

DISARRAY IN WORLD FOOD MARKETS

A QUANTITATIVE ASSESSMENT

ROD TYERS and KYM ANDERSON

Faculty of Economics and Commerce,
Australian National University, Canberra
and
Economic Research and Analysis Unit,
General Agreement on Tariffs and Trade, Geneva.



CAMBRIDGE
UNIVERSITY PRESS

Contents

<i>List of Figures</i>	<i>xi</i>
<i>List of Tables</i>	<i>xiii</i>
<i>Preface</i>	<i>xix</i>
<i>Acknowledgements</i>	<i>xxi</i>
<i>Abbreviations and Glossary</i>	<i>xxiii</i>
<i>Symbols</i>	<i>xxv</i>

Introduction and Summary	1
---------------------------------	----------

ONE WORLD FOOD MARKETS AND THEIR BEHAVIOUR	15
---	-----------

1 Changing Patterns of World Food Prices, Production and Trade	16
1.1 The long-run decline and increasing fluctuations in world food prices	19
1.2 The increasing dominance of industrial countries in world food exports	21
1.3 Reasons for the relative decline in food prices and changes in comparative advantage	30
1.4 Changes in food self-sufficiency as an economy grows	38
1.5 Conclusions	41

2	Distortionary Policies Affecting Food Markets	45
2.1	The growth of agricultural protection in industrial countries	46
2.2	Food price distortions in developing economies	59
2.3	The insulation of domestic food markets	65
2.4	Conclusions	75
3	Reasons for the Pattern of Food Price Distortions	80
3.1	Why agriculture is subsidized in rich countries and taxed in poor countries	82
3.2	Why both rich and poor countries insulate their domestic food markets	104
3.3	Liberal trade as an international public good	115
TWO	EFFECTS OF FOOD MARKET DISTORTIONS	123
4	The Theory of Food Market Distortions: A Graphical Approach	124
4.1	Distorting a single commodity market in a small country	125
4.2	Distorting a single commodity market in a large country	128
4.3	Domestic effects of international price changes: some apparent paradoxes	132
4.4	The effects on net importing developing countries of liberalization in industrial countries	137
4.5	Liberalization and world welfare	144
4.6	When is a tax not a tax? The case of producer levies	146
4.7	Distortions with several inter-related commodity markets	148
4.8	Some important assumptions	152
4.9	The need for quantitative analyses	154
5	A Model of World Food Market Behaviour	156
5.1	Model description	156
5.2	The model's characterization of policy	165

5.3	Illustrations of the model's behaviour	171
5.4	How the model measures economic welfare effects of policy changes	176
5.5	Model validation	184
6	Effects of Existing Policies	188
6.1	The extent of food price distortions	189
6.2	Effects of existing policies on trade and welfare: the comparative statics	194
6.3	The effects of existing policies on food price risk	225
6.4	Some qualifications	232
6.5	Conclusions	234
 THREE FOOD POLICY REFORM		 239
7	Effects of Gradual Liberalization of OECD Food Markets	240
7.1	The reference scenario	242
7.2	The effects of 'tariffication' and partial liberalization: deterministic simulations	244
7.3	The effects of partial reform on price risk	264
7.4	Some qualifications	270
7.5	Conclusions	272
8	Economic Reform in the Centrally Planned Economies: The Great Enigma	274
8.1	The case of China	276
8.2	Possible impacts of reforms in other socialist economies	295
9	Policy Implications and Prospects for Reform	303
9.1	Summary of findings	303
9.2	Policy implications for industrial countries	306
9.3	Policy implications for developing and centrally planned economies	309
9.4	Prospects for reducing the disarray	311
9.5	Areas for further research	314

APPENDICES	317
Appendix 1 Algebra of the World Food Model and its Solution Algorithm	318
Appendix 2 Parameters Used in the World Food Model	336
Appendix 3 Income Distributional Effects of Price-distorting Policies: A General Equilibrium Model	401
Appendix 4 The Welfare Incidence of Pure Market Insulation	410
<i>Bibliography</i>	417
<i>Index</i>	435