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Review of Dan Breznitz and Michael Murphree's *Run of the Red Queen*

Dan Breznitz and Michael Murphree. 2011. *Run of The Red Queen: Government, Innovation, Globalization, and Economic Growth in China*. New Haven, CT: Yale University Press. 296 pages, ISBN 978-0300152715 Paper ($29.00).

China's meteoric rise to global economic power has attracted much attention and sparked extensive debate among scholars and popular media alike about China's development model and its possible future. Discussion in the West is often one-sided and based on assumptions from the development experience of core countries. One pervasive view is that because China lacks true innovation capacity and its economic miracle is built upon exploiting a vast reserve of cheap labor, it will not be sustained in the long run. In this refreshing, provocative, and meticulously researched book, Dan Breznitz and Michael Murphree challenge the popular opinion and provide a nuanced, in-depth analysis of China's innovation and political-economic system.

Contrary to the conventional perception of innovation as inventing new technologies and products, the authors argue that China has developed strong innovation capacity—not by following "the de rigueur techno-fetishism" of novel-product-innovation in the West, but by keeping pace with the technological frontiers of other nations and excelling in a wide array of second-generation, production and process innovations. The authors call this innovation strategy China's "Run of the Red Queen." They argue that, like the Red Queen in Lewis Carroll's *Through the Looking-Glass*, Chinese companies run as fast as they can to remain in the same spot. They shine by developing quickly enough to "remain at the cusp of the global technology frontier without actually advancing the frontier itself" (3). However, China's Run of the Red

Queen model was not developed by design; rather, it is driven by entrepreneurial local governments based on trial-and-error experimentation. In fact, this system of innovation does not meet the objectives and ambitions of the Chinese central government, which has been actively pushing for indigenous novel-product innovation. Nevertheless, the authors contend that the existing system of innovation and economic growth should be sustainable for the medium and the long run, thanks to the ever-growing fragmentation of global production and interdependencies among countries and regions specializing in particular stages of production within specific industries.

To explain this unique development path, the book systematically examines the evolution of China's information-technology (IT) industry, drawing from extensive research and multiple data sources, including 209 interviews in three major IT industrial regions in China: Beijing, Shanghai and the Pearl River Delta (PRD). In Chapters 1 and 2, the authors identify two key structural processes driving China's Run of the Red Queen model: the global fragmentation of production and China's domestic politics of decentralization and "structured uncertainty." Fragmentation and interdependencies among companies and countries along global production chains provide opportunities for latecomers (like China) to thrive in global production networks by finding specific niches based on their competitive advantage. Meanwhile, China's decentralization and the lack of consistent and clearly-defined central industrial policy during the reform era have created structured uncertainty—an institutional feature defined as "an agreement to disagree about the goals and methods of policy, which leads to intrinsic unpredictability and inherent ambiguity in implementation" (38). The authors argue that structured uncertainty allows for local experimentation, and forces enterprises to develop highly flexible business models emphasizing short-term innovation, immediate gains, and low risk. But it has also discouraged the kind of long-term, high-risk R&D projects necessary for novel product/technology innovations.

The empirical chapters (3-5) provide a detailed and nuanced account of the different development paths of China's IT industry in the three regions to illustrate these dynamics. While Beijing focuses on start-ups built on China's strong human capital and educational resources, Shanghai is dominated by state conglomerates and big foreign companies, driven by an activist and capable local government with a planned vision for the city's development. The Pearl River Delta (PRD), on the other hand, builds its innovation and industrial system through manufacturing-based entrepreneurialism and a pragmatic approach. The weight of empirical evidence supports the authors' argument that successful innovation in China is driven by local comparative advantage, not central planning. Together, the three regional models, despite their distinct variations, show that structured uncertainty has driven local governments and enterprises

toward adopting similar innovation strategies in terms of promoting low-risk, short-term, and process innovations rather than engaging in long-term, R&D and novel-product-innovation.

The book's rich empirical account, however, reveals a notable gap between the Chinese experience and the authors' theoretical framing of the Run of the Red Queen analogy. Chinese companies certainly run as fast as they can in second-generation innovation, but they are not simply running to remain in the same place. Instead, the empirical chapters illustrate how entrepreneurial and pragmatic local governments work closely with enterprises to identify and leverage their local comparative advantage, with the goal of finding suitable niches in global production chains. And there have been active efforts among Chinese indigenous companies (e.g., Huawei) and localities (e.g., Shenzhen) to carve out more niches, excel in a wide array of innovative activities, and gradually move up the global value chain. As the authors themselves acknowledge, an important lesson that China can teach other developing countries is that "an emerging economy that carefully picks its preferred niches and stages of production can achieve success in rapid-innovation-based economic growth" (205). So the Chinese story is not running faster and faster to remain in the same place, but one of strategically specializing, diversifying, and upgrading to get ahead. To this end, I find the Run of the Red Queen analogy rather misleading.

Breznitz and Murphree make a valid point that countries don't have to master novel-product innovation in order to achieve sustained growth and job creation. However, it would be short-sighted to argue that "specialization at any stage can afford sustained advantage and profitability" (41). Indeed, as global commodity/value-chain analysis has convincingly shown, developing countries or regions can attain more desirable developmental outcomes – including labor rights, working conditions, and environmental protection – through active state policies and concerted efforts at upgrading within particular commodity/value chains (See, e.g., Bair 2009; Gereffi and Korzeniewicz 1994). From a developmental standpoint, scholars of world-system analysis have conceptualized the social "contradictions of semiperipheral success," in which successful late-industrializers tend to find themselves "running faster and faster to stay in the same place"—that is, stuck in the same position in the global hierarchy of wealth (Silver 1990; Arrighi 1990). Without forward-looking and concerted policy efforts that aim to purposefully navigate the global value-added hierarchy, developing countries may well find themselves caught in the endless Run of the Red Queen game, essentially running in place without changing the status quo of the global economic hierarchy.

Overall, I would still recommend *Run of the Red Queen*. The extensive research, rich empirical account, and analytical rigor make this book a worthwhile read for both scholars and general readers interested in China's economic reforms and development, technological innovations, and industrial policies.

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