

The Art of ECONOMIC CATCH-UP

Barriers, Detours and Leapfrogging
in Innovation Systems

Keun Lee



The Art of Economic Catch-Up

In his previous Schumpeter Prize-winning work, Lee analysed the "middle-income trap," in which a developing country grows strongly only to plateau at a certain point. Yet certain developing countries, most significantly China, have managed to escape this trap. Building on the conception of the ladder from developing to developed countries being kicked away, this book suggests alternative ways, such as "leapfrogging," in which latecomers can catch up with their forerunners. Providing policy solutions for development challenges in nontechnical terms, Lee frames his theories with insightful and inventive allegories. In doing so, he also accounts for the catch-up paradox, in which one cannot conclusively catch up if they are continually trying to follow the path of those ahead. Lee argues that eventual catch-up and overtaking require pursuing a path that differs from that taken by forerunners. This highly original and accessible book will appeal to students, scholars, practitioners, and anyone interested in economic development and innovation.

KEUN LEE is Professor of Economics at the Seoul National University, and the founding director of the Center for Economic Catch-up. He was also the President of the International Schumpeter Society, and a member of the UN Committee for Development Policy, and currently an editor of *Research Policy*, a council member of the World Economic Forum, and a member of the governing board of Globelics. He was awarded the 2014 Schumpeter Prize for his book on *Schumpeterian Analysis of Economic Catch-up: Knowledge, Path-creation and the Middle Income Trap* (Cambridge University Press, 2013).



Contents

List of Tables	page xii
List of Figures	xiii
Preface	xv
1 Introduction	1
2 Different Mechanisms of Growth in Poor and Rich Nations and the Narrow Pathway in Between	22
2.1 Introduction	22
2.2 Diverse Sources of MIT (middle income trap) with Innovation as the Key Hurdle and Solution	24
2.3 Between the Two Aspects of Innovation: Technologies vs. Sciences	30
2.4 Two Failures and One Barrier to Upward Transition: Capabilities, Scale, and IPR	35
2.5 Need to Take a Detour and Try a New Path or Leapfrogging	51
3 The Three Detours and Capability-Building	56
3.1 Introduction	56
3.2 Several Ways to Cultivate Technological Capabilities	59
3.3 Detour One: From Imitative to Innovation	64
3.4 Detour Two: From Short-Cycle to Long-Cycle Technologies	72
3.5 Detour Three: More, Less, and More GVC Again	89
3.6 Summary and Concluding Remarks	98

4	Detour of Promoting Big Businesses and SMEs during Transition	101
4.1	Introduction	101
4.2	Understanding BGs	103
4.3	Growing BBs and Attaining Economic Catch-Up	110
4.4	How to Grow Globally Successful SMEs	119
4.5	Growth Detour of Latecomer Firms	128
5	Flying on a Balloon Out of the Windows of Opportunity	133
5.1	Introduction	133
5.2	Catch-Up Cycle Framework	136
5.3	Leadership Changes and Windows of Opportunity	143
5.4	Initial Conditions and Capabilities for Leadership Changes	153
5.5	The Role of Leapfrogging and Incumbent Traps	157
5.6	System-Level Responses for Leadership Changes	162
5.7	Extension to China and the Service Sector As the Next Catch-Up Cycle	169
5.8	Summary and Policy Implications	179
6	Recapitulation of the Art	182
6.1	Human Capacity-Based View on Economic Development	182
6.2	From Failures and Barriers to Detours and Leapfrogging	186
6.3	Two Black Boxes in the Economics of Catch-Up	189
6.4	Distinction, Contribution, and Limitations	192
7	Practicing the Art in Late Latecomers	201
7.1	Introduction: Leapfrogging for Sustainable Development	201
7.2	From Detours to Leapfrogging in Africa	204

7.3 To Leapfrog beyond the Resource Curse in Latin America	219
7.4 Industry 4.0 and the Prospect of Leapfrogging in Southeast Asia	229
7.5 Size of Policy Space under the WTO Regime	234
References	244
Index	270