

7 Summary and Concluding Remarks

7.1 THE THREE THEMES OF THE BOOK

Emerging and latecomer economies continue to face difficulties in sustaining economic development, and these difficulties have been exacerbated by the COVID-19 pandemic, resulting in an increasing divergence between rich and poor countries. East Asian countries that have experienced successful catch-up, however, are an exception. For latecomer countries, one crucial decision is whether to follow the path of economic development traveled by rich countries or to seek out new trajectories (Lee, 2019). Despite the fundamental importance of this question, scholars who have offered mainstream prescriptions regarding latecomer development have not sufficiently explored this issue.

This book began with the recognition that latecomers do not always follow advanced countries' paths of technological development; rather, they sometimes skip certain stages and even create their own paths by taking detours and pursuing a leapfrogging strategy. The need for latecomers to take detours or attempt leapfrogging is due to the entry barriers to high-end segments that countries face in the middle-income stage. These barriers include intellectual property rights restrictions, protectionist measures instituted by incumbent countries, and the limiting of policy spaces by international economic bodies, such as the WTO. This book proposes an effective alternative to prevailing development thinking by focusing on non-linearity and the multiplicity of pathways for latecomers.

First, in the context of the classical debate on balanced versus imbalanced paths of economic development, this book discusses the use of balanced versus imbalanced NIS by latecomers to achieve sustained economic catch-up. I examine how the success or failure of

catch-up can be explained in terms of the catch-up NIS and trapped NIS. NIS in mature and advanced economies tend to be well balanced and score high for all the five variables of NIS. In other words, their innovations tend to be highly dispersed over a large number of firms, and they tend to specialize in long-CTT sectors where barriers to entry and profitability are high. A balanced catch-up NIS for a latecomer may refer to a latecomer improving in a linear and balanced manner in terms of the five NIS variables, such as in the case of Spain and Ireland and, more recently, Russia and India. In contrast, an imbalanced catch-up NIS pathway may refer to countries in East Asia that have nurtured a few big businesses specializing in short-CTT technologies while also continually improving their technological diversity and localization. This concept of the imbalanced catch-up NIS is consistent with the nonlinear catch-up model, in the sense that latecomers do not follow the same path as incumbents – that is, long-CTT and decentralized NIS – but instead seek out their own niches.

Such nonlinearity is a rational response to the high barriers to entry in long-CTT sectors; it also reflects the need for latecomers to concentrate their resources among a few big businesses to facilitate entry into low barrier-to-entry (short-CTT) sectors and technologies. Short-CTT sectors have lower barriers to entry because existing technologies owned by incumbents tend to become quickly obsolete or disrupted by frequent “creative destruction.” Late latecomers facing higher barriers to entry in high-end and value-added segments and sectors may seek diverse entry points not necessarily in hard manufacturing but in knowledge-intensive IT services or resource-based sectors by pursuing detours or leapfrogging. Such strategies are also consistent with the concept of the multiplicity and nonlinearity of development paths.

Second, for latecomers, successfully managing global–local interfaces is crucial to building up technological capabilities and sustaining economic development. Although all latecomer economies have welcomed FDI, they have found it difficult to utilize FDI

to nurture local production and innovation capacity. If a latecomer economy fails to properly manage this dimension of the global–local interfaces, it often falls into a liberalization trap, whereby local capabilities fail to grow while MNCs come to dominate the local economy. The worst consequence of this trap is premature de-industrialization and stagnation in the MIT. Local ownership becomes important during the middle-income stage and later because FDI firms tend to become increasingly reluctant to transfer or sell technology and are prepared to relocate to other production sites offering lower wages. These observations are consistent with the so-called “in-out-in again” hypothesis (Lee et al., 2018), which asserts that although latecomers should be open to GVCs by inviting FDI and MNCs during the early stages of development, they must eventually develop domestic production and innovation capabilities to increase domestic value-added and reduce the backward linkage to GVCs (share of foreign value-added in gross exports). Subsequently, as a final step, they must leverage their enhanced local capabilities to engage again with more GVCs.

However, it is crucial that local ownership and knowledge also be subject to global market discipline. The auto sector in Malaysia lacked global market discipline, and it failed to evolve into a globally competitive firm. Ultimately, the determining factor for success was whether domestically owned firms grew to be successful exporters in global markets. The emergence and growth of domestically owned firms do not occur spontaneously; rather, this process must be assisted by effective policy interventions that promote local capabilities. Moreover, such successes are possible not only in manufacturing but also in resource-based and IT service sectors.

Third, by focusing on the interactions between corporate innovation systems with sectoral, regional, and national innovation systems, this book emphasizes the importance of firms, particularly big businesses, as the ultimate drivers of catch-up growth in the latecomer context. This leading role of big businesses is consistent with the nonlinear pattern of latecomers increasing rather than decreasing

the degree of concentration of innovation during the catch-up stage. These growth-leading big businesses do not emerge spontaneously. Rather, they are the result of domestically owned firms building their capabilities with the assistance of various industrial and innovation policies. TSMC is an example of this, as it began as a spin-off from a public research organization. Any policy design must consider the coevolving nature of surrounding institutions and firms because private firms cannot prosper without sound institutions, and simultaneously, institutional development is useless unless there are private, domestically owned firms that can benefit from this institutional development.

7.2 KOREA'S INNOVATION-DEVELOPMENT DETOURS AND THE ROLE OF GOVERNMENT

This book has reinterpreted South Korea's growth miracle as a case study that demonstrates that multiple catch-up pathways are possible for latecomers and that latecomers do not necessarily follow the trajectories of incumbent advanced economies in a linear manner. This book redefines the Korean experience as an exemplary case of a country that took a detour from short-CTT to long-CTT sectors and from big business dominance to SME emergence. These two elements constitute a detour because advanced economies tend to be dominant in long-CTT, high barrier-to-entry sectors with innovations dispersed among both SMEs and big businesses. In this way, this book departs from conventional views in debates over the source of the Korean success, such as the influence of (un)favorable initial conditions, markets versus the government, inclusive versus exclusive institutions, and import substitution versus export promotion. The Korean experience demonstrates that successful economic catch-up involves strategically navigating global-local interfaces to promote the emergence of big domestic businesses. In other words, no successful catch-up has occurred without generating a certain number of big businesses, which are needed not only to overcome latecomers' disadvantages regarding entry barriers but also to ensure a certain

degree of resiliency against crises. This observation differs from the existing development literature, which asserts that no country has successfully achieved a high-income economy without growing its manufacturing sector.

The Korean case is also consistent with the detour view on the role of government, which asserts that government should not decrease its intervention in a linear manner over the stage of development but rather may need to increase it at the upper middle-income stage. In this scenario, the scope of government intervention forms an inverted U-shaped curve. For a country to enter high value-added sectors and catch up with leading countries, governments may need to undertake more direct forms of intervention, such as initiating public–private R&D initiatives. Such interventions may be necessary because firms at this stage face increased difficulty in terms of entry barriers and intellectual property rights disputes. Moreover, technology transfer becomes more difficult as a country approaches frontier technologies, and high-end sectors in the global market tend to be oligopolistic or monopolistic in nature.

Therefore, there are two possible modes of government involvement: a slow and a fast mode of catching up. In the slow yet steady mode of catching up, the main focus of public intervention is on re-skilling and up-skilling the local labor forces so that MNCs do not move to other locations but rather stay in the same location and engage in high-value activities while hiring local workers. The other, faster catch-up mode resembles the situation in Shenzhen and the auto sector in China, where asymmetric intervention has been mobilized to foster domestically owned firms and their R&D activities rather than foreign-owned firms. Regarding the need to switch to a more decentralized mode of innovation and growth, a slow mode of catching up relies on spinoffs and positive externalities from MNCs, whereas a faster mode involves active utilization of public venture capital and the creation of secondary stock markets for IPOs by startups.

7.3 CONTRIBUTIONS, LIMITATIONS, AND THE FUTURE

This book counters prevailing views on economic development and offers a unique contribution to the literature on economic catch-up. Whereas the traditional linear view of development has taken a “more is better” approach, this book advocates that latecomers should pursue detours or leapfrogging, which conforms with a “less is better” approach. Instead of the conventional prioritization of manufacturing, this book proposes prioritizing domestic ownership and knowledge in specific sectors and regions, and asserts that no country has successfully developed a high-income economy without generating a certain number of globally competitive big businesses. Instead of placing priority on free markets, as the Washington Consensus does, this book argues that economic catch-up is only possible with active and planned government interventions, which are needed to overcome latecomers’ disadvantages regarding barriers to entry at the middle-income stage.

The book is not free from certain limitations, and it leaves several questions to be addressed by future research. First, while this book proposes a theory of how governments can facilitate development detours, it does not elaborate on the detailed rules and modus operandi of governments and relevant agencies. While the key underlying concept in the book is innovation systems, the book has not fully engaged with what can be called the varieties of government systems. The roles and types of government may exceed the simple dichotomy of democratic versus authoritarian governments, and the roles of these two governance systems may also change over the stages of development. Whereas this book tends to give more weight to vertical rather than horizontal industrial policy, the effectiveness of any policy intervention critically depends on the capacity and autonomy of government and its agencies, which are somewhat taken as *a priori* conditions in this book. When capacity and autonomy (free from vested interests) are weak, pursuing active intervention is risky. Broadly speaking, interaction and coevolution between

innovation systems and government systems may exist, and this dynamic should be analyzed in future studies.

Second, the impact of any policy intervention is constrained by initial conditions, including historical legacies and political conditions. In latecomer economies, one of the most important conditions is colonial experiences and their legacies, which include, most importantly, land ownership and land reforms. One of the historically important conditions that differentiates East Asia from Latin America is land reform. Land reform is important because it gives peasants some ownership of land, which can be utilized for newer forms of commercial venturing or can be sold to pay to educate their children, resulting in human capital creation. Land reform and its impacts on the traditional ruling class also affect and determine the political landscapes of post-colonial economies and subsequent economic policy trajectories.

Third, the political and economic power balance between global institutions and national actors determines the nature and dynamics of global–local interfaces, which is one of the core topics of this book. Former colonial forces tend to influence latecomer economies and policymaking by forming alliances with the new ruling parties and classes. Consequently, any economic policy which tries to build local economic entities in defiance of foreign-aligned entities is affected. For instance, in Brazil, the Lula government (2003–2011) tried to revive industrial policy, whereas the Bolsonaro government tried to abolish any institutional vehicle involving industrial policy. Most recently, changing geopolitics involving the US–China confrontation has emerged as an important factor that may affect economic policymaking and global–local interfaces for latecomer economies in the Third World. The entirety of global governance, including the WTO regime, faces great changes that will substantially affect economic policies and the fortunes of economies around the world. Each country will be forced to formulate new strategies for achieving growth and sustainable development. This topic should be explored in future studies.

Finally, this book does not engage with the issue of sustainable development and net-zero or negative carbon emissions. Indeed, this is too important a topic to be dealt with as a side topic in this book, which has a different focus. Broadly speaking, seeking alternative economic development strategies that produce fewer carbon emissions is consistent with the idea of nonlinearity and the multiplicity of developmental trajectories, which are the key concepts of this book. With this issue as well, the positions and strategies of latecomers should be different from those of the advanced and incumbent economies. While the concept of leapfrogging is still appealing (Lee, 2019, Chapter 7), it must be further elaborated on and tailored to the context of sustainability. This is an important issue to be explored in future research. A recent work by Lundvall (2022) provides an effective framework about how to utilize the concept of innovation systems to deal with this issue of sustainable development including climate change.