Contents

Figures *vii*
Tables *viii*
Contributors *xi*
Foreword *xiii*
Acknowledgements *xviii*

PART I INTRODUCTION

1. Introduction
D.S. Prasada Rao 3
2. The Compilation of Purchasing Power Parities: the Eurostat–OECD Purchasing Power Parity Programme
David Roberts 7

PART II SYSTEM METHODS FOR PPP COMPUTATION

3. Aggregation Methods in International Comparisons: an Evaluation
Bert Balk 59
4. Generalised Eltetö–Köves–Szulc and Country–Product–Dummy Methods for International Comparisons
D.S. Prasada Rao 86
5. True International Income Comparisons Correcting for Substitution Bias
Steve Dowrick 121
6. Additivity, Matrix Consistency and a New Method for International Comparisons of Real Income and Purchasing Power Parities
Itsuo Sakuma, D.S. Prasada Rao and Yoshimasa Kurabayashi 142
7. Implicit Data Structures and Properties of Selected Additive Indices
James Cuthbert 160

PART III METHODS FOR SPATIAL LINKING AND ANALYSIS OF PRICE STRUCTURES

8. Similarity Indexes and Criteria for Spatial Linking
Erwin Diewert 183
9. Comparing Per Capita Income Levels Across Countries Using Spanning Trees: Robustness, Prior Restrictions, Hybrids and Hierarchies
Robert Hill 217
10. Chaining Methods for International Real Product and Purchasing Power Comparisons: Issues and Alternatives
Bettina Aten and Alan Heston 245
11. Aggregation Methods Based on Structural International Prices
Sergey Sergeev 274

PART IV APPLICATIONS

12. Purchasing Power Parities and their Policy Relevance
Michael Ward 301
13. Purchasing Power Parity Adjustments for Productivity Level Comparisons
Bart van Ark and Marcel Timmer 334
14. PPPs and the Price Competitiveness of International Tourism Destinations
Larry Dwyer, Peter Forsyth and D.S. Prasada Rao 367

Index *389*

Figures

5.1	Alternative measures of the 1980 per capita GDP ratio, USA/Mali	123
5.2	Comparison of GK, EKS and FX with true bounds for 53 countries	136
5.3	Deviations of GK and EKS indexes from the ideal Afriat index	137
7.1	Scores of first two principal components of covariances of residuals	174
7.2	Distances from international prices to country price vectors	175
7.3	Iklé/GK, (normalised to product of 1), against D(Iklé price, country price)–D(GK price, country price)	176
7.4	PC2 coefficients, against proportion of expenditure on items with high negative p–q covariance	178
9.1	Examples of graphs	218
9.2	Examples of spanning trees	221
9.3	Minimum–spanning tree for 1980	225
9.4	Minimum–spanning tree for 1985	225
9.5	Minimum–spanning tree for 1993	226
9.6	Minimum–spanning tree for 1996	226
9.7	Hierarchical tree for 1996	242
A.10.1	PLS minimum spanning tree	272
A.10.2	SIM minimum spanning tree	273
11.1	Coefficients of similarity with international prices	283
11.2	Max Min Tau	284

Tables

2.1	Countries participating in 2005 comparison	18
2.2	Schedule and coverage of the price surveys for 2005 comparison	22
2.3	Country groups for the 2005 comparison	24
2.4	Summary results of the 2005 comparison	51
2.5	GDP per head and comparative price level, 2005 comparison	54
4.1	Purchasing power parities, OECD, 1993 (US dollar = numeraire) – generalised EKS method with alternative weights	102
4.2	Purchasing power parities for OECD countries, 1993 (US dollar = numeraire) – weighted CPD method	108
4.3	Moran's I–statistic test for the presence of spatial autocorrelation	114
4.4	Spatial autocorrelation coefficients (ρ_i) for aggregated commodity groups	114
4.5	Purchasing power parities using weighted CPD method (base country: United States)	115
5.1	Bounds on true indexes of per capita GDP 1980 for selected countries, relative to the sample mean for 53 ICP countries	133
5.2	Tests of 1980 GK and EKS quantity indices against true index bounds	134
A.5.1	Measures of real GDP per capita (1980$)	140
6.1	Volume comparisons between OECD countries – SRK and GK methods	157
6.2	International prices from GK and SRK methods	158

7.1	Volume distances between indices	171
7.2	Principle components of covariance matrix	173
9.1	Per capita income rankings in 1980 (US dollars)	228
9.2	Per capita income rankings in 1985 (US dollars)	229
9.3	Per capita income rankings in 1993 (Deutschmarks)	230
9.4	Per capita income rankings in 1996 (Deutschmarks)	231
9.5	Average per capita income differentials	232
9.6	Dissimilarity of per capita income levels in 1980	233
9.7	Dissimilarity of per capita income levels in 1985	233
9.8	Dissimilarity of per capita income levels in 1993	233
9.9	Dissimilarity of per capita income levels in 1996	233
9.10	Summed PLS measures	236
9.11	Per capita income rankings in 1996 (Deutschmarks)	239
9.12	Dissimilarity of per capita income levels in 1996	241
10.1	Spanning trees versus regional groupings	262
A.10.1	Per capita DA (domestic absorption) relative to the United States of America	269
11.1	GDP volume indices per capita (EU15 = 100): Eurostat 2002 comparison	291
11.2	Coefficients of similarity of national prices/international price structures: Eurostat 2002 comparison	293
13.1	Various PPP concepts	338
13.2	Alternative volume measures for output and productivity level comparisons	340
13.3	Bilateral manufacturing PPPs derived from expenditure PPPs (units of local currency per dollar), 1990	346
13.4	Product matching in the meat processing industry (ISIC 151), US and Germany 1997	348
13.5	Aggregation of unit value ratios from industry, to branch, to sectoral level, US and Germany, 1997	351

13.6	Assessment of usefulness of adjusted E–PPPs and O–PPPs for industry output comparisons in the OECD	358
A.13.1	Composition of supply and demand in the Netherlands and the United States, 1999	366
14.1	International Visitor Survey, 1998 – average expenditure by all visitors	372
14.2	Price competitiveness indices for various destination countries – ground component; year 1998; Australia=100	374
14.3	Price competitiveness indices by tourist products in selected countries, 1998	378
14.4	Source of changes in tourism price competitiveness and their sources, 1985–97	380
14.5	Source of changes in price competitiveness of tourism 1985–97	381