review Chapter 15 The Supply of Money 15-1 The Economics of Deposit Creation 15-2 The Mathematics of Deposit Creation 15-3 Complications: Excess Reserves 15-5 Complications: Nonpersonal Time Deposits 15-6 The Monetary Base, the Reserve Base, and the Money Multiplier 15-7 Concluding Remarks

хi

PART 7	CENTRAL	BANKING

		Chapter 16 The Quest for Stability	282
	16-1 16-2 16-3 16-4	Banking from the Revolution to the Civil War Banking from the Civil War to World War I Banking from World War I to World War II Review	283 291 298 300
		Chapter 17 The Federal Reserve System	301
	17-1 17-2 17-3 17-4	Structure of the Federal Reserve System Functions of the Federal Reserve System The Independence of the Federal Reserve System Review	302 308 313 316
		Chapter 18 Controlling Depository Institution Reserves	317
	18-1 18-2 18-3 18-4 18-5	The Federal Reserve's Balance Sheet The Depository Institution Reserve Equation General Instruments of Federal Reserve Control Can the Federal Reserve Control the Money Supply? Review	318 323 334 336 341
		Chapter 19 Techniques of Monetary Management	343
	19-1 19-2 19-3 19-4	General Instruments of Monetary Control Selective Instruments of Monetary Control Central Banking Powers of the Treasury Review	344 358 361 362
PART 8		MONETARY THEORY	
		Chapter 20 Some Preliminaries	366
	20-1 20-2	Some Social Statistics The Keynesian and Quantity Theories of Money:	366
	20-3 20-4 20-5	A Nontechnical Comparison Who Cares? The Next Six Chapters Review	372 377 379 379

xii CONTENTS

	Chapter 21 The Traditional Quantity Theory of Money	380
21-1 21-2 21-3	The Transactions-Velocity Approach The Cash-Balance Approach The Income Version of the Cambridge Equation	381 389 393
21-4 21-5	Criticisms of the Traditional Quantity Theory Review	394 397
	Chapter 22 The Modern Quantity Theory of Money	399
22-1	The Quantity Theory of Milton Friedman	400
22-2	The Wealth Effect	410
22-3	The Crowding-Out Effect	411
22-4	Rational Expectations	413
22-5	Review	419
	Chapter 23	400
	Traditional Keynesian Theory: Analysis of the Real Sector	420
23-1	Method of the Keynesian Theory	421
23-2	Equilibrium in the Real Sector: An Intuitive Explanation	421
23-3	Determinants of the Saving Schedule	425
23-4 23-5	Determinants of the Investment Schedule	429 431
23-6	Equilibrium in the Real Sector: The IS Schedule The Governmental Sector	432
23-7	The Multiplier	434
23-8	Concluding Comment	439
23-9	Review	439
	Chapter 24	
	Traditional Keynesian Theory: Analysis of the	
	Monetary Sector and Overall Equilibrium	440
24-1	Equilibrium in the Monetary Sector	440
24-2	Overall Equilibrium: IS and LM	447
24-3	Monetary Policy	448
24-4	Fiscal Policy	460
24-5	Review	463
	Chapter 25	
	Modern Keynesian Economics	464
25-1	Portfolio Adjustments in the Financial Sector	465
25-2	The Transmission Mechanism	472

		CONTENTS	xiii
	25-3 25-4	Adjustments in the Real Sector Review	475 477
		Chapter 26 Issues and Evidence: The Theories Compared	478
	26-1	A Brief Review	478
	26-2 26-3	The Demand for Money	480 490
	26-4	Models of the Economy Consequences of the Two Theories	500
	26-5	Review	502
PART 9		INTERNATIONAL MONETARY RELATIONS	
		Chapter 27	
		International Finance	504
	27-1 27-2	The Foreign Exchange Market The Three Choices	506
	27-3	Relatively Fixed Exchange Rates	510 511
	27-4	Exchange Controls	516
	27-5 27-6	Floating Exchange Rates The International Monetary Fund	518 524
	27-7	Evaluation of the Floating Exchange Rate System	524 527
	27-8	Review	530
PART 1	0	ISSUES IN MONETARY POLICY	
		Chapter 28	
		Strategies of Monetary Policy	533
	28-1 28-2	Goals of Monetary Policy	533
	28-2	Lags in Monetary Policy Choice of Policy Instruments under Uncertain Conditions	536 539
	28-4	Review	544
		Chapter 29 Alternative Monetary Policies	5.45
	29-1	Discretionary Monetary Policy	545
	29-2	Permanent Easy Money	546 547
	29-3	A Monetary Rule	552
	29-4 29-5	100 Percent Reserve Banking Review	556
	27-J	VANIEM	558

•	
XIV	CONTENTS

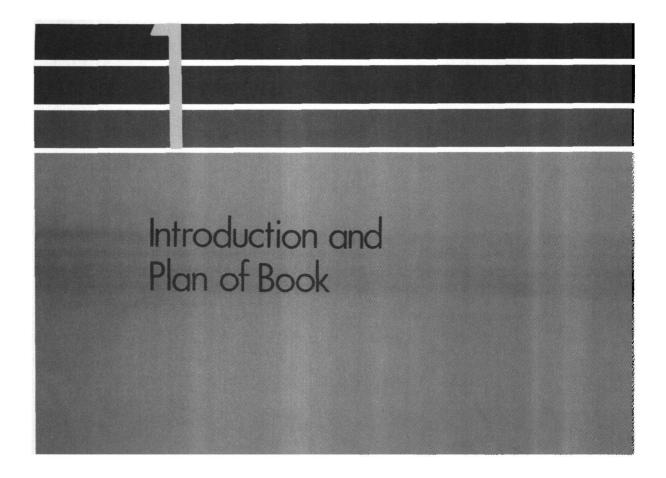
	Chapter 30 The Lessons of History	559
30-1	The 1937–1938 Recession	560
30-2	The "Pegging" Episode: 1941–1951	561
30-3	Bills Only: 1953–1961	563
30-4	Operation Twist: 1961–1965	565
30-5	Credit Crunches: 1966 and 1969	567
30-6	International Crises: 1971 and 1973	571
30-7	Inflation and the Energy Crisis: 1973–1974	574
30-8	Recent Monetary Policy	576
30-9	Review	577
	Index	579

--

INTRODUCTION

The purpose of Chapter 1 is to introduce the remainder of the book. To be candid, introductions are usually a bore; they tell you what they are going to tell you, rather than telling you what they're telling you. Students may understandably become impatient at being treated like this, especially since the book was bought with their money. Nevertheless, *some* introduction is necessary if for no other reason than that the reader needs to have an initial orientation to the material. Without such an orientation, it is possible to become lost among the trees of finance and consequently never see the forest of monetary policy.

Beyond this, Chapter 1 will also serve to introduce the reader to the method of contemporary economics. Like other applied areas in economics, the field of money and banking rests to a considerable extent on factual evidence. The following chapter attempts to explain the sorts of evidence economists find persuasive. For those students with no background at all in statistics, an appendix is provided at the end of Chapter 1 that explains a few basic statistical concepts in very elementary terms. The Appendix is meant to be read by those students who need it but not discussed by the instructor. It is sufficient for an understanding of the remainder of the book.



As the title implies, this book is about two things: It is about the role played by money in the economy, and it is about banking. It is necessary to emphasize the dual purpose of the book at the outset in order to avoid confusion. For while the subjects of money and banking are closely related to one another, they are not inseparable. One could study money—or, more generally, monetary policy—with only a sketchy understanding of commercial banking. And, by the same token, one could study banking—or, more generally, depository financial institutions—while having only a limited knowledge of monetary policy. This book, however, deals with both topics. And therein lies a danger.

The danger is that readers may become so enmeshed in the details of one topic that they lose sight of the other. This danger is particularly acute in the study of depository institutions (DIs). The inner workings of the financial machinery of the United States is a subject of considerable interest for many people. And it is all too easy to become so involved with the details of finance that one loses sight of monetary policy. Accordingly, the purpose of this chapter is to orient the reader with respect to the way that money and banking fit together.

¹ More properly, the book is about money and *depository institutions*—i.e., financial institutions that hold the checking deposits of the public. Traditionally, however, the subject has been called "money and banking" (banks are by far the main type of depository institution).

1-1 AN OUTLINE OF MONETARY POLICY

How monetary policy works can be understood in very general terms with the aid of Figure 1-1. The reader should become familiar with this figure since it will be referred to again in the introduction to most of the remaining nine parts of the book. Its purpose is to keep the reader oriented with respect to the way the material of each part fits into the overall structure of monetary policy.

Look first at the extreme right-hand side of Figure 1-1, at the box numbered "7" on top. (For the moment, ignore the letters along the bottom of the figure.) This box represents the *macroeconomy*, that is, aggregate economic activity. Our concern with the macroeconomy ultimately lies in the behavior of various performance indicators such as the price level, percentage of the labor force that is unemployed, and rate of economic growth. Naturally, we would like to have these performance indicators behave as well as they can; that is, we would like to have a stable price level (no inflation), full employment (no involuntary unemployment), and so forth. But bear in mind that the United States has a free-enterprise economy, which means that these goals cannot be attained through *direct* governmental intervention. In our economy, the government cannot tell businesses what prices they must charge or how many people they must hire. Some other, *indirect* method must therefore be found to achieve these goals. This is where monetary policy comes in.

In the United States, the governmental agency charged with the formulation and execution of monetary policy is the Federal Reserve System. The

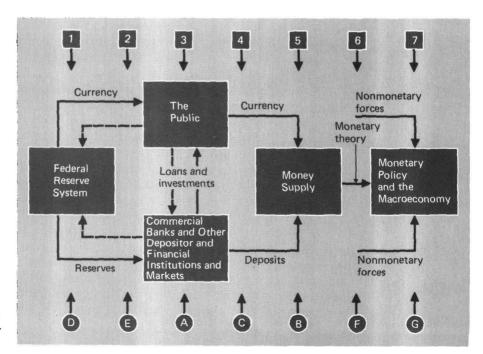


Figure 1-1 Schematic of monetary policy.