Getting It Wrong

How Faulty Monetary Statistics Undermine the Fed, the Financial System, and the Economy

William A. Barnett

The MIT Press
Cambridge, Massachusetts
London, England
Contents

Foreword: Macroeconomics as a Science xiii
Apostolos Serletis

Preface xxiii
Acknowledgments xxxiii

I The Facts without the Math

1 Introduction 3
  1.1 Whose Greed? 4
    1.1.1 Ponzi Games, Transversality, and the Fraud Explosion 6
    1.1.2 Conditional Expectations 8
    1.1.3 Regulation in History and in Theory 9
  1.2 The Great Moderation 11
  1.3 The Maestro 12
  1.4 Paradoxes 17
  1.5 Conclusion 19

2 Monetary Aggregation Theory 21
  2.1 Adding Apples and Oranges 21
  2.2 Dual Price Aggregation 25
  2.3 Financial Aggregation 27
  2.4 The Commerce Department and the Department of Labor 33
  2.5 The Major Academic Players 35
    2.5.1 Irving Fisher 36
    2.5.2 François Divisia 38
    2.5.3 Henri Theil 41
    2.5.4 Dale Jorgenson 42
2.5.5 Milton Friedman 43
2.5.6 W. Erwin Diewert 46
2.5.7 James Poterba and Julio Rotemberg 48
2.6 Banks throughout the World 51
2.6.1 Federal Reserve Board 52
2.6.2 The Bank of Japan 54
2.6.3 The St. Louis Federal Reserve Bank 57
2.6.4 The Bank of England 62
2.6.5 The European Central Bank 63
2.6.6 The International Monetary Fund 64
2.7 Mechanism Design: Why Is the Fed Getting It Wrong? 66
2.7.1 The Theory 66
2.7.2 NASA's Space Program 68
2.7.3 The Locked Office 71
2.7.4 The Relationship between the Board's Staff, the Governors, the FOMC, and the Regional Banks 72
2.7.5 The Right and the Wrong Kinds of Reform 74
2.7.6 The Office of Financial Research 84
2.7.7 A Quiz: Answer True or False 86
2.8 Conclusion 89

3 The History 91
3.1 The 1960s and 1970s 91
3.2 The Monetarist Experiment: October 1979 to September 1982 102
3.3 The End of the Monetarist Experiment: 1983 to 1984 107
3.4 The Rise of Risk Adjustment Concerns: 1984 to 1993 111
3.5 The Y2K Computer Bug: 1999 to 2000 119
3.6 Conclusion 121

4 Current Policy Problems 123
4.1 European ECB Data 123
4.2 The Most Recent Data: Would You Believe This? 126
4.3 The Current Crisis 133
4.3.1 Prior to April 14, 2006 133
4.3.2 Subsequent to April 14, 2006 136
4.3.3 The Revised MSI Data 140
4.4 Conclusion 143

5 Summary and Conclusion 145
II Mathematical Appendixes

A Monetary Aggregation Theory under Perfect Certainty 159
A.1 Introduction 159
A.2 Consumer Demand for Monetary Assets 161
  A.2.1 Finite Planning Horizon 161
  A.2.2 Infinite Planning Horizon 163
  A.2.3 Income Taxes 165
A.3 Supply of Monetary Assets by Financial Intermediaries 165
  A.3.1 Properties of the Model 169
  A.3.2 Separability of Technology 170
A.4 Demand for Monetary Assets by Manufacturing Firms 171
  A.4.1 Separability of Technology 173
A.5 Aggregation Theory under Homogeneity 174
  A.5.1 The Consumer 174
  A.5.2 The Manufacturing Firm 177
  A.5.3 The Financial Intermediary 183
  A.5.4 Summary of Aggregator Functions 185
  A.5.5 Subaggregation 185
A.6 Index-Number Theory under Homogeneity 186
  A.6.1 The Consumer and the Manufacturing Firm 187
  A.6.2 The Financial Intermediary 189
A.7 Aggregation Theory without Homogeneity 191
  A.7.1 The Consumer and the Manufacturing Firm 192
  A.7.2 The Financial Intermediary 196
A.8 Index-Number Theory under Nonhomogeneity 197
  A.8.1 The Consumer and the Manufacturing Firm 197
  A.8.2 The Financial Intermediary 199
  A.8.3 Subaggregation 199
A.9 Aggregation over Consumers and Firms 200
A.10 Technological Change 202
A.11 Value Added 204
A.12 Macroeconomic and General Equilibrium Theory 206
  A.12.1 The Utility Production Function 210
  A.12.2 Velocity Function 210
A.13 Aggregation Error from Simple Sum Aggregation 213
A.14 Conclusion 215
B Discounted Capital Stock of Money with Risk Neutrality 217
B.1 Introduction 217
B.2 Economic Stock of Money (ESM) under Perfect Foresight 218
B.3 Extension to Risk 220
B.4 CE and Simple Sum as Special Cases of the ESM 221
B.4.1 The CE Index 221
B.4.2 The Simple-Sum (SSI) Index 222
B.5 Measurement of the Economic Stock of Money 223

C Multilateral Aggregation within a Multicountry Economic Union 225
C.1 Introduction 225
C.2 Definition of Variables 227
C.3 Aggregation within Countries 230
C.4 Aggregation over Countries 231
C.5 Special Cases 238
C.5.1 Purchasing Power Parity 238
C.5.2 Multilateral Representative Agent over the Economic Union 239
C.5.3 Multilateral Representative Agent with Heterogeneous Tastes 239
C.5.4 Multilateral Representative Agent with Homogeneous Tastes 247
C.5.5 Unilateral Representative Agent over the Economic Union 250
C.6 Interest Rate Aggregation 252
C.7 Divisia Second Moments 253
C.8 Conclusion 254

D Extension to Risk Aversion 257
D.1 Introduction 257
D.2 Consumer Demand for Monetary Assets 260
D.2.1 The Decision 260
D.2.2 Existence of a Monetary Aggregate for the Consumer 262
D.3 The Perfect-Certainty Case 263
D.4 The New Generalized Divisia Index 263
D.4.1 The User Cost of Money under Risk Aversion 263
D.4.2 The Generalized Divisia Index under Risk Aversion 267
### Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.5 The CCAPM Special Case</td>
<td>269</td>
</tr>
<tr>
<td>D.6 The Magnitude of the Adjustment</td>
<td>273</td>
</tr>
<tr>
<td>D.7 Intertemporal Nonseparability</td>
<td>273</td>
</tr>
<tr>
<td>D.8 Consumer’s Nonseparable Optimization Problem</td>
<td>275</td>
</tr>
<tr>
<td>D.9 Extended Risk-Adjusted User Cost of Monetary Assets</td>
<td>277</td>
</tr>
<tr>
<td>D.9.1 The Theory</td>
<td>277</td>
</tr>
<tr>
<td>D.9.2 Approximation to the Theory</td>
<td>283</td>
</tr>
<tr>
<td>D.10 Conclusion</td>
<td>288</td>
</tr>
<tr>
<td>E The Middle Ground: Understanding Divisia Aggregation</td>
<td>289</td>
</tr>
<tr>
<td>E.1 Introduction</td>
<td>289</td>
</tr>
<tr>
<td>E.2 The Divisia Index</td>
<td>290</td>
</tr>
<tr>
<td>E.3 The Weights</td>
<td>292</td>
</tr>
<tr>
<td>E.4 Is It a Quantity or Price Index?</td>
<td>295</td>
</tr>
<tr>
<td>E.5 Stocks versus Flows</td>
<td>297</td>
</tr>
<tr>
<td>E.6 Conclusion</td>
<td>298</td>
</tr>
</tbody>
</table>

References 299

Index 313