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Estimating diffusion and adoption parameters in networks

New estimation approaches for the latent-diffusion-observed-adoption model

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Lisa Susanna Stephan

Estimating diffusion and adoption parameters in networks

This thesis investigates parameter estimation in a widely applicable model of interaction in social networks. The econometric challenge arises from the fact that this interaction is not fully observable. Three distinct estimation methods are proposed to tackle this problem. The properties of the estimators are investigated by means of analytical considerations and Monte Carlo experiments. Furthermore, the estimators are applied to a concrete setting using publicly available data.

Recent years have seen an increase in the availability of data on social networks and the various activities mediated through them. This has generated a need for econometricians to develop or adjust estimation methods to fit the particular requirements of social network models. This thesis hopes to make a contribution to this new strand of research.

Lisa Susanna Stephan holds a double degree in International Economics and Chinese Studies from the University of Tuebingen (Germany). She has worked several years as a microfinance consultant in Senegal and China, before joining the Tinbergen Institute M.Phil. program and thereafter starting her Ph.D. at the University of Amsterdam.

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ESTIMATING DIFFUSION AND ADOPTION PARAMETERS IN NETWORKS

New estimation approaches for the
latent-diffusion-observed-adoption model

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New estimation approaches for the
latent-diffusion-observed-adoption model

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Contents

Acknowledgements	i
1 Introduction	1
1.1 Introduction	1
1.2 Literature	2
1.3 The Model, the Data and Previous Estimation	4
1.4 Thesis Outline	5
1.4.1 The “Two-period Estimator”	5
1.4.2 The “Trimming Estimator”	5
1.4.3 The “Moment-based Estimators”	6
1.5 Conclusion	7
2 The Two-period Estimator	9
2.1 Introduction	9
2.2 Model and Assumptions	12
2.3 Maximum Likelihood Estimation	15
2.3.1 Potentially Informed Individuals (PIIs) - the origin of the dimensionality problem	15
2.3.2 Computational Aspects	18
2.3.3 Identification of the maximum by grid search	19
2.3.4 Confidence Sets from Likelihood Ratio (LR) Tests	20
2.3.5 Shortcomings of the original estimation procedure	21
2.4 Model and Hypothesis Overview	23
2.5 Data	27
2.6 Models with Homogeneous Adoption Rates	31
2.6.1 Model 1: Homogeneous Adoption and Diffusion	32
2.6.2 Model 2: Homogeneous Adoption, Differentiate Diffusion	35
2.6.3 Hypothesis Testing	40

2.7	Models with Endorsement Effect	40
2.7.1	Model 3: Endorsed Adoption, Homogeneous Diffusion	43
2.7.2	Model 4: Endorsed Adoption, Differentiated Diffusion	45
2.7.3	Hypothesis Testing	46
2.8	Models including Co-variates	49
2.8.1	Model 5: Socio-economically determined Adoption, Homogeneous Diffusion	50
2.8.2	Model 6: Socio-economically determined Adoption, Differentiated Diffusion	53
2.8.3	Hypothesis Testing	55
2.9	Limitations	57
2.10	Conclusion	58
2.11	Appendix	59
2.11.1	The Banerjee et al. (2013) Algorithm for Two Time Periods	59
2.11.2	Appendix 2: Densities and Similarity Indices (Jacquard)	62
2.11.3	Appendix 4: Parameter Variance in the Homogeneous Adoption and Diffusion Model	63
3	The Trimming Estimator	65
3.1	Introduction	65
3.2	The Model	67
3.3	Establishing the (approximate) Log-likelihood function	69
3.4	Monte Carlo Set-up	75
3.5	Monte Carlo Results	77
3.6	Real Data Application	86
3.7	Conclusion	90
3.8	Appendix	90
3.8.1	Details on Establishing the (Approximate) Log-likelihood Function	90
3.8.2	Performance of the Algorithm	95
3.8.3	Erroneous Choices	97
3.8.4	The Error Function	101
4	The Moment-based Estimator	105
4.1	Introduction	105
4.2	The Model	107
4.3	Unconditional Individual-Specific Moments and Moment Conditions	110
4.3.1	Individual-specific Mean-Conditions	110

4.3.2	Information Reception Probabilities	115
4.3.3	Within-Village Correlation	117
4.3.4	Parameter Identification from Individual Moment Conditions . .	121
4.4	Non-aggregated Estimator	122
4.4.1	The Objective Function	122
4.4.2	Identification	125
4.4.3	Consistency	125
4.4.4	Asymptotic Variance	126
4.5	Two-moment GMM Estimator	130
4.5.1	The Objective Function	130
4.5.2	The limiting Function	131
4.5.3	Identification	132
4.5.4	Consistency	133
4.5.5	Asymptotic Variance	134
4.6	Comparison	135
4.6.1	Small Sample Properties	135
4.6.2	Consistency requirements	137
4.6.3	Variance estimation and testing	139
4.7	Monte Carlo Study	139
4.8	Application	144
4.9	Conclusion	144
4.10	Appendix - Proofs of Theorems 1 and 2	145
4.10.1	Proof of Theorem 1	145
4.10.2	Proof of Theorem 2	146
4.10.3	First Order Conditions (Non-aggregated Estimator)	147
4.10.4	Convexity of the Objective Function (Non-aggregated Estimator)	149
5	Summary	153
	Bibliography	157
	Samenvatting	161