

BRIEF CONTENTS

	1 The Approach to Macroeconomics	1
PART ONE	MICROECONOMIC FOUNDATIONS AND THE BASIC MARKET- CLEARING MODEL	25
	2 Work Effort, Production, and Consumption—The Economics of Robinson Crusoe	27
	3 The Behavior of Households with Markets for Commodities and Credit	51
	4 The Demand for Money	81
	5 The Basic Market-Clearing Model	105
	6 The Labor Market	133
PART TWO	INFLATION	149
	7 Inflation and Interest Rates	151
	8 Money, Inflation, and Interest Rates in the Market-Clearing Model	171
PART THREE	BUSINESS FLUCTUATIONS, ECONOMIC GROWTH, AND UNEMPLOYMENT	197
	9 Investment	199
	10 The Accumulation of Capital and Economic Growth	229
	11 Unemployment	251
PART FOUR	GOVERNMENT BEHAVIOR	277
	12 Government Purchases and Public Services	279
	13 Taxes and Transfers	307
	14 The Public Debt	337
PART FIVE	THE INTERNATIONAL ECONOMY	369
	15 World Markets in Goods and Credit	371
	16 Exchange Rates	393

PART SIX	INTERACTIONS BETWEEN THE MONETARY SECTOR AND THE REAL SECTOR	423
17	Financial Intermediation	427
18	The Interplay between Nominal and Real Variables—What Is the Evidence?	459
19	Money and Business Fluctuations in the Market-Clearing Model	483
20	The Keynesian Theory of Business Fluctuations	511
	Bibliography	543
	Glossary	555

CONTENTS

CHAPTER 1		
THE APPROACH TO MACROECONOMICS		1
The Behavior of Output, Unemployment, and the Price Level in the United States		2
The Approach to Macroeconomics		7
Microeconomic Foundations of Macroeconomics		7
Market-Clearing Conditions		9
Using the Market-Clearing Model		11
A Note on Mathematics and Economic Reasoning		14
Elements of National-Income Accounting		14
Nominal and Real GNP		14
The Gross National Product—Expenditure, Production, and Income Prices		20
		22
PART ONE	MICROECONOMIC FOUNDATIONS AND THE BASIC MARKET-CLEARING MODEL	25
CHAPTER 2		
WORK EFFORT, PRODUCTION, AND CONSUMPTION—THE ECONOMICS OF ROBINSON CRUSOE		27
Production Technology		28
Tastes for Consumption and Leisure		30
Deciding How Much to Work		35
Shifts in the Production Function		37
Wealth Effects		37
Substitution Effects for Work versus Consumption		41
Combining the Wealth and Substitution Effects		43
Summary		46
Important Terms and Concepts		46
Questions and Problems		46

CHAPTER 3	
THE BEHAVIOR OF HOUSEHOLDS WITH MARKETS FOR COMMODITIES AND CREDIT	51
The Commodity Market	51
Money	52
The Price Level	53
The Credit Market	53
Budget Constraints	55
Budget Constraints for One Period	55
Budget Constraints for Two Periods	56
Present Values	57
The Household's Budget Line	58
Preferences for Consuming Now versus Later	60
Choosing Consumption over Two Periods	61
Wealth and Substitution Effects	62
Wealth Effects on Consumption	63
The Interest Rate and Intertemporal Substitution	64
Empirical Evidence on Intertemporal Substitution of Consumption	65
Choosing Work Effort at Different Dates	66
Wealth Effects on Work Effort	66
The Interest Rate and Choices of Work Effort	66
Empirical Evidence on Intertemporal Substitution of Work Effort	67
Budget Constraints over Many Periods	67
Budget Constraints for any Number of Periods	68
The Household's Planning Horizon	68
Budget Constraints for an Infinite Horizon	70
Choices over Many Periods	70
The Interest Rate and Intertemporal Substitution	70
Wealth Effects	71
Empirical Evidence on the Marginal Propensity to Consume	73
Shifts in the Schedule for Labor's Marginal Product	74
Summary	75
Important Terms and Concepts	76
Questions and Problems	76
CHAPTER 4	
THE DEMAND FOR MONEY	81
The Nature of a Monetary Economy	81
A Model of Optimal Cash Management	84
Properties of the Demand for Money	89
The Aggregate Demand for Money	89
Generalizations of the Simple Model	90
The Velocity of Money	92
The Velocity of Money in the United States	92
Empirical Evidence on the Demand for Money	94

Money and Households' Budget Constraints	96
The Real-Balance Effect	98
Wealth Effects from Transaction Costs	99
Summary	99
Important Terms and Concepts	100
Questions and Problems	100
CHAPTER 5	
THE BASIC MARKET-CLEARING MODEL	105
Aggregate-Consistency Conditions and the Clearing of Markets	106
Walras' Law of Markets	107
Clearing the Commodity Market	108
Why Does the Price Level Not Affect Commodities Supplied and Demanded?	110
The Quantity of Money Equals the Quantity Demanded	112
General Market Clearing	113
Supply Shocks	114
A Temporary Shift of the Production Function	114
A Permanent Shift of the Production Function	121
Changes in the Stock of Money	122
The Neutrality of Money	124
The Quantity of Money and Monetarism	124
Changes in the Demand for Money	125
Summary	126
Important Terms and Concepts	127
Questions and Problems	127
CHAPTER 6	
THE LABOR MARKET	133
Setup of the Labor Market	133
The Demand for Labor	134
The Gains from Equalizing Labor's Marginal Product across Firms	136
Properties of the Demand for Labor	137
Labor Supply and Consumption Demand	137
Empirical Evidence on the Response of Labor Supply to Time Variations in Real Wage Rates	138
Clearing of the Labor Market	139
Clearing of the Commodity Market	140
An Improvement in the Productive Function	142
Nominal Wage Rates	143
The Labor Market in the Macroeconomic Model	145
Summary	145
Important Terms and Concepts	145
Questions and Problems	146

PART TWO	INFLATION	149
CHAPTER 7		
	INFLATION AND INTEREST RATES	151
	Cross-Country Data on Inflation and Monetary Growth	152
	U.S. Time Series Data on Inflation and Monetary Growth	157
	Inflation as a Monetary Phenomenon	158
	Actual and Expected Inflation	159
	Real and Nominal Interest Rates	159
	Actual and Expected Real Interest Rates	161
	Nominal and Real Interest Rates in the Post-World War II United States	162
	Indexed Bonds in the United Kingdom	166
	Interest Rates on Money	168
	Summary	168
	Important Terms and Concepts	168
	Questions and Problems	169
CHAPTER 8		
	MONEY, INFLATION, AND INTEREST RATES IN THE MARKET CLEARING MODEL	171
	Incorporation of Inflation and Monetary Growth into the Model	172
	Monetary Growth and Transfer Payments	172
	Budget Constraints over an Infinite Horizon	173
	Intertemporal-Substitution Effects	174
	Interest Rates and the Demand for Money	175
	Market-Clearing Conditions	175
	The Superneutrality of Money	176
	Monetary Growth, Inflation, and the Nominal Interest Rate	176
	A Shift in the Monetary Growth Rate	178
	The Dynamics of Inflation	182
	Gradual Adjustment of the Demand for Money	182
	Anticipated Changes in Monetary Growth	183
	The Transition from One Inflation Rate to Another	184
	Money and Prices during the German Hyperinflation	185
	Real Effects of Inflation	188
	Some Effects from Unanticipated Inflation	188
	Effects of Anticipated Inflation on Real Money Balances and Transaction Costs	188
	The Revenue from Money Creation	189
	Summary	190
	Appendix: The Wealth Effects from the Monetary Terms	191
	Important Terms and Concepts	193
	Questions and Problems	193

PART THREE	BUSINESS FLUCTUATIONS, ECONOMIC GROWTH, AND UNEMPLOYMENT	197
	CHAPTER 9	
	INVESTMENT	199
	The Capital Stock and Investment in the United States	199
	Real GNP and Its Components during Recessions	202
	Capital in the Production Function	205
	Investment Goods and Consumer Goods	206
	Depreciation	207
	Characteristics of Existing Capital	209
	Investment Demand	209
	Properties of Investment Demand	212
	Investment and Households' Budget Constraints	215
	Clearing of the Commodity Market	217
	Supply Shocks	218
	A Temporary Shift of the Production Function	218
	A Permanent Shift of the Production Function	221
	Shifts to the Productivity of Capital	221
	Summary	224
	Important Terms and Concepts	225
	Questions and Problems	225
	CHAPTER 10	
	THE ACCUMULATION OF CAPITAL AND ECONOMIC GROWTH	229
	Effects of the Capital Stock on Production, Work Effort, and Consumption	230
	Interactions between Capital and Labor	230
	The Capital Stock and Households' Choices	231
	Capital in the Condition for Clearing the Commodity Market	231
	An Increase in the Capital Stock over One Period	232
	Increases in the Capital Stock over Many Periods	234
	The Steady-State Capital Stock and Real Interest Rate	235
	Changes in Population	238
	A One-Time Increase in Population	238
	Population Growth	239
	Technological Change	240
	Summarizing the Conclusions about Economic Development	241
	Long-Term Evidence for the United States	241
	A Cross Section of Countries in the Post-World War II Period	243
	Summary	245
	Important Terms and Concepts	248
	Questions and Problems	248

CHAPTER 11	
UNEMPLOYMENT	251
A Model of Job Finding	252
Search by Firms	254
Job Separations	255
Job Separations, Job Finding, and the Natural Unemployment Rate	256
Movements in and out of the Labor Force	259
The Behavior of U.S. Unemployment Rates by Demographic Groups	261
The Duration of Jobs	262
The Duration of Unemployment	263
Factors that Influence the Natural Unemployment Rate	264
Unemployment Insurance	264
The Minimum Wage	266
Labor Unions	267
Changes in Employment Ratios	268
Employment and Unemployment during Recessions	269
Unemployment during Recent U.S. Recessions	270
Supply Shocks, Recessions, and Unemployment	272
Summary	274
Important Terms and Concepts	274
Questions and Problems	275

PART FOUR GOVERNMENT BEHAVIOR 277

CHAPTER 12	
GOVERNMENT PURCHASES AND PUBLIC SERVICES	279
Data on Government Expenditures	279
The Government's Budget Constraint	283
Public Production	284
Public Services	284
Households' Budget Constraints	285
Temporary Changes in Government Purchases	286
Clearing of the Commodity Market	288
Evidence from Wartime Experiences	290
The Behavior of Output and Other Quantities	290
The Behavior of Real Interest Rates	293
Permanent Changes in Government Purchases	296
Effects of Government Purchases on the Price Level	300
Summary	301
Important Terms and Concepts	302
Questions and Problems	302

CHAPTER 13	
TAXES AND TRANSFERS	307
Sources of Government Revenues in the United States	307
Types of Taxes	310
The Federal Individual Income Tax	311
State and Local Income Taxes	313
Social Security Tax	313
Marginal Income Tax Rates	314
Corporate Profits Taxes	315
Property Taxes	316
Sales and Excise Taxes	316
An Income Tax in the Theoretical Model	316
Households' Budget Constraints	318
Tax Rates and Substitution Effects	318
A Change in the Tax Rate	320
Clearing of the Commodity Market	321
Effects of a Higher Tax Rate	321
Long-Run Effects of a Higher Tax Rate	324
Effects of a Permanent Rise in Government Purchases under Income Taxation	325
The Relation between the Tax Rate and Tax Revenues	327
Transfer Payments	330
Summary	331
Important Terms and Concepts	332
Questions and Problems	332
CHAPTER 14	
THE PUBLIC DEBT	337
The Behavior of the Public Debt in the United States and the United Kingdom	338
Characteristics of Government Bonds	342
The Government's Budget Constraint	343
The Government's Deficit	344
Public Saving, Private Saving, and National Saving	349
Public Debt and Households' Budget Constraints	349
The Effect of a Deficit-Financed Tax Cut	352
Open-Market Operations	353
Why Does the Public Debt Matter?	354
The Timing of Taxes	357
"Unpleasant Monetarist Arithmetic"	358
The Standard View of a Deficit-Financed Tax Cut	358
The Effect of a Tax Cut on Wealth	359
Empirical Evidence on the Macroeconomic Effects of Budget Deficits	361
Social Security and Saving	363
Summary	365

	Important Terms and Concepts	365
	Questions and Problems	366
PART FIVE	THE INTERNATIONAL ECONOMY	369
	CHAPTER 15 WORLD MARKETS IN GOODS AND CREDIT	371
	The United States as an Open Economy	372
	The Role of the International Credit Market	376
	Examples of International Borrowing and Lending	379
	Fiscal Policy in the World Economy	381
	Government Purchases	381
	Tax Rates	383
	Budget Deficits	384
	The Terms of Trade	385
	Nontraded Goods	388
	Summary	389
	Important Terms and Concepts	390
	Questions and Problems	390
	CHAPTER 16 EXCHANGE RATES	393
	International Flows of Money	393
	Different Monies and Exchange Rates	394
	Purchasing-Power Parity	397
	Interest-Rate Parity	399
	Fixed Exchange Rates	400
	The Quantity of Money under Fixed Exchange Rates	402
	World Prices under Fixed Exchange Rates	405
	Devaluation	405
	Flexible Exchange Rates	407
	Purchasing-Power Parity under Flexible and Fixed Exchange Rates	409
	Exchange Rates and the Current-Account Balance	415
	Summary	417
	Important Terms and Concepts	418
	Questions and Problems	418
PART SIX	INTERACTIONS BETWEEN THE MONETARY SECTOR AND THE REAL SECTOR	423
	CHAPTER 17 FINANCIAL INTERMEDIATION	427
	Checkable Deposits and M1	427

Financial Intermediaries and the Credit Market	429
The Balance Sheet of a Financial Intermediary	430
The Federal Reserve System	437
Control of the Monetary Base	439
The Monetary Base and Monetary Aggregates	442
Effects of Federal Reserve Actions	447
The Neutrality of Open-Market Operations	447
The Amount of Financial Intermediation	448
Summary	453
Important Terms and Concepts	454
Questions and Problems	454
CHAPTER 18	
THE INTERPLAY BETWEEN NOMINAL AND REAL VARIABLES—WHAT IS THE EVIDENCE?	459
The Phillips Curve	461
The Relationship between Unemployment and the Rates of Change of Wages, Prices, and Money—Long-Term Evidence for the United Kingdom and the United States	463
Cross-Country Relations between Nominal and Real Variables	469
The Relation between Real and Nominal Variables during the Major Recessions before World War II	471
The Relation between Real and Nominal Variables since World War II	474
Effects from Changes in Prices	474
Monetary Shocks and Real Economic Activity in the Post-World War II United States	475
Does Money Affect the Economy or Is It the Economy That Affects Money?	476
Seasonal Fluctuations in Money	477
Implications of the Evidence	478
Summary	479
Important Terms and Concepts	480
Questions and Problems	480
CHAPTER 19	
MONEY AND BUSINESS FLUCTUATIONS IN THE MARKET-CLEARING MODEL	483
The Structure of a Model with Local Markets	484
Supply of Goods in a Local Market	485
Consumer Demand	487
Clearing of the Local Market	487
Disturbances to Local Markets	488
Prospective Relative Prices	489
Changes in the Stock of Money	490

Imperfect Information about Money and the General Price Level	490
Clearing of a Local Commodity Market When Information Is Incomplete	491
Changes in Money When There Is Incomplete Information	492
Persisting Effects of Money on Real Variables	496
The Neutrality of Perceived Changes in Money	497
Implications for Monetary Policy	497
Stagflation	498
Current Information on Prices	498
Some Problems with the Theory	500
The Behavior of Prices and Real Interest Rates	500
Incomplete Information about Prices and Money	501
Rules versus Discretion	502
Summary	506
Important Terms and Concepts	507
Questions and Problems	507
CHAPTER 20	
THE KEYNESIAN THEORY OF BUSINESS FLUCTUATIONS	511
A Simple Keynesian Model	512
The Rationing of Sales	513
The Choice of Work Effort	514
The Keynesian Consumption Function	516
Determination of Output in the Keynesian Model	517
The Determination of Employment	521
The Keynesian Investment Function	521
IS/LM Analysis and the Role of the Interest Rate	523
Variations in Output and the Interest Rate	524
Fiscal Policy in the Keynesian Model	525
Changes in the Price Level	527
Changes in the Quantity of Money	528
Shifts in the Demand for Money	529
IS/LM Analysis and General Market Clearing	529
The Supply Side in the Keynesian Model	530
Keynesian Predictions about Business Fluctuations	530
Inflation in the Keynesian Model	531
Sticky Prices in the Keynesian Model	533
Long-Term Contracts	534
Summary	537
Important Terms and Concepts	539
Questions and Problems	539
BIBLIOGRAPHY	543
GLOSSARY	555
AUTHOR INDEX	567
SUBJECT INDEX	569