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Cobby, Roy

King's College London

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Roy W. Cobby

Department of Digital Humanities, King's College London, London, United Kingdom;

roy.cobby_avaria@kcl.ac.uk

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The Art of Economic Catch-Up: Barriers, Detours and Leapfrogging in Innovation Systems, Keun Lee, Cambridge University Press, Cambridge, UK & New York, NY, USA, 279 pp. (2019), Hardback £64.99, $80.00 (ISBN: 978 1 10847 287 6) Paperback £22.99, $29.00 (ISBN: 978 1 10846 070 5), eBook from £22, $27.78 (eISBN: 978 1 78471 509 0). The eBook version is priced from £22 from Google Play, ebooks.com and other eBook vendors

Keun Lee is an expert observer of economic catch-up. In 2014, his book Schumpeterian Analysis of Economic Catch-up: Knowledge, Path-creation and the Middle-Income Trap (Lee, 2013) won the Schumpeter Prize. He has now written The Art of Economic Catch-Up (2019), feeling the former was “overly technical for a large audience” (p. XV). This book is more accessible, although its intended audience is still specialised: policymakers, researchers, entrepreneurs, and general development practitioners in emerging economies. Indeed, its best contribution are the succinct phrases and metaphors Lee employs to describe barriers and the methods to overcome them. The first one is that “catching up cannot be attained if one merely continues to catch up or imitate the forerunners” (p. XV). Development is a moving target, mainly because of “two failures and one barrier” (pp. 35-51). The first failure relates to R&D activities. Firms in emerging economies are stuck in an “innovation paradox” as their lack of innovation capabilities precludes them from further innovation with expected low returns. The second failure is firm size. Both advanced economies and successful developers have several companies listed on the Global Fortune 500. An excessive number of SMEs leads to premature deindustrialisation and “servicisation”; big firms actually hold positive scale externalities, and can carry out R&D, marketing and other higher-value added activities more efficiently. Finally, strict intellectual property rights (IPR) are increasingly becoming a barrier to exports from catching-up countries.

What are the proposed solutions? They are based on three seemingly contradictory paradoxes: to be similar, be different; a detour is faster than a straight road; and fly through the windows or fall through the windows. To overcome them, Lee offers “four detours” (pp. 56-132) and “leapfrogging” (pp. 133-181). The first detour aims to overcome technological capability failures by focusing on short-cycle technologies, where entry is easier and incumbents become obsolete really quickly. The second detour emphasises imitation instead of innovation; this does not mean emerging firms should simply copy. Rather, by starting with a “petit patents” regime, they can gradually switch to stronger IP enforcement once they begin catching-up. The third detour involves a selective engagement with global value chains. Linking up at low-middle income stages, acquiring tacit knowledge and then developing domestic production networks before opening up again to foreign investment. With regards to firm size capability failures, Lee focuses on business groups as a fourth organisational “detour” for catching-up countries. Among other benefits, he identifies groups’ ability to cross-subsidise from profitable to less profitable but promising ventures; long-time thinking; aggressive investments; and quick decision-making, especially with regards to goals set by governments or other public organisations. The final suggestion, to fly a balloon to overcome the ladder, specifically refers to taking advantage of windows of opportunity opened through changing techno-economic paradigms. For instance, Samsung was able to “leapfrog” over Sony by focusing on emerging digital applications for TVs and other appliances.

Obviously, this book is also a critique of a particular understanding of economic development; namely, the neoclassical approach that was embodied by the Washington Consensus and severely limits the degree of government intervention. Lee takes time to carefully consider the needs of low-income, middle-income, high-middle-income and advanced economies; and the policy space available under the WTO regime. The final review of the authors' arguments also debates its continuities and differences with three approaches (pp. 192-7). First, it qualifies the Gerschenkron-Amsden framework's emphasis on developmental states and banks, highlighting the institutional importance of "business groups" and specifying the types of sectors suitable for intervention. With regard to the search for global convergence via global value chains, Lee's work shows how integration must be strategically deployed. An initial opening, followed by restrictions and localisation; and a final re-integration once firms have attained sufficient capability development. Finally, in relation to structural transformation and neoclassical development economics, via Schumpeter the author emphasises the degree of economic heterogeneity between sectors. They cannot be reduced to simple commonalities between equally interchangeable factors of production. Instead, latecomers should emphasise only those sectors with higher growth prospects *and* low entry barriers. That is, those which are based on short-cycle technologies and explicit knowledge.

Indeed, while the book is certainly prescriptive, it takes a pragmatic approach, comparing the literature on "catching-up" with actually existing experiences of nations moving up from middle-income status to high-middle-income or high-income status. This includes sectors as diverse as phones, jets, steel or wine, and the examples really help at highlighting the failures and detours taken by governments and firms across the world. In the last sections, Lee covers the situation of "late latecomers", those low and middle-income nations which could benefit the most from the art of catching-up. Leapfrogging directly to sustainable technologies, such as solar-powered batteries, is offered as an option to bypass "carbon lock-in" in advanced countries (p. 203). In fact, this can be a solution to overcome the issues related to the "Environmental Kuznets

Curve" (Jackson and Roberts, 2000) and fulfil the Sustainable Development Goals (SDGs). Rather than following the path set by earlier developers (and thus reaching an unsustainable level of environmental damage), late latecomers could switch more rapidly to an "environment-friendly trajectory of development" (p. 203).

As with the "green economy", the digital sector is mentioned as another possible space for a capability "detour" in Southeast Asia. Accordingly, middle-income countries could focus on embracing the Fourth Industrial Revolution by directing investment towards short-cycle software and platforms; perhaps those linked to digital agriculture, transport and other labour-intensive activities (p. 229-34). However, the latest UNCTAD report (2019) suggests that the tech sector is characterised by oligopolistic conditions. It is mainly a few North American and Chinese companies which control the market; as incumbents, they benefit from network effects and more sophisticated data processing operations. In fact, they have been busy acquiring success cases from emerging economies (for instance, M-Pesa is owned by British firm Vodafone). Perhaps, in connection to Lee's closing section on WTO policy space, emerging digital firms should be allowed some protection as they "promote competition and efficiency by correcting market failures and distortions associated with monopoly" (p. 241).

Finally, economic and development historians will be aware of the particular global political economy during which most of the examined case studies were able to catch-up. For instance, Lee recognises how "a chaebol in Korea emerged from the rent-seeking and business opportunities surrounding American foreign aid allocation in the 1950s" (p. 114). On the other hand, Latin American industrial policies were "often stopped because of unstable macroeconomic conditions or liberalization movements along the Washington Consensus" (p. 221). Plus, "the typical conditions of already-free capital mobility and already-privatized banking sectors indicate that promoting manufacturing in typical African countries is difficult" (p. 213). This is not to suggest that catching up is impossible, but that perhaps only nations with sizable domestic markets and geopolitical leverage can really attempt to cross the "narrow passage". In fact, China is the only nation that has really been able to partially catch-up (at least in technological and innovation capabilities) in recent times, while others like Mexico, Brazil or South Africa have stagnated at middle-income level. Perhaps the ladder has not been completely "kicked away", to borrow Ha Joon Chang's (2002) expression, but its rungs are definitely narrower than they used to be.

References

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Abstract

This book by Keun Lee argues that emerging economies must stop catching up, to really catch up. In order to overcome technological and firm size capability failures, plus the intellectual property barrier, middle-income countries have to take detours and leapfrog. They should focus on short-cycle technologies, pursue "soft patent" systems, selectively engage with global value chains and promote business groups rather than SMEs. This will allow emerging economies to "fly a balloon" and leapfrog over incumbent technologies; provided there is a techno-economic window of opportunity. The book also critiques mainstream economic theories, adding complexity and suggesting the different applicability of industrial policies according to the level of development. For instance, global value chains are useful to acquire technological and firm capabilities at early stages, but can contribute to stagnation at middle-income level. The book lists several examples to illustrate the theories, such as the wine or the jet plane markets. It also suggests possible windows of opportunity for emerging economies to catch-up. Green or sustainable economies are a particularly suitable investment, as they will both help with surpassing incumbents and limiting environmental damage in the long run. However, the prospects for digital industrial policy are more limited, as currently the market has oligopolistic tendencies. Lee certainly reviews the limited policy space under the World Trade Organisation, which allows for some catching-up initiatives. However, it could also the case that (excepting China), the current global political economy is hostile to most of the interventions described here.