Contents

1 Introduction .............................................. 1

Part I Theory of Economic Growth

2 Neoclassical Growth Theory and Standard Models ............. 9
  2.1 From Classical to Neoclassical Growth Theory .......... 9
  2.2 The Basic Outline of Neoclassical Growth Models ...... 12
  2.3 The Solution with Technological Progress
      and a Cobb-Douglas Production Function ............... 15
  2.4 Human Capital as an Additional Factor of Production ... 18

3 Growth Models with Spatial Externalities .................... 23
  3.1 A Neoclassical Growth Model with Identical Steady States .. 23
  3.2 A Neoclassical Growth Model with Different Steady States .. 25

4 Convergence: Theory and Evidence .......................... 29
  4.1 Convergence and Disparities of National Economies .... 30
  4.2 The Formal Derivation of a Convergence Equation ...... 34
  4.3 Empirical Tests of Convergence, Conclusions
      and Unsolved Questions ............................. 38

Part II A Model of Regional Growth

5 Remarks on Regional Growth ................................ 45
  5.1 Agglomeration Effects, Increasing Returns and Polarisation .. 45
  5.2 Reconsidering Saving and Gross Investment ............. 48
  5.3 Foreign Capital, Its Mobility and the Role of Human Capital .. 50

6 Structure of the Model .................................... 53
  6.1 Definitions and Assumptions ........................... 53
  6.2 The Production Function .............................. 55
  6.3 Changes of Inputs to Production ....................... 59

7 Evolution of Factors and Output ............................. 65
  7.1 Steady States .................................... 65
7.2 Simulation Results ........................................ 68
7.3 Formal Derivations ........................................ 75

8 Implications for Output Growth ............................ 79
  8.1 Taylor Approximation ................................... 79
  8.2 Solution for Output Growth .............................. 82
  8.3 Summary and Outlook .................................... 85

Part III Empirics

9 Regions, Variables and Data ............................... 91
  9.1 Observation Units, Observation Period and Distance Measures .......................... 91
  9.2 Variables .................................................. 94
  9.3 An Illustration of Recent Developments ........................................... 98

10 Spatial Econometric Specification and Estimation ........ 105
  10.1 Spatial Econometric Models ................................ 105
  10.2 The Model Specification ...................................... 107
  10.3 Maximum Likelihood Estimation ................................ 109

11 Testing the Theoretical Model ............................... 111
  11.1 Results .................................................. 111
  11.2 Interpretation and Concluding Remarks ..................................... 114

12 Summary ..................................................... 117

Appendices ..................................................... 121
  Appendix 1: Regions of the Observation Area .................. 121
  Appendix 2: Supplementary Econometric Results .................. 125
  Appendix 3: Intra-state developments 1995 to 2004 ........... 127
  Appendix 4: List of Symbols ........................................ 131

References ..................................................... 135
Economic Growth in the Regions of Europe
Theory and Empirical Evidence from a Spatial Growth Model
Sardadvar, S.
2011, XII, 140 p., Hardcover
ISBN: 978-3-7908-2636-4
A product of Physica-Verlag Heidelberg