
Contents

1	Introduction	1
----------	---------------------	----------

Part I The Model

2	The General Model	11
2.1	Overlapping Generations of Consumers	11
2.2	Decision Problem of Consumers	13
2.3	Consumer Demand	20
2.4	Decision Problem of Firms	29
2.5	Temporary Equilibrium	37
2.6	Pension Systems and Demographic Change	42
2.A	Mathematical Appendix	45
2.A.1	Proof of Lemma 2.2.2	45
2.A.2	Proof of Lemma 2.3.1	46
2.A.3	Proof of Theorem 2.1	47
2.B	Technical Lemmas	51
3	The Parameterized Model	55
3.1	Consumer Demand with Logarithmic Utility	56
3.2	Asset Demand with Elliptical Distributions	60
3.3	Demand Behavior of Firms	69
3.4	Temporary Equilibrium and Expectations Formation	72
3.5	The Model in Period t	80
3.A	Mathematical Appendix	83
3.A.1	Proof of Lemma 3.1.1	83
3.A.2	Proof of Proposition 3.1.1	85
3.A.3	Properties of Elliptical Distributions	86
3.A.4	Proof of Proposition 3.2.1	90

3.A.5 Proof of Lemma 3.2.1	91
3.A.6 Proof of Lemma 3.4.1	93
3.B Technical Lemmas	97

Part II The Simulation Study

4 Pension Systems in the Presence of a Stationary Population	101
4.1 Dynamics of the Model	102
4.2 The Simulation Model	105
4.3 Impact of Pension Systems on Real and Financial Markets	116
4.4 Impact of Pension Systems on Consumer Welfare	124
4.5 Robustness of Results	130
4.6 Reducing the Public Pension System	135
4.A Mathematical Appendix	141
4.A.1 Concepts from Random Dynamical Systems Theory	141
4.A.2 Proof of Lemma 4.4.1	143
5 Pension Systems in the Presence of Demographic Change	145
5.1 Population Dynamics and Demographic Change	146
5.2 Constant Contributions	149
5.3 Reducing Contributions	153
5.4 Increasing Contributions	159
5.5 Increasing the Retirement Age	163
6 Conclusions and Outlook	169
References	173



<http://www.springer.com/978-3-540-77971-1>

Pension Systems, Demographic Change, and the Stock
Market

Hillebrand, M.

2008, X, 178 p., Softcover

ISBN: 978-3-540-77971-1