

INTERNATIONAL MONEY AND FINANCE



**C. PAUL HALLWOOD
& RONALD MacDONALD**



**SECOND
EDITION**

International Money and Finance

*C. Paul Hallwood
and
Ronald MacDonald*

SECOND EDITION



BLACKWELL
Oxford UK & Cambridge USA

Copyright © C. Paul Hallwood and Ronald MacDonald 1986, 1994

The right of C. Paul Hallwood and Ronald MacDonald to be identified as author of this work has been asserted in accordance with the Copyright, Designs and Patents Act 1988.

First published 1986
Second edition 1994
Reprinted 1995 (twice)

Blackwell Publishers Ltd
108 Cowley Road
Oxford OX4 1JF, UK

Blackwell Publishers Inc.
238 Main Street
Cambridge, Massachusetts 02142
USA

All rights reserved. Except for the quotation of short passages for the purposes of criticism and review, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

Except in the United States of America, this book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

British Library Cataloguing in Publication Data

A CIP catalogue record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Hallwood, Paul.

International money and finance / C. Paul Hallwood and Ronald MacDonald. — 2nd ed.
p. cm.

Previous ed. published under title: International money. 1986

Includes bibliographical references and index.

ISBN 0-631-18149-0 (acid-free paper).— ISBN 0-631-18151-2 (pbk, acid-free paper)

1. International finance. I. MacDonald, Ronald. II. Hallwood, Paul. International money. III. Title.

HG3881.H255 1994

332.4'5 — dc20

93-25078
CIP

Typeset in 10 on 12pt Times by Colset Pte Ltd, Singapore
Printed and bound in Great Britain by Hartnolls Limited, Bodmin, Cornwall

This book is printed on acid-free paper

List of Figures

- 3.1 Elasticities view of exchange rate determination
- 3.2 Intervention in the foreign exchange market
- 3.3 The Marshall–Lerner condition
- 3.4 Devaluation, export supply and export earnings
- 3.5 The J curve
- 3.6 Determining the forward exchange rate
- 3.7 The neutral band
- 4.1 The Swan diagram of internal and external balance
- 4.2 Wrong pairing of monetary and fiscal policy
- 4.3 Correct pairing of monetary and fiscal policy
- 4.4 Equilibrium national income in an open economy
- 4.5 Import prices and the balance of trade
- 4.6 American and Japanese trade balance and income interdependence
- 4.7 An autonomous increase in US expenditure
- 4.8 An autonomous switch in expenditure from home to foreign goods
- 4.9 Co-operative economic expansion to end a recession
- 4.10 Locomotive expansion
- 5.1 The Mundell–Fleming model
- 5.2 Monetary expansion in the Mundell–Fleming model
- 5.3 Fiscal policy and the Mundell–Fleming model
- 5.4 The insulation properties of the Mundell–Fleming model with respect to a foreign interest rate shock
- 5.5 Monetary expansion and imperfect capital mobility
- 5.6 Fiscal expansion and imperfect capital mobility
- 5.7 Completely immobile capital: (a) open economy equilibrium with constrained capital flow; (b) adjustment with constrained capital flow
- 5.8 Monetary and fiscal policy and regressive expectations
- 5.9 Fiscal expansion and the general price index
- 5.10 The supply side and the Mundell–Fleming model
- 5.11 Expansionary fiscal policy, $\lambda = 1$
- 5.12 Expansionary monetary policy, $\lambda = 0$
- 5.13 Expansionary monetary policy, $\lambda = 1$

- 6.1 Floating exchange rates and the two-country Mundell-Fleming model
- 6.2 Fixed exchange rates and the two-country Mundell-Fleming model
- 6.3 Effects of a US fiscal expansion in the McKibben-Sachs model
- 6.4 Effects of a US monetary expansion in the McKibben-Sachs model
- 6.5 The Hamada diagram
- 7.1 Sterling-dollar real and nominal exchange rates
- 7.2 Deutschmark-dollar real nominal exchange rates
- 7.3 Japanese yen-dollar real and nominal exchange rates
- 8.1 Devaluation and the price level in a two-country global monetary approach to the balance of payments model
- 8.2 Devaluation by a small country
- 8.3 Domestic credit expansion in a two-country global monetary approach to the balance of payments model
- 9.1 Overshooting and the sticky-price model
- 9.2 s , p and i over time in the 'overshooting' model
- 10.1 Assets, the exchange rate and the current account
- 10.2 Asset market equilibrium
- 10.3 Goods market equilibrium
- 10.4 Asset and goods market equilibrium in the portfolio balance model
- 10.5 An open market purchase of bonds for money
- 10.6 The adjustment profiles of (a) the trade account, (b) the capital account and (c) the exchange rate
- 10.7 An increase in the supply of bonds
- 10.8 A shift in asset preferences
- 11.1 Deutschmark-US dollar spot and (lagged) forward rates
- 11.2 Pound sterling-US dollar spot and (lagged) forward rates
- 11.3 Deutschmark-US dollar actual changes and forward premia
- 11.4 Pound sterling-US dollar actual changes and forward premia
- 11.5 Deutschmark-US dollar actual and expected changes
- 11.6 Pound sterling-US dollar actual and expected changes
- 11.7 Market efficiency with constant equilibrium return
- 11.8 Market efficiency with non-constant equilibrium return
- 12.1 A point-and-figure chart: US dollars per pound sterling
- 12.2 The head-and-shoulders reversal pattern
- 14.1 Real shocks and income instability
- 14.2 Monetary shocks and income instability
- 14.3 German and some other countries' real interest rates, 1987-92
- 14.4 (a) Target zone honeymoon effect and smooth pasting; (b) probability distribution of $m + v$
- 14.5 Autonomous rise in the average propensity to consume
- 14.6 Fiscal expansion by country A
- 14.7 External diseconomies in the EC
- 15.1 Dollar and Eurodollar interest rates
- 15.2 Efficient foreign currency portfolios locus for Germany, 1979.II-1985.IV
- 15.3 Efficiency loci for US-only and unhedged internationally diversified portfolios, 1978-88
- 16.1 Balance of payments adjustment with resource mobility
- 16.2 Balance of payments adjustment with resource immobility

- 18.1 Interrelationships in the reform process
- 19.1 Developing countries: real gross domestic product per capita
- 19.2 Developing countries, excluding Eastern Europe and the former USSR:
external debt and debt service
- 19.3 Discounted debt and free-riders
- 20.1 Optimal reserves and speed of adjustment

List of Tables

- 2.1 Exchange rates, Friday 19 February 1993
- 2.2 Balance of payments accounts
- 2.3 Balance of payments accounts, 1990
- 2.4 Large six-month percentage changes in the deutschmark-dollar exchange rate since 1973 ranked by size of change
- 2.5 Coefficients of variation of three bilateral dollar exchange rates and some 'fundamentals'
- 3.1 Representative elasticity estimates, USA
- 3.2 Some estimates of risk premiums
- 5.1 Effect of policy shocks on Y and P
- 6.1 The two-country Mundell-Fleming model
- 6.2 The prisoner's dilemma and the Nash-Cournot equilibrium
- 8.1 The offset coefficient and the monetary approach to the balance of payments
- 9.1 Predicted values for coefficients in three exchange rate models
- 12.1 Monetary news and the exchange rate in two periods of floating exchange rates
- 13.1 Economic variables in the USA and the UK under the gold standard and since the Second World War
- 13.2 The impact of changes in the gold-reserve ratio, the real demand for currency, the real demand for gold and the total monetary stock on the world price level, 1926-32
- 14.1 Valuation of the ECU
- 15.1 Net international capital flows
- 15.2 Balance of payments disequilibria and the growth of Eurocurrency debt
- 15.3 Use of the ECU as a currency
- 15.4 Private ECU international bond issues
- 16.1 Economic policies and average economic rates of return for projects financed by the World Bank and IFC, 1969-89
- 17.1 Financial depth, saving and growth in developing countries, 1965-87

- 18.1 Currency convertibility, nominal and real exchange rates in several formerly centrally planned economies
- 19.1 The effect of exogenous shocks on the external debt of non-oil developing countries
- 20.1 Exchange rate regimes

Preface to the Second Edition

The subject of international finance is developing faster than most other subjects in the field of economics. During the course of the last two decades, and especially in the last four or five years, the degree of international financial integration has increased enormously. All major country groups – OECD, developing country and, newest of all, the formerly centrally planned economies – are experiencing vastly increased cross-border flows of money and capital. Almost as rapidly growing is the mass of serious literature that is trying to describe and understand these developments. Important new developments have appeared in areas as diverse as the behaviour of exchange rates within a target zone such as the exchange rate mechanism of the European Monetary System (EMS); the theory of the optimal course of financial integration by countries previously divorced from the international circuit of capital; explanations for why real exchange rates wander away for long periods from purchasing power parity, so disturbing real economic activity; how misinformed speculation and speculative bubbles cause floating exchange rates to be unstable and largely unpredictable; and on how best to reform the international monetary system. And, as you will see, there is a lot more.

A glance at the bibliography gives some idea of the vast amount that has been written on international money and finance in the last several years. What you see there is only the tip of the metaphorical iceberg – we have tried to limit citations to the most important or, at least, to the best of those which crossed our desks. Apologies to all those authors of excellent papers that we have not got around to citing. To the first edition we have added new chapters on elementary theory (chapters 2, 3 and 4), international policy co-ordination (chapter 6), expectational failures and the questioning of the efficient market hypothesis (chapter 12), a statistical outline of international financial flows (chapters 1 and 15), the order of liberalization in developing countries (chapter 17), integration of the formerly centrally planned economies into the international financial economy (chapter 18) and international monetary reform (chapter 20). All of the other chapters have been updated and substantially revised and new material has been added.

The emphasis of our endeavour has been to describe the most significant

modern theoretical institutional developments in the field and to examine the most important empirical research. We have also emphasized accessibility of the material to students with moderate levels of mathematics – intuitive, but nevertheless often quite rigorous, explanations appear alongside mathematical arguments. However, we have made as an important feature of the book an emphasis on the application of econometrics to the study of international finance. We realize that many students and teachers will not wish to get into as much econometric detail as we offer. For this reason the more advanced, indeed quite often ‘state of the art’, econometrics has been separated into sections marked with asterisks. Specialists in econometrics should find these sections a useful insight into how econometrics is being used in international finance today. Non-specialist econometricians may simply omit them without loss of continuity. We also hope that graduate students embarking on their first substantial empirical investigations in the area of international finance will find the sections marked with an asterisk useful points of departure for their own research.

The book is aimed at second- and third-year undergraduate and graduate courses in international economics or international finance at British, other European, Canadian, Australian, New Zealand, and Indian and other Asian Universities. Undergraduates will probably want to omit the asterisked sections. In the USA graduate students will find the level acceptable.

The authors welcome comments on any of the material in the book. Also, they would like to thank the following people who have already offered helpful comments: Polly Reynolds Allen (University of Connecticut), Michael Artis (University of Manchester), Roy Batchellor (City University), Alpha Chiang (University of Connecticut), Paul Hare (Heriot Watt University), Panos Hatzipanayotou (University of Connecticut), Andrew Hughes Hallett (University of Strathclyde), Andreas Karapatakis (Central Bank, Cyprus), Steven Miller (University of Connecticut), Susan Randolph (University of Connecticut), Stephen Sacks (University of Connecticut), Robert Shaw (University of Aberdeen), Scott Summer (Bentley College), Mark Taylor (IMF), Tom Torrance (Heriot Watt University), Hans Visser (Free University) and Immanuel Wexler (University of Connecticut). The authors are grateful to Ian Marsh for producing some of the diagrams in chapters 7 and 11.

Paul Hallwood,
Department of Economics U-63
University of Connecticut
Storrs, CT 06269
USA

Ronald MacDonald
Department of Economics
University of Strathclyde
100 Cathedral Street
Glasgow G4 0LN, Scotland

April, 1993

Contents

List of Figures	x
List of Tables	xiii
Preface to the Second Edition	xv
1 Introduction	1
1.1 The internationalization of finance	1
1.2 The chapters	6
2 Some Basic Concepts in International Finance	13
2.1 The exchange rate	13
2.2 The balance of payments accounts	17
2.3 Purchasing power parity	21
2.4 Floating exchange rates: prospect and retrospect	22
2.5 Exchange rate volatility	25
3 Spot and Forward Exchange Rates: Some More Basic Ideas	27
3.1 The elasticities view of the exchange rate	27
3.2 The forward exchange rate, arbitrage and pure speculation	36
3.3 Covered interest rate parity – empirical evidence	42
3.4 Uncovered interest rate parity – empirical evidence	44
3.5 Real interest rate parity – empirical evidence	45
4 Income and the Balance of Payments	48
4.1 The foreign trade multiplier	48
4.2 An early view of economic management: the Swan diagram	49
4.3 The assignment problem	51
4.4 The absorption approach	52
4.5 Twin deficits	56
4.6 Foreign repercussions with no capital mobility	58

5	Macroeconomics in an Open Economy:	
	The Mundell–Fleming Model and Some Extensions	64
5.1	The ‘base-line’ Mundell–Fleming model	65
5.2	The large country case	71
5.3	Insulation and the Mundell–Fleming model	72
5.4	Imperfect capital mobility and the Mundell–Fleming model	74
5.5	Regressive expectations and monetary–fiscal policy	76
5.6	The J curve effect and regressive expectations	79
5.7	Wealth effects	80
5.8	Aggregate supply, the real balance effect and the exchange rate in the Mundell–Fleming model	81
5.9	Summary of conclusions	87
6	International Policy Co-ordination	89
6.1	The two-country Mundell–Fleming model and macroeconomic interdependence	90
6.2	The potential gains from policy co-ordination	100
6.3	Dynamic games, and the sustainability and reputation credibility of international co-operation	107
6.4	Some evidence on the potential benefits of co-ordination	110
6.5	Potential impediments to policy co-ordination and the appropriate form of such co-ordination	111
7	Purchasing Power Parity: Theory and Evidence	116
7.1	The absolute and relative purchasing power parity concepts	117
7.2	The efficient markets view of purchasing power parity	119
7.3	Further interpretation of purchasing power parity	120
7.4	Some further criticisms of purchasing power parity	122
7.5	The empirical validity of purchasing power parity	126
7.6	Concluding comments	132
8	The Monetary Approach to the Balance of Payments	134
8.1	What is so different about the monetary approach?	135
8.2	The global monetarist model	138
*8.3	Sterilization and the reserve offset coefficient	147
8.4	The international transmission of inflation: some evidence	152
9	The Monetary View of Exchange Rate Determination	155
9.1	The asset approach to the exchange rate	156
9.2	The flex-price monetary approach to the exchange rate	158
9.3	Introducing expectations	161
9.4	Rational speculative bubbles	164
9.5	The sticky-price monetary approach	166
9.6	Currency substitution	171
*9.7	Empirical evidence on the monetary model	175

*9.8	More empirical evidence	179
*9.9	Empirical tests for the existence of speculative bubbles	180
9.10	Concluding comments	182
10	The Portfolio Balance Approach to the Determination of the Exchange Rate	186
10.1	The portfolio balance model	189
10.2	Open market purchase of bonds: monetary policy	194
10.3	An increase in the supply of domestic bonds: fiscal policy	197
10.4	Asset preference shift	198
*10.5	Econometric evidence on the portfolio balance approach	199
10.6	Summary and concluding comments	203
11	Spot and Forward Exchange Rates and the Efficient Markets Hypothesis	206
11.1	Spot and forward exchange rates	207
11.2	The efficient markets hypothesis and the forward market for foreign exchange	212
*11.3	Econometric estimation of the efficient markets hypothesis	216
*11.4	A risk premium story to explain why β may not be unity	220
*11.5	Empirically implementing equation (11.20)	224
11.6	Concluding comments	230
12	Expectational Explanations for the Rejection of the Efficient Markets Hypothesis and the 'News'	233
12.1	Peso effects, rational speculative bubbles and econometric inference	234
12.2	Technical analysis and chartism	236
*12.3	Survey data, expectations and risk	244
12.4	The news approach to exchange rate modelling	247
*12.5	Empirical studies of the news approach	248
12.6	The noise-trader paradigm	252
13	Historical Review of International Monetary Arrangements	256
13.1	The international gold standard	257
13.2	The Bretton Woods system to 1971	263
13.3	The dollar standard	268
13.4	The dollar standard in an era of volatile exchange rate expectations	271
14	The European Monetary System and Monetary Union	274
14.1	Benefits and costs of a currency area	274
14.2	Origins of the European Monetary System	279
14.3	How successful has the European Monetary System been?	282
14.4	The Delors Committee report on monetary union	284

14.5	Target zones	287
14.6	Fiscal federalism	292
14.7	More on fiscal policy in a monetary union	293
15	International Money and Capital Flows	301
15.1	International money and capital flows	301
15.2	Eurobanking	302
15.3	International bond markets	311
15.4	Direct foreign investment	316
16	Developing Countries, Balance of Payments Adjustment and the International Monetary Fund	322
16.1	Developing country exchange rate arrangements	323
16.2	The International Monetary Fund: its role	325
16.3	The International Monetary Fund's monetary approach to the balance of payments	327
16.4	New structuralist arguments against International Monetary Fund adjustment policies	329
17	The Order of Liberalization in Developing Countries	338
17.1	Distortions and economic performance	339
17.2	Unhappy experience with financial liberalization	343
17.3	The order of liberalization	345
18	The Formerly Centrally Planned Economies and the International Financial Economy	351
18.1	Economic reform and the move to currency convertibility	352
18.2	Catch-up scenarios and capital flows	353
18.3	Effect on the world economy	356
18.4	Exchange rates	356
18.5	Dismantling the rouble zone	357
18.6	The order of liberalization in the formally centrally planned economy	358
19	International Debt	365
19.1	The debt problem	365
19.2	Growth of international debt	366
19.3	Debt and economic growth	369
19.4	Capital flight	371
19.5	Governmental and national foreign indebtedness	372
19.6	The lenders' trap	373
19.7	Some debt reform proposals	374
19.8	An international debt facility	377

20	International Monetary Reform	380
20.1	Financing or adjustment?	381
20.2	Designing an international monetary system	383
20.3	The costs and benefits of flexible exchange rates	387
20.4	Alternative plans for the reform of the international monetary system	390
	Bibliography	396
	Author Index	426
	Subject Index	432

1 *Introduction*

In this book we build the tools needed to understand international finance and we apply them to a wide selection of issues – including among other things the operation, modelling and efficiency of foreign exchange markets, the history and future of the international monetary system, international macroeconomic policy co-ordination, international financial aspects of economic and financial reform in both the formerly centrally planned economies and the developing countries, monetary union in the European Community (EC), the international debt crisis, the functioning of international institutions such as the International Monetary Fund (IMF), the European Monetary System (EMS), international banking, and the rapid recent growth in international trading in bonds, equity and other financial instruments. We begin here with a brief description of the internationalization of finance – a factor which is driving many developments in economic theory and which is intimately related to many of the topics that we discuss in later chapters.

1.1 The internationalization of finance

In 1992, according to the Bank of England, the *daily* volume of foreign exchange transactions was \$1,000,000,000,000 (i.e. \$1 *trillion*), up from \$650 billion in 1989. By contrast, in 1991 the *annual* value of world trade was \$3.58 trillion, up from \$3 trillion in 1989.¹ This makes international currency flows about 100 times larger than trade flows, up from 80 times only two years earlier. Indeed, there has been an ‘explosion’ of international financial flows over the last decade. London is the largest foreign exchange market with, in 1992, \$300 billion of daily transactions in foreign exchange, followed in importance by New York and Tokyo.

As well as transactions in foreign exchange there are massive international financial transactions in domestic, foreign and Euro bonds, equities and derivative financial instruments. These transactions are partly responsible for the massive volume of trading in foreign currencies. There is also the very substantial international activity of banks. According to the Bank for International

Settlements, the *gross* stock of international bank credit at end-1991 amounted to \$7.5 trillion, or 44 per cent of OECD gross domestic product (GDP), up from just 4 per cent in 1980.² Even in an era when direct foreign investment³ is growing enormously, with an outstanding stock reaching \$1.7 *trillion* end-1991, banking is one of the most internationalized of all industries. The foreign networks of the 100 largest banks taken together in 1985 amounted to over 4600 foreign offices: American banks had most (884), followed by French, Japanese, British and German.⁴ The numbers are certainly larger today. Citicorp, the largest international bank, had 240 offices operating in 88 countries and its foreign operations were so considerable that they accounted for roughly one-half of, respectively, its assets, deposits and labour force. Barclays, the largest British international bank, had 187 foreign offices in 77 countries, and its foreign operations accounted for just short of one-third of its assets, deposits and employment. Japanese banks have recently entered the world stage on a big scale. Mergers by EC banks have accelerated in the last several years with, in 1990, 58 cross-border mergers between EC banks and a further 60 between EC banks and banks outside of the EC area.⁵

The spread of foreign branches, both in the banking and non-bank financial sectors, is important because it has provided a more efficient conduit through which much international finance moves. Moreover, dozens of cross-border acquisitions by commercial banks of investment banks and brokerage houses have occurred during the last decade with link-ups between American, Japanese and British finance houses being especially important as New York, Tokyo and London are the leading financial centres. Banks were especially active in acquiring securities firms. Three such examples are the tie-ups between Fuji Bank and the American merchant bank Walter E. Heller, Security Pacific and the British merchant bank Hoare Govett, and Citicorp and the British brokerage house Schrimgeour Kemp Gee.⁶ Tie-ups such as these allow commercial banks to circumvent legislation such as the USA's Glass-Steagall Act (1933). This type of legislation is designed to separate commercial from investment (merchant) banking with the aim of increasing the soundness of commercial banks and the payments systems which they operate. Investment banking, e.g. the underwriting of share or bond issues, is inherently risky and so the reintegration of the two types of banking may have its dangers. In effect, by owning an investment bank a commercial bank is able to add equity instruments to its asset portfolio, thereby potentially increasing the riskiness of the portfolio.

Causes of internationalization

Several factors have driven the internationalization of finance during the last decade or so. The main ones are the cheapening of international financial transactions by low cost computer technology; financial deregulation, i.e. the lifting in virtually all industrial countries of quantitative controls on foreign exchange transactions and regulatory constraints on lending and restrictions on the composition of institutional investors' portfolios; the spread of markets in financial instruments to increasing numbers of countries; the development of a strong desire for international diversification on the part of portfolio-holders with the objective of reducing portfolio risk; the increased supply of financial