

ESTIMATING THE STOCHASTIC FORMULATION OF PURCHASING POWER PARITIES:ALLOWING FOR SPATIAL. AUTOCORRELATION

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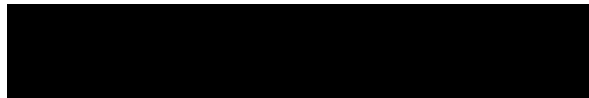
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of the degree of Master of Economics
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Declaration

I certify that the substance of this dissertation has not already been submitted for any degree and is not currently being submitted for any other degree.

I certify that, to the best of my knowledge, any help received in preparing this dissertation, and all sources used, have been acknowledged.



Abstract

When price levels of goods and services display spatial interdependence across regions or countries, the problem of spatial autocorrelation arises. In the context of multilateral index estimation, this phenomenon makes the disturbance term of the CCD stochastic formulation proposed by Prasada Rao and Selvanathan (1992a) spatially autocorrelated, leading to inefficient estimates of the multilateral indices and the purchasing power parities associated with these indices.

In this study, a more generalised form of the stochastic formulation of the CCD multilateral index that accounts for spatial autocorrelation (GCCD(SA)) is explored. The presence of significant spatial autocorrelation among the estimated residuals of the CCD multilateral index model is also analysed and tested using the Moran's I statistic with the aid of three alternative proximity measures namely, contiguity, distance and trade. All these three measures have shown their usefulness in the simultaneous estimation of the GCCD(SA) formulation.

The results obtained indicate that with the existence of significant positive spatial autocorrelation among the price relatives of goods and services across countries, the GCCD(SA) specification is able to provide plausible, unbiased and efficient estimates of the multilateral indices for spatial comparisons, specifically the purchasing power parities.

Contents

Declaration	ii
Abstract	iii
List of Tables	vi
List of Figures	vii
Acknowledgments	viii
1. Introduction	1
1.1 Statement of the Research Problem	3
1.2 The Research Objectives	4
1.3 Outline of the Chapters	4
2. Review of Relevant Studies	6
2.1 Index Number for Multilateral Comparisons	6
2.1.1 Purchasing Power Parity	7
2.1.2 Properties of Multilateral Index Numbers	8
2.1.3 Two Approaches to Multilateral Index Computation	10
2.2 The Theil-Tornqvist Binary Index	13
2.3 Stochastic Approach to Theil-Tornqvist Binary Index	14
3. The Stochastic Approach to Construction of Multilateral Index Numbers	17
3.1 The Caves, Christensen and Diewert (CCD) Multilateral Index	18
3.2 Stochastic Approach to CCD Multilateral Index	19
3.3 The Generalised CCD Multilateral Index Numbers	23
3.4 Estimation of Purchasing Power Parities and Standard Errors	24
3.5 Concluding remarks	27
4. Spatial Autocorrelation	29
4.1 The Concept of Spatial Correlation	29
4.2 Measurement of Spatial Autocorrelation	32
4.2.1 The Spatial Proximity Measures	34
4.2.2 The Moran's I Statistic	37
4.3 Spatial Autocorrelation in a Regression Model	39

4.3.1	Spatial Disturbances Model	40
4.3.2	Testing Regression Residuals for Spatial Autocorrelation	43
4.3.3	Estimation of the Spatial Model Parameters	46
4.3.4	Goodness-of-fit Test and Evaluation of the Spatial Parameter Estimates	51
4.4	Concluding remarks	54
5.	Generalised CCD Multilateral Index Accounting for Spatial Autocorrelation	55
5.1	Model Specification	56
5.2	Simultaneous Estimation Procedure	65
5.3	The Data	68
5.3.1	ICP Data	68
5.3.2	The Spatial Proximity Variable	70
5.3.3	Benchmark Year and Country Coverage	74
5.4	Empirical Results	75
5.4.1	The Estimated Moran's I Statistic	75
5.4.2	The Iterative Process	80
5.4.3	The Estimated Spatial Autocorrelation Coefficient	80
5.4.4	The Estimated Purchasing Power Parities	83
5.5	Concluding Remarks	87
6.	Summary and Conclusions	88
Appendix 1.	Basic Data Used	92
Appendix 2.	56 × 56 Contiguity Matrix	96
Appendix 3.	FORTRAN Programmes for generating data observations	100
Appendix 4.	SHAZAM Programmes for calculating PPPs	104
References		108

List of Tables

Table 5.1	Description of Categories	69
Table 5.2	A Matrix (5×5) of Distance Proximity Measure	72
Table 5.3	A Matrix (5×5) of Trade Proximity Measure	73
Table 5.4	Moran's I statistic for different commodity aggregates based on the three proximity measures, (Base country: Germany)	78
Table 5.5	Parameter estimates for ρ in each commodity aggregates based on the three GCCD(SA) specifications	81
Table 5.6	Purchasing Power Parities and Standard Errors based on the GCCD(SA) formulation, (Base currency: US dollar)	84
Table 5.7	A comparison of Purchasing Power Parities computed using different stochastic formulations, (Base currency: US dollar)	85
Table 5.8	Some goodness-of-fit measures for alternative spatial autocorrelation specifications	86
Table A.1	Expenditure Data on Per Capita Basis in National Currencies for Various Sub-Aggregates of Private Consumption Expenditure for 56 ICP Countries, 1985	92
Table A.2	Purchasing Power Parities for Various Sub-Aggregates of Private Consumption Expenditure for 56 ICP Countries at International Prices in National Currency per US Dollar, 1985	94

List of Figures

Figure 5.1	Comparison of Moran's I statistic computed using different proximity measures, (Base country: Germany)	79
Figure 5.2	Comparison of the estimated spatial autocorrelation coefficients for the GCCD(SA) models	83

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