CONTENTS

List of Figures	xi
List of Tables	xi
List of Acronyms and Abbreviations	xiv
List of Contributors	xvi
Preface	xix
PART A: METHODOLOGY AND MODELLING	
Chapter 1. GLOBALISATION AND THE ENVIRONMENT FROM A DEVELOPER PERSPECTIVE	PMENT
John Beghin, David Roland-Holst, and Dominique van der Mensbrugg	he
1. Introduction	3
2. Findings from Our Case Studies	5
Chile	5
Costa Rica	6
China	7
Indonesia	9
Mexico	9
Morocco	11
Vietnam 3. Conclusions	12
References	12 15
Chapter 2. TRADE AND ENVIRONMENTAL POLICY INSTRUMENTS AND	
John Beghin	
1. Introduction	17
2. Non-technical Description of Results for a Small, Open,	
Distorted Economy	18
Policy Reform to Address Pollution	20
Coordinated Trade and Pollution Reforms	22
Extensions of the Results	23
3. Should Environmental Policies Be Harmonised?	24
4. Policy Scenarios Considered in the Case Studies	24
5. Feasible Environmental Policy in Developing Economies	25
6. Concluding Remarks Notes	27
References	29 30
KCICICIUCS	30

John Beghin, Sébastien Dessus, David Roland-Holst, and	
Dominique van der Mensbrugghe	
1. Introduction	31
2. Overview of the Model	32
Production	32
Consumption and Closure Rule	32
Foreign Trade	33
Dynamic Features and Calibration	33
3. Model Description	34
Production	34
Income Distribution	39
Household Consumption and Savings	41
Other Final Demands	43
Government Revenues and Saving	45
Trade, Domestic Supply, and Demand	47
Equilibrium Conditions	52
Determination of Vintage Output and Capital Market Equilibrium	53
Macro Closure	56
Dynamics	57
Emissions	61
Country-Specific Details	64
4. ConcludingRemarks	67
Notes	69
Appendix A – Figures	71
Appendix B – The CES/CET Functions	77
References	78
Chapter 4. Input-Based Pollution Estimates for Environmental Assessment in Developing Countries	
Sébastien Dessus, David Roland-Hoist and Dominique van der Mensbrugghe	
1. Introduction	79
2. Data and Estimation Methods	80
3. Results	84
Total Toxic Pollution	84
Bio-accumulative Toxic Pollution	86
Other Air Pollutants	87
Other Water Pollutants	90
Implementation of the Results for Other Countries	90
4. Some Comparative Estimates	92

 $Chapter \ 3. \quad Empirical \ Modelling \ of \ Trade \ and \ the \ Environment$

5. Conclusions and Extensions	104
Notes	106
References	107
Chapter 5. MODELLING HEALTH IMPACTS OF AIR POLLUTION AND THEIR VALUATION: AN APPLICATION TO SANTIAGO, CHILE	
Brad Bowland and John Beghin	
1. Introduction	109
2. Air Pollution Emissions	111
Total Suspended Particulates	111
Sulphur Dioxide	112
Nitrogen Dioxide	113
Carbon Monoxide	113
Volatile Organic Compounds	113
Lead	114
3. Dispersion	114
4. Estimation of Health Endpoints	116
5. Valuation of Health Impacts	120
Morbidity	120
Mortality 6. An Application to Health Damages in Santiago Induced by	122
Policy Reforms	129
7. Concluding Comments	132
Notes	134
References	135
PART B: CASE STUDIES	
TIME B. CASE STOPLES	
Chapter 6. GROWTH, TRADE, AND THE ENVIRONMENT NEXUS IN CHILE: A COMPREHENSIVE ASSESSMENT	
John Beghin, Brad Bowland, Sébastien Dessus, David Roland-Hoist, and Dominique van der Mensbrugghe	
1. Introduction	139
2. The TEQUILA Model for the Chilean Study	141
3. Policy Reform Scenarios	143
4. Results from Policy Reform Simulations	145
Effluent Taxes	145
Trade Integration	150
Coordinated Trade Integration and Environmental Protection	154
5. Conclusions	160
Notes	165
References	166

Chapter 7. Trade Liberalisation and the Environment in China	
Sébastien Dessus, Amani El Obeid, and Dominique van der Mensbrugghe	
1. Introduction	167
2. Model Modification for China	170
3. Simulation Scenarios	171
4. Results	172
5. Concluding Remarks	183
Notes	185
References	186
Chapter 8. COORDINATED TRADE AND ENVIRONMENTAL POLICIES FOR MOROCCO	
David Roland-Holst and Maurizio Bussolo	
1. Introduction	187
2. Economic Activity and the Environment in Morocco	188
3. The Macroeconomic Reform Scenario	192
Growth and Emissions	193
4. Trade and Environmental Policy Scenarios	195
Liberalised Trade with the European Community	196
Environmental Policies	201
Combined Environmental and Commercial Policies	202
5. Conclusions	205
Notes	207
References	208
Chapter 9. Outward Orientation, Growth, and the Environment in Vietnam	
Amani El Obeid, Dominique van der Mensbrugghe, and Sébastien Dessus	
1. Introduction	209
Vietnam's Economic and Environmental Conditions	210
2. Simulation Scenarios	211
3. Simulation Results	213
Environmental Taxes	213
Trade Liberalisation	216
Coordinated Policy Reforms	221
4. Concluding Remarks	224
Notes	230
References	231

Chapter 10. Synthesis of Case Studies on Indonesia, Mexico, and Costa Rica	
Amani El Obeid	
1. Introduction	233
2. The Studies	233
3. Findings	235
Trade Integration	235
Environmental Policy	240
Coordinated Trade Integration and Environmental Policies	244
4. Implications and Conclusion	246
Notes	248
Appendix A – List of Industries and Pollutants	249
References	250
Chapter 11. CONCLUSIONS	
John Beghin, David Roland-Hoist, and Dominique van der Mensbrugg	he
1. Introduction	251
2. Guidelines from Analytical Results	251
3. Methodological Contributions	252
4. Common Stylised Facts	253
5. Country-Specific Findings	254
6. Future Research Directions	255
Notes	257
References	258

259

Index