

# ECONOMICS

N. GREGORY MANKIW  
AND MARK P. TAYLOR



FIFTH EDITION



Australia • Brazil • Mexico • Singapore • United Kingdom • United States

# BRIEF CONTENTS

About the authors ix  
Preface x  
Acknowledgements xiii

## **PART 1 Introduction to economics** 1

- 1 What is economics? 1
- 2 Thinking like an economist 15

## **PART 2 The theory of competitive markets** 33

- 3 The market forces of supply and demand 33
- 4 Background to demand: Consumer choices 74
- 5 Background to supply: Firms in competitive markets 105
- 6 Consumers, producers and the efficiency of markets 141

## **PART 3 Interventions in markets** 159

- 7 Supply, demand and government policies 159
- 8 Public goods, common resources and merit goods 189
- 9 Market failure and externalities 204

## **PART 4 Firm behaviour and market structures** 231

- 10 Firms' production decisions 231
- 11 Market structures I: Monopoly 242
- 12 Market structures II: Monopolistic competition 267
- 13 Market structures III: Oligopoly 280
- 14 Market structures IV: Contestable markets 304

## **PART 5 Factor markets** 315

- 15 The economics of factor markets 315

## **PART 6 Inequality** 347

- 16 Income inequality and poverty 347

## **PART 7 Trade** 367

- 17 Interdependence and the gains from trade 367

## **PART 8 Heterodox economics** 401

- 18 Information and behavioural economics 401
- 19 Heterodox theories in economics 416

## **PART 9 The data of macroeconomics** 433

- 20 Measuring a nation's well-being and the price level 433

## **PART 10 The real economy in the long run** 463

- 21 Production and growth 463
- 22 Unemployment and the labour market 485

## **PART 11 Long-run macroeconomics** 509

- 23 Saving, investment and the financial system 509
- 24 The monetary system 535
- 25 Open-economy macroeconomics 569

## **PART 12 Short-run economic fluctuations** 595

- 26 Business cycles 595
- 27 Keynesian economics and IS–LM analysis 614
- 28 Aggregate demand and aggregate supply 637
- 29 The influence of monetary and fiscal policy on aggregate demand 657
- 30 The short-run trade-off between inflation and unemployment 674
- 31 Supply-side policies 703

## **PART 13 International macroeconomics** 719

- 32 The causes and aftermath of the financial crisis 719
- 33 Common currency areas 755
- 34 The future of the European Union 774

# CONTENTS

About the authors ix  
Preface x  
Acknowledgements xiii

## PART 1 INTRODUCTION TO ECONOMICS 1

- 1 What is economics?** 1
  - The economy and economic systems 1
  - How people make decisions 3
  - How people interact 6
  - How the economy as a whole works 9
- 2 Thinking like an economist** 15
  - Introduction 15
  - Economic methodology 15
  - Schools of thought 25
  - The economist as policy advisor 26
  - Why economists disagree 27

## PART 2 THE THEORY OF COMPETITIVE MARKETS 33

- 3 The market forces of supply and demand** 33
  - The assumptions of the competitive market model 33
  - Demand 35
  - Shifts versus movements along the demand curve 37
  - Supply 40
  - Supply and demand together 44
  - Prices as signals 47
  - Analyzing changes in equilibrium 48
  - Elasticity 53
  - The price elasticity of demand 53
  - Other demand elasticities 61
  - Price elasticity of supply 62
  - Applications of supply and demand elasticity 67

- 4 Background to demand: Consumer choices** 74
  - The standard economic model 74
  - The budget constraint: What the consumer can afford 76
  - Preferences: What the consumer wants 80
  - Optimization: What the consumer chooses 86
  - Conclusion: Do people really behave this way? 98
  - Behavioural approaches to consumer behaviour 98
- 5 Background to supply: Firms in competitive markets** 105
  - The costs of production 105
  - Production and costs 106
  - The various measures of cost 109
  - Costs in the short run and in the long run 115
  - Summary 116
  - Returns to scale 117
  - What is a competitive market? 123
  - Profit maximization and the competitive firm's supply curve 125
  - The supply curve in a competitive market 132
  - Conclusion: Behind the supply curve 137
- 6 Consumers, producers and the efficiency of markets** 141
  - Consumer surplus 141
  - Producer surplus 146
  - Market efficiency 150

## PART 3 INTERVENTIONS IN MARKETS 159

- 7 Supply, demand and government policies** 159
  - Controls on prices 159
  - Taxes 163
  - Subsidies 170
  - The tax system 171
  - The deadweight loss of taxation 172
  - Administrative burden 178
  - The design of the tax system 179
  - Taxes and equity 181

**8 Public goods, common resources and merit goods** 189

The different kinds of goods 189  
 Public goods 190  
 Common resources 194  
 Merit goods 197  
 Conclusion 199

**9 Market failure and externalities** 204

Market failure 204  
 Externalities 204  
 Externalities and market inefficiency 206  
 Private solutions to externalities 210  
 Public policies towards externalities 213  
 Public/private policies towards externalities 216  
 Government failure 220  
 Conclusion 225

**PART 4  
FIRM BEHAVIOUR AND MARKET  
STRUCTURES 231****10 Firms' production decisions** 231

Isoquants and isocosts 231  
 The least-cost input combination 236  
 Conclusion 238

**11 Market structures I: Monopoly** 242

Imperfect competition 242  
 Why monopolies arise 243  
 How monopolies make production  
 and pricing decisions 247  
 The welfare cost of monopoly 252  
 Price discrimination 254  
 Public policy towards monopolies 258  
 Conclusion: The prevalence of monopoly 261

**12 Market structures II: Monopolistic  
competition** 267

Competition with differentiated products 268  
 Advertising and branding 272  
 Conclusion 276

**13 Market structures III: Oligopoly** 280

Characteristics of oligopoly 280  
 Game theory and the economics of  
 cooperation 284  
 Entry barriers in oligopoly 296  
 Public policy towards oligopolies 297  
 Conclusion 299

**14 Market structures IV: Contestable  
markets** 304

The nature of contestable markets 304  
 The limitations of contestability 308  
 Summary 310

**PART 5  
FACTOR MARKETS 315****15 The economics of factor markets** 315

The marginal product theory of  
 distribution 315  
 The demand for labour 315  
 The supply of labour 319  
 Equilibrium in the labour market 323  
 Other theories of the labour market 325  
 Marxist labour theory 325  
 Feminist economics and the labour market 326  
 Monopsony 327  
 Wage differentials 329  
 The economics of discrimination 334  
 The other factors of production: Land and  
 capital 337  
 Economic rent 340  
 Conclusion 341

**PART 6  
INEQUALITY 347****16 Income inequality and poverty** 347

The measurement of inequality 348  
 The political philosophy of redistributing  
 income 355  
 Policies to reduce poverty 359  
 Conclusion 362

**PART 7  
TRADE 367****17 Interdependence and the gains from  
trade** 367

The production possibilities frontier 367  
 International trade 372  
 The principle of comparative advantage 376  
 The determinants of trade 379

- The winners and losers from trade 380
- Restrictions on trade 384
- Criticisms of comparative advantage theory 391
- Other theories of international trade 392
- Conclusion 396

## **PART 8** **HETERODOX ECONOMICS 401**

### **18 Information and behavioural economics 401**

- Principal and agent 401
- Asymmetric information 402
- Behavioural economics 408
- Conclusion 412

### **19 Heterodox theories in economics 416**

- Introduction 416
- Institutional economics 419
- Feminist economics 422
- Complexity economics 425
- Conclusion 428

## **PART 9** **THE DATA OF MACROECONOMICS 433**

### **20 Measuring a nation's well-being and the price level 433**

- Marxist economics 433
- The Austrian school 434
- Keynesianism 435
- Monetarism 435
- The nature of macroeconomics 436
- The economy's income and expenditure 436
- The measurement of gross domestic product 438
- The components of GDP 441
- Real versus nominal GDP 444
- The limitations of GDP as a measure of well-being 448
- International differences in GDP and the quality of life 450
- Measuring the cost of living 451
- The Consumer Prices Index 451
- Correcting economic variables for the effects of inflation 456
- Conclusion 458

## **PART 10** **THE REAL ECONOMY** **IN THE LONG RUN 463**

### **21 Production and growth 463**

- Economic growth around the world 463
- Growth theory 465
- Productivity 465
- The determinants of economic growth 467
- Causes of growth 471
- Endogenous growth theory 475
- Economic growth and public policy 476
- Conclusion: The importance of long-run growth 481

### **22 Unemployment and the labour market 485**

- Identifying unemployment 485
- The causes of unemployment 488
- The natural rate of unemployment 494
- Marx and the reserve army of the unemployed 501
- The cost of unemployment 501
- Conclusion 503

## **PART 11** **LONG-RUN MACROECONOMICS 509**

### **23 Saving, investment and the financial system 509**

- Financial institutions in the economy 509
- Present value: Measuring the time value of money 515
- Managing risk 517
- Asset valuation 522
- Saving and investment in the national income accounts 523
- The market for loanable funds 526

### **24 The monetary system 535**

- The meaning of money 535
- The role of central banks 541
- The European Central Bank and the Eurosystem 542
- The Bank of England 543
- Banks and the money supply 543
- The central bank's tools of monetary control 547
- Money growth and inflation 550
- What is inflation? 550

The costs of inflation 559  
 Deflation 563  
 Conclusion 564

## **25 Open-economy macroeconomics** 569

The international flows of goods and capital 569  
 The prices for international transactions:  
 Real and nominal exchange rates 574  
 A first theory of exchange rate determination:  
 Purchasing power parity 577  
 A macroeconomic theory of the open economy 580  
 Supply and demand for loanable funds and for foreign currency exchange 581  
 Equilibrium in the open economy 584  
 How policies and events affect an open economy 586  
 Conclusion 591

## **PART 12 SHORT-RUN ECONOMIC FLUCTUATIONS** 595

### **26 Business cycles** 595

Trend growth rates 596  
 Causes of changes in the business cycle 602  
 Business cycle models 604  
 Macroeconomic models of the economy 608  
 Conclusion 610

### **27 Keynesian economics and IS–LM analysis** 614

The Keynesian cross 614  
 The multiplier effect 618  
 The IS and LM curves 623  
 General equilibrium using the IS–LM model 626  
 From IS–LM to aggregate demand 628  
 Conclusion 634

### **28 Aggregate demand and aggregate supply** 637

Three key facts about economic fluctuations 637  
 Explaining short-run economic fluctuations 638  
 The aggregate demand curve 640

The aggregate supply curve 642  
 Two causes of economic fluctuations 648  
 New Keynesian economics 652

### **29 The influence of monetary and fiscal policy on aggregate demand** 657

How monetary policy influences aggregate demand 657  
 How fiscal policy influences aggregate demand 664  
 Using policy to stabilize the economy 667  
 Conclusion 669

### **30 The short-run trade-off between inflation and unemployment** 674

The relationship between inflation and unemployment 674  
 The Phillips curve 675  
 Shifts in the Phillips curve: The role of expectations 678  
 The long-run vertical Phillips curve as an argument for central bank independence 684  
 Shifts in the Phillips curve: The role of supply shocks 685  
 The cost of reducing inflation 687  
 Inflation targeting 692  
 Reflecting on the Phillips curve 696  
 Conclusion 698

### **31 Supply-side policies** 703

Shifts in the aggregate supply curve 703  
 Types of supply-side policies 707  
 Conclusion 715

## **PART 13 INTERNATIONAL MACROECONOMICS** 719

### **32 The causes and aftermath of the financial crisis** 719

The causes of the crisis 719  
 The efficient markets hypothesis 726  
 The financial crisis and sovereign debt 734  
 The sovereign debt crisis 739  
 Austerity policies: Too far too quickly? 743  
 The productivity puzzle 747

**33 Common currency areas** 755

- The euro 755
- The benefits and costs of a common currency 757
- The theory of optimum currency areas 760
- Is Europe an optimum currency area? 763
- Fiscal policy and common currency areas 766
- The fiscal compact 769
- Conclusion 770

**34 The future of the European Union** 774

- The euro 774
- Italy 777
- Brexit 777
- Conclusion 785
  
- Glossary 788
- Index 798
- Credits 810
- List of formulae 812