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### Bringing the State Back In, but Differently

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## REVIEW

# Bringing the State Back In, but Differently

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*Innovation and the State: Political Choice and Strategies for Growth in Israel, Taiwan, and Ireland*, by Dan Breznitz, New Haven, CT and London: Yale University Press, 2007, xviii + 262 pp., US\$45.00 (cloth), ISBN: 978-0-300-12018-9.

Transitioning from economic catch-up towards innovation is a pressing issue that triggers considerable attention from both academic researchers and policy makers. In the past two decades, the developmental state model (or the state-led industrialization model) has been used quite successfully to explain the cases of economic catch-up in East Asia. However, the same model meets some difficulty in explaining their transition toward more knowledge-based or innovation-based industrialization. A new theoretical framework, therefore, is urgently needed. On the other hand, the dominance of neoliberalism in international political economy has led to a hollowing out of the state's functions in the age of globalization, based on the argument that the market, not the state, is the driving force of economic development and transformation. Whether the state has lost its importance in guiding an economy moving toward innovation is a contested issue that deserves investigation. Breznitz's new book, which analyzes the relationship between the state and the successful development of innovation-based industries in Israel, Taiwan, and Ireland, is not only timely but also theoretically significant in this context.

Breznitz's main argument is that even in rapid innovation-based industries, the state is still very important in giving birth to these industries and develops them in specific ways. That is to say, the state not only gives rise to these high-tech

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industries, but also largely shapes their linkages to global production networks, their respective industrial systems, and their degrees of strength and weakness in global competition. The author argues that the state in developing these rapid innovation-based industries cannot be based on a Weberian model (i.e. a professional and internally coherent elite bureaucracy with far-sighted views), but has to be a networking and embedded type; the state should act as a flexible facilitating agent, not as an overall commander (p. 29). This is because these innovation-based industries do not have a mature market, their knowledge is still in flux, and the industries are globally fragmented so that a traditional state-led model is inappropriate. In addition, as opposed to the neo-developmental statist model (e.g. the work of Peter Evans), which advocates that industries be socially embedded within the state, Breznitz advocates a co-evolutionary and political approach. The latter argues that state actors need to motivate industries to engage with its policy networks that evolve through time from a more hierarchical type to become more heterarchical or polycentric and international forms. This means the state should become a network builder, with the role of 'moving from a position of controlling the network to a position of centrality—that is, becoming an important node within a bigger and much more multiplex, larger, and diffused network' (p. 31). In this way, Breznitz argues, the state is able to facilitate innovation.

After the theoretical discussion in Chapter 1, Breznitz lays out in subsequent chapters an empirical analysis of each of the three countries' software and hardware sectors. In Israel, the key development agencies of the state put significant resources toward supporting private-sector R&D activities. These private firms have focused on frontier and creative new products that demand huge financial investment for supporting their intensive in-house R&D activities. However, the Israeli state did not fully support the financial demand from the private sector; instead it channeled venture capital and MNCs to collaborate with local firms and encouraged them to list on the NASDAQ. As a result, many of the technological frontier firms were too weak to sustain themselves and were acquired by MNCs to become the R&D centers of the MNCs' global value chains.

In contrast to the Israeli case, the Taiwanese state adopted a state-involved approach to lead the economy to upgrade to innovation-based industries. Seeing the deficiency of an economy based on small- and medium-sized firms, the Taiwanese development agencies have tried to help local companies to improve their manufacturing and design service capabilities through state-sponsored R&D institutes (mainly the Industrial Technology Research Institute) and then diffuse the results into the market through specific alliances with private firms. Again, in contrast to the Israeli case, Taiwanese R&D focused on applications, rather than on frontier technologies, due to the state's policy orientation and weak venture capital sector. The state's support of R&D on technologies of application innovation boosted many private firms to become leading suppliers of IT hardware to MNCs. However, Breznitz also argues that the same successful model does

not apply to the software industry, due to the fact that the state's development agency itself became a competitor with private firms. This resulted in weaknesses in the software industry competing in the small domestic market.

Finally, the Irish case is situated in the middle where the key state development agencies emphasized attracting multinationals, predominantly from the United States, to locate software production in its territory at its initial stage while gradually supporting local firms that achieved some success globally. The Irish state's overwhelming MNC-oriented industrial policy has been conditioned by the state's anxiety in dealing with mass unemployment since the 1950s, causing the attraction of high-tech multinationals to be seen as a solution. Still, even after some private software firms had gained global success, which brought these firms to the attention of state agencies, the state still regarded the software industry as a tradable service that did not need to have specific R&D support. Therefore, the author argues, the Irish state's policy, focusing on enhancing higher education to upgrade the economy, ended up simply bringing more MNCs to set up R&D centers to take advantage of the low costs in Ireland and thus dominate the Irish economy.

In the final chapter, Breznitz concludes analysis of the three cases by emphasizing the comparable factors and develops some policy implications for industrializing countries in designing their industrial policies for upgrading. He particularly focuses on the role of the state in solving the market failures in industrial R&D, in facilitating innovative activities, and in attempting to manage constant change. The last of these is important to ensure that successful policies at the initial stages do not become harmful in later stages.

Breznitz's claim of providing a new framework in studying the industrial transformation of late industrializing countries is convincing, especially regarding the Taiwanese case, with which this reviewer is most familiar. Theoretically, his book makes the following two contributions.

First, he provides a new angle to study the role of the state in economic upgrading. His book has clearly demonstrated that the developmental state is no longer suitable for an innovation-based economy; instead a networking state is needed. This view challenges the perspective that still promotes the developmental state thesis for industrial upgrading. Also, his view obviously rejects the dominant neo-liberal policy discourse, which sees no role for the state to facilitate economic transformation.

Second, Breznitz has brought the importance of finance into consideration, which has been ignored by many neo-developmental statist's accounts. He thus avoids conflating two key factors, namely finance and social embeddedness. Keeping these analytically distinct, Breznitz emphasizes that social embeddedness of the state has to have a financial element, because of the financing needs of developing new firms particularly for new and risky or uncertain technologies. He clearly shows how a few significant figures in each of these three countries built and developed a venture capital industry to nurture new technology firms.

Breznitz thus illustrates how the financial support to private firms has largely shaped the ways in which industries develop in each country and are inserted into global production networks.

These contributions notwithstanding, the new networking state perspective that Breznitz suggests is still not very clear in terms of developing a new technology industry. One can thoroughly agree that this networking type of state may bring different types of actors together to form innovative firms. Nevertheless, there is little discussion of how each country managed departmental conflicts and institutional tensions that were competing for similar resources. The question arises, therefore, of how a state can still manage the plurality of networks and coordinate conflicting interests in order to facilitate innovation activities; a problem that needs to be carefully tackled.

In addition, as the networks are not 'governed' according to national purpose, it is unclear whose purposes guide new policies for technological development. For instance, the Israeli state's policy resulted in its many innovative high technological firms becoming R&D centers of American firms and the Irish policies too were mainly beneficial for MNCs rather than for new domestic firms. In the Israeli case, a new technological firm will simply become a branch of a MNC with its own interests; while in the Irish case, the result is an economy that is dominated by MNCs with few capable national firms. In both cases, without considering the domestic rooting of industrial development it is doubtful that industrial policies in promoting innovation are still beneficial for long-term development of a national economy in the age of globalization. Breznitz seems not to have positioned himself on this issue.

Given this comment, Breznitz's new book provides new insights to our understanding of the role of the state in transitioning toward innovation-based industries. It contributes to our understanding of why different countries develop their industrial upgrading on different paths. I would recommend that this book be read by students who are concerned with economic development in both developed and developing countries and those who are interested in studying issues regarding innovation in science and technology.