

# Contents

|                         |      |
|-------------------------|------|
| <i>List of Figures</i>  | xi   |
| <i>List of Tables</i>   | xiii |
| <i>Preface</i>          | xv   |
| <i>Acknowledgements</i> | xvii |

|                     |   |
|---------------------|---|
| <b>Introduction</b> | 1 |
|---------------------|---|

|  |    |
|--|----|
| <i>Economic Theory and Economic Modelling</i>                      | 3  |
| <i>Some Comments on the Philosophical Foundations of Economics</i> | 6  |
| <i>Dynamics and Stability</i>                                      | 9  |
| <i>Money</i>   | 12 |
| <i>Aggregation</i>   | 15 |
| <i>Growth</i>  | 17 |
| <i>Negative Commodities and Negative Utilities</i>                 | 18 |
| <i>Modelling the Economy</i>                                       | 18 |

|  |    |
|--|----|
| <b>1 Neoclassical Theory and Rational Expectations:<br/>Theoretical Deficiencies</b> | 25 |
|--|----|

|   |    |
|---|----|
| <i>Abstract</i>   | 25 |
| <i>Barter and the Temptation of Generalization</i>                                | 25 |
| <i>Utilitarianism, Utility Theory and Consumption</i>                             | 27 |
| <i>The Axiomatic Structure of the Barter Economy</i>                              | 35 |
| <i>Equilibrium and Dynamics</i>   | 38 |
| <i>Stability Matters and Community Excess Demand Curves</i>                       | 40 |
| <i>Growth</i>   | 45 |
| <i>Aggregation and Arrow's Paradox</i>  | 48 |
| <i>Expectations</i>   | 52 |
| <i>Rational Expectations</i>  | 53 |
| <i>Final Comments</i>   | 63 |
| <i>Appendix: The Neoclassical Axiomatic Structure in a<br/>    Technical Form</i> | 65 |

|          |  |            |
|----------|--|------------|
| <b>2</b> | <b>Aggregation, Money and Keynes' Epistemology</b>         | <b>70</b>  |
|          | <i>Abstract</i>  | 70         |
|          | <i>Rationality, Equilibrium and Epistemic Cycles</i>       | 70         |
|          | Epistemic Cycles   | 73         |
|          | Epistemic Cycles in Relation to Aggregation                | 77         |
|          | Keynes' Philosophical Contribution                         | 80         |
|          | Moore's Paradox  | 85         |
|          | Physics and Social Sciences: Inference and Induction       | 89         |
|          | Hume on Induction  | 95         |
|          | <i>Facts, Commodities and Structures</i>                   | 98         |
|          | The Discussion on Negative Facts                           | 99         |
|          | <i>Final Comments</i>                                      | 103        |
| <b>3</b> | <b>The Basics of Money</b>                                 | <b>108</b> |
|          | <i>Abstract</i>  | 108        |
|          | <i>Introduction</i>  | 108        |
|          | <i>Money, Equilibrium and Non-equilibrium</i>              | 109        |
|          | Medium of Exchange   | 110        |
|          | Liquidity  | 113        |
|          | Money as an Accounting Measure                             | 118        |
|          | <i>The Neutrality of Money</i>                             | 119        |
|          | Neutrality in the Short and Long Run and the Interest Rate | 123        |
|          | Long Run, Short Run  | 124        |
|          | <i>Quantity Identity and Quantity Theory</i>               | 127        |
|          | What are Prices, P, and Real GDP, Y                        | 131        |
|          | The Left Hand Side M3                                      | 134        |
|          | Some Elementary Conclusions                                | 136        |
|          | <i>Money and its Intrinsic Contradiction</i>               | 136        |
|          | <i>Appendix: On Increase of Commodity Dimensions</i>       | 142        |
| <b>4</b> | <b>Money, Finance and Growth</b>                           | <b>146</b> |
|          | <i>Abstract</i>  | 146        |
|          | <i>Introduction</i>  | 146        |
|          | <i>Growth</i>  | 148        |
|          | <i>The Bullionist-Real Bill Debate 1800–1826 in a</i>      |            |
|          | <i>Modern Perspective</i>                                  | 153        |
|          | Lessons from the Bullionist Debate and                     |            |
|          | Wicksell's Doubts  | 164        |
|          | Where are We Now?  | 165        |
|          | <i>The Enlarged Input–Output Matrix</i>                    | 168        |
|          | <i>Real Growth and Growth in Money Terms</i>               | 172        |

|          |  |            |
|----------|--|------------|
| <b>5</b> | <b>Structural Stability in Models and Reality</b>                          | <b>176</b> |
|          | <i>Abstract</i> 176  |            |
|          | <i>Introduction</i> 176  |            |
|          | <i>Causality</i> 180   |            |
|          | Determinism and Probability 182  |            |
|          | Structural Causality 188   |            |
|          | Causality and Correlation 190  |            |
|          | The Copula 191   |            |
|          | Error Term and Bifurcations 192  |            |
|          | <i>Some Comments on Instability</i> 195                                    |            |
|          | Microscopic and Macroscopic Stability 197                                  |            |
|          | Initial Value Problems 201   |            |
|          | Consumption Characteristics Models à la Gorman/Lancaster 205               |            |
|          | Perturbations and Structural Stability 206                                 |            |
|          | <i>Stability as a State in Reality</i> 211                                 |            |
|          | <i>Conclusions</i> 214   |            |
| <b>6</b> | <b>Inflation and Unemployment</b>  | <b>217</b> |
|          | <i>Abstract</i> 217  |            |
|          | <i>Introduction</i> 217  |            |
|          | <i>The General Character of the Primary Concepts</i> 223                   |            |
|          | Prices and Productivity 224  |            |
|          | Prices and Growth 228  |            |
|          | Growth and its Meaning 232   |            |
|          | Growth and Employment 234  |            |
|          | <i>Verdoorn's Law and Phillips Curve</i> 235                               |            |
|          | Verdoorn's Law 237   |            |
|          | The Phillips Curve 241   |            |
|          | <i>Some Final Comments</i> 251   |            |
| <b>7</b> | <b>Epilogue: Pictures and Axiomatic Structures</b>                         | <b>257</b> |
|          | <i>Abstract</i> 257  |            |
|          | <i>Form and Content</i> 258  |            |
|          | L'esprit de géométrie et L'esprit de finesse 260                           |            |
|          | <i>Outside and Inside Human Beings and Society – Looking for Signs</i> 263 |            |
|          | <i>Axiomatic Structures</i> 265  |            |
|          | Paradoxes 270  |            |

x *Contents*

*Back to Pictures* 272

Dynamics and Entropy 277

Saturation and Anomie 280

*Determinism/Free Will and Reversibility/Irreversibility* 283

*Index*