

# Contents

Preface	xi
<b>I Preliminaries</b>	<b>1</b>
<b>1 Mathematics Review</b>	<b>3</b>
1.1 Functions . . . . .	3
1.2 Exponents and logarithms . . . . .	4
1.3 Growth rates . . . . .	6
1.4 Slopes and derivatives . . . . .	10
1.5 Finding the maximum of a function . . . . .	12
1.6 Spreadsheets . . . . .	14
1.7 Getting data from FRED . . . . .	15
<b>2 Macroeconomic Data</b>	<b>19</b>
2.1 Measuring GDP . . . . .	20
2.2 Identities . . . . .	22
2.3 Distinguishing prices from quantities . . . . .	26
2.4 Fine points . . . . .	29
<b>II Long-Term Economic Performance</b>	<b>39</b>
<b>3 The Production Function</b>	<b>45</b>
3.1 The production function . . . . .	46
3.2 Capital input . . . . .	48
3.3 Labor input . . . . .	49
3.4 Productivity . . . . .	51
3.5 Marginal products . . . . .	52

<b>4 The Solow Model</b>	<b>57</b>
4.1 The model . . . . .	58
4.2 Capital dynamics . . . . .	58
4.3 Convergence . . . . .	60
4.4 Impact of saving and investment . . . . .	63
4.5 Growth . . . . .	63
<b>5 Sources of Economic Growth</b>	<b>69</b>
5.1 Cross-country differences in output per worker . . . . .	69
5.2 Cross-country differences in growth rates . . . . .	71
5.3 Extensions . . . . .	73
<b>6 Institutions and Policies</b>	<b>79</b>
6.1 Good institutions . . . . .	79
6.2 Institutions or policies? . . . . .	81
<b>7 Labor Markets</b>	<b>85</b>
7.1 Indicators of labor-market “status” . . . . .	86
7.2 Supply and demand for labor . . . . .	87
7.3 Supply and demand with a minimum wage . . . . .	89
7.4 Labor-market institutions . . . . .	91
7.5 Labor-market flow indicators . . . . .	91
7.6 Virtues of flexible input markets . . . . .	92
7.7 A model of unemployment dynamics . . . . .	94
7.8 Institutions and labor-market dynamics . . . . .	96
<b>8 Financial Markets</b>	<b>103</b>
8.1 Features of effective financial markets . . . . .	103
8.2 Financial regulation and crises . . . . .	104
<b>9 International Trade</b>	<b>107</b>
9.1 Ricardo’s theory of trade . . . . .	108
9.2 Digging a little deeper . . . . .	110
9.3 Wages and productivity . . . . .	114
9.4 Bottom line . . . . .	115
9.5 Winners and losers . . . . .	116

<b>III Short-Term Economic Performance</b>	<b>119</b>
<b>10 Business-Cycle Properties</b>	<b>125</b>
10.1 Cycles and volatility . . . . .	126
10.2 Expenditure components . . . . .	126
10.3 Labor and capital markets move with the cycle . . . . .	129
<b>11 Business-Cycle Indicators</b>	<b>133</b>
11.1 Terminology . . . . .	134
11.2 Forecasting . . . . .	134
11.3 Good indicators . . . . .	135
11.4 Identifying good indicators . . . . .	136
11.5 The business-cycle scorecard . . . . .	140
11.6 Regression-based forecasting . . . . .	143
11.7 Aggregation and prediction markets . . . . .	144
<b>12 Money and Inflation</b>	<b>149</b>
12.1 The quantity theory . . . . .	150
12.2 Evidence . . . . .	151
12.3 Changing the money supply . . . . .	152
12.4 Big Inflations . . . . .	154
12.5 Inflation and interest rates . . . . .	155
12.6 Velocity reconsidered . . . . .	157
<b>13 Aggregate Supply and Demand</b>	<b>161</b>
13.1 Aggregate supply . . . . .	162
13.2 Aggregate demand . . . . .	164
13.3 Aggregate supply and demand together . . . . .	165
13.4 Beyond supply and demand . . . . .	168
<b>14 Policy in the AS/AD model</b>	<b>173</b>
14.1 Objectives of policy . . . . .	174
14.2 Policy responses to supply and demand shocks . . . . .	174
<b>15 Money and Interest Rates</b>	<b>181</b>
15.1 Interest rates . . . . .	182
15.2 Changing the money supply (review) . . . . .	183
15.3 Managing the interest rate . . . . .	185
15.4 Goals of monetary policy . . . . .	187
15.5 The Taylor rule: the bond trader's guide . . . . .	189

15.6 Quantitative easing, credit easing, and signaling the future . . .	192
<b>IV Crises and Other Topics</b>	<b>197</b>
<b>16 Taxes</b>	<b>201</b>
16.1 Social cost of taxes . . . . .	202
16.2 The benefits of a broad tax base . . . . .	204
16.3 Applications . . . . .	205
<b>17 Government Debt and Deficits</b>	<b>215</b>
17.1 Government revenues, expenses, and debt . . . . .	216
17.2 Debt and (primary) deficits . . . . .	216
17.3 Debt dynamics . . . . .	218
17.4 What's missing? . . . . .	221
17.5 How much debt is too much? . . . . .	223
<b>18 International Capital Flows</b>	<b>227</b>
18.1 Trade in goods, services, and income . . . . .	228
18.2 Trade in assets . . . . .	229
18.3 Net foreign assets . . . . .	230
18.4 Sources of external deficits . . . . .	231
18.5 Debt dynamics and sustainability . . . . .	232
18.6 Big picture . . . . .	233
<b>19 Exchange-Rate Fluctuations</b>	<b>237</b>
19.1 Terminology . . . . .	238
19.2 Properties of exchange rates . . . . .	239
19.3 Purchasing-power parity . . . . .	239
19.4 Depreciation and inflation . . . . .	242
19.5 Interest rate parity and the carry trade . . . . .	244
19.6 Predicting exchange rates . . . . .	246
<b>20 Exchange-Rate Regimes</b>	<b>251</b>
20.1 A catalog of foreign-exchange arrangements . . . . .	251
20.2 Fixed exchange rates . . . . .	252
20.3 Sterilization . . . . .	254
20.4 The trilemma . . . . .	254
20.5 Exchange-rate crises . . . . .	255
20.6 Strong fixes . . . . .	256

<b>21 Macroeconomic Crises</b>	<b>259</b>
21.1 Classic crisis triggers . . . . .	259
21.2 Crisis indicators . . . . .	260
21.3 Crisis responses . . . . .	262
<b>Index</b>	<b>266</b>