Endogenous Inferential Expectations

Suyog Sankhe

10557282

Submitted in partial fulfilment of the requirements for the degree of

Bachelor of Business (Honours)

School of Finance and Economics

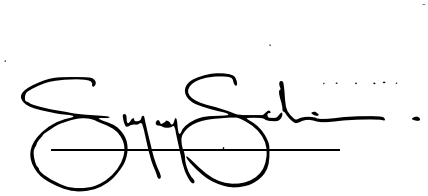
Supervisor: Dr. Gordon Menzies

17th November 2011

Certificate of Authorship

I certify that this thesis has not already been submitted for any degree and is not being submitted as part of candidature for any other degree.

I also certify that this thesis has been written by me and that any help that I have received in preparing this thesis, and all sources used, have been acknowledged within this thesis.



Suyog Sankhe

17th November 2011

Acknowledgements

It is an enormous privilege to thank those who contributed to this thesis; primarily my supervisor, Dr. Gordon Menzies, whose knowledge, counsel and time was fundamental to its successful completion. Above all, I wish to thank Gordon for his enthusiasm and generosity as a mentor.

I am appreciative of the suggestions provided to me by Associate Professor David Goldbaum, Professor Susan Thorp and Professor Ron Bird; all which helped enrich this final product. I am grateful toward my fellow honours students for the camaraderie and banter that made this year memorable. For their unconditional support, I am indebted to my family and friends.

Finally, I would like to express my gratitude to the academic staff at the University of Technology, Sydney and the State University of New York at New Paltz, who have made my undergraduate years intellectually stimulating and immensely rewarding.

Abstract

Previous research on inferential expectations (IE) (Menzies and Zizzo, 2009) has only considered a test statistic that is exogenous, based on time. This thesis examines the theory of IE for a test statistic that is endogenously determined, and incorporates IE into the standard cobweb model. Three applications are developed; an IE cobweb model nested in adaptive expectations, IE employed to estimate the value of a new parameter, and an IE model which generalises econometric learning. Under the latter, it is shown that belief conservatism results in greater forecast errors, even in a model where equilibrium outcomes are dependent on expectations.

Contents

Certificate of Authorship ii

Acknowledgements iii

Abstract iv

1. Introduction 1

2. The Case Against Rational Expectations 4

   2.1 Theoretical Arguments Against RE 4

   2.2 Empirical Arguments Against RE 7

3. Alternatives to Rational Expectations 11

   3.1 Alternative Literature 11

   3.2 Inferential Expectations 14

4. The Cobweb Model 16

   4.1 Formulation 16

   4.2 Static Expectations 18

   4.3 Adaptive Expectations 18

   4.4 Rational Expectations 19

   4.5 Econometric Learning 20

5. Inferential Expectations Cobweb Models 22

5.1 Model Variants 22

5.2 Adaptive IE 23

5.3 Adaptive IE Simulation 26

5.4 Parameter IE 34

5.5 Parameter IE Simulation 39

5.6 Generalised Econometric Learning 42

5.7 Generalised Econometric Learning Simulation 47

6. Conclusion 58

References 60

Appendix 64