Economic Development of Emerging East Asia

Catching Up of Taiwan and South Korea

Frank S. T. Hsiao and Mei-Chu Wang Hsiao



BRIEF CONTENTS

Con	tents	ix
List	of Figures	xiii
List	of Tables	xvii
Sou	rces of the Chapters	xix
Ack	nowledgments	xxi
Abo	ut the Authors	xxiii
Int	roduction	1
Ch	apters	11
Index		281
Pa	rt I Studies of Emerging East Asian Economies: Taiwan and Korea	
1.	Some Development Indicators of Taiwan: A Comparative Study of East Asia in the Early Postwar Period	11
2.	Capital Flows and Exchange Rates during the Asian Financial Crisis: Recent Korean and Taiwanese Experiences and Challenges	23
3.	Productivity Growth in Newly Developed Countries: The Case of Korea and Taiwan (with Changsuh Park)	59
4.	Korean and Taiwanese Productivity Performance: Comparisons at Matched Manufacturing Levels (with Changsuh Park)	93
5.	Colonialism, Learning and Convergence: A Comparison of India and Taiwan	119

Part II	Catching Up and Convergence in East Asian
	Economic Growth

6.	Miracle or Myth of Asian NICs' Growth: The Irony of Numbers	157
7.	"Miracle Growth" in the Twentieth Century: International Comparisons of East Asian Development	177
8.	Catching Up and Convergence: On the Long-Run Growth in East Asia	225
9.	Epilogue: From Emerging East Asia to an Asia-Centered World Economy	243

CONTENTS

Introduction

	Over	view of the Emerging East Asian Economies view of Chapters rences	3 4 7
Pa	rt I	Studies of Emerging East Asian Economies: Taiwan and Korea	
1.	Son	ne Development Indicators of Taiwan: A Comparative	
	Stu	dy of East Asia in the Early Postwar Period	11
	Abst	ract	11
	1.1	Introduction	11
	1.2	Some Economic Indexes	12
	1.3	Social Indexes	15
	1.4	Political and Defense Development Indexes	18
		Concluding Remarks.	20
		nowledgments	20
	Refe	rences	20
2.	Car	pital Flows and Exchange Rates during the Asian Financial	
	-	sis: Recent Korean and Taiwanese Experiences and Challenges	23
	Abst		23
	2.1	Introduction	23
	2.2	Four Explanations of the Crisis	26
		Comparison of Taiwanese and Korean Economies in the 1990s	27
		2.3.1 The real sector	28
		2.3.2 The external and financial sectors	31
		Short-term Debt, Exchange Rates and Crisis in Korea	38
		On the Currency and Banking Crises	42
	2.6	The Causality Test—The Case of Korea	44
		2.6.1 The unit root test	44
		2.6.2 The cointegration test	45
	0.7	2.6.3 The ECM causality test	46
	2.7	The Causality Test—The Case of Taiwan 2.7.1 The unit root test	48 49
		4.7.1 THE WHIT FOOT LEST	49

	2.7.2 The cointegration test	49
	2.7.3 The standard Granger causality test	50
	2.8 Conclusion: Lessons and Challenges	51
	Sources of Data	54
	Acknowledgments	54
	References	55
3.	Productivity Growth in Newly Developed Countries: The Case	
	of Korea and Taiwan	59
	Abstract	59
	3.1 Introduction	59
	3.2 The Malmquist Productivity Index	63
	3.3 Sources of Data	68
	3.4 Labor and Capital Productivities	69
	3.5 Total Productivity Growth 1979–96	71
	3.5.1 Analysis of the cross-section data	71
	3.5.2 Analysis of time-series data	80
	3.6 Productivity Growth of Three Categories in Subperiods	81
	3.7 The Innovators of the Manufacturing Industry	83
	3.8 Some Concluding Remarks	86
	Appendix 3A Overall Industrial Structure of Korea and Taiwan	87
	Acknowledgments	89
	References	89
4.	Korean and Taiwanese Productivity Performance: Comparisons	
	at Matched Manufacturing Levels	93
	Abstract	93
	4.1 Introduction	94
	4.2 The Malmquist Productivity Index	96
	4.3 The Data and Estimation of Productivity Growth Rates	99
	4.4 The Structure of the Manufacturing Industry	101
	4.5 Aggregate Productivity Performances	105
	4.6 The Trend of Each Index among the Three Categories	107
	4.7 The Trend of Five Indexes in Each Category	. 111
	4.8 The Innovators	112
	4.9 Conclusions	115
	Appendix 4A: Sources of Data	116
	Acknowledgments	116
	References	117
5.	Colonialism, Learning and Convergence: A Comparison	
	of India and Taiwan	. 119
	Abstract	119
	5.1 Introduction	120
	5.2 India and Taiwan in the World Economy	12
	5.3 The Colonial Heritage	12
	5.4 A Simple Model of Learning	13

~~			-
CO	NT.	H'N'I	1.8

хi

	5.5 Unit Root-Based Tests of Convergence 5.6 A Logistic Model of Convergence 5.7 Concluding Remarks Appendix 5A: Explanations of Table 5.1 Appendix 5B: Illustration of Table 5.1 Acknowledgments References	139 141 145 147 148 149
Pa	rt II Catching Up and Convergence in East Asian	
	Economic Growth	
6.	Miracle or Myth of Asian NICs' Growth: The Irony	
	of Numbers	157.
	Abstract	157
	6.1 Introduction	157
	6.2 The Nature of the "Miracle"	158
	6.3 On Total Factor Productivity	161
	6.4 On Percentage Contribution of TFP	163
	6.5 Other Estimates of TFP Growth Rates and Contribution	168
	6.6 Concluding Remarks	172
	Acknowledgments	173
	References	174
7.	"Miracle Growth" in the Twentieth Century: International	
	Comparisons of East Asian Development	177
	Abstract	177
	7.1 Introduction	177
	7.1 Introduction 7.2 International Comparisons of Real GDP per Capita	180
	7.2.1 Comparisons of real GDP per capita level	181
	7.2.2 Real GDP per capita growth rates	186
	7.2.3 Coefficients of variation	191
	7.2.4 Comparisons of the prewar and postwar growth of economies	192
	7.3 Long-Run Comparisons of Taiwanese and Korean Development	193
	7.3.1 Slow postwar recovery	194
	7.3.2 The take-off point	195
	7.3.3 The Korea–Taiwan reversal	· 195
	7.3.4 On the war damage	197
	7.3.5 Japanese legacy	198
	7.4 Falling behind the Japanese Growth	202
	7.4.1 Real GDP per capita ratios	203
	7.4.2 The transition period	204
	7.4.3 A common turning point 7.5 International and Domestic Environments	205 206
	7.5.1 Performance of Asian NIEs vis-à-vis Japan	206
	7.5.1 Performance of Asian Ness vis-a-vis Japan 7.5.2 The world development	200
	7.5.3 Why did Korea and Taiwan fall behind Japan?	207

•	7.6 Regime Change and Structural Change	210
	7.6.1 The Perron test	211
	7.6.2 The real GDP per capita series	212
	7.6.3 The real GDP per capita growth rate series	214
	7.7 Concluding Remarks	216
	Sources of Data	218
	Acknowledgments	218
	References	219
8.	Catching Up and Convergence: On the Long-Run Growth	
	in East Asia	225
	Abstract	225
	8.1 Introduction	225
	8.2 Games of Catching Up	227
	8.3 A Simple Model of Learning	229
	8.4 A Logistic Model of Convergence	232
	8.5 Time Required for Convergence	237
	8.6 Concluding Remarks	240
	Appendix 8A On the Coefficient of Learning (r)	241
	Appendix 8B Ratio of the GDP per Capita	242
	Appendix 8C Calculation of the Time Required for Convergence	243
		243
	Sources of Data	244
	Acknowledgments	244
	References	244
9.	Epilogue: From Emerging East Asia to an Asia-Centered	
	World Economy	247
	Abstract	247
	9.1 Introduction	247
	9.2 Cross-Section Comparison of GDP per Capita	249
	9.3 Time-Series Comparison of GDP per Capita in PPP	252
	9.3.1 Comparison among Asian NIEs, Japan, the	
	United States, China and India	252
	9.3.2 Comparison among Asian NIEs, Japan, the United States and	055
	the Four EU Countries	255
	9.3.3 Comparison among Asian NIEs, Japan, the United States	258
	and the ASEAN-4 Countries	
	9.4 Catching Up and Convergence in Emerging East Asia	259
	9.5 Conclusion—The Prospect of an Asia-Centered World Economy	261
	9.6 Postscript—Q&A	265
	Appendix 9A: Derivation of the Purchasing Power Parity (PPP) Exchange Rate	270
	Appendix 9B: On the Derivation of the Big Mac Index	271
	Appendix 9C: Taiwan as the "Republic of Technology" (ROT)	272
	Appendix 9D: Taiwan's Innovative Activities and the World Competitiveness Index	275
	Sources of Data	277
	References	278