## Third Edition Global Edition

# **MACROECONOMICS**

#### **Daron Acemoglu**

Massachusetts Institute of Technology

#### **David Laibson**

Harvard University

#### John A. List

University of Chicago



### **Contents**

About the Authors	6	Means and Medians	54
Preface	17	Argument by Anecdote	54
		2.2 Causation and Correlation	55
PART I Introduction to		The Red Ad Blues	55
Economics		Causation Versus Correlation	53
Chapter 1: The Principles and Practice of Economics	30	Choice & Consequence: Spend Now and Pay Later? Experimental Economics and Natural Experiments	58 58
1.1 The Scope of Economics	31	Evidence-Based Economics: What is the	
Economic Agents and Economic Resources	31	return to education?  2.3 Economic Questions and Answers	59 <b>60</b>
Definition of Economics	32	Summary	62
Positive Economics and Normative Economics	33	Key Terms	62
Microeconomics and Macroeconomics	34	Questions	62
1.2 Three Principles of Economics	34	Evidence-Based Economics Problems	6
1.3 The First Principle of Economics:	0.1	Problems	6.
Optimization	35	Appendix: Constructing and Interpreting	Ů.
Trade-offs and Budget Constraints	36	Charts and Graphs	65
Opportunity Cost	37	A Study about Incentives	6.
Cost-Benefit Analysis	38	Experimental Design	6.
Evidence-Based Economics: Is Facebook		Describing Variables	60
free?	39	Cause and Effect	68
1.4 The Second Principle of Economics:		Appendix Key Terms	7 <sup>-</sup>
Equilibrium	41	Appendix Problems	/
The Free-Rider Problem	42		
1.5 The Third Principle of Economics: Empiricism	43	Chapter 3: Optimization: Trying to Do the Best You Can	72
1.6 Is Economics Good for You?	43	- To be the best fou sun	
Summary	44	<b>3.1</b> Optimization: Trying to Choose the Best	
Key Terms	45	Feasible Option	73
Questions	45	Choice & Consequence: Do People Actually	
Evidence-Based Economics Problems	45	Choose the Best Feasible Option?	74
Problems	46	3.2 Optimization Application: Renting the Optimal Apartment	74
Chanter Or Facusaria Sciences		Before and After Comparisons	- 7
Chapter 2: Economic Science:		3.3 Optimization Using Marginal Analysis	78
Using Data and Models to	40	Marginal Cost	79
Understand the World	48	Evidence-Based Economics: How does	
2.1 The Scientific Method	49	location affect the rental cost of housing?	82
Models and Data	50	Summary	8
An Economic Model	51	Key Terms	86
Evidence-Based Economics: How much more		Questions	86
does a worker with a 4-year college degree earn		Evidence-Based Economics Problems	86
compared to a worker with a high school degree?	52	Problems	86

Chapter 4: Demand, Supply,		Circular Flows	123
and Equilibrium	90	National Income Accounts: Production	124
4.1 Markets	91	National Income Accounts: Expenditure	126
Competitive Markets	92	Evidence-Based Economics: In the	
4.2 How Do Buyers Behave?	93	United States, what is the total market value of annual economic production?	128
Demand Curves	94	Letting the Data Speak: Saving versus	120
Willingness to Pay	94	Investment	130
From Individual Demand Curves to Aggregated	74	National Income Accounting: Income	131
Demand Curves	95	5.3 What Isn't Measured by GDP?	131
Building the Market Demand Curve	96	Physical Capital Depreciation	132
Shifting the Demand Curve	97	Home Production	132
Evidence-Based Economics: How much mo	ore	The Underground Economy	133
gasoline would people buy if its price were		Externalities	134
lower?	99	Gross Domestic Product versus Gross National	
4.3 How Do Sellers Behave?	101	Product	134
Supply Curves	101	The Increase in Income Inequality	135
Willingness to Accept	101	Leisure	135
From the Individual Supply Curve to the Market		Does GDP Buy Happiness?	136
Supply Curve	102	5.4 Real versus Nominal	137
Shifting the Supply Curve	103	The GDP Deflator	139
4.4 Supply and Demand in Equilibrium	105	The Consumer Price Index	141
Curve Shifting in Competitive Equilibrium	107	Inflation	142
Letting the Data Speak: Technological		Adjusting Nominal Variables	142
Breakthroughs Drive Down the Equilibrium	100	Summary	143
Price of Oil	108	Key Terms	143
Letting the Data Speak: The Day Oil	109	Questions	144
Became Garbage  4.5 What Would Happen If the Government		Evidence-Based Economics Problems	144
Tried to Dictate the Price of Gasoline?	110	Problems	145
Choice & Consequence: The Unintended			
Consequences of Fixing Market Prices	112	Chapter 6: Aggregate Incomes	148
Summary	113		
Key Terms	114	6.1 Inequality Around the World	149
Questions	114	Measuring Differences in GDP per Capita	149
Evidence-Based Economics Problems	115	Letting the Data Speak: The Big Mac	
Problems	115	Index	151
		Cross-Country Differences in GDP per capita	151
PART II INTRODUCTION TO		GDP per Worker	152
Macroeconomics		Productivity	153
		Incomes and the Standard of Living	154
<b>Chapter 5: The Wealth of Nations: Defining and Measuring</b>		Choice & Consequence: Dangers of Just Focusing on GDP per Capita	155
Macroeconomic Aggregates	118	6.2 Productivity and the Aggregate Produc Function	tion 156
5.1 Macroeconomic Questions	119	Productivity Differences	157
5.2 National Income Accounts:	119	The Aggregate Production Function	157
Production = Expenditure = Income	121	Labor	158
Production Production	121	Physical Capital and Land	158
Expenditure	122	Technology	158
Income	122	Representing the Aggregate Production Function	158

6.3 The Role and Determinants of		Malthusian Limits to Growth	193
Technology	160	The Industrial Revolution	193
Technology	160	Growth and Technology Since the Industrial	
Dimensions of Technology	161	Revolution	194
Letting the Data Speak: Moore's Law	162	7.4 Growth, Inequality, and Poverty	194
Choice & Consequence: Academic		Growth and Inequality	194
Misallocation in Nazi Germany	163	Growth and Poverty	194
Letting the Data Speak: Efficiency of		•	
Production and Productivity at the		<b>Letting the Data Speak:</b> Income Inequality in the United States	195
Company Level	163		193
Entrepreneurship	164	Choice & Consequence: Inequality versus Poverty	196
<b>Letting the Data Speak:</b> Monopoly and GD	P 164	How Can We Reduce Poverty?	197
<b>Evidence-Based Economics:</b> Why is the		Summary	198
average American so much richer than the	165	Key Terms	198
average Indian?  Summary	165 <b>167</b>	Questions	198
Key Terms	167	Evidence-Based Economics Problems	199
Questions	167	Problems	199
Evidence-Based Economics Problems			
	168	Appendix: The Solow Growth Model	201
Problems	168	The Three Building Blocks of the	201
Appendix: The Mathematics of Aggregate Production Functions	171	Solow Model	201
Production Functions	171	Steady-State Equilibrium in the Solow Model	202
		Determinants of GDP	203
PART III Long-Run Growth		Dynamic Equilibrium in the Solow Model	205
AND DEVELOPMENT		Sources of Growth in the Solow Model	206
AND DEVELOPMENT		Calculating Average (Compound)	
Chapter 7: Economic Growth	174	Growth Rates	207
		Appendix Key Terms	209
7.1 The Power of Economic Growth	175	Appendix Problems	209
A First Look at U.S. Growth	175		
Exponential Growth	177	Chanter O: Why land the Whole	
Choice & Consequence: The Power of		Chapter 8: Why Isn't the Whole	040
Exponential Growth	178	World Developed?	210
Patterns of Growth	179	8.1 Proximate Versus Fundamental	
Letting the Data Speak: Levels versus		Causes of Prosperity	211
Growth	182	Geography	212
7.2 How Does a Nation's Economy Grow?	184	Culture	213
Optimization: The Choice Between Saving and	184	Institutions	
Consumption What Primes Systemed Crowds?			213
What Brings Sustained Growth?	185	A Natural Experiment of History  8.2 Institutions and Economic	214
Choice & Consequence: Is Increasing the	106	8.2 Institutions and Economic  Development	216
Saving Rate Always a Good Idea?	186	Inclusive and Extractive Economic Institutions	
Knowledge, Technological Change, and Growth	186		217
Letting the Data Speak: Technology and	100	How Economic Institutions Affect Economic	217
Life Expectancy  7.3 The History of Growth and Technology	188 <b>188</b>	Outcomes	217
		Letting the Data Speak: Democracy and	210
Growth Before Modern Times	188	Growth	218
Letting the Data Speak: The Great	100	Letting the Data Speak: Divergence and	222
Productivity Puzzle	189	Convergence in Eastern Europe The Logic of Extractive Economic Institutions	220 223
Evidence-Based Economics: Why are you so	0	The Logic of Extractive Economic Institutions Inclusive Economic Institutions and the Industrial	223
much more prosperous than your great-great-grandparents were?	190	Revolution	223
grandparents were:	170	Novolution	443

Letting the Data Speak: Blocking the		Summary	258
Railways	224	Key Terms	259
<b>Evidence-Based Economics:</b> Are tropical		Questions	259
and semitropical areas condemned to poverty	225	Evidence-Based Economics Problems	259
by their geographies?  8.3 Is Foreign Aid the Solution to	225	Problems	260
World Poverty?	230		
Choice & Consequence: Foreign Aid		Chapter 10: Credit Markets	264
and Corruption	231	10.1 What Is the Credit Market?	265
Summary	232	Borrowers and the Demand for Loans	265
Key Terms	232	Real and Nominal Interest Rates	266
Questions	232	The Credit Demand Curve	267
Evidence-Based Economics Problems	233	Saving Decisions	269
Problems	233	The Credit Supply Curve	269
<b>_</b>		** *	
PART VI <b>Equilibrium in the</b>		<b>Choice &amp; Consequence:</b> Why Do People Save? Equilibrium in the Credit Market	271
MACROECONOMY		Credit Markets and the Efficient Allocation of	212
Chapter Or Employment and		Resources	272
Chapter 9: Employment and Unemployment	236	10.2 Banks and Financial Intermediation:	
· · · · · · · · · · · · · · · · · · ·		Putting Supply and Demand Together	273
9.1 Measuring Employment and Unemployment	237	Letting the Data Speak: Financing Start-ups Assets and Liabilities on the Balance	275
Classifying Potential Workers	237	Sheet of a Bank	275
Calculating the Unemployment Rate	238	10.3 What Banks Do	277
Trends in the Unemployment Rate	239	Identifying Profitable Lending Opportunities	277
9.2 Equilibrium in the Labor Market	240	Maturity Transformation	278
The Demand for Labor	240	Management of Risk	278
Shifts in the Labor Demand Curve	242	Bank Runs	280
The Supply of Labor	243	Bank Regulation and Bank Solvency	280
Shifts in the Labor Supply Curve	244	Evidence-based Economics: How often	
Letting the Data Speak: Who Is Unemployed	? 245	do banks fail?	281
Letting the Data Speak: Racial Disparities		Choice & Consequence: Too Big to Fail	283
in Unemployment and the Existence of Racial		Choice & Consequence: Asset Price	
Discrimination	245	Fluctuations and Bank Failures	284
Equilibrium in a Competitive Labor Market	246	Summary	285
9.3 Why Is There Unemployment?	247	Key Terms	285
Voluntary Unemployment	247	Questions	286
Job Search and Frictional Unemployment	248	Evidence-Based Economics Problems Problems	286 287
9.4 Wage Rigidity and Structural	040	Problems	207
Unemployment	<b>248</b>	Chapter 11: The Monetary	
Minimum Wage Laws	249	System	290
Choice & Consequence: Luddites and Robots	250 251	System	290
Labor Unions and Collective Bargaining	251	11.1 Money	291
Efficiency Wages	231	The Functions of Money	291
Choice & Consequence: Minimum Wage	252	Types of Money	292
Laws and Employment Downward Wage Rigidity	252 253	The Money Supply	292
9.5 Cyclical Unemployment and the	200	Choice & Consequence: Non-Convertible	
Natural Rate of Unemployment	255	Currencies in U.S. History	293
Evidence-Based Economics: How did		11.2 Money, Prices, and GDP	294
unemployment and wages respond to the		Nominal GDP, Real GDP, and Inflation	294
COVID-19 pandemic in the United States?	256	The Quantity Theory of Money	294

11.3 Inflatio	n	295	Multipliers and Economic Fluctuations	332
What Cause	es Inflation?	295	Equilibrium in the Medium Run: Partial Recovery	
The Conseq	uences of Inflation	296	and Full Recovery	333
The Social C	Costs of Inflation	297	12.3 Modeling Expansions	337
	Benefits of Inflation  ce-Based Economics: What caused	298	<b>Evidence-Based Economics:</b> What caused the recession of 2007–2009?	338
	nan hyperinflation of 1922–1923?	299	Evidence-Based Economics: What caused	
	deral Reserve	300	the recession of 2020?	342
The Central	Bank and the Objectives of		Summary	345
Monetary P	olicy	300	Key Terms	346
What Does	the Central Bank Do?	301	Questions	347
	eserves and the Plumbing of		Evidence-Based Economics Questions	347
the Monetai		302	Problems	347
	ves and Liquidity	303		
	d Side of the Federal Funds Market	304	Chapter 13: Countercyclical	
11.	Side of the Federal Funds Market	• • •	•	250
_	rium in the Federal Funds Market	305	Macroeconomic Policy	350
•	That the Fed Controls the Federal	206	13.1 The Role of Countercyclical	
Funds Rate		306	Policies in Economic Fluctuations	351
	& Consequence: Obtaining		13.2 Countercyclical Monetary Policy	352
Funds M	Outside the Federal	309	Controlling the Federal Funds Rate	353
	on fluence on the Money Supply and	307	Other Tools of the Fed	356
the Inflation		309	Expectations, Inflation, and Monetary Policy	357
The Relation	nship Between the Federal Funds		Zero Lower Bound	357
Rate and the	e Long-Term Real Interest Rate	310	Letting the Data Speak: Managing	
Letting	the Data Speak: Two Models		Expectations in Monetary Policy	358
	on Expectations	311	Contractionary Monetary Policy: Reducing	
Summary		314	Inflation	360
Key Terms		315	Policy Trade-Offs	362
Questions		315	Choice & Consequence: Policy	
	Based Economics Problems	316	Mistakes	362
Problems		316	13.3 Countercyclical Fiscal Policy	363
			Fiscal Policy over the Business Cycle: Automatic	
PART V	SHORT-RUN FLUCTUATION	ONG	and Discretionary Components	364
1711(1 )	AND MACROECONOMIC		Analysis of Expenditure-Based Fiscal Policy	366
	_		Analysis of Taxation-Based Fiscal Policy	368
	Policy		Letting the Data Speak: The Response of	
Chapter '	12: Short-Run		Consumption to Tax Cuts	370
Fluctuation		318	Fiscal Policies That Directly Target the Labor	2=2
			Market	370
	nic Fluctuations and		Policy Waste and Policy Lags	370
Business Cy		319	Letting the Data Speak: Hybrid Policies	
	Economic Fluctuations	321	That Involve Cooperation Between Fiscal	271
The Great D	_	323	and Monetary Policymakers	371
	economic Equilibrium and	005	Evidence-Based Economics: How much	272
Economic F		325	does government expenditure stimulate GDP?  Summary	373 <b>37</b> 4
	and and Fluctuations	325	Key Terms	375
Sources of I		327	Questions	375
_	the Data Speak: Unemployment		Evidence-Based Economics Problems	375
	Growth Rate of Real GDP:	200		
Okun's L	Law .	328	Problems	376

PART VI Macroeconomics in a Global Economy		Chapter 15: Open Economy Macroeconomics	402
Chapter 14: Macroeconomics		15.1 Exchange Rates	403
and International Trade	378	Nominal Exchange Rates	403
14.1 Why and How We Trade	379	Flexible, Managed, and Fixed Exchange Rates	404
		15.2 The Foreign Exchange Market	406
Absolute Advantage and Comparative Advantage	379	How Do Governments Intervene in the Foreign	
Comparative Advantage and International Trade	382	Exchange Market?	408
Efficiency and Winners and Losers from Trade	383	Defending an Overvalued Exchange Rate	409
How We Trade  Letting the Data Speak: Living in an	385	Choice & Consequence: Fixed Exchange Rates and Corruption	411
Interconnected World	386	Evidence-Based Economics: How did	
Choice & Consequence: Trade Policy	205	George Soros make \$1 billion?	412
and Politics Trade Barriers: Tariffs	387	15.3 The Real Exchange Rate and	446
	387	Exports	413
14.2 The Current Account and the Financial Account	388	From the Nominal to the Real Exchange Rate	414
Trade Surpluses and Trade Deficits	388	Co-Movement Between the Nominal and the	415
International Financial Flows	388	Real Exchange Rates The Real Exchange Rate and Not Exports	416
The Workings of the Current Account and	300	The Real Exchange Rate and Net Exports	410
the Financial Account  14.3 International Trade, Technology	390	Letting the Data Speak: Why Did the Chinese Authorities Keep the Yuan	412
Transfer, and Economic Growth	393	Undervalued?  15.4 GDP in the Open Economy	417 <b>418</b>
Letting the Data Speak: From IBM to		Revisiting Black Wednesday	418
Lenovo	395	Interest Rates, Exchange Rates, and Net Exports	419
<b>Evidence-Based Economics:</b> Are companies like Nike harming workers		Letting the Data Speak: The Costs of Fixed Exchange Rates	421
in Vietnam?	395	Summary	422
Summary	398	Key Terms	422
Key Terms	399	Questions	422
Questions	399	Evidence-Based Economics Problems	423
Evidence-Based Economics Problems	399	Problems	423
Problems	400		
		Endnotes	427
		Glossary	431
		Credits	439
		Index	440
		CHAPTERS ON THE WEB	
		Web chapters are available on MyEconLab WEB Chapter 1 Financial Decision Making	
		WEB Chapter 2 Economics of Life, Health an the Environment	id

WEB Chapter 3 Political Econmy