Contents

List of Figures xiv
List of Tables xvii
Foreword xix
Contributors xxiii

Introduction 1

RICHARD BLUNDELL, ESTELLE CANTILLON, BARBARA CHIZZOLINI, MARC IVALDI, WOLFGANG LEININGER, RAMON MARIMON, LASZLO MATyas AND FRODE STEEN

The COEURE Project 2
Advances in Economic Research: Foundations for European Policies 2
About the Chapters 4
The Relevance of Data and Methods 23
Acknowledgements 28
Notes 28

1 Innovation and Growth: The Schumpeterian Perspective 29

PHILIPPE AGHION AND UFUK AKCIGIT

1.1 Introduction 29
1.2 Looking for Growth Paradigms to Think about Growth Policy 30
  1.2.1 The Neoclassical Growth Model 31
  1.2.2 The AK Model 31
  1.2.3 The Product-Variety Model 32
  1.2.4 The Schumpeterian Model 33
1.3 Some Main Applications and Extensions of Schumpeterian Growth Theory 35
  1.3.1 Growth Meets IO 35
  1.3.2 Schumpeterian Growth and Firm Dynamics 37
  1.3.3 Growth Meets Development: Appropriate Institutions 38
  1.3.4 Growth Meets Development: Firm Dynamics in Developing Countries 40
  1.3.5 Growth and Unemployment 42
1.4 Enhancing Productivity Growth in Advanced Countries 43
  1.4.1 Pillars of Innovation-Led Growth 43
  1.4.2 Competition Policy against Industrial Policy 45
## Contents

1.4.3 Reforming the State 47
1.4.4 Macroeconomic Policy 48
1.4.5 Innovation, Inequality, and Social Mobility: Making Growth Inclusive 48

1.5 Technological Waves and the Debate on Secular Stagnation 51
1.5.1 The Debate 51
1.5.2 Historical Wave Patterns 52

1.6 Schumpeterian Insights into R&D Policy 54
1.6.1 R&D Policies and Firm Selection 55
1.6.2 Basic versus Applied R&D 56

1.7 The Role of Freedom and Openness in the Innovation Process 59
1.7.1 The ADS Framework and the Role of Academic Freedom 59
1.7.2 Freedom and Openness 61
1.7.3 Evidence on the Limits of IP and the Role of Openness and Freedom 61

1.8 Towards a New Growth Pact in Europe 62
1.8.1 Structural Reforms and the Role of Structural Funds 62
1.8.2 Rethinking Industrial Policy in the EU 64
1.8.3 More Flexible Macroeconomic Policies at EU Level 65

1.9 Conclusion 66
Acknowledgements 67
Notes 67
References 69

2 European Union Dual Labour Markets: Consequences and Potential Reforms 73
JUAN J. DOLADO

2.1 Introduction 73
2.2 The Emergence of Dual Labour Markets in Europe 74
2.3 Temporary Contracts: Stepping Stones or Dead Ends? 77
2.4 Dual Labour Markets Before and After the Great Recession 80
2.5 Lessons from Spain 84
2.6 Dual Labour Markets and Youth Unemployment 88
2.7 How to Dismantle Dual Employment Protection Legislation 91
2.7.1 Recent EPL Reforms 91
2.7.2 Single/Unified Contracts in Theory 93
2.7.3 Single/Unified Contracts in Practice 100

2.8 Conclusions 104
Acknowledgements 105
Appendix 105
Notes 108
References 109

3 Population, Migration, Ageing and Health: A Survey 113
CHRISTIAN DUSTMANN, GIOVANNI FACCHINI AND CORA SIGNOROTTO

3.1 Introduction 113
3.2 Main Stylized Facts 114
3.3 Migration and Demographic Developments 117
3.3.1 The Selection Hypothesis 120
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3.2 The Adaptation Hypothesis</td>
<td>121</td>
</tr>
<tr>
<td>3.3.3 The Disruption Hypothesis</td>
<td>123</td>
</tr>
<tr>
<td>3.4 Permanent versus Temporary Migration</td>
<td>124</td>
</tr>
<tr>
<td>3.4.1 Why Do Migrants Return?</td>
<td>125</td>
</tr>
<tr>
<td>3.4.2 Who Are the Return Migrants?</td>
<td>126</td>
</tr>
<tr>
<td>3.5 The Fiscal Effect of Immigration</td>
<td>128</td>
</tr>
<tr>
<td>3.5.1 Static Frameworks</td>
<td>129</td>
</tr>
<tr>
<td>3.5.2 Dynamic Models</td>
<td>130</td>
</tr>
<tr>
<td>3.6 Migration and Skill Shortages</td>
<td>132</td>
</tr>
<tr>
<td>3.7 International Migration and the Health Care Sector</td>
<td>136</td>
</tr>
<tr>
<td>3.7.1 International Migration of Health Care Professionals</td>
<td>136</td>
</tr>
<tr>
<td>3.7.2 International Migration of Old Age Carers</td>
<td>139</td>
</tr>
<tr>
<td>3.7.3 Immigrants’ Demand for Health Care</td>
<td>141</td>
</tr>
<tr>
<td>3.8 The Floridization of Europe: Old Age North–South Migration</td>
<td>143</td>
</tr>
<tr>
<td>3.8.1 Determinants of Old Age Migration</td>
<td>144</td>
</tr>
<tr>
<td>3.8.2 Effects on Host Country Economy</td>
<td>145</td>
</tr>
<tr>
<td>3.9 Conclusions</td>
<td>146</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>147</td>
</tr>
<tr>
<td>Appendix</td>
<td>147</td>
</tr>
<tr>
<td>Notes</td>
<td>148</td>
</tr>
<tr>
<td>References</td>
<td>149</td>
</tr>
<tr>
<td>4 Education Systems: Assignment, Admissions, Accountability and Autonomy</td>
<td>159</td>
</tr>
<tr>
<td>SIMON BURGESS</td>
<td></td>
</tr>
<tr>
<td>4.1 Introduction</td>
<td>159</td>
</tr>
<tr>
<td>4.1.1 What Can Economics Contribute to the Study of Education?</td>
<td>161</td>
</tr>
<tr>
<td>4.2 The Aims of Education: Rates of Return, Inequality and Social Mobility</td>
<td>161</td>
</tr>
<tr>
<td>4.3 Education Systems: Assignment, Admissions, Accountability and Autonomy</td>
<td>164</td>
</tr>
<tr>
<td>4.3.1 Assignment Mechanisms</td>
<td>164</td>
</tr>
<tr>
<td>4.3.2 Accountability, Autonomy and Regulation</td>
<td>175</td>
</tr>
<tr>
<td>4.3.3 Education Market Structure: Policy Summary</td>
<td>185</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>185</td>
</tr>
<tr>
<td>Notes</td>
<td>186</td>
</tr>
<tr>
<td>References</td>
<td>186</td>
</tr>
<tr>
<td>5 Competition and Regulation in Markets for Goods and Services: A Survey with Emphasis on Digital Markets</td>
<td>194</td>
</tr>
<tr>
<td>NIKOLAOS VETTAS</td>
<td></td>
</tr>
<tr>
<td>5.1 Introduction</td>
<td>194</td>
</tr>
<tr>
<td>5.2 A View on Competition Policy Developments in Europe</td>
<td>199</td>
</tr>
<tr>
<td>5.2.1 Competition Policy: The General Context</td>
<td>199</td>
</tr>
<tr>
<td>5.2.2 Digital Trade and Online Markets</td>
<td>200</td>
</tr>
<tr>
<td>5.2.3 Some Recent Competition Cases</td>
<td>203</td>
</tr>
<tr>
<td>5.2.4 Online Travel Agencies and MFNs</td>
<td>207</td>
</tr>
<tr>
<td>5.2.5 The Digital Single Market Initiative</td>
<td>208</td>
</tr>
<tr>
<td>5.2.6 Distinguishing Features of Digital Markets</td>
<td>209</td>
</tr>
</tbody>
</table>
5.3 Approaches in Industrial Organization
  5.3.1 Pricing 211
  5.3.2 Vertical Relations 213
5.4 Recent Research on Competition Issues Related to Digital Markets 216
5.5 Challenges for Research on Competition Issues in Digital Markets 223
5.6 Conclusion 227
Acknowledgements 228
Notes 228
References 232

6 Winners and Losers of Globalization: Sixteen Challenges for Measurement and Theory 238
CECÍLIA HORNOK AND MIKLÓS KOREN
  6.1 Introduction 238
  6.2 Advances in Measurement and Data Challenges 240
    6.2.1 Recent Advances in Measuring the Causes and Effects of Globalization 240
    6.2.2 Data Challenges 245
  6.3 Insights from Theories of Globalization 247
    6.3.1 Broad Lessons about the Causes and Effects of Globalization 247
    6.3.2 Insights for Policy 256
    6.3.3 Open Questions 257
  6.4 Conclusion 263
Acknowledgements 263
Notes 264
References 264

7 Economic Approaches to Energy, Environment and Sustainability 274
PAUL EKINS, PAUL DRUMMOND AND JIM WATSON
  7.1 Introduction 274
  7.2 Economic Approaches to the Environment 275
    7.2.1 Environmental and Resource Economics 275
    7.2.2 Ecological Economics 276
    7.2.3 Institutional, Evolutionary, and Behavioural Economics 277
  7.3 Sustainability and Sustainable Development 278
    7.3.1 Sustainable Development 278
    7.3.2 Environmental Sustainability 283
    7.3.3 Measurement and Indicators of Sustainable Development and Sustainability 289
  7.4 The Energy System and Climate Change Mitigation 292
    7.4.1 Energy Security 292
    7.4.2 Reducing CO₂ Emissions 295
    7.4.3 Financial Requirements and Affordability 295
  7.5 Policies for Energy, Climate Change Mitigation and a Green Economy 298
    7.5.1 Standards and Engagement 299
    7.5.2 Information 299
    7.5.3 Markets and Pricing 300
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5.4 Strategic Investment</td>
<td>302</td>
</tr>
<tr>
<td>7.5.5 EU Energy and Climate Change Policy: Lessons and Priorities for Research</td>
<td>305</td>
</tr>
<tr>
<td>7.6 The Science-Policy Interface</td>
<td>309</td>
</tr>
<tr>
<td>7.7 Conclusions and Research Priorities</td>
<td>312</td>
</tr>
<tr>
<td>Notes</td>
<td>316</td>
</tr>
<tr>
<td>References</td>
<td>316</td>
</tr>
</tbody>
</table>

### 8 Regional Disparities and Efficient Transport Policies

**STEF PROOST AND JACQUES-FRANÇOIS THISSE**

8.1 Introduction                                                      | 324  |
8.2 What Is Spatial Economics About?                                   | 325  |
8.2.1 Location Does Matter                                             | 326  |
8.2.2 Moving Goods and People is Still Costly                          | 327  |
8.3 The Drivers of Regional Agglomeration                              | 330  |
8.3.1 The Home-Market Effect                                           | 332  |
8.3.2 Agglomeration Economies and the Emergence of Asymmetric Clusters | 339  |
8.3.3 The Core–Periphery Structure                                    | 340  |
8.3.4 Input–Output Linkages and the Bell-Shaped Curve of Spatial Development | 343  |
8.3.5 Communication Costs and the Relocation of Plants                | 345  |
8.4 Does the Market Yield Over or Under-agglomeration?                 | 346  |
8.4.1 Does the Home-Market Effect Generate Excessive Agglomeration?    | 346  |
8.4.2 Is the Core-Periphery Structure Inefficient?                     | 347  |
8.5 Do EU Interregional Transport Investment Policies Fulfil their Role? | 348  |
8.5.1 Assessing Transport Investments Using Econometric Models        | 350  |
8.5.2 Assessing Transport Investments Using Model Simulations         | 351  |
8.5.3 Assessing Transport Investments Using Case Studies              | 353  |
8.6 Is the EU Moving to a Better Utilization of Its Existing Transport Policy? | 355  |
8.6.1 Competition on Diesel Fuel Taxes Leads EU Countries to Revise Their Pricing of Road Freight | 355  |
8.6.2 Europe Does Not Make the Best Use of Its Rail and Air Transport System | 356  |
8.7 What Have We Learnt?                                              | 357  |

Acknowledgements                                                      | 360  |
Notes                                                                  | 360  |
References                                                             | 361  |

### 9 Skilled Cities and Efficient Urban Transport

**STEF PROOST AND JACQUES-FRANÇOIS THISSE**

9.1 Introduction                                                      | 366  |
9.2 Agglomeration Economies                                           | 368  |
9.2.1 The Nature and Magnitude of Agglomeration Economies             | 371  |
9.2.2 Cities as Consumption Centres                                  | 375  |
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3 The Trade-Off between Commuting and Housing Costs</td>
<td>376</td>
</tr>
<tr>
<td>9.3.1 The Monocentric City Model</td>
<td>377</td>
</tr>
<tr>
<td>9.3.2 Why Do Employment Centres Emerge?</td>
<td>379</td>
</tr>
<tr>
<td>9.3.3 Land Capitalisation and Housing</td>
<td>380</td>
</tr>
<tr>
<td>9.3.4 Residential Segregation</td>
<td>382</td>
</tr>
<tr>
<td>9.4 More Cities or Bigger Cities?</td>
<td>384</td>
</tr>
<tr>
<td>9.5 The Organization of Metropolitan Areas</td>
<td>387</td>
</tr>
<tr>
<td>9.6 Managing Traffic and Congestion</td>
<td>388</td>
</tr>
<tr>
<td>9.6.1 External Costs of Urban Transport</td>
<td>390</td>
</tr>
<tr>
<td>9.6.2 The Difficult Road to First-Best Pricing of Congestion</td>
<td>391</td>
</tr>
<tr>
<td>9.6.3 The Patchwork of Policy Instruments</td>
<td>394</td>
</tr>
<tr>
<td>9.6.4 Public Transport Pricing</td>
<td>396</td>
</tr>
<tr>
<td>9.7 The Benefits of New Transport Infrastructure</td>
<td>398</td>
</tr>
<tr>
<td>9.7.1 Does New Infrastructure Reduce Congestion?</td>
<td>398</td>
</tr>
<tr>
<td>9.7.2 The Wider Benefits of Urban Transport Projects and New Developments in Assessment Methods</td>
<td>399</td>
</tr>
<tr>
<td>9.8 Where Do We Stand?</td>
<td>401</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>403</td>
</tr>
<tr>
<td>Notes</td>
<td>403</td>
</tr>
<tr>
<td>References</td>
<td>403</td>
</tr>
<tr>
<td>10 Fiscal and Monetary Policies after the Crises</td>
<td>409</td>
</tr>
<tr>
<td>CHARLES BRENDON AND GIANCARLO CORSETTI</td>
<td></td>
</tr>
<tr>
<td>10.1 Introduction</td>
<td>409</td>
</tr>
<tr>
<td>10.2 The Pre-Crisis Consensus, and Heterogeneity</td>
<td>411</td>
</tr>
<tr>
<td>10.3 The Context and Challenges Posed by the Crisis</td>
<td>413</td>
</tr>
<tr>
<td>10.3.1 Headline Macroeconomic Trends</td>
<td>414</td>
</tr>
<tr>
<td>10.3.2 Market Impairment and the Transmission of Stabilization Policy</td>
<td>416</td>
</tr>
<tr>
<td>10.3.3 The Zero Bound on Nominal Interest Rates</td>
<td>417</td>
</tr>
<tr>
<td>10.4 The Zero Lower Bound: Implications for Stabilization Policy</td>
<td>418</td>
</tr>
<tr>
<td>10.4.1 Savings Decisions and Nominal Interest Rates</td>
<td>419</td>
</tr>
<tr>
<td>10.4.2 Shocks to the ‘Natural’ Rate of Interest</td>
<td>420</td>
</tr>
<tr>
<td>10.4.3 Forward Guidance as a Solution?</td>
<td>422</td>
</tr>
<tr>
<td>10.4.4 Fiscal Stimulus as a Solution?</td>
<td>425</td>
</tr>
<tr>
<td>10.4.5 Central Bank Asset Purchases as a Solution?</td>
<td>433</td>
</tr>
<tr>
<td>10.4.6 The Benefits and Risks of Structural Reform</td>
<td>439</td>
</tr>
<tr>
<td>10.4.7 Empirical Evidence on the ‘Expectations Channel’</td>
<td>440</td>
</tr>
<tr>
<td>10.5 Policies and Diagnoses of the Crisis</td>
<td>442</td>
</tr>
<tr>
<td>10.5.1 What Causes ‘Savings Shocks’?</td>
<td>442</td>
</tr>
<tr>
<td>10.5.2 The Possibility of Secular Stagnation</td>
<td>445</td>
</tr>
<tr>
<td>10.5.3 Dynamic Interactions through the Labour Market</td>
<td>448</td>
</tr>
<tr>
<td>10.5.4 Deflation Traps, Self-Fulfilling Dynamics and Equilibrium Selection</td>
<td>450</td>
</tr>
<tr>
<td>10.6 Risk Sharing and Fiscal Policy in a Monetary Union</td>
<td>455</td>
</tr>
<tr>
<td>10.6.1 Imbalances and Imperfect Risk Sharing</td>
<td>456</td>
</tr>
<tr>
<td>10.6.2 Complete Markets are not a Substitute for Risk Sharing via Transfers</td>
<td>457</td>
</tr>
<tr>
<td>10.6.3 Fiscal Devaluation</td>
<td>458</td>
</tr>
</tbody>
</table>
11 Financial Regulation in Europe: Foundations and Challenges

THORSTEN BECK, ELENA CARLETTI AND ITAY GOLDSFELT

11.1 Introduction 470
11.2 Recent Financial Reforms in Europe 472
  11.2.1 Capital Requirements 473
  11.2.2 Liquidity Requirements 474
  11.2.3 Resolution Framework and Bail-In Instruments 475
  11.2.4 Banking Union 476
  11.2.5 Activity Restrictions and Other Reforms 478
11.3 Microfoundations for Financial Reforms 479
  11.3.1 Basic Failures in the Financial System 479
  11.3.2 Mapping between Basic Failures and the Reforms Enacted in Europe 488
11.4 Moving beyond Banks and Traditional Activities: The Regulatory Perimeter 492
  11.4.1 The Regulatory Perimeter 492
  11.4.2 Financial Innovation 495
  11.4.3 Complexity 498
11.5 Special Issues in Europe and How they Affect Future Regulation 499
  11.5.1 Crisis Resolution and Macro-Management in a Monetary Union 500
  11.5.2 Financial Structure: Does Europe Suffer from a Bank Bias? 501
11.6 Summary, Policy Lessons and Directions for Future Research 502
Acknowledgements 505
Notes 505
References 505

12 Inequality and Welfare: Is Europe Special?

ALAIN TRANNOY

12.1 Introduction 511
12.2 Inequality and Welfare: Two Interconnected Notions 513
  12.2.1 Inequality 513
  12.2.2 Welfare 515
  12.2.3 Aggregating Welfare 517
  12.2.4 The Relationship between Inequality and Welfare 518
  12.2.5 Two Assumptions about Individual Welfare 519
12.3 Normative and Positive Issues Involving Several Sciences 523
  12.3.1 Political Philosophy 524
  12.3.2 History 525
  12.3.3 Sociology and Political Science 527
  12.3.4 Psychology 530
  12.3.5 Neurosciences: Happiness in the Twenty-First Century 530

Acknowledgements 505
Notes 505
References 505
12.4 Europe’s Inequality Pattern vis-à-vis the US
12.4.1 Inequality of Income
12.4.2 Forces behind the Increase in Gross-Income Inequality
12.4.3 Convergence Process in Europe
12.4.4 Inequality of Opportunity and Intergenerational Mobility
12.4.5 Attitudes to Inequality
12.4.6 Well-Being and the Size of the Welfare State
12.4.7 Partial Conclusion

12.5 Europe Is at the Forefront of Research on Many Topics

12.6 Data Are Improving but Remain Largely Incomplete when Looking at More Specific Issues

12.7 Inequality and Welfare as Transversal Issues

12.8 Cutting Edge Research Issues

12.9 Issues More Specific to Europe

12.10 Conclusion

Acknowledgements

Notes

References

13 Developments in Data for Economic Research

ROBERTO BARCELLAN, PETER BØEGH NIELSEN, CATERINA CALSAMIGLIA, COLIN CAMERER, ESTELLE CANTILLON, BRUNO CRÉPON, BRAM DE ROCK, LÁSZLÓ HALPERN, ARIE KAPTEYN, ASIM I. KHWAJA, GEORG KIRCHSTEIGER, VIGDIS KVALHEIM, JULIA LANE, MARKUS MOBIUS, LUKE SIBIETA, JOSEPH TRACY, FREDERIC UDINA, GUGLIEMO WEBER AND LISA WRIGHT

13.1 Introduction

13.2 Organizing Access to Microdata
13.2.1 Legal and Technical Background
13.2.2 The Nordic Leadership
13.2.3 Improving Data Access: Two Case Studies
13.2.4 Concluding Remarks

13.3 Data Standards and Cross-Country Datasets
13.3.1 The Lessons of the Financial Crisis for the Data Environment
13.3.2 The G20 Data Gaps Initiative
13.3.3 Linking Existing Microdata
13.3.4 Towards a New Data Environment

13.4 Researcher-Generated Databases
13.4.1 Measurement and Experimentation in the Social Sciences Project
13.4.2 The UMETRICS Programme
13.4.3 The Survey of Health, Ageing and Retirement in Europe
13.4.4 Lessons from Successful Researcher-Led Databases

13.5 Data Generation in Controlled Environments
13.5.1 Laboratory Experiments
13.5.2 Randomized Control Trials
Contents

13.6 The Changing Face of Public and Private-Sector Collaborations in Economic Research
   13.6.1 New Private-Sector Collaborations in Economic Research
   13.6.2 New Public-Sector Collaborations in Economic Research
   13.6.3 Risks, Challenges and Outlook
13.7 Concluding Comments
Notes
References

14 Big Data in Economics: Evolution or Revolution?
CHRISTINE DE MOL, ERIC GAUTIER, DOMENICO GIANNONE, SENDHIL MULLAINATHAN, LUCREZIA REICHLIN, HERMAN VAN DIJK AND JEFFREY WOOLDRIDGE
14.1 Introduction
14.2 The Curse of Dimensionality and Regularization
14.3 Policy Analysis and Causal Inference
14.4 Prediction
14.5 Computational Issues
14.6 Conclusions
Notes
References

Index