International Economics

INTERNATIONAL ECONOMICS

Bo Södersten

and

Geoffrey Reed

Third Edition

© Bo Södersten 1970, 1980; Bo Södersten and Geoffrey Reed 1994

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission.

No paragraph of this publication may be reproduced, copied or transmitted save with written permission or in accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, 90 Tottenham Court Road, London W1P 9HE.

Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

First published in the USA 1970

First published in the UK 1971

Reprinted eight times

Second edition 1980

Reprinted eleven times

Third edition 1994

Published by

MACMILLAN PRESS LTD

Houndmills, Basingstoke, Hampshire RG21 6XS

and London

Companies and representatives

throughout the world

International edition 978-0-333-76365-0

ISBN 978-0-333-76365-0

ISBN 978-1-349-15030-4 (eBook)

DOI 10.1007/978-1-349-15030-4

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

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources.

10 9 8 7 6 5 4 3 2 1
08 07 06 05 04 03 02 01 00 99

Copy-edited and typeset by Povey-Edmondson
Okehampton and Rochdale, England

To Anna, Henrik, Erika and Viktor

To Sandra

Acknowledgements

The authors and publishers are grateful to the following for permission to use copyright material:

Blackwell Publishers, Oxford, for tables from I. Trela and J. Whalley (1990) 'Global Effects of Developed Country Trade Restrictions on Textiles and Apparel', *Economic Journal*, 100, pp. 1190–205; from F. Brown and J. Whalley (1980) 'Equilibrium Evaluations of Tariff Cutting Proposals in the Tokyo Round and Comparisons with More Extensive Liberalisations of World Trade', *Economic Journal*, 90, pp. 836–66; and from C. T. Ennew, D. Greenaway and G.V. Reed (1990) 'Further Evidence on Effective Tariffs and Effective Protection', *Oxford Bulletin of Economics and Statistics*, 52, pp. 69–78.

GATT (General Agreement on Tariffs and Trade) for a table from GATT (1979) *The Tokyo Round of Multilateral Trade Negotiations* (Geneva).

Harvester-Wheatsheaf and New York University Press for a table from V. N. Balasubramanyam and D. R. Basu (1990) 'India: Export Promotion Policies and Export Performance' in C. R. Milner (ed.), *Export Promotion Strategies*.

International Monetary Fund for tables from K. Pilbeam (1992) *International Finance* (London: Macmillan), originally published in the IMF's *Balance of Payments Yearbook* (1990); and from G. C. Hufbauer and J. Schott (1985) *Trading for Growth: The Next Round of Trade Negotiations* (Washington, DC: Institute for International Economics), originally published in the IMF's *International Financial Statistics: Yearbook*.

Trade Policy Research Centre, University of Reading, for tables from D. Greenaway (1985) 'Clothing from Hong Kong and Other Developing Countries' in D. Greenaway and B. Hindley, *What Britain Pays for Voluntary Export Restraints*, Thames Essay No. 43 (London).

Oxford University Press for a table from W. M. Corden (1974), *Trade Policy and Economic Welfare*, and for a table from I. Little, T. Scitovsky and M. Scott (1970), *Industry and Trade in Some Developing Countries: A Comparative Study*.

The United States Department of Commerce for a table from *The Survey of Current Business*.

The World Bank for a table based on Tables A8.3 and A8.4 in Finger, J. M. and Olechowski, A. (1987), *The Uruguay Round: A Handbook for the Multilateral Trade Negotiations*.

Helbing & Lichtenhahn Verlag AG for a table from Greenaway, D. and Nam, C-H. (1988), 'Industrialisation and Macroeconomic Performance in Developing Countries under Alternative Liberalisation Scenarios', *Kyklos*, 41.

Professor A.O. Krueger and the National Bureau for Economic Research for a table based on Tables 6.2 and 6.3 in Krueger, A.O. (1978), *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences*.

Every effort has been made to contact all the copyright-holders, but if any have been inadvertently overlooked the publishers will be pleased to make the necessary arrangement at the first opportunity.

Contents

<i>List of Figures</i>	xxi
<i>List of Tables</i>	xxix
<i>Preface to the Third Edition</i>	xxxix
<i>Introduction: International Economics and Economic Theory</i>	xxxiii

PART 1 THEORIES OF INTER- AND INTRA-INDUSTRY TRADE

1	The Basic Geometry of Comparative Advantage and the Gains from Trade	3
1.1	Introduction	3
1.2	Absolute and comparative advantage	4
	Adam Smith and the absolute advantage of trade	4
	David Ricardo and the theory of comparative advantage	5
	Ricardo on the gains from trade	6
1.3	Production, consumption and trade	9
	The production-possibility curve	9
	Community indifference curves	13
1.4	The gains from trade	15
	The gains from trade restated	15
	The flaw in Ricardo's argument	17
1.5	Offer curves	18
2	The Classical Model and the Specific Factors Model	23
2.1	Introduction	23
2.2	The classical model	23
	Production possibilities in the classical model	23
	Real wages under autarky	25
	Free trade with complete specialisation in both countries	25
	The effect of the move to free trade on real wages	28
	Free trade with incomplete specialisation in the large country	29
2.3	The specific factors model	30
	Production possibilities in the specific factors model	30
	Two countries differing in their endowments of capital	32

Free trade and factor prices	34
Two countries differing in their endowments of labour	36
Free trade and factor prices	38
3 The Heckscher–Ohlin model	41
3.1 Introduction	41
3.2 Factors of production and the production-possibility curve	42
Linearly homogeneous production functions	42
Competitive factor markets: factor prices and factor intensities	44
Factor reversals	49
The box diagram	51
The production-possibility curve derived from the box diagram	55
Factor endowments and the range of factor prices	57
3.3 Comparative advantage in the Heckscher–Ohlin model	59
3.4 Rewards to factors of production	65
Free trade and factor prices in the Heckscher–Ohlin model	65
Factor price equalisation in the Heckscher–Ohlin model	66
3.5 Adjustment over time in the Heckscher–Ohlin framework	69
4 Technology-Difference Models	72
4.1 Introduction	72
4.2 Technology differences in the specific factors model	73
4.3 Technology differences in the Heckscher–Ohlin Model	76
4.4 Adjustment to changes in technology	80
4.5 Imitation-gap theories of trade	82
4.6 Product-cycle theories of trade	85
4.7 Increasing returns to scale	87
5 The Gains from Inter-Industry Trade, the Distribution of Income, and Adjustment	89
5.1 Introduction	89
5.2 Gains from inter-industry trade	89
The construction of non-intersecting community indifference curves	90
Ordering the indifference curves using a social welfare function	93
Changes in the distribution of income	95
5.3 A more general approach to the gains from trade	95
5.4 The adjustment problem	98

6	Empirical Testing of Inter-Industry Trade	103
6.1	Introduction	103
6.2	The Leontief Paradox	104
	Leontief's test of the Heckscher–Ohlin theorem	104
	Criticisms of the data and the methodology	105
	The unbalanced trade problem	105
	Human capital explanations	106
	Natural resource explanations	107
	Demand reversals	108
	Factor-intensity reversals	109
6.3	Testing models based on technology differences	111
	Labour productivity and comparative advantage	111
6.4	Technological-gap and product-cycle models	113
6.5	Econometric studies	113
6.6	Summary and conclusions	114
7	Factor Accumulation and Technological Progress in Inter-Industry Trade	117
7.1	Introduction	117
7.2	The effects of growth on trade	118
7.3	Immiserising growth in a large country	122
7.4	Increases in the endowments of factors of production	124
	The Rybczynski Theorem	125
	Balanced growth in labour and capital	127
7.5	Technical progress and international trade	129
	The classification of technical progress	129
	Neutral technical progress and the terms of trade	132
	Capital-saving technical progress in the capital-intensive industry	136
	Labour-saving technical progress in the capital-intensive industry	139
7.6	Concluding comments on growth and trade	142
8	Intra-Industry Trade	146
8.1	Introduction	146
8.2	Intra-industry trade when there are many firms	147
	The neo-Heckscher–Ohlin model	147
	Neo-Chamberlinian models	149
	Neo-Hotelling models	152
8.3	Oligopolistic models	162
	The Brander-Krugman model	162
	The reciprocal dumping model	165

	Extensions and modifications of the Brander–Krugman model	167
	Vertical differentiation and natural oligopolies	168
8.4	Conclusions	171
9	Empirical Work in Intra-Industry Trade	173
9.1	Introduction	173
	Defining an industry	173
	The level of aggregation	173
	Measuring intra-industry trade	174
	The categorical aggregation problem	176
9.2	Some estimates of the extent of intra-industry trade	177
9.3	Explaining the level and growth of intra-industry trade	179
9.4	Conclusions	184

PART 2 INTERNATIONAL TRADE POLICY

10	The Partial Equilibrium Analysis of Trade Policy	189
10.1	Protectionism	189
10.2	The partial equilibrium model of trade	190
	Free trade between two large countries	191
	Tariffs and the large country	193
	The optimum tariff	196
10.3	Excess demand and supply analysis	197
10.4	Other distortions to free trade	199
	An import tariff in a small country	200
	An import subsidy in a small country	202
	An export subsidy in a small country	203
	An export tax in a small country	203
	Import quotas	204
	Voluntary export restraints	206
10.5	Tariffs in comparison with quantitative restrictions	207
10.6	Trade policy versus non-trade policy	209
11	The General Equilibrium Analysis of Trade Policy	213
11.1	Introduction	213
11.2	Small and large countries	213
	The effects on a small country of imposing an import tariff	213
	The effects on a large country of imposing an import tariff	215
11.3	Offer curves and the optimum tariff	218
	Trade indifference curves	218
	Deriving the free-trade offer curve	222
	The tariff-ridden offer curve	223

Tariff-ridden equilibrium	225
The optimum tariff for a large country	227
11.4 Tariffs and real rewards to factors of production	231
When no factors are mobile	231
When only labour is mobile	232
When both factors are mobile: the Stolper–Samuleson theorem	233
11.5 Tariffs and real rewards to factors of production over time	235
11.6 The Metzler Paradox	235
11.7 The Lerner Symmetry Theorem	238
12 Trade Policy and Distortions in Domestic Markets	240
12.1 Introduction	240
12.2 Specified production and consumption targets	241
12.3 Domestic distortions in commodity markets	243
A single domestic producer in a small country	243
A single domestic producer in a large country	246
A negative production externality	247
12.4 Domestic distortions in factor markets	250
12.5 The hierarchy of policies	255
12.6 The infant-industry argument for protection	256
12.7 Trade policy for development: some initial comments	261
13 Trade Policy and Imperfect Competition	263
13.1 Introduction	263
13.2 Trade policy with monopolistic competition	264
The Falvey neo-Heckscher–Ohlin model	264
The Krugman neo-Chamberlin model	266
The Lancaster neo-Hotelling model	266
13.3 Tariffs and monopolies	268
Protecting a domestic single producer with increasing costs	268
Tariffs as a stimulant to exports	269
‘Snatching’ rent from a foreign monopoly	271
13.4 Tariffs, subsidies and duopoly	272
Strategic trade policy in a duopoly setting	272
Retaliation	276
Entry deterrence and entry promotion	276
Tariffs and export promotion	277
13.5 Concluding remarks	277
14 Further Topics in Trade Theory and Policy	279
14.1 Introduction	279
14.2 Non-traded goods	279
‘Dutch disease’	283

14.3	Trade in intermediate goods	284
	Intermediate and final goods	284
	Gross production, net production, and value-added	285
	The pattern of trade	286
	Intermediate goods and the production-possibility curve	288
14.4	Effective tariffs, effective protection and domestic resource cost analysis	291
	Effective tariffs and effective protection	291
	Empirical estimates of effective tariffs and protection	293
	Domestic resource cost analysis	294
14.5	Trade in services	295
	The distinction between goods and services	295
	Defining and measuring international trade in services	296
	Comparative advantage and international trade in services	296
	Foreign direct investment and international trade in services	297
	National policies and services	298
14.6	Price stabilisation	298
	Stabilising domestic prices by using variable trade taxes and subsidies	299
15	The Political Economy of Protection	303
15.1	Introduction	303
15.2	Political markets	304
	The median voter model	305
	Lobbying	307
	The optimal amount of lobbying	308
15.3	The choice of protective instrument	309
15.4	Tariff lobbying by a single domestic producer	312
15.5	'Capturing' anti-dumping legislation	313
15.6	Rent-seeking	315
15.7	Empirical work on the political economy of protection	317
16	The Theory of Customs Unions	322
16.1	Introduction	322
16.2	Trade creation and trade diversion	323
16.3	A customs union compared with a non-preferential trade policy	327
16.4	The export interest	329
	Customs unions and the export interest	329
	The export interest and third country tariffs	331

16.5	Setting the common external tariff to avoid trade diversion	333
16.6	Customs unions when there are economies of scale	335
	Made-to-measure tariffs	340
16.7	Intra-industry trade and customs union formation	341
16.8	When will a customs union increase welfare?	342
16.9	Customs unions and the terms of trade	343
16.10	Dynamic considerations	344
16.11	Other barriers to trade	344
16.12	Higher levels of economic integration	345
16.13	Empirical findings	346
16.14	Summary and conclusions	347
17	The General Agreement on Tariffs and Trade	349
17.1	Introduction	349
17.2	The origins, objectives and structure of the GATT	350
	The International Trade Organisation and the GATT	350
	The objectives of the GATT	351
	The structure of the GATT	352
17.3	The Principles of the GATT	352
	Non-discrimination	352
	Reciprocity	353
	Transparency	354
	The GATT and neo-mercantilism	354
	The MFN clause and discrimination against countries	355
17.4	Exceptions to the GATT	356
	Balance-of-payments problems	356
	Regional groupings	357
	Tariff preferences	357
	Dumping	358
	The Multi-Fibre Arrangement	358
	Agriculture	359
	Services	359
17.5	The GATT Rounds between 1947 and 1961	360
17.6	The Kennedy Round (1964–67)	361
17.7	The Tokyo Round (1973–79)	363
17.8	The Uruguay Round (1986–)	364
	United States Policy in the 1980s	365
	Punta del Este and the Uruguay Round Agenda	367
	The Montreal Impasse and the Geneva Accord	368
	The Draft Final Act and the Washington Accord	369
	Other issues	370
17.9	Unsettled issues and future problems	371

18	Trade Policy and the Less-Developed Countries	374
18.1	Introduction	374
18.2	UNCTAD and the world trading system	375
18.3	The Generalised System of Tariff Preferences	376
18.4	The support and stabilisation of international commodity prices	383
18.5	Supporting prices in the long run	385
18.6	Stabilising prices in the medium and short run	388
18.7	International buffer stocks	393
18.8	International quota agreements and multilateral contract systems	395
18.9	Recent experience with international commodity agreements	395
18.10	The United Nations Integrated Programme for Commodities	397
18.11	Compensatory finance schemes	398
18.12	Concluding remarks	400
19	Import-Substitution versus Export-Promotion	404
19.1	Introduction	404
19.2	Export pessimism	405
19.3	Defining import-substitution and export-promotion	408
19.4	Import-substitution	409
	The background to the import-substitution strategy	409
	The anatomy of controls on foreign trade	410
	Income distribution and savings	416
	Discrimination against agriculture	418
	Choice of technology and effects on employment	419
19.5	Import substitution versus export promotion	422
	Structural adjustment loans and 'conditionality'	425
	Empirical evidence	426
19.6	Concluding remarks on development strategies	431
20	Empirical Studies of Trade Policy	437
20.1	Introduction	437
20.2	Estimating the costs of tariff protection using the partial equilibrium approach	438
	The small-country case	438
	The large-country case	440
20.3	Estimating the costs of a quantitative restriction on imports using the partial equilibrium approach	442

20.4	Computable general equilibrium analyses	443
	Specifying the model and the functional forms	443
	The 'benchmark' data set	446
	Calibration of the model and replication of the benchmark data	447
	Using the CGE model to investigate the effects of policy changes	447
	Some of the pros and cons of CGE modelling	448
20.5	Some analyses of the costs of protection	448
	Sectoral protection – the Multi-Fibre Arrangement	449
	Multilateral liberalisation – the Tokyo Round	452
20.6	Comments and conclusions	453
21	International Factor Movements	456
21.1	Introduction	456
21.2	International factor movements in a Heckscher–Ohlin setting	458
21.3	The migration of labour	458
	Positive effects	458
	Welfare effects	460
	Some policy implications of migration	461
21.4	Foreign portfolio investment	462
	Positive and welfare effects of portfolio investment	463
	Policy implications: the transfer problem	464
21.5	Summary and conclusions	465
22	Direct Investments and the Multinational Enterprise	467
22.1	Introduction	467
22.2	Direct investments and multinational enterprises	469
	The theory of direct investments	470
	The product cycle hypothesis	471
	Market imperfections and FDI	471
	'Management' as a factor of production	473
22.3	Barriers to trade and FDI	474
22.4	Dunning's 'eclectic theory'	475
22.5	Some other considerations	476
22.6	Empirical studies of FDI	477
22.7	Taxation and the transfer pricing problem	478
22.8	FDI and the balance of payments	482
22.9	Some other effects	483
	In the source country	483
	In the host country	484

	Control	485
	External benefits of FDI to the host country	486
	Direct investments and exploitation	487
22.10	Policy responses in host countries	488
	‘Unbundling the package’	489
	Export-processing zones	490
	Trade-related investment measures	491
22.11	Summary and conclusions	492

PART 3 INTERNATIONAL MACROECONOMICS

23	The Balance of Payments	497
23.1	Introduction	497
23.2	The balance of payments: book-keeping	498
	The current account	499
	The capital account	500
	The remaining items in the balance of payments	502
23.3	Balance of payments: surpluses and deficits	504
	Autonomous and accommodating items	505
	Deficit and surplus in the current account	506
	The basic balance	507
	The official settlements concept	507
23.4	The external wealth account	508
23.5	Summary and conclusions	508
24	The Market for Foreign Exchange	509
24.1	Introduction	509
24.2	Institutional aspects of foreign-exchange markets	510
	Defining the foreign exchange rate	510
	The structure of the foreign-exchange market	511
	The demand for foreign exchange	512
	The supply of foreign exchange	517
24.3	A simple model of a spot exchange market	512
24.4	Stability in a floating exchange-rate market	522
24.5	Government intervention in the foreign-exchange market: fixing the exchange rate	524
24.6	An example of adjustment in the foreign-exchange market	525
24.7	The forward-exchange market	527
	Interest rate arbitrage and ‘covered interest parity’	528
	Hedging	530
	Speculation	531
24.8	Comments and conclusions	531

25	Foreign Trade and National Income	533
25.1	The import function	533
25.2	The determination of national income in a small open economy	535
	The condition for national income equilibrium in a small open economy	535
	National income multipliers in a small open economy	537
	Introducing government expenditure and taxation	540
25.3	The determination of national income in a large open economy	543
25.4	The international transmission of disturbances	547
	Transmission under fixed exchange rates: some empirical evidence	547
	Transmission under floating exchange rates	548
25.5	An initial look at internal and external balance	550
 26	 The Capital Account	 554
26.1	Introduction	554
26.2	A flow theory of capital movements	555
26.3	A stock theory of the capital account	556
	A stock model with fixed exchange rates	561
	A stock model with floating exchange rates	561
	Stock models versus flow models	563
26.4	The monetary approach	563
26.5	Summary and conclusions	569
 27	 The Determination of a Floating Exchange Rate	 571
27.1	Introduction	571
27.2	A fixed price model with perfectly immobile capital	571
27.3	A fixed price model with capital mobility	573
	The <i>IS</i> schedule for a small open economy	574
	The <i>LM</i> schedule for a small open economy	574
	The <i>BP</i> schedule for a small open economy	574
	Equilibrium in the Mundell–Fleming model with floating exchange rates	578
	Monetary and fiscal expansion in the Mundell–Fleming model	579
27.4	Purchasing Power Parity	581
	Absolute and relative PPP	582
	Criticisms of PPP	582
	Empirical tests of the PPP hypotheses	583
27.5	A flexible price monetary model	584

27.6	The Dornbusch 'sticky price' model	587
	Equilibrium in the money market	588
	Equilibrium in the goods market	590
	Long-run equilibrium	591
	Monetary expansion and exchange-rate overshooting	592
27.7	Empirical evidence on monetary models	594
27.8	Summary and conclusions	595
28	Macroeconomic Policy with Floating Exchange Rates	597
28.1	Introduction	597
28.2	The policy environment and policy targets	598
	The environment	598
	Policy targets	598
28.3	The Mundell–Fleming model	599
	Monetary policy and capital mobility	599
	Fiscal policy and capital mobility	601
	Combining monetary and fiscal policy when there are two policy targets	604
28.4	The monetary approach	606
	An expansion in the money supply under floating exchange rates	608
	An increase in aggregate supply under floating exchange rates	608
28.5	Summary and conclusions	611
29	Macroeconomic Policy with Fixed and Pegged Exchange Rates	613
29.1	Introduction	613
29.2	The gold standard	615
29.3	Devaluation: the elasticities approach	617
29.4	Devaluation: the absorption approach	620
	The effects of devaluation on national income	621
	The effects of devaluation on direct absorption	622
	Devaluation and non-traded goods	623
29.5	Internal and external balance	624
	Combining exchange-rate adjustments and fiscal policy	624
	The 'piecemeal' approach and the assignment problem	627
	Combining monetary and fiscal policy	628
29.6	Pegged exchange rates with capital mobility	630
	The Mundell–Fleming model	630
	Monetary policy and sterilisation	631
29.7	Pegged exchange rates and the monetary approach	635
	Devaluation under the monetary approach	635

	An expansion in the money supply under the monetary approach	637
	An increase in income under the monetary approach	637
29.8	Summary and conclusions	640
30	Two Debates: Exchange-Rate Systems and Policy	
	Co-ordination	643
30.1	Introduction	643
30.2	Fixed versus floating exchange rates: the traditional approach	644
	Exchange-rate uncertainty, trade and investment	644
	The effects of speculation	645
	Exchange-rate regimes and macroeconomic policy	646
30.3	Fixed versus floating exchange rates: modern approaches	647
	Economic stability in the Mundell–Fleming model	647
	Introducing a government objective function	649
	Optimising macromodels	650
30.4	International co-ordination of macroeconomic policy	651
	The gains from policy co-ordination	652
	Some problems associated with policy co-operation	655
	‘Rules’ versus ‘one-off’ negotiations	656
30.5	Conclusions	657
31	The International Monetary System	659
31.1	Introduction	659
31.2	Some basic concepts	660
	The consistency problem	660
	Political will, hegemony and seigniorage	661
31.3	The Bretton Woods system	662
	The background	662
	The creation of the International Monetary Fund	663
	The IMF in the 1950s and 1960s	664
	International liquidity: the ‘Triffin Dilemma’	666
	The introduction of Special Drawing Rights	667
	The breakdown of the Bretton Woods system: 1967–73	668
	The Smithsonian Agreement	668
	The international monetary system since the demise of Bretton Woods	669
31.4	The Eurocurrency markets	671
31.5	The European Monetary System	672
	The record and prospects of the EMS	674
31.6	The international debt crisis	675
31.7	Summary and conclusions	677

<i>Further Reading</i>	681
<i>Bibliography</i>	682
<i>Author Index</i>	699
<i>Subject Index</i>	702

List of Figures

1.1	A concave production-possibility curve	10
1.2	Long- and short-run production-possibility curves	11
1.3	The role of shifting prices	12
1.4	Community indifference curves	13
1.5	Community indifference curves assuming optimal income redistribution	15
1.6	Equilibrium under autarky	16
1.7	Equilibrium under free trade	17
1.8	Equilibria under international trade	19
1.9	Offer curve for the cloth exporting country	20
1.10	Free trade equilibrium shown with offer curves	21
1.11	Free trade equilibrium for a small country	22
2.1	Deriving the classical production-possibility curve	24
2.2	Different technology results in different production-possibility curves	26
2.3	Free trade with both countries specialising completely	27
2.4	Free trade with incomplete specialisation in the large country	29
2.5	Deriving the production-possibility curve in the specific factors model	31
2.6	Different capital endowments give different production-possibility curves	33
2.7	Country A will have the comparative advantage in good Y	34
2.8	Different production-possibility curves when countries have different labour endowments	37
2.9	A possible free trade equilibrium	38
3.1	Isoquants with constant returns to scale	43
3.2	Equilibrium in production under free competition	45
3.3	Factor prices, factor intensities and production costs	46
3.4	Factor prices, factor intensities and relative costs	48
3.5	Isoquants cut twice	49
3.6	Factor intensity reversals	50
3.7	Factor prices and relative costs with a factor reversal	51
3.8	Factor allocation in the box diagram	52
3.9	Outputs, factor price ratios and capital-labour ratios in the box diagram	54

3.10	The box diagram and the production-possibility curve	56
3.11	Factor endowments and the range of factor prices	58
3.12	The physically capital-rich country may also be the country where capital is relatively cheap	61
3.13	The physically capital-rich country may be the country where capital is relatively expensive	61
3.14	Differences in factor endowments	62
3.15	The physically capital-rich country is biased towards producing the capital-intensive good	63
3.16	Demand factors offsetting production bias	64
3.17	Equalisation of relative factor prices with incomplete specialisation	67
3.18	Factor price equalisation with incomplete specialisation	67
3.19	Relative factor prices are not equalised with complete specialisation	68
3.20	Gains from trade in the short, medium and long run	70
4.1	A difference in technology in the Y industry	73
4.2	A scale difference in technology in the capital-intensive industry	77
4.3	The production boxes for the two countries	78
4.4	Production-possibility curves in the medium and long term	78
4.5	Free trade and factor prices	80
4.6	Adjustment following an improvement in technology in the import-competing good	81
4.7	The imitation-gap model	84
4.8	Trade and increasing returns to scale	87
5.1	Identical and homothetic tastes and community indifference curves	91
5.2	Greater quantities of both goods give a set of 'higher' community indifference curves	93
5.3	Maintaining the same proportionate shares in national income	94
5.4	Consumption possibilities for a small country under autarky and free trade	96
5.5	Utility-possibility frontiers for a small country	97
5.6	Gains from trade in the short, medium and long run	99
5.7	Factor allocation in the short, medium and long run	101
6.1	The physically capital-rich country may export its labour-intensive good when there is a factor reversal	110
7.1	Neutral growth in production and consumption	118
7.2	Neutral growth in trade without neutral growth in production and consumption	120
7.3	An example of anti-trade biased growth	121

7.4	Bias in the growth of production	121
7.5	Bias in the growth of consumption	123
7.6	Immiserising growth for a large country	124
7.7	The Rybczynski Theorem: growth in the endowment of labour	125
7.8	The effect of growth in the endowment of labour on the production-possibility curve	127
7.9	Balanced growth in the endowments of labour and capital	128
7.10	The effects of neutral innovation on the production function	130
7.11	Labour-saving technical progress	131
7.12	Capital-saving technical progress	132
7.13	Neutral technical progress in the capital-intensive sector and factor allocation	133
7.14	Real returns to factors of production after neutral technical progress in the capital-intensive sector	134
7.15	Neutral technical progress in the capital-intensive sector and the production-possibility curve	135
7.16	Capital-saving technical progress in the capital-intensive sector and factor allocation	137
7.17	Real returns to factors of production after capital-saving technical progress in the capital-intensive sector	138
7.18	Capital-saving technical progress in the capital-intensive sector and the production-possibility curve	139
7.19	Labour-saving technical progress in the capital-intensive sector	140
7.20	Real returns to factors of production after labour-saving technical progress in the capital-intensive sector	141
7.21	Labour-saving technical progress in the capital-intensive sector and the production-possibility curve	142
8.1	The spectrum of varieties	153
8.2	A consumer's demand falls as the distance between a variety and his ideal variety increases	154
8.3	Autarkic and free trade equilibria for a typical firm	157
8.4	Consumers' surplus under autarky	158
8.5	Changes in consumers' surplus with free trade	159
8.6	Changes in producers' surplus with free trade	160
8.7	Equilibrium in the home market	165
8.8	Equilibrium in the home market with transport costs	167
8.9	Duopoly equilibrium with a vertically differentiated good	169
10.1	Autarkic equilibrium in <i>A</i> and <i>B</i>	192
10.2	Joint equilibrium in <i>A</i> and <i>B</i> under free trade	192
10.3	Joint equilibrium in <i>A</i> and <i>B</i> with a tariff	194

10.4	The effects on welfare of increasing the tariff for a large country	196
10.5	Free trade equilibrium in <i>A</i> and <i>B</i>	197
10.6	Tariff-ridden equilibrium in <i>A</i> and <i>B</i>	198
10.7	The optimum tariff for a large importing country	199
10.8	A small importing country imposing a tariff	200
10.9	The level of welfare in a small country as its tariff is increased	201
10.10	A small importing country imposing a subsidy	202
10.11	A small exporting country imposing a subsidy	203
10.12	A small exporting country imposing an export tax	204
10.13	A small exporting country imposing an import quota	205
10.14	The effects of a fall in the world price under a tariff and a quota	208
10.15	The effects of an increase in domestic demand under a tariff and a quota	209
10.16	The effects of a tariff and of the equivalent production subsidy	210
11.1	A tariff will reduce the welfare of a small country	214
11.2	A tariff that reduces welfare in a large country	216
11.3	A tariff that increases welfare in a large country	217
11.4	Deriving the basic trade indifference curve	219
11.5	Deriving higher trade indifference curves	221
11.6	Deriving the free trade offer curve	223
11.7	Deriving a tariff-ridden offer curve	224
11.8	The effects of increases in the tariff on tariff-ridden offer curves	225
11.9	The effects of a tariff for a small country	226
11.10	The effects of a tariff for a large country	227
11.11	The optimum tariff for a large country	228
11.12	Retaliation by the second country	230
11.13	Policy equilibrium as the outcome of a tariff war	231
11.14	The Stolper–Samuelson Theorem	234
11.15	The Metzler Paradox	236
12.1	Obtaining a specified output of the import-competing good	241
12.2	Obtaining a specified consumption of the import-competing good	242
12.3	A single domestic producer in a small importing country	244
12.4	Apparent and true comparative advantage for a small country	245
12.5	A negative externality in agricultural production: a tariff may increase welfare	248
12.6	A negative externality: a tariff may decrease welfare	249

12.7	A distortion in the labour market will lead to suboptimal production	250
12.8	The effect of a labour market distortion on the production-possibility curve	251
12.9	A distortion in the labour market: free trade may reduce welfare	252
12.10	Distortion in the labour market: the optimal policy	253
12.11	The infant-industry argument for protection	257
13.1	A single domestic producer with a tariff	269
13.2	A single domestic producer exporting with the aid of a tariff	270
13.3	Snatching rent from a foreign monopolist	271
13.4	A production subsidy in a simple duopoly model	274
13.5	A tariff in a simple duopoly model	275
14.1	Equilibrium in the production and consumption of traded and non-traded goods	281
14.2	The relative price of the non-traded good and the real wage	282
14.3	Trade with final and intermediate goods	287
14.4	Intermediate goods and the production-possibility curve	289
14.5	Consumption and production when the intermediate good is imported	290
14.6	Domestic price stabilisation by a small country	300
14.7	Domestic price stabilisation by a large country	301
15.1	The demand for and supply of tariff protection	308
15.2	Lobbying for a quantitative restriction compared with lobbying for a tariff	311
15.3	A single domestic producer lobbying for a tariff	312
16.1	A case with trade diversion and trade creation	326
16.2	The Cooper and Massell argument	328
16.3	Trade diversion may reduce welfare for both partners	330
16.4	The Wonnacotts' analysis	332
16.5	A CET that avoids trade diversion	334
16.6	Customs union formation when both countries have decreasing cost industries initially	337
16.7	Customs union formation when only one country has a decreasing cost industry initially	339
16.8	Customs union formation when neither country has a decreasing cost industry initially	340
18.1	Tariff preferences applied to a specified import volume	378
18.2	The operation of an export cartel	386
18.3	An export cartel when demand is contracting	387
18.4	Price stabilisation when supply is unstable	391
18.5	Using a buffer stock to stabilise prices	393

20.1	A small importing country removing a tariff	439
20.2	Net gains and losses to both countries from the elimination of a tariff	441
20.3	A flowchart for constructing and running a CGE model	444
21.1	International factor mobility will put the world on its production-possibility frontier	457
21.2	The positive effects of labour migration	459
21.3	The welfare effects of labour migration	461
21.4	The effects of portfolio investment	463
24.1	Import demand and export supply for A's importables	512
24.2	Deriving the \$ price for A's importables when £1 = \$2	513
24.3	The effects of an appreciation of A's currency on its import volume	514
24.4	The importing country's demand schedule for the foreign currency	515
24.5	The supply of foreign exchange	518
24.6	A 'normally sloped' supply curve for the foreign currency	519
24.7	A 'backward sloping' supply curve for the foreign currency	520
24.8	Equilibrium in the foreign exchange market	521
24.9	Offsetting the effect of a decrease in demand for the foreign currency	524
24.10	Adjustment of the exchange rate to A imposing a tariff	525
24.11	The effects of a tariff when there is an exchange-rate effect	527
25.1	A linear import function	534
25.2	National income and the balance of trade	537
25.3	The effects of an increase in domestic investment on national income and the balance of trade	539
25.4	The effects of an increase in exports on national income and the balance of trade	540
25.5	Including the government in the small open economy model	542
25.6	The effects of reducing government expenditure	542
25.7	The effects of increasing the tax rate	543
25.8	Simultaneous national income equilibrium for two large countries	545
25.9	The effects on national incomes of an increase in autonomous expenditure for two large countries	546
25.10	The effect of an increase in investment when the exchange rate is floating	549
26.1	A flow model of international capital movements	556
26.2	Possible combinations of expected return and riskiness	557
26.3	Risk-averse preferences	558
26.4	The optimum portfolio	559

26.5	The aggregate demand and supply schedules in the monetary model	565
26.6	The purchasing power parity schedule	566
26.7	The money supply and the level of foreign exchange reserves	567
26.8	General equilibrium in the monetary approach	568
27.1	Joint determination of real income and the exchange rate	572
27.2	Deriving the <i>IS</i> schedule for an open economy	574
27.3	Deriving the <i>LM</i> schedule for an open economy	576
27.4	The <i>BP</i> schedule for a small open economy	577
27.5	Equilibrium in the Mundell–Fleming model	579
27.6	Monetary expansion in the Mundell–Fleming model	580
27.7	Fiscal expansion in the Mundell–Fleming model	581
27.8	Long-run equilibrium in the Dornbusch model	590
27.9	Unexpected monetary expansion in the Dornbusch model	593
28.1	Monetary policy in the Mundell–Fleming model with limited capital mobility	600
28.2	Fiscal policy in the Mundell–Fleming model with limited capital mobility – Case 1	602
28.3	Fiscal policy in the Mundell–Fleming model with limited capital mobility – Case 2	603
28.4	Using monetary and fiscal policy to attain two policy targets	605
28.5	Pursuing two targets with one instrument: ‘stop–go’ policy	606
28.6	General equilibrium in the monetary approach	607
28.7	An increase in money supply in the monetary approach	609
28.8	An increase in aggregate supply in the monetary approach	610
29.1	The ‘J-curve effect’	619
29.2	The Salter–Swan diagram	625
29.3	Mixing policies to obtain the policy goal	626
29.4	The assignment problem with exchange rate and fiscal policies	628
29.5	Internal and external balance using monetary and fiscal policy	629
29.6	A surplus in the balance of payments in the Mundell–Fleming model	631
29.7	Sterilised and unsterilised intervention in the foreign-exchange market	632
29.8	Internal and external balance in the Mundell–Fleming model	633
29.9	Monetary and fiscal policy when there is perfect capital mobility	635
29.10	Devaluation under the monetary approach	636

29.11	A money supply expansion under the monetary approach	638
29.12	An increase in income under the monetary approach	639
30.1	Deriving the reaction curve for country <i>A</i>	653
30.2	The gains from policy co-ordination	654

List of Tables

1.1	Cost comparisons	6
1.2	Opportunity costs	6
6.1	Capital and labour needed to reduce exports and increase import-substitutes by \$1 million in the United States in 1947	105
7.1	Technical progress in the capital-intensive sector and real rewards to factors of production	144
9.1	Calculating the Grubel and Lloyd index for hypothetical values of X_j and M_j .	175
9.2	Calculating the Grubel and Lloyd Index for different levels of aggregation	177
9.3	Average levels of intra-industry trade in the United Kingdom in 1977 (Grubel-Lloyd Index)	178
9.4	Intra-industry trade at the three-digit level in the United Kingdom in selected years	178
9.5	Intra-industry trade in selected countries in 1980	179
9.6	Average levels of intra-industry trade for country types in 1978	179
9.7	Evidence on the country-specific hypotheses	181
9.8	Evidence on the industry-specific hypotheses	182
9.9	Evidence on the policy-based hypotheses	184
12.1	A hierarchy of policies	255
14.1	UK nominal and effective tariffs by sector, 1986	294
15.1	Anti-dumping cases brought by and against selected countries between 1980 and 1986	314
16.1	Production cost of commodity X in three countries	324
17.1	Tariff changes in the Tokyo Round	364
17.2	Negotiating groups in the Uruguay Round	368
19.1	Post-war annual percentage growth rates of world output and trade	407
19.2	Annual average percentage growth rates for India's exports and estimated effective exchange rate ratios	413
19.3	Imports as a percentage of GDP at current prices	423
19.4	Trade orientation and various economic indicators	428
19.5	Estimates of bias and of the ratio of effective exchange rates for five LDCs	430
20.1	The gains and losses for a small country removing a tariff	439

20.2	Net gains and losses for the importing and exporting countries in the large-country case	441
20.3	Estimated changes in consumption, domestic production and imports following liberalisation of trade in textiles in the United Kingdom, 1982	450
20.4	Estimated costs of protection of clothing in the United Kingdom, 1982	450
20.5	Estimated welfare effects of liberalisation of the MFA for the United States, Canada, the EC and the developing countries	451
20.6	Welfare gains from the Tokyo Round tariff reductions and from complete liberalisation by the developed countries	452
22.1	An example of transfer pricing	479
22.2	Earnings on US direct investments abroad (percentage of book value at the beginning of year)	481
22.3	Balance-of-payments effects of a direct investment	482
23.1	Current account summaries for four countries, 1989	501
23.2	Capital account summaries for four countries, 1989	503
23.3	Balance-of-payments summaries for four countries, 1989	504

Preface to the Third Edition

The first edition of *International Economics*, written by Bo Södersten, was published in Swedish in 1969, with the American and British editions following in 1970 and 1971. The second edition was published in 1980. This third edition has been extensively rewritten by Bo Södersten and Geoffrey Reed.

The first and second editions were well received, and used in many countries. Their aim was to present a reasonably rigorous treatment of international economics in a way that would be accessible both to undergraduate students and to others with a general interest in economics and international affairs. The emphasis was on theory, although problems of economic policy were discussed throughout. The intention was to provide the reader with theoretical tools that could be applied to various kinds of problems, not just those that happened to be topical when the book was published.

This intention has been maintained in the third edition. There have, however, been many new developments in both economic theory and the institutional setting since the second edition, and the new edition has been substantially revised to take account of these.

Part I is concerned with the pure theory of international trade. It starts with the classical and neo-classical models of inter-industry trade that have been the mainstay of trade theory since the early nineteenth century, and are still much in use today. Such theories are concerned with explaining the determinants of what was, for many years, the dominant pattern of trade, with each country exporting the output of some industries and importing the output of others. More recently it has become apparent that much trade, at least between developed countries, is intra-industry in nature: that is, countries simultaneously import and export the same type of good. A major feature of recent trade theory has been the development of models explaining this phenomenon, usually in terms of product differentiation and economies of scale, and a discussion of such theories is included in Part 1. The gains from international trade, and the adjustment problems faced when a country opens its market to foreign competition, are discussed in the context of both types of trade.

Part II deals with trade policy. The reduction since the Second World War in the 'old' forms of protection, notably tariffs and quotas, has been to some extent restraints, accompanied by the development of regional trading blocs that combine free trade among members while maintaining

barriers to trade with other countries. Part II examines the arguments for and against both the old and the new protectionism, including an account of the contribution made by the renewed interest in the political economy of protection, and the role of the General Agreement on Tariffs and trade in securing and maintaining trade liberalisation. It deals also with the question of the best trade strategies to be followed by developing countries, and with the influences of foreign investment and multi-national enterprises.

Part III concentrates on international macroeconomics, discussing both international monetary problems and the implementation of macroeconomic policy in an open economy. There have been major changes in the institutional setting in the last two decades, and it is arguable that further changes are inevitable. Such changes have provided the stimulus for both new economic theories and the revival of some others.

There has been a significant increase in empirical studies in all areas of international economics in recent years. This reflects the development of new theories, and the wish to test them against both each other and the older theories, and is made possible by the availability of more comprehensive and reliable data and the development of econometric and other quantitative techniques. Discussions of empirical analyses form an important part of the third edition.

The structure and contents of the third edition are in many ways similar to those of the second edition, and so the acknowledgements made there still apply. There is, however, much new material, and we are grateful to Kevin Dowd, David Greenaway, Robert Hine and Mervyn Lewis for their willingness to read earlier efforts.

BO SÖDERSTEN
Lund

GEOFFREY REED
Nottingham

Introduction: International Economics and Economic Theory

Today the national state is the dominant political entity. Most countries, from an economic point of view, are still intimately linked with others. Two – the United States and China – could conceivably withdraw from the world economy without disastrous consequences to themselves. For other countries such an act would border on the unthinkable. It would bring about not only a drastic lowering of economic welfare but also a complete change of ways of life. For practical purposes, all countries must accept the fact that they are part of a world economy. No country can escape its role in the system of interdependent trading nations.

There now seems little doubt that the degree of interdependence among nations has increased markedly over the last two decades or more. World trade has grown exceptionally fast in the post-war years, both absolutely and relative to national incomes. The forces behind the internationalisation process have been strong. Technical progress in transport and communication has played an important role. Increased returns to scale in production and high income elasticities for differentiated products have also had their impact. These and many other factors have favoured international specialisation and trade, both in tangible goods and in services. The forces working for economic interdependence among nations seem irresistible.

Although the nation-state is still in the 1990s the dominant entity, the increasing interdependence between countries has meant the loss of some degree of sovereignty. Some countries have surrendered a good part of their sovereignty willingly, for example the members of the European Community (although even there we see fierce debate over the degree to which sovereignty should be ceded to a central institution). Others, while unwilling to surrender sovereignty, are nevertheless constrained in how they can exercise their autonomy. Even the United States must nowadays take account of the reactions of other countries when formulating its economic policies.

Although governments are generally aware of the losses that would be incurred if they were to isolate themselves completely from the world economy, they are still often tempted to adopt policies that reduce the degree of dependence. Governments in the advanced industrial countries

are often concerned to limit the impact on their own economies of changes in the rest of the world, whether these be 'shocks', such as the increase in oil prices in 1973, or 'structural changes', such as the threat to domestic industries of imports from newly industrialising countries. Many less developed countries have also tried to establish a policy of self-reliance. They have tried to isolate themselves from international influences by a policy of import-substitution. It may however be argued that those countries, whether developed or developing, that have grown most quickly in the last few decades have been those that have not attempted to isolate themselves from the world economy.

Whether the degree of interdependence will continue to increase or not, and if so on what lines, is a matter for debate. On the one hand we see increasing interdependence between groups of countries, either formally, as in the European Community or the North American Free Trade Area, or informally, as in the 'Pacific Rim' countries. On the other hand, there is evidence of increasing friction over economic matters, as between the United States, the European Community, and Japan. The 'free trade versus fair trade' debate is important here, providing an impetus towards unilateral action. Some observers have suggested that the world economy will move towards a system of economic blocs, within which there will be free trade, but between which there will not. The forces working for a national identity – perhaps a new type of identity, be it from dominating neighbours or a new type of changed social and political system – are also strong in many countries. Whether existing trends toward internationalisation or new forms of nationalism will get the upper hand is impossible to say. This is primarily a political question.

■ *International economics as a subject*

Even if most people are agreed that international economic relations are of great importance for most countries, it does not necessarily follow that international economics should be studied as a subject independent of other branches of economics.

There are certainly many policy problems and problems within international economics that the use of economic theory can elucidate. At the same time, it is becoming less tenable for economists to discuss the policy options open to a government as though the economy were closed from the rest of the world, so that much of 'domestic economics' is necessarily discussed in an international setting. However, there are more deep-seated reasons why international economics has a long tradition as a subject in its own right.

Many theorems and insights central to economic theory have been developed by economists working within international economics. The

theory of comparative advantage and the factor-price equalisation theorem are examples. Both belong to the area usually called the *pure theory* of international trade. The pure theory of trade can be said to be part of price theory, the terms used in a broad sense. But price theory or micro theory *per se* seldom pursues the subject to such a degree that all the aspects of the theory which are of interest to a trade theorist are revealed in its full implications. Trade theory is a distinct part of modern economic theory with a rich body of theorems.

Analogous conditions hold for the macroeconomic parts of international economic theory. Some of its results, for instance those about income determination in open economies, are quite straightforward applications of the corresponding parts of the theory for closed economies. But other parts, for instance exchange-rate theory, can hardly be obtained except from a study of the specific theory.

When it comes to the policy aspects of the subject, it is quite obvious that the policy problems faced by an open economy are quite different to those faced by the closed economy. While the assumption that an economy is closed may be tenable for some problems (such as whether to impose a tax on a non-traded good that makes up a minor part of national output), in most cases the discussion must recognise the openness of the economy. The nation is however not only a distinct political entity: it also has many important economic characteristics that set it apart from the larger integrated areas that make up the world economy: the mobility of the factors of production is much larger within the nation than among nations, there are tariffs and taxes on imported goods, different currencies give rise to specific problems, etc. All these lead to international economic policy problems that must be considered in the context of many countries rather than one country.

There are, therefore, from both theoretical and policy points of view, good reasons why international economics is dealt with as a specific branch of economics. Modern economics is a large and diversified subject. A training in general economic theory is the best background for a study of international economics. But it can only be regarded as a background. To obtain a real understanding of the field, the student will have to study international economics directly.

Now we shall now consider briefly five areas in which international economics has had something important to contribute to economics in general, and preview some of the problems and results.

■ *Comparative advantage and pure theory*

One of the basic questions facing international trade theory is: Why does trade take place? The classical economists saw labour as the only factor of

production and said that differing labour productivity among countries caused trade. More recent economists have seen the source of trade as being differences in countries' endowments of factors of production. The most recent development has been to explain trade flows in terms of imperfectly competitive markets, so-called intra-industry trade.

A closely linked question is: Why do countries gain by trading? The classical economists said that as long as cost conditions differ between countries, at least one and probably both will gain by trading. The modern theory of intra-industry trade tends to focus as much on the role played by consumers' tastes.

These questions, and their answers, contain the essence of the theory of comparative advantage. The first can be said to state the positive side and the second the normative side. The normative aspect is perhaps the most interesting to the modern student. It demonstrates, on very weak assumptions, that trade will be beneficial to all countries involved in trade. It is important to understand the nature of this theory. It has often been attacked and is often misunderstood. It is still frequently argued that trade is detrimental to countries, today especially in connection with less-developed countries (LDCs). Right from the outset, therefore, we will enter disputed territory. Whatever the student's final opinion is, he will have to undertake a certain amount of theoretical work before he can reach an informed judgement.

One of the central assumptions of the classical economist was that factors of production were fully mobile within countries but not at all mobile between countries. Labour could move freely from New York to Arizona, but it could not cross the border into Mexico. This is an assumption that modern trade theorists have stuck to in elaborating the modern theory of trade. It might seem to be too strong. Within Western Europe, for instance, there have been substantial movements of workers, largely north from Portugal, Spain, southern Italy, Greece and Turkey to France, Germany and Switzerland. But the movements of labour have taken place primarily between somewhat integrated areas. The movement of workers between the United States and Europe, for example, is still insignificant.

For many purposes the assumption that labour is immobile between countries is valid. Using this (and some other fairly stringent assumptions), modern trade theory has proved some startling theorems. One is that trade alone will lead to a complete equalisation of factor prices. Even in the absence of factor movements, if only goods can be traded freely, wages will be equalised.

A study of modern trade theory will also help the student understand one of the basic principles of economics, that of *general equilibrium*. Trade theory is essentially a branch of general-equilibrium analysis. It is firmly

embedded in the Walrasian tradition. From there stems the preoccupation with creating a theory that is self-contained, where all variables of importance enter and where all variables are interdependent. Such a theory will of necessity be of an abstract and simplified nature. It works with a few well-defined variables and relies on simplifying assumptions, some of which are of a drastic nature. Its strength lies in the fact that it creates a picture of the world which in important ways is complete.

At the heart of general-equilibrium theory are the notions of determinateness and completeness: the relations which describe an economy must form a complete whole where all the variables of the system can be determined. The viewpoint that all factors which make up an economy hang together and are dependent on one another has had a very strong place in economic theorising. It might even be said to have been *the* distinctive feature of economics as a science. It had also had important policy implications as it has forced policy-makers to try to view the economy as a whole and not simply try to focus the attention on the effect of a parameter change on one or two obvious variables. The pure theory of trade offers the student an excellent illustration of one of the basic notions of economics as a science.

■ *Comparative statics: the question of change*

The pure theory of trade is fundamentally a static theory. It studies some aspects of trading economies in the setting of static equilibrium. It abstracts from one fundamental aspect, that of change.

The simplest way to study the effects of change is by the use of comparative statics. We take an economy in a given equilibrium and then introduce a change in some of the basic variables. This is done, for example, in the study of the effects of economic growth on international trade. Growth of production and trade in the world economy has been very rapid in the post-war years. The more precise theory of growth and trade was also primarily developed during this period. From a methodological point of view, this type of theory is also interesting because it illustrates clearly how the static models of pure trade theory can be developed in a comparative-static way. It clearly demonstrates also some of the basic effects of economic growth on the variables in the trade model. One question it answers is the following. Let us assume that economic growth occurs in two trading economies. What will be the effects on the terms of trade (the ratio of export prices to import prices) and on national income? The answer will depend on which sectors growth occurs in and what the income elasticities are.

The effects of increases in factor endowments and technical progress are also studied. These effects can be handled clearly by the use of geometry.

An understanding of this type of theory therefore does not involve very advanced or difficult methods. The effects of technical progress, for instance, are quite striking. An understanding of this kind of theory is essential also for a broad group of problems outside the field of international trade, so it seems appropriate to treat the theory of economic growth and trade rigorously and explicitly.

■ *Trade policy: is trade good or bad?*

The book is based on the principle of decreasing abstraction. The most theoretical parts are in the beginning, especially in Part I; then, as the exposition develops, it becomes more and more policy oriented – it assumes more of an ‘applied’ nature. This is because theory is needed to appreciate all the facets of a policy problem. It is logical to start with theory and then proceed to policy, though it perhaps seems that policy problems are sometimes ‘easier’ to deal with than theoretical questions.

Part 2 is devoted to problems of trade policy. It both demonstrates principles of trade policy, for example the effects of tariffs on trade, and analyses the factual development of trade policy, and in particular the political dimension of the formulation of that policy. One thing Part 2 shows is that free trade, in a world of sovereign states, is usually the best policy except in the case of the few large countries, but that the political pressure to restrict trade may be difficult to resist. However, since some trade is always better than no trade, it is unlikely that trade will ever be eliminated.

The trade problems of the developed countries and the LDCs are seldom of the same kind. One of the trade problems confronting LDCs is the stabilisation of commodity prices. Together with the question of tariff preferences, this problem has dominated the UNCTAD conferences held so far. These questions are also intimately linked with the strivings for a new economic world order.

The proposals for stabilisation of commodity prices are of different kinds. The object of some is to stabilise terms of trade between LDCs and industrial countries; others, less far-reaching, aim at stabilising export prices or export proceeds. To understand the true nature of some of these plans, they must be considered against the models of growth and trade developed earlier. These models show explicitly the basic factors that determine the development of commodity prices in international trade. Therefore, they show clearly which factors have to be controlled if international prices are to be controlled. They give an example of how recent developments in trade theory can be used to elucidate long-standing policy problems.

■ *Macroeconomic aspects: different currencies*

One of the obvious differences between trade within a country and international trade is that the latter involves different currencies. If a New Yorker trades with a Californian, they both use the same currency, but trade between a New Yorker and a Canadian involves different currencies.

One essential complication in connection with foreign trade is that the relative values of currencies change. One year, £1 sterling could be worth \$2.00 US, the next, 1.50. This concerns the balance of payments between countries.

Disequilibria in the external balances of countries give rise to changes in exchange rates. The policy problems surrounding disequilibria in the balance of payments and changes in exchange rates are among the most pertinent ones in the world economy. If anything, they have become more important and attracted increasing attention as domestic capital markets have become increasingly integrated.

The first chapters in Part 3 are devoted to these macroeconomic aspects of international economics. The basic principles of foreign exchange markets are discussed and an explanation is given of how a country's balance of payments can be in disequilibrium and how it can be kept in equilibrium.

International monetary matters have been at the forefront of economic theory in recent years, and important reformulations of theory have taken place. They centre around what is commonly called the *monetary approach to the balance of payments*. This theory states (to put it somewhat bluntly) that in the long run the exchange rate will primarily be determined by changes in the money supply. An increase in the money supply will cause inflation. This in turn will cause a depreciation of the exchange rate. This is an illustration of 'the law of one price': if the price level increases, the value of the currency will fall proportionately.

■ *The international monetary system and international policy co-ordination*

The international monetary system underwent great changes in the 1970s. Up until 1971 the Bretton Woods system reigned, which meant that exchange rates were fixed. During the 1960s this system was put under greater and greater strain. Finally, it broke down. It has now been replaced by a system of floating exchange rates, but one within which some countries attempt to link their currency to those of other countries.

A system of floating rates does not, however, solve all balance-of-payments problems. Exchange-rate changes have been very large, and international capital flows of increasing importance. Some might argue that the problems posed for economies by the current problems may best be solved by the international co-ordination of macroeconomic policies, others that there should be a return to the pegged exchange rate system of Bretton Woods, yet others that international capital movements should once more be regulated. The closing chapters of Part 3 discuss these questions.