

Life Cycle Economics, Health, and Inequality

Inaugural-Dissertation
zur
Erlangung des Doktorgrades
der
Wirtschafts- und Sozialwissenschaftlichen Fakultät
der
Universität zu Köln

2015

vorgelegt
von

DIPL.-VOLKSW. MATTHIAS JOHANNES SCHÖN

Contents

Introduction	1
1 Unemployment, Sick Leave, and Health	5
1.1 Introduction	5
1.2 Empirical Facts on Sick Leave Days	9
1.2.1 Data and Methodology	9
1.2.2 Stylized Facts on Aggregated Data	12
1.2.3 Micro Evidence Using Panel Data	18
1.3 Structural Model	21
1.3.1 Household's Problem	21
1.3.2 Government Policies	24
1.3.3 Individual's Dynamic Program	25
1.4 Quantitative Analyses	26
1.4.1 Parameter Estimation and Calibration	26
1.4.2 Model Fit and Benchmark Results	33
1.4.3 Effects of Indirect Costs of Sick Leave	36
1.5 Policy Evaluation	37
1.5.1 Paid Sick Leave Coverage	37
1.5.2 Unemployment Benefits	38
1.6 Conclusion	40
Appendix 1.A German Sick Leave Policy	41
Appendix 1.B Sample Selection	42
Appendix 1.C Robustness Check of Empirical Part	42
1.C.1 Different Measures of Sick Leave	42
1.C.2 Composition Effects	43
1.C.3 Density Function of Days of Sick Leave	43
1.C.4 Age Profiles of Days of Sick Leave and Health	44
1.C.5 Controlling for Gender in Sick Day Profiles over Income Quintiles	44
Appendix 1.D Parameters of Structural Model	46
2 Social Comparison and Health	51
2.1 Introduction	51
2.2 Data Set and Estimation Methods	53
2.2.1 Measures of Absolute Economic Performance	54
2.2.2 Measures of Relative Economic Performance	55

Contents

2.2.3	Measures of Health and Health Behavior	58
2.2.4	Data Selection	58
2.2.5	Model Estimation	59
2.3	Cross-Sectional Estimation	62
2.3.1	Self-Reported Health	62
2.3.2	Health-Related Behavior	65
2.4	Dynamic Logit Model	67
2.5	Comparison with the Traditional Approach	67
2.5.1	Differences of Respondents from the Circle of Acquaintances	68
2.5.2	Results of the Traditional Approach	70
2.6	Discussion	70
2.7	Conclusion	72
Appendix 2.A	Comparison of DNBHS to the Dutch Census	73
Appendix 2.B	Correlation Direct Measures	73
Appendix 2.C	Relative vs. Absolute Performance	74
Appendix 2.D	Ordered Logit	74
Appendix 2.E	Asymmetric Effect	76
3	Endogenous Grids in Higher Dimensions	77
3.1	Introduction	77
3.2	General Framework	80
3.2.1	A Simple Human Capital Model	80
3.2.2	Calibration	83
3.3	Solution Methods	84
3.3.1	Multi-Dimensional Root-Finding with Regular Interpolation (EXOGM)	84
3.3.2	Analytical Solution with Delaunay Interpolation (ENDGM)	88
3.3.3	One-Dimensional Root-Finding with Hybrid Interpolation (HYBGM)	97
3.4	Results	100
3.4.1	Error Evaluation	100
3.4.2	Finite Horizon	101
3.4.3	Infinite horizon	103
3.5	Conclusion	107
Appendix 3.A	Derivation of FOC	108
Bibliography		111