Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

A Study of Paul A. Samuelson's Economics: Making Economics Accessible to Students

A thesis presented in partial fulfilment of the requirements for the degree of

Doctor of Philosophy in Economics

at Massey University

Palmerston North, New Zealand.

Leanne Marie Smith

July 2000

Abstract

Paul A. Samuelson is the founder of the modern introductory economics textbook. His textbook *Economics* has become a classic, and the yardstick of introductory economics textbooks. What is said to distinguish economics from the other social sciences is the development of a textbook tradition. The textbook presents the fundamental paradigms of the discipline, these gradually evolve over time as puzzles emerge, and solutions are found or suggested. The textbook is central to the dissemination of the principles of a discipline. *Economics* has, and does contribute to the education of students, and advances economic literacy and understanding in society. It provided a common economic language for students.

Systematic analysis and research into introductory textbooks is relatively recent. The contribution that textbooks play in portraying a discipline and its evolution has been undervalued and under-researched. Specifically, applying bibliographical and textual analysis to textbook writing in economics, examining a single introductory economics textbook and its successive editions through time is new. When it is considered that an economics textbook is more than a disseminator of information, but a physical object with specific content, presented in a particular way, it changes the way a researcher looks at that textbook. This thesis examines the sixteen editions of *Economics* as a physical object, and its content. Through this examination it is possible to see how Samuelson made economics accessible to students. A central question is has *Economics* evolved as the world around it has changed?

Samuelson has a very student-oriented approach when writing his textbook. Readers of *Economics* come to understand economic concepts through relevant examples. Well-known people and events are used by Samuelson to illustrate economic theory and present economic ideas. In *Economics* Samuelson presents the principles of mainstream economics. He also portrays the social, psychological, political, and historical landscape of the time. Samuelson's *Economics* provides the non-professional economist (the student, businessperson, politician etc) with the principles of economics, presented in ways that are relevant to them, and relate to the issues they see and face in the world. *Economics* has not remained static; rather, it has developed over time. The ability of *Economics* to evolve has been the key to its survival.

Acknowledgements

I am grateful to my Chief Supervisor, Professor Rolf Cremer who has seen me through the PhD process. Our time in discussion over the years has been challenging and helpful, and his commitment to my research unwavering. I am also grateful for the supervision of Professor John Gandar, who took time during his New Zealand holiday last year to spend in meetings with me.

I wish to thank the Massey University Library staff, particularly those in the interloan section who obtained much of the resources I needed to undertake my research. I want to thank Professor Allan Rae, Professor Anton Meister, Gary Buurman, and Julia Fisher from the Department of Applied and International Economics, and Lisa Emerson for their help and advice.

I am also very grateful to Sue Cassells, friend and colleague who has been an invaluable support to me.

Special thanks go to my friend Cecilia Edwards who has added value to my thesis in a number of ways. She has listened, encouraged, and kept me sane through this very cyclical process of ups and downs.

I wish to acknowledge my friend and mentor David Burns, for his encouragement and advice in the early years of the PhD process. Sadly David is not here to see the final phase, he is certainly missed. To my friends who have supported me, I say thanks. The phone calls, emails, and visits have been extremely important and much appreciated.

Finally, I wish to acknowledge and thank my family, Mum, Dad, Andrea, David and Gran, who have sustained and encouraged me through this PhD journey. My parents have been my mainstay and their love, understanding, and practical help invaluable. Thank you for keeping the faith that this could be, would be, achieved.

Contents

| Abstr | act | | ii |
|------------------|------------------------------|--------------------------------|------|
| Acknowledgements | | | iii |
| Conte | ents | | iv |
| List o | of Tables | | viii |
| List o | of Figures | | x |
| | | | |
| | | | |
| Chap | ter One: | Introduction | 1 |
| Chap | ter Two: | Reconstructing History Through | |
| | | Samuelson's Economics | 8 |
| 2.1 | Introduction | | 9 |
| 2.2 | International Conflict | | 10 |
| 2.3 | Technology | | 16 |
| 2.4 | Social and D | emographic Issues | 17 |
| 2.4.1 | Shortages in | the 1970s | 17 |
| 2.4.2 | The Environ | ment | 19 |
| 2.4.3 | Discrimination | | 22 |
| 2.4.4 | Population | | 28 |
| 2.5 | American Politics Since 1945 | | 30 |
| 2.6 | Conclusion | | 35 |

| Chapter Three: | | Analysing Economics: Physical | |
|----------------|---|---|-----|
| | | Characteristics | 37 |
| 3.1 | Introduction | | 38 |
| 3.2 | Bibliographical and Textual Scholarship | | 39 |
| 3.3 | The Physical Characteristics | | 42 |
| 3.3.1 | The "Preface" | | 48 |
| 3.3.2 | The Chapters | | 51 |
| 3.3.3 | The Appendice | es | 54 |
| 3.3.4 | The Index | | 59 |
| 3.4 | Conclusion | | 64 |
| | | | |
| Chap | ter Four: | Analysing Economics: Content | 66 |
| 4.1 | Introduction | | 67 |
| 4.2 | The First and | Last Statements in Economics | 67 |
| 4.3 | Microeconomi | cs | 75 |
| 4.4 | Macroeconomi | ics | 81 |
| 4.5 | A Comparative Analysis: the First and Sixteenth Editions of | | |
| | Economics | | 85 |
| 4.5.1 | The First Editi | on 1948 | 85 |
| 4.5.2 | The Sixteenth | Edition 1998 | 87 |
| 4.5.3 | Comparing the | First and Sixteenth Editions of Economics | 88 |
| 4.6 | Competing Eco | onomic Paradigms | 91 |
| 4.6.1 | Grand Neo-cla | ssical Synthesis | 92 |
| 4.6.2 | Challenges to t | the Grand Neo-classical Synthesis | 94 |
| | Monetarism | | 94 |
| | Rational Exped | etations | 97 |
| 4.6.3 | Selected Analy | tical Concepts | 99 |
| | The Laffer Cur | rve | 99 |
| | The 'Kinked' I | Demand Curve | 101 |
| | The Phillips C | urve | 103 |
| | Say's Law | | 106 |
| 4.6.4 | Marxism | | 108 |
| 4.7 | Conclusion | | 112 |

| Chap | ter Five: | Mathematisation and Economics | 115 |
|-------|---|-------------------------------|-----|
| 5.1 | Introduction | | 116 |
| 5.2 | Mathematisation | | 118 |
| 5.3 | Samuelson and M | Mathematics | 126 |
| 5.4 | Mathematics in E | Conomics | 130 |
| 5.5 | Case Study of Mathematisation in Economics: The Theory of | | |
| | Income Analysis | Section | 136 |
| 5.6 | Conclusion | | 141 |
| Chap | ter Six: | The Government and the Market | 143 |
| 6.1 | Introduction | | 144 |
| 6.2 | The Role of Gov | ernment | 145 |
| 6.2.1 | Government Purc | chase of Goods and Services | 146 |
| 6.2.2 | The Welfare Stat | e | 149 |
| 6.2.3 | Regulation and D | Peregulation | 153 |
| 6.2.4 | Stabilisation Poli | су | 157 |
| 6.3 | The Market | | 159 |
| 6.3.1 | The Free-Market | System | 162 |
| 6.3.2 | Market Failure | | 165 |
| | Monopoly | | 165 |
| | Externalities | | |
| | Income Distribution | | 169 |
| 6.4 | The Modern Mix | ed Market System | 172 |
| 6.5 | Conclusion | | 177 |

| Chap | ter Seven: | The International Economy | 180 |
|--|--------------------------------------|--|-----|
| 7.1 | Introduction | | 181 |
| 7.2 | The International Economy | | 182 |
| 7.2.1 | Trade Liberal | Trade Liberalisation | |
| 7.2.2 | Regionalism a | and Trade Groups | 184 |
| 7.2.3 | Protectionism | | 186 |
| 7.2.4 | Leaders in the International Economy | | 189 |
| 7.3 | International Economics in Economics | | 191 |
| 7.3.1 | The Open Economy Model | | 195 |
| 7.3.2 | Protectionism | and Free Trade | 198 |
| 7.3.3 | The 'Cheap F | oreign Labour' Argument | 200 |
| 7.4 | Conclusion | | 204 |
| Chap | ter Eight: | Conclusion | 206 |
| Appe | ndices | | 210 |
| Appendix One: Paul Anthony Samuelson – biographical sket | | Paul Anthony Samuelson - biographical sketch | 211 |
| Appendix Two: William D Nord | | William D Nordhaus - biographical sketch | 216 |
| Appen | dix Three: | A Selection of Words that Appear in the Index of | |
| | | Economics | 216 |
| Appendix Four: | | The Forty-Five Degree Diagram | 218 |
| Appendix Five: | | Countries Appearing in the Index of Economics | 220 |
| Bibli | ography | | 222 |

List of Tables

| Table 1.1: | Economics Reference Table | 6 |
|------------|---|-----|
| Table 2.1: | "Comparative [Median Wage Incomes] of Men and Women and of Negroes and Whites" (Sam. 1 1948, 82). | 24 |
| Table 2.2: | Earnings Differential – earnings of group (as percentage of earnings of white males) | 25 |
| Table 2.3: | Cherry and Feiner's Study of Discrimination in Introductory Economics Textbooks – <i>Economics</i> Compared with all Textbooks in the Study | 27 |
| Table 3.1: | The Physical Dimensions of Introductory Textbooks - McEachern (1996) | 44 |
| Table 3.2: | The Physical Characteristics of <i>Economics</i> | 45 |
| Table 3.3: | Total Number of Chapters in <i>Economics</i> , and the Content Composition Across Editions | 52 |
| Table 4.1: | The First and Last Statements in Economics | 68 |
| Table 4.2: | Comparing the First and Sixteenth Editions of <i>Economics</i> | 89 |
| Table 4.3: | The Number of Pages with Reference to Karl Marx and Marxian Economics in the Sixteen Editions of <i>Economics</i> | 109 |
| Table 5.1: | The Number of Equations and Graphs in Economics | 13 |

| Table 5.2: | The Number of Pages, Equations and Graphs in the Income | |
|------------|---|-----|
| | Determination Section in <i>Economics</i> | 137 |
| Table 6.1: | The Inequalities in the Distribution of Income in American | |
| | Households 1935-1936 and 1995 as Presented in the First | |
| | and Sixteenth Editions of Economics | 170 |
| Table 6.2: | The Total Number of Chapters in Economics with | |
| | 'Individual' or 'Personal,' 'Government' or 'Federal,' | |
| | and 'Market' in their Titles | 176 |
| Table 7.1: | Protectionist Tools in Economics | 189 |
| Table 7.2: | The Number of International Chapters and Appendices in | |
| | Economics, and International Chapters as a Percentage of | |
| | Total Chapters | 192 |
| Table 7.3: | The Number of Subheadings Under International Trade | |
| | in the Index of Economics | 193 |
| Table 7.4: | Countries Listed in the Index in Nine or More Editions | |
| | of Economics | 194 |
| Table 7.5: | Industries Used in <i>Economics</i> to Illustrate the | |
| | Cheap Foreign Labour Argument | 201 |
| Table A.1: | A Selection of Words that Appear in the Index of <i>Economics</i> | 217 |
| Table A 2: | Countries Appearing in the Index of Fconomics | 220 |

List of Figures

| Comparing the Number of Pages and | |
|---|--|
| Standardised Pages of Economics | 46 |
| Number of Chapters and Percentage of Textbook | |
| Given to Microeconomics and Macroeconomics over the | |
| Sixteen Editions of Economics | 53 |
| Comparing the Number of Appendices and Chapters | |
| in <i>Economics</i> | 55 |
| Samuelson's Guns and Butter Figure (Sam. 1 1948, 19) | 77 |
| Total Number of Equations and as a Percentage of the | |
| Standardised Pages across the Editions | 132 |
| Total Number of Graphs and as a Percentage of the | |
| Standardised Pages across the Editions | 133 |
| The Number of Equations in the Section, the | |
| Theory of Income Determination in <i>Economics</i> | 138 |
| The Number of Graphs in the Section, the Theory of | |
| Income Determination in Economics | 139 |
| Wage Rates Per Hour of the American and English Workers | |
| | |
| Editions One to Eleven (1948-1980) | 203 |
| | Number of Chapters and Percentage of Textbook Given to Microeconomics and Macroeconomics over the Sixteen Editions of Economics Comparing the Number of Appendices and Chapters in Economics Samuelson's Guns and Butter Figure (Sam. 1 1948, 19) Total Number of Equations and as a Percentage of the Standardised Pages across the Editions Total Number of Graphs and as a Percentage of the Standardised Pages across the Editions The Number of Equations in the Section, the Theory of Income Determination in Economics The Number of Graphs in the Section, the Theory of Income Determination in Economics Wage Rates Per Hour of the American and English Workers in the Cheap Foreign Labour Argument, Economics |

"I don't care who writes a nation's laws - or crafts its advanced treaties - if I can write its economics textbooks" Paul A Samuelson.¹

¹ (Nasar 1995).