CREDIBILITY AND THE INTERNATIONAL MONETARY REGIME

The present global monetary regime is based on change to floating exchange rates among the major advanced countries. A key underlying factor behind the present regime is credibility to maintain stable monetary policies. The origin of credibility in monetary regimes goes back to the pre-1914 classical gold standard. In that regime, adherence by central banks to the rule of convertibility of national currencies in terms of a fixed weight of gold provided a nominal anchor to the price level. Between 1914 and the present, several monetary regimes gradually moved away from gold, with varying success in maintaining price stability and credibility. In this book, the editors present ten studies combining historical narrative with econometrics that analyze the role of credibility in four monetary regimes, from the gold standard to the present managed float.

Michael D. Bordo is professor of economics and director of the Center for Monetary and Financial History at Rutgers University, New Brunswick, New Jersey. He is a research associate of the National Bureau of Economic Research, Cambridge, Massachusetts. He holds a BA from McGill University, an MSc(Econ) from the London School of Economics, and a PhD from the University of Chicago. He has published many articles in leading journals in monetary economics and economic history. Recent publications include A Retrospective on the Bretton Woods International Monetary System (1993, with Barry Eichengreen), The Defining Moment: The Great Depression and the American Economy in the Twentieth Century (1998, with Claudia Goldin and Eugene White), Essays on the Gold Standard and Related Regimes (Cambridge University Press 1999, paperback 2005), and Globalization in Historical Perspective (2003, with Alan Taylor and Jeffrey Williamson).

Ronald MacDonald is currently the Adam Smith Professor of Political Economy at the University of Glasgow. He is also a Fellow of the Royal Society of Edinburgh, Research Fellow of the CESifo Research Network Munich, and an International Fellow of the Kiel Institute of Economics. He holds a BA in economics from Heriot Watt University, Edinburgh, and an MA and PhD from the University of Manchester. He has published widely in the areas of macroeconomics, monetary economics, and international finance in journals such as the Journal of Monetary Economics, Journal of Money, Credit and Banking; Economic Journal; and European Economic Review. His recent books include Exchange Rate Economics: Theories and Evidence (2007), The Political Economy of Financing Scottish Government (2009, with C. Paul Hallwood), and Currency Union and Exchange Rate Issues (2010, with Abdulrazak Al Faris).
Studies in Macroeconomic History

Series Editor:
Michael D. Bordo, Rutgers University

Editors:
Marc Flandreau, Institut d'Etudes Politiques de Paris
Chris Meissner, University of California, Davis
François Velde, Federal Reserve Bank of Chicago
David C. Wheelock, Federal Reserve Bank of St. Louis

The titles in this series investigate themes of interest to economists and economic historians in the rapidly developing field of macroeconomic history. The four areas covered include the application of monetary and finance theory, international economics, and quantitative methods to historical problems; the historical application of growth and development theory and theories of business fluctuations; the history of domestic and international monetary, financial, and other macroeconomic institutions; and the history of international monetary and financial systems. The series amalgamates the former Cambridge University Press series Studies in Monetary and Financial History and Studies in Quantitative Economic History.

Other Books in the Series:
Howard Bodenhorn, A History of Banking in Antebellum America [9780521662857, 9780521669993]
Michael D. Bordo, The Gold Standard and Related Regimes [9780521550062, 9780521022941]
Michael D. Bordo and Forrest Capie (eds.), Monetary Regimes in Transition [9780521419062]
Michael D. Bordo and Roberto Cortés-Conde (eds.), Transferring Wealth and Power from the Old to the New World [9780521773058, 9780511664793]
Claudio Borio, Gianni Toniolo, and Piet Clement (eds.), Past and Future of Central Bank Cooperation, [9780521877794, 9780511510779]
Richard Burdekin and Pierre Siklos (eds.), Deflation: Current and Historical Perspectives [9780521837796, 9780511607004]
Trevor J. O. Dick and John E. Floyd, Canada and the Gold Standard [9780521404082, 9780521617062]
Barry Eichengreen, Elusive Stability [9780521365383, 9780521448475, 9780511664397]
Barry Eichengreen (ed.), Europe's Postwar Recovery [9780521482790, 9780521030786]
Caroline Fohlin, Finance Capitalism and Germany's Rise to Industrial Power [9780521810203, 9780511510908]

(Continued after index)
Contents

List of Figures page ix
List of Tables xi
List of Contributors xiii

I. INTRODUCTION
1. Credibility in Fixed Exchange Rate Regimes: Theoretical and Historical Perspectives 3
   Michael D. Bordo and Ronald MacDonald

II. THE CLASSICAL GOLD STANDARD
2. Credibility and Fundamentals: Were the Classical and Inter-War Gold Standards Well-Behaved Target Zones? 17
   C. Paul Hallwood, Ronald MacDonald, and Ian W. Marsh
3. Interest Rate Interactions in the Classical Gold Standard, 1880–1914: Was There Any Monetary Independence? 46
   Michael D. Bordo and Ronald MacDonald
4. Realignment Expectations and the U.S. Dollar, 1890–1897: Was There a "Peso Problem"? 71
   C. Paul Hallwood, Ronald MacDonald, and Ian W. Marsh

III. THE INTER-WAR PERIOD
5. The Inter-War Gold Exchange Standard: Credibility and Monetary Independence 89
   Michael D. Bordo and Ronald MacDonald
6. Crash! Expectational Aspects of the UK's and the U.S.'s Departures from the Inter-War Gold Standard 116
   C. Paul Hallwood, Ronald MacDonald, and Ian W. Marsh
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Did Impending War in Europe Help Destroy the Gold Bloc in 1936? An Internal Inconsistency Hypothesis</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>C. Paul Hallwood, Ronald MacDonald, and Ian W. Marsh</td>
<td></td>
</tr>
<tr>
<td>IV.</td>
<td><strong>Bretton Woods</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Michael D. Bordo, Ronald MacDonald, and Michael J. Oliver</td>
<td></td>
</tr>
<tr>
<td>V.</td>
<td><strong>The European Monetary System Period</strong></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>On the Mean-Reverting Properties of Target Zone Exchange Rates: Some Evidence from the ERM</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Myrvin Anthony and Ronald MacDonald</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Credibility and Interest Rate Discretion in the ERM</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td>Hali Edison and Ronald MacDonald</td>
<td></td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>223</td>
</tr>
<tr>
<td>Index</td>
<td></td>
<td>235</td>
</tr>
</tbody>
</table>
Figures

2.1. Exchange rate in a target zone page 22
2.2. Expected realignment rate, 100% confidence interval 25
2.3. Expected realignment rate, 95% confidence interval 29
2.4. Expected realignment rate, 95% confidence interval 29
2.5. Expected realignment rate, 95% confidence interval 30
2.6. Expected realignment rate, 95% confidence interval 30
2.7. Spot rate and gold points 35
2.8. Expected realignment rate, 100% confidence interval 35
2.9. Expected realignment rate, 95% confidence interval 36
2.10. Expected realignment rate, 95% confidence interval 37
2.11. Expected realignment rate, 95% confidence interval 38
2.12. Expected realignment rate, 95% confidence interval 38
3.1. Data for the UK-German system 55
3.2. Impulse response functions for system 2 65
3.3. Impulse response functions for system 3 67
4.1. One hundred percent confidence interval 73
4.2. The probability of devaluation 80
4.3. Decomposition of the interest differential into a risk premium and Peso effect 81
5.1. Impulse responses for \( i_t = \alpha + \beta i_{t-1} + \gamma i_{L,t} + \delta \text{ Prices}_t + \eta \text{ Output}_t + \phi \text{ Gold}_t + \varepsilon_t \) 101
5.2. Impulse responses for \( i_t = \alpha + \beta i_{t-1} + \gamma i_{L,t} + \delta \text{ Prices}_t + \eta \text{ Output}_t + \phi \text{ Gold}_t + \varepsilon_t \) 107
5.3. Impulse responses for \( i_t = \alpha + \beta i_{t-1} + \gamma i_{L,t} + \delta \text{ Prices}_t + \eta \text{ Output}_t + \phi \text{ Gold}_t + \varepsilon_t \) 108
5.4. Impulse responses for \( i_t = \alpha + \beta i_{t-1} + \gamma i_{L,t} + \delta \text{ Prices}_t + \eta \text{ Output}_t + \phi \text{ Gold}_t + \varepsilon_t \) 109
5.5. Impulse responses for \( i_t = \alpha + \beta i_{t-1} + \gamma i_{L,t} + \delta \text{ Prices}_t + \eta \text{ Output}_t + \phi \text{ Gold}_t + \varepsilon_t \) 110
5.6. Impulse responses for $i_t = \alpha + \beta i^*_t + \gamma i_{L,t} + \delta \text{Prices}_t + \eta \text{Output}_t + \phi \text{Gold}_t + \epsilon_t$

5.7. Impulse responses for $i_t = \alpha + \beta i^*_t + \gamma i_{L,t} + \delta \text{Prices}_t + \eta \text{Output}_t + \phi \text{Gold}_t + \epsilon_t$

6.1. Expected rate of realignment, 95% confidence interval, sterling-dollar

6.2. Expected rate of realignment, 95% confidence interval, franc-dollar

6.3. Fitted devaluation expectations, sterling-dollar

6.4. Impulse responses

7.1. Short-term interest rate spread, %

7.2. French minus Swiss monthly short and long interest rate differentials

7.3. French minus Swiss interest rate gaps

7.4. French minus Dutch short and long interest differentials

7.5. French minus Dutch interest rate gaps

8.1. Spot and ninety-day forward exchange rate, 1963–November 17, 1967

8.2. Ninety-five percent confidence interval, 1963–1967

8.3. Daily changes in total reserves, October 1, 1964–November 17, 1967

8.4. Recursive estimates of the co-efficient on total reserves

10.1. Co-movements of interest rates
Tables

2.1. Variance ratio tests of classical gold standard exchange rates  page 27
2.2. Expected change in exchange rate within the band – classical period  28
2.3. Expected change in exchange rate within the band – inter-war period  33
2.4. Variance ratio tests of inter-war gold standard rates  34
2.5. Fundamental determinants of realignment expectations – classical  40
2.6. Fundamental determinants of realignment expectations – inter-war  41
3.1. FIML estimates of interest-rate parity  58
3.2. Error correction system for UK-France  60
3.3. Error correction system for UK-Germany  61
3.4. Error correction system for France-Germany  62
3.5. Trivariate systems  64
4.1. U.S. monetary and other "events" impacting exchange rate expectations, 1878–1897  75
4.2. FIML estimation results, 1890–1902 to 1908–1912  78
5.1. Co-integration tests of UIP  96
5.2. Co-integration tests of UIP and term structure  100
5.3a. Long-run estimates for system 3  104
5.3b. Long-run estimates for system 3  105
6.1. Expected change in exchange rate within the band  119
6.2. Fundamental determinants of realignment expectations  123
6.3. Three phases of the dollar after the UK leaving and the U.S. suspension of the gold standard  125
6.4. Granger causality between devaluation expectations, gold flows, and banking crises 128
7.1. Four major events used in the event analysis 138
7.2. Variance ratio test for mean reversion of Gold Bloc exchange rates, December 1926–September 1936 141
8.1. UK currency reserves, October 1964–December 1967 165
8.3. Regressions of the expected rate of realignment on the change in reserves 171
8.4. Total reserve reaction functions 172
9.1. Dickey-Fuller \((\tau_{\mu})\) test for unit roots 185
9.2. Dickey-Fuller \((\tau_{\mu})\) test for unit roots 188
9.3. Dickey-Fuller \((\tau_{\mu})\) test for unit roots 188
9.10. Variance ratio statistics and significance levels. Exchange rate: DK/IL 196
9.12. Panel unit-root tests 201
10.1. Multivariate unit-root tests 210
10.2. Numbers of co-integrating relationships in the trivariate ERM systems 211
10.3. Estimates of the unrestricted \(\beta\) and \(\alpha\) vectors 212
10.4. Hypothesis tests on \(\beta\) and \(\alpha\), where \(x = [i^{\text{own}}, i^{\text{imp}}, \text{con}]'\) 213
10.5a. Estimated values of H1 to H4 215
10.5b. Estimated values of H5 to H8 215
10.6. Implied half-lives (in days) 216
10.7. Estimated values of H1 to H4 for sub-sample 1987–1991 218
Contributors

Myrvin Anthony, International Monetary Fund
Michael D. Bordo, Rutgers University
Hali Edison, International Monetary Fund
C. Paul Hallwood, University of Connecticut
Ronald MacDonald, University of Glasgow
Ian W. Marsh, Cass Business School
Michael J. Oliver, ESC Rennes School of Business