Lawrence H. Officer

Essays in Economic History

Purchasing Power Parity, Standard of Living, and Monetary Standards

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In Memoriam—My Mentors
Richard E. Caves
Gottfried Haberler
Hendrik S. Houthakker

"Ignorance is the curse of God, Knowledge the wing wherewith we fly to heaven."—Shakespeare

Preface

This collection of essays is the second assemblage of my writings, but should have been the first. In the first collection (Officer, 2007), I deliberately selected a variety of subjects secondary to my main work. To right the matter, this book's collection consists of three topics on which I have spent the major part of my research: purchasing power parity, standard of living, and monetary standards. In addition, to end the collection, there is an original work "Economics and Economic History in Science Fiction." I thank my younger son, Ari J. Officer, for taking the lead in this essay and graciously accepting me as co-author. While science fiction is an avocation for both Ari and myself, it is a fair statement that contributing to that literature is closer to a true vocation for Ari.

In reviewing the first collection, Richard Sylla (2007) writes:

> "As they contemplate mortality and immortality," the late Charles Kindleberger (1985, 1) once wrote, "many economists … think it useful to gather their scattered academic detritus into packages, organized either chronologically or by subject." Kindleberger was a master of the genre, producing several such packages, which he described as exercises in tidying up things for one's literary executor. In case you hadn't guessed from the title of Lawrence Officer's new book, it is a recent addition to the genre.

That description also applies to the present volume, concerning which I thank three anonymous reviewers for their comments. Nothing is more important to an author than the respect of one's peers.

As I scan my research life, the indebtedness to many people looms large. While the current book (with exception of the science-fiction essay) consists of sole-authored items, these writings benefitted immensely from the rich experience of joint work with other scholars. Wherefore I acknowledge that I learned many things about scholarly research from co-authors, who mainly were at institutions with which I have been associated. At Harvard University: Lawrence B. Smith, Thomas D. Willett, Thomas A. Wilson; at Bank of Canada: John F. Helliwell, Harold T. Shapiro, Ian A. Stewart; at International Monetary Fund: Morris Goldstein, Mohsin S. Khan; at Michigan State University: Mordechai E. Kreinin, Daniel H. Saks, Judith A. Saks, Leanna Stiefel; at MeasuringWorth.com: Samuel H. Williamson; without joint affiliation: Marina Cristina Marcuzzo, Ari J. Officer, Annalisa Rosselli.

This book is in memoriam of my mentors at Harvard University. When I arrived there as a graduate student in 1960, I was a 20-year-old with little life experience and even less self-confidence. Professors Richard E. Caves. Gottfried Haberler, and Hendrik S. Houthakker saw potential in me that I did not see in myself and treated me as a scholar when I was far from deserving that title. And on a personal level: Houthakker persuaded me to continue in the program when I was discouraged and about to leave in the first semester, Caves guided me through the workings of the Economics Department, and Haberler invited me to many one-on-one Sunday breakfasts to discuss economics (much later, I had the opportunity to salute Gottfried Haberler's contributions to macroeconomics–Officer, 1982). Without the kindness of these three exemplary human beings, I should never have been in a position to have writings to collect for either the present or past volume!

Glencoe, IL, USA — Lawrence H. Officer
August 2022

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Contents

Part I Purchasing Power Parity: Origin and Use

1 Salamancans and Gerard Malynes 3
1.1 Salamanca School, Tudor Period 3
1.1.1 Salamanca School 3
1.1.2 Tudor Period 7
References 11
1.2 Malynes, Gerard De (fl. 1586–1623) 12
Selected Works of Malynes 13
References 13

2 Gustav Cassel 15
2.1 From Salamancans/Malynes to Cassel 15
2.2 The Impact of Cassel 18
2.3 Motivation for Cassel's PPP Theory 21
2.4 Quantity Theory of Money 22
2.5 Price-Level Concept 23
2.6 Absolute-PPP Theory 25
2.7 Relative-PPP Theory 31
2.8 Digression: Error Term in PPP Theory 32
2.9 Flexibility of PPP 34
2.10 Policy Implications 37
References 39

3 Purchasing Power Parity in Economic History 43
3.1 Introduction 43
3.2 Categorization of Purchasing-Power-Parity Theories 44
3.3 Historical Application of PPP: Premodern Periods 45
3.3.1 Ancient Period 46
3.3.2 Medieval Period 47
3.3.3 Sixteenth-Century Spain 47
3.4 Techniques of Testing PPP Theory in Economic-History Literature 48
3.4.1 Comparative-Static Computation 48
3.4.2 Regression Analysis 48
3.4.3 Testing for Causality 48
3.4.4 Nonstationarity and Spurious Regression 49
3.4.5 Testing for Stationarity 50
3.4.6 Cointegration Analysis 51
3.5 Price Variable in PPP Computations 51
3.6 Modern Period: Testing of PPP 53
3.6.1 Early North America 53
3.6.2 Bullionist Periods 54
3.6.3 Floating Rates—Second-Half of Nineteenth Century 55
3.6.4 Classic Metallic Standards 56
3.6.5 World War I 57
3.6.6 Floating Rates—1920s 57
3.6.7 1930s 60
3.6.8 Interwar Period 60
3.6.9 Spain—Long Term 61
3.6.10 Guatelmala—Long Term 62
3.7 Analysis of U.S. Return to Gold Standard in 1879 62
3.8 Establishment and Assessment of a Fixed Exchange Rate in Interwar Period 63
3.8.1 United Kingdom 63
3.8.2 France 65
3.9 Conclusions 66
References 68

4 Afterword to Part I 77
4.1 Salamancans and Gerard Malynes (Chapter 1) 77
4.2 Gustav Cassel (Chapter 2) 78

4.3 Other Studies (Chapter 3 Extended) 79
References 80

Part II Purchasing Power Parity: Empirical Studies

5 Absolute and Relative Purchasing Power Parity 85
5.1 The Relationship Between Absolute and Relative Purchasing Power Parity 85
5.1.1 Proof That the Restated PPP Theory Is Not a Truism 86
5.1.2 Alternative Price-Level Concepts of PPP 88
5.1.3 Empirical Analysis of the Strong PPP and Naive Models 92
5.1.4 Empirical Analysis of the Weak PPP and Naive Models 94
Appendix: The Data 98
References 100

6 Law of One Price 101
6.1 The Law of One Price Cannot Be Rejected: Two Tests Based on the Tradable/Nontradable Price Ratio 101
6.1.1 Introduction 101
6.1.2 Law of One Price 102
6.1.3 Critique of Empirical Literature 103
6.1.4 A Model of PPP and the Tradable/Nontradable Price Ratio 105
6.1.4.1 Derivation of PPP/Exchange-Rate Relationship 105
6.1.4.2 Generation of Estimable Equation 107
6.1.4.3 Limitations of PPP Concept 108
6.1.5 The Sample 109
6.1.5.1 Selection of PPP Measure 109
6.1.5.2 Selection of PN/PT Measure 109
6.1.5.3 Selection of Sample 110

6.1.6 Test of Equality of Prices of Tradables and Nontradables 111
6.1.6.1 Estimation Technique 111
6.1.6.2 Estimation of Equation (6.5) 112
6.1.6.3 Performance of Equation Outside of Sample 112
6.1.7 Test of Equality of Prices of Tradables Across Countries 113
6.1.7.1 Motivation of Test Procedure 113
6.1.7.2 Alternative Methods of Predicting PPP/R 114
6.1.7.3 Comparison with Naive Model 116
6.1.8 Validity of Tradable/Nontradable Distinction 117
6.1.9 Concluding Comments 119
Appendix: The Data 119
References 121

7 National Price Level 125
7.1 The National Price Level: Theory and Estimation 125
7.1.1 Conventional Approach to the National Price Level 126
7.1.2 The Various PPP Indexes 129
7.1.3 Issues of Theory and Estimation 131
7.1.4 Econometric Approximation of PL-P Analytical Relationship 138
7.1.5 Explanatory Variables for the Nontradable/Tradable Price-Level Ratio and the National Price Level 139
7.1.6 Alternative Estimators of the National Price Level 140
7.1.7 Relative Importance of Determinants of the National Price Level 141
7.1.8 Principal Conclusions 142
Appendix: The Data 142
References 145

8 Afterword to Part II 149
8.1 Absolute and Relative PPP (Chapter 5) 149
8.2 Law of One Price (Chapter 6) 149
8.3 National Price Level (Chapter 7) 150
References 152

Part III Standard of Living

9 Terms of Trade 157
9.1 Prelude 157
9.1.1 New Historical Balance of Payments 157
9.1.2 Openness of Economy 158
9.1.3 Goods-Versus-Services Economy 163
9.2 Construction of Series 164
9.2.1 Method 164
9.2.2 Goods 164
9.2.3 Services 165
9.2.3.1 Transportation 165
9.2.3.2 Travel 166
9.2.3.3 Passenger-Ship Revenue 166
9.2.3.4 Financial Transactions 167
9.2.3.5 Military Expenditures Abroad 168
9.2.3.6 Non-Imported Slave Purchases 168
9.3 Interpretation 168
References 171

10 Consumer Price Index 173
10.1 Foreign Travel in United States 173
10.1.1 Food 173
10.1.2 Alcohol 174
10.1.3 Rent 174
10.1.4 Transportation 174
10.1.5 Total Index 176
References 181
10.2 The Cost of Living in America: A Political History of Economic Statistics, 1880–2000 184

11 Compensation of Manufacturing Workers 187
11.1 Nominal Compensation, Real Compensation, and Standard of Living 187

11.1.1 Compensation and Its Components 187
11.1.2 Standard of Living: Alternative Measures 192
11.1.3 Standard of Living: Comparison with Other Studies 198
11.1.4 Concluding Comments 202
References 203

12 Afterword to Part III 205
12.1 Relationship to MeasuringWorth 205
12.2 Terms of Trade (Chapter 9) 205
12.3 Value of Consumer Bundle 206
12.4 Consumer Price Index (Chapter 10) 209
12.5 Compensation of Manufacturing Workers (Chapter 11) 213
12.5.1 Reception 213
12.5.2 Data Series 213
References 214

Part IV Fixed-Rate Monetary Standards

13 Metallic Standards 219
13.1 Gold Standard 219
13.1.1 Types of Gold Standard 219
13.1.2 Countries on the Classical Gold Standard 221
13.1.3 Elements of Instability in Classical Gold Standard 221
13.1.4 Automatic Force for Stability: Price Specie-Flow Mechanism 222
13.1.5 Rules of the Game 223
13.1.6 Reason for Stability: Credible Commitment to Convertibility 224
13.1.7 Implications of Credible Commitment 226
13.1.8 Government Policies that Enhanced Stability 227
13.1.9 Experience of Periphery 227
13.1.10 Breakdown of Classical Gold Standard 228
13.1.11 Return to the Gold Standard 229
13.1.12 Instability of Interwar Gold Standard 230
13.1.13 Breakdown of Interwar Gold Standard 232
References 233

13.2 Silver Standard 234
13.2.1 Definition of Silver Standard 234
13.2.2 Countries on Silver Standard to 1870 235
13.2.3 Asian Abandonment of Silver Standard Prior to World War I 236
13.2.4 Termination of Silver Standard 237
References 239
13.3 Bimetallism 240
13.3.1 The Nature of Bimetallism 240
13.3.2 Advantages and Disadvantages of Bimetallism 241
13.3.3 Theories of Bimetallic Stabilization 242
13.3.4 Bimetallism Prior to the 19th Century 244
13.3.5 Bimetallic France in the 19th Century 245
References 247

14 Classical Gold Standard 249
14.1 International Monetary Regimes: The Gold Standard 249
14.1.1 Introduction 249
14.1.2 Countries on Gold Standard 250
14.1.2.1 Legal Versus Effective Monetary Standard 250
14.1.2.2 Center Country 253
14.1.2.3 Other Core Countries 254
14.1.2.4 Periphery 254
14.1.2.5 Why the Scramble to Gold? 256
14.1.3 Characteristics of Gold Standard 257
14.1.3.1 Domestic Gold Standard 257
14.1.3.2 International Gold Standard 259
14.1.4 Implications for Money Supply and Automatic Correctives 262
14.1.4.1 Traditional Mechanism 263
14.1.4.2 Monetary Mechanism 264
14.1.5 Sources of Instability of the Gold Standard 264
14.1.6 Rules of the Game 268
14.1.6.1 The Rules 268
14.1.6.2 Discount-Rate Rule 269

14.1.6.3 Sterilization Was Dominant 270
14.1.6.4 Was the Bank of England Supreme? 271
14.1.7 Stability of Gold Standard 272
14.1.7.1 Private-Sector Credibility in Convertibility 272
14.1.7.2 Reasons Why Commitment to Convertibility Was so Credible 273
14.1.7.3 Rareness of Violations of Gold Points 274
14.1.7.4 Stabilizing Speculation 275
14.1.7.5 Government Policies that Enhanced Gold-Standard Stability 277
14.1.8 Experience of Periphery 279
14.1.9 Performance 282
14.1.10 Breakdown of Gold Standard 285
References 286

15 Bretton Woods System 291
15.1 A Retrospective on the Bretton Woods System: Lessons for International Monetary Reform 291

16 Afterword to Part IV 295
16.1 Metallic Standards (Chapter 13) 295
16.2 Classical Gold Standard (Chapter 14) 296
16.3 Interwar Gold Standard (Chapter 13) 297
16.4 Silver Standard, Bimetallism (Chapter 13) 297
16.5 Bretton Woods System (Chapter 15) 298
16.6 Further Discussion 298
References 299

Part V Anglo-American Monetary Standards

17 American Monetary Standard 303
17.1 Unit of Account 303
17.2 Metallic Content of the Dollar and Coinage Denominations 305

17.3 Legal-Tender Status of Coin 310
17.4 Convertibility of Government/Central-Bank Paper into Coin 316
17.5 Nature of Coinage 317
17.6 Provision of Bars 319
17.7 Convertibility of Banknotes and Bank Deposits 320
17.8 Legal Versus Effective Monetary Standards 321
17.9 Paper Standards 323
References 335

18 British Monetary Standard 341
18.1 Unit of Account 341
18.2 Mint Price and Coins Struck 342
18.3 Legal-Tender Status of Coin 344
18.4 Convertibility of Government/Central-Bank Paper into Coin 345
18.5 Nature of Coinage 345
18.6 Bank Provision of Bars and Foreign-Exchange Dealings 347
18.7 Convertibility of Banknotes and Bank Deposits 348
18.8 Legal Versus Effective Metallic Standards 348
18.9 Paper Standards 350
References 356

19 Afterword to Part V 359
References 361

Part VI Monetary-Standard Behavior

20 Bullionist Periods 365
20.1 Bullionist Controversies (Empirical Evidence) 365
20.1.1 History of Bullionist Periods 365
20.1.2 Bullionist, Anti-Bullionist, and Country-Bank Models 366
20.1.3 Extension to Country Banks 371
20.1.4 Empirical Studies: Visual Comparison of Movements of Variables 371
20.1.5 Empirical Studies: Time-Series Analysis 373
References 374

21 Dollar-Sterling Exchange Market 377
21.1 Empirical Testing of Market Efficiency 377
21.1.1 Unit of Observation 377
21.1.2 Sample Periods 378
21.1.3 Gold-Point Arbitrage 380
21.1.3.1 Conventional Wisdom and Empirical Studies 380
21.1.3.2 Empirical Testing 381
21.2 Net Outcome 390
21.2.1 Methodology of Measuring Regime Efficiency 390
21.2.1.1 Determinants of Regime Efficiency 390
21.2.1.2 A Simple Measure of Efficiency 390
21.2.1.3 A Model of Measurement of Efficiency 391
21.2.2 Empirical Results 395
References 402

22 U.S. Specie Standard 405
22.1 The U.S. Specie Standard, 1792-1932: Some Monetarist Arithmetic 405
22.1.1 Methodology of the Historical Monetary Base 407
22.1.2 Were the First and Second Banks Central Banks? 408
22.1.3 Delineation of Subperiods 410
22.1.4 The New Monetary Base, 1789–1932: Construction 411
22.1.4.1 Structure 411
22.1.4.2 Comparison with Other Historical Monetary-Base Series 412
22.1.4.3 Components of Net-Liabilities Composition of the Monetary Base 416
22.1.5 The New Monetary Base, 1789–1932: Presentation 417
22.1.5.1 Net-Liabilities Breakdown 417
22.1.5.2 Assets Breakdown 420

22.1.6 The New Monetary Base Versus Predecessors 422
22.1.7 The Monetary Balance of Payments, 1790–1932 426
22.1.8 Comparative Economic Performance of Subperiods 427
22.1.8.1 Exchange-Market-Pressure Model 427
22.1.8.2 Monetary Pyramiding Ratios 430
22.1.8.3 Price and Income Behavior 431
22.1.8.4 Comparison with Existing Literature 433
22.1.9 Conclusions 433
Appendix 434
References 455

23 Afterword to Part VI 461
23.1 Bullionist Periods (Chapter 20) 461
23.2 Dollar-Sterling Exchange Market (Chapter 21) 462
23.2.1 Reception 462
23.2.2 Data Series 463
23.2.2.1 Parity 463
23.2.2.2 Exchange Rate 463
23.2.2.3 Gold Points 465
23.2.3 Exchange-Market Integration 466
23.2.4 Market and Regime Efficiency 469
23.2.5 Criticisms 469
23.3 U.S. Specie Standard (Chapter 22) 470
References 473

Part VII Economics in Alternative Scenarios

24 Economics and Economic History in Science Fiction 479
Ari J. Officer and Lawrence H. Officer
24.1 What Is Science Fiction? 479
24.2 Technology 481
24.2.1 Space Travel 481
24.2.2 Medical Advances 485
24.2.3 Robotics and Materials 486
24.2.4 Communication 488

24.3 Labor 489
24.3.1 Labor Force Participation 489
24.3.2 Population Growth 490
24.3.3 Specialization 491
24.4 Assets and Capital 493
24.4.1 Consumption and Inflation 493
24.4.2 Cash and Debt 495
24.4.3 Value of Property 496
24.4.4 Resources 497
24.4.5 Productivity 498
24.5 Trade 499
24.5.1 Monetary System 499
24.5.2 Commerce 501
24.5.3 Principal-Agent Problem 502
24.5.4 Intellectual Property 504
24.6 Government 504
24.6.1 Central Planning 504
24.6.2 Property Law 506
24.6.3 Capitalism, Socialism, and Communism 508
24.7 Alternate History 511
24.7.1 Economic Cost (and Benefit) of War 511
24.7.2 Historical Impact of Government 513
24.7.3 Parallel Worlds 515
24.7.4 History Repeated in the Future 517
24.8 Why Science Fiction Matters 519
References 521

Index of Names 525

Index of Subjects 535

List of Figures

Fig. 11.1	Average hourly compensation (logarithmic scale)	191
Fig. 11.2	Ratio of benefits to compensation	191
Fig. 11.3	Real average hourly compensation	194
Fig. 11.4	Work-hours: actual and required-to-purchase-consumer-bundle	196
Fig. 11.5	Real average hourly compensation: cycle component	201
Fig. 21.1	Exchange rate and gold points, gold-point arbitrage, monthly, 1890–1906	397
Fig. 21.2	Exchange rate and gold points, gold-point arbitrage, monthly, 1925–1931	398
Fig. 21.3	Exchange rate and gold points, monthly, 1950–1966	399
Fig. 22.1	New monetary base and specie stock versus Temin monetary base, 1820–1857	423
Fig. 22.2	New monetary base versus Rutner monetary base, 1833–1859	423
Fig. 22.3	New monetary base versus Friedman-Schwartz monetary base, 1867–1897	424
Fig. 22.4	New monetary base versus Friedman-Schwartz monetary base, 1898–1917	424
Fig. 22.5	New monetary base versus Friedman-Schwartz monetary base, 1918–1932	425

List of Tables

Table 5.1	Errors of strong PPP and naive models: GDP concept	90
Table 5.2	Errors of strong PPP and naive models: COL concept	91
Table 5.3	Correlation of P with D	95
Table 5.4	Summary of models	97
Table 6.1	PPP/R data and residuals from its estimates	111
Table 6.2	Estimates of regression equation	112
Table 6.3	Time series of U.S. nontradable/tradable price-level ratio	113
Table 6.4	Average errors from estimates of PPP/*R*	116
Table 6.5	Error-difference ratios	117
Table 7.1	Regression equations	139
Table 9.1	Terms of trade and related series	159
Table 10.1	Consumer price index for foreign travel in United States	177
Table 11.1	Average hourly compensation, earnings, and benefits: 1800–2006	188
Table 11.2	Real average hourly compensation: 1800–2006	193
Table 11.3	Work-hours required to purchase consumer bundle: 1900–2006	195
Table 11.4	Ratio of actual to consumer-bundle-required work-hours: 1904–2006	197
Table 12.1	Value of consumer bundle and number of consumer units	207
Table 12.2	New CPI series	210
Table 14.1	Countries on gold standard	251

Table 14.2	Structure of money: major-countries aggregate	258
Table 14.3	Gold-point estimates	261
Table 14.4	Share of foreign exchange in official reserves: 1913	265
Table 14.5	Composition of world official foreign-exchange reserves: 1913	265
Table 14.6	Official-reserves components: 1913	266
Table 14.7	Reserve ratio of reserve-currency countries: 1913	266
Table 14.8	Annual changes in international and domestic assets of central bank: 1880–1913	271
Table 14.9	Violations of gold points	275
Table 14.10	Average deviation of dollar-sterling exchange rate from gold-point-spread midpoint	276
Table 14.11	Country-group statistics: 1881–1913	282
Table 14.12	US monetary statistics: gold standard versus other periods	283
Table 14.13	Inflation in core countries: gold standard versus later periods	284
Table 14.14	Growth of core countries: gold standard versus later periods	284
Table 17.1	Gold and Silver value of American Dollar, 1786–1934	308
Table 17.2	Effective American monetary standards, 1791–present	311
Table 17.3	Deviations from International Gold standard, 1914–1925	327
Table 18.1	Effective British monetary standards, 1791 to present	351
Table 19.1	U.S. and British monetary standards	360
Table 21.1	Gold-point violations: 1890–1906, 1925–1931, 1950–1966	382
Table 21.2	Exchange-rate deviation from spread midpoint, gold-point arbitrage, 1791–1966	396
Table 22.1	Monetary Base and monetary balance of payments, 1789–1932 (millions of gold dollars)	418
Table 22.2	Contributions to monetary base: net-liabilities breakdown (period means—end of year)	420
Table 22.3	Contributions to monetary base: assets breakdown (period means—end of year)	422
Table 22.4	Exchange market pressure (period means—percentages)	429
Table 22.5	Monetary component of exchange market pressure (period means)	430
Table 22.6	Pyramiding ratios	431

Table 22.7 Monetary-standard performance: price and income 432
Table 23.1 Exchange-rate statistics (percentage points of parity) 464
Table 23.2 Gold points and exchange-market integration, Gold-point arbitrage (percentage points of parity) 467

PART I

Purchasing Power Parity: Origin and Use

CHAPTER 1

Salamancans and Gerard Malynes

1.1 Salamanca School, Tudor Period

Originally published in *Purchasing Power Parity and Exchange Rates: Theory, Evidence and Relevance,* JAI, 1982, pp. 30–36.

1.1.1 Salamanca School

The originators of the purchasing power parity (PPP) theory were Spanish scholars of the sixteenth-century, the Salamanca School. As will be shown below, there can be no doubt about this assertion. Yet the Salamancan accomplishment went unnoticed in the English literature until Margorie Grice-Hutchinson (1952) authored a description of Spanish monetary theory in the 1544–1605 period, while providing translated excerpts from the writings of the scholars involved. Later, basing his comments on Grice-Hutchinson's work, Einzig (1970) also attributed the origins of the PPP theory to these sixteenth and seventeenth century Spanish writers.[1]

It was a confluence of diverse circumstances that led these scholars to develop the PPP theory. First of all, by the middle of the sixteenth century the University of Salamanca, in western Spain, was a great center of learning the seventy chairs of which, according to Grice-Hutchinson (1952, p. xi), were "filled by the best scholars of the age." Second, these scholars, as theologians and jurists, were well acquainted with the earlier,

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scholastic work on foreign exchange. Indeed, Grice-Hutchinson views the Salamancan analysis of foreign exchange as a development of the theories of the Florentine theologians Laurentius and St. Antonio.

Yet, and third, the people of the Salamanca School could not help but be interested in secular issues, among which was international commercial activity, for which Spain had become a leading center. This role of Spain was closely related to its conquests in America and the resulting flow of gold and silver to the home country. Fourth, Medieval analysis of foreign exchange had included the idea that ease (scarcity) of a money gave it a low (high) value against foreign exchange.[2] The missing link to reach the PPP theory was the quantity theory of money.[3] The empirical impetus for the quantity theory was provided in 16th-century Spain, the first country in Europe to receive large inflows of precious metals from the New World, with resultant conspicuous increases in the money supply and in prices.

It should be noted that the true contribution of New World treasure to the sixteenth-century "price revolution" is beside the point for our purposes here. No doubt, other factors were involved, including those on the real side. The *perception* of substantial increases in the coined money supply and in prices led to the formulation of the quantity-theory relationship between the two, and earliest in Spain; that is the relevant point.

Fifth, it was also clear empirically that exchange rates had become unfavorable to Spain. If exchange rates themselves were not recorded, nevertheless, according to Grice-Hutchinson, the Salamancan economists observed that the ratio of the amount of money repaid to the amount delivered was much higher for initial delivery of money to Spain from abroad than this two-way transaction beginning in the opposite direction. This relationship required an explanation, and relative supplies of money or relative price levels in Spain and foreign countries were obvious candidates.

Sixth, premiums on exchange transactions incorporating a time element (that is, on bills of exchange) had long been used as a way of escaping the Catholic Church's prohibition of usury. The Salamancans had a theological benefit in developing a theory such as PPP; variations in exchange rates could then be interpreted as non-usurious in nature and so quite consistent with Church doctrine. Grice-Hutchinson writes: "This early version of the purchasing-power parity theory…removed the taint of usury that had formerly accompanied even the most genuine exchange transaction" (1952, p. 58). Indeed, she explains the demise of the PPP

theory in the late seventeenth century as reflecting a final full toleration of exchange transactions, irrespective of their nature:

> The last traces of the medieval objection to exchange transactions (though not, of course, the dislike of usury itself) seems to have died away towards the end of the seventeenth century. . .the old purchasing-power parity theory, which had been framed to show that the premium on a bill of exchange was not necessarily a disguised form of interest on a loan, lost its *raison d'etre* and presumably died a natural death after performing a useful function for close on 150 years. (1952, p. 77)

In spite of these common circumstances, not all the Salamancan writers on exchange-rate determination put forward the PPP theory. To some extent, this may have been due to the natural development of the PPP approach from antecedent theories in an atmosphere in which the scholars had access to, and commented on, each-other's work. Another reason, no doubt, is that some Salamancans preferred to profess alternative theories of foreign exchange even while aware of the PPP approach. These other theories amounted to sophisticated treatments of the demand-and-supply and money-supply theories that developed in the Middle Ages.

Our concern here is with those Spanish writers that proposed the PPP theory itself. The earliest of these, and certainly a forerunner if not the actual founder of the PPP approach, is Azpilcueta de Navarro, writing in 1556. In any event, he is without doubt the founder of the quantity theory of money; for he writes[4]:

> other things being equal, in countries where there is a great scarcity of money, all other saleable goods, and even the hands and labour of men, are given for less money than where it is abundant... And even in Spain, in times when money was scarcer, saleable goods and labour were given for very much less than after the discovery of the Indies, which flooded the country with gold and silver. (Quoted by Grice-Hutchinson, 1978, p. 104)

The PPP theory is presented in a less direct fashion. Navarro states: "We cannot know whether an exchange transaction be just unless we know the value of both monies; since… the money must be changed at its proper value if the transaction is to be a just one." He then presents various reasons why "the value of the two moneys may diverge," among which "because of scarcity and need." Concentrating on this reason, he declares that "money, in so far as it may be sold, bartered, or

exchanged by some other form of contract, is merchandise and therefore also becomes dearer when it is in great demand and short supply."[5] He then proceeds to make the connection between the scarcity or abundance of money and the high or low level of prices, via the quantity theory of money in the passage quoted above. The result is the relative-PPP theory.

The Salamancan writers are considering coined, not paper, money. When Navarro states that "the value of the two moneys may diverge," his standard of reference must be the mint parity between the monies. The "proper value" of the exchange rate is not the mint parity, but the PPP. It is PPP that explains deviations of exchange rates from mint parities.

Though Navarro thus formulates the PPP theory in an indirect fashion, it is a complete statement of the theory in that the discussions of monetary ease and scarcity and of the quantity theory are general in nature, therefore applicable to both the domestic and foreign country.

In 1594, Domingo de Bañez stated the PPP theory quite directly:

> In places where money is scarce, goods will be cheaper than in those where the whole mass of money is bigger, and therefore it is lawful to exchange a smaller sum in one country for a larger sum in another.... one party may lawfully agree to repay a larger sum to another, corresponding to the amount required to buy the same parcel of goods that the latter might have bought if he had not delivered his money in exchange." (Cited in Grice-Hutchinson, 1952, pp. 57–58)

Again, sums of money in different currencies can be compared only via some standard, implicitly the mint parity. The exchange value of a country's money can legitimately exceed its mint parity when the money's purchasing power over commodities exceeds that of money abroad. This is a theory of absolute PPP in which currencies exchange with each other in their respective amounts that are required to purchase the same basket ("parcel") of goods. A similar presentation of PPP theory was made by Juan de Lugo in 1642:

> the excess of this unequal value which money has in different places... may also be caused by diversity in its extrinsic value. Thus, in the place to which the money is sent there may be a general scarcity of money, or more people may require it, or there may be better opportunities for doing business with it and making a profit. And, since money will there be more useful for satisfying human needs, more goods will be bought than elsewhere with the same sum of money, and therefore money will rightly