Andrzej Sławiński*

ORCID: 0000-0002-8597-8205

aslawi@sgh.waw.pl

Dan Breznitz's book *Innovation in Practice - How to Build Prosperity in an Unforgiving World.* Oxford University Press New York 2021

Think global to foster local innovation-based growth

Professor Dan Breznitz, Co-director of Innovation Policy Lab at the University of Toronto, has published extensively on the experiences of various countries related to promoting innovation-based economic growth. Therefore, it is worth to start with asking what motivated the author to write his latest piece.

In his undoubtedly mission-driven book, the author wants to tell local leaders what factors they should take into consideration in order to achieve innovation-driven economic growth. He argues that although it is possible to mobilize the human and social capital of a local community, it is a challenging task. His message to local leaders is that in order to succeed, they must first and foremost understand the unforgiving world of the modern highly globalized economy rather than uncritically follow the run-of-the-mill recommendations so often dispensed by experts.

For whom is the book? For all local leaders in many many countries, as it shows that firms based in a given town or a region have a good chance of finding their place in todays' highly fragmented production networks. The author focuses especially on desolate North American towns and regions, which were hit by deindustrialization.

The decline in industrial employment which was the source of income for a large proportion of the middle class in the United States and other developed countries began already in the 1970s. In the 1990s, the process rapidly accelerated due to the automation of production and its relocation to low labor cost economies,[1] including over 40% of the U.S. electronics industry.[2] A case in point is Apple, the company with the largest capitalization in the world, which moved virtually all production to China.[3]

In the wake of deindustrialization, a number of the US cities and regions found themselves in a dire situation. Contrary to previous economists' hopes , rapidly vanishing jobs

* Andrzej Sławiński – professor in Department of Quantitative Economics, SGH – Warsaw School of Economics

[1] M. Levinson (2016). US Manufacturing in International Perspective, Congressional Research Service

[2] G. F. Davis (2013), „After the Corporation", Politics and Society, vol. 41, issue 2

[3] G. F. Davis (2013) "Shareholder Value and the Job Crisis", *American Management*, Summer issue

in industry have not been replaced by equally attractive ones in the service sector.[4] Consequently, the social costs of deindustrialization in the US turned out to be much higher than originally expected.[5]

Among the places that have suffered most are of course those American cities that were originally traditional industries centers. Even so, Dan Breznitz believes that they still have good prospects for innovation-driven growth thanks to the human and social capital they managed to accumulate in the past.

Another important reason why Breznitz decided to write his latest book is the Israeli experiences with its innovation promoting policy. The author uses it to illustrate the benefits and risks associated with supporting innovation-based growth.

Israel has achieved tremendous success in creating its high-tech sector (with 70% share in exports), which, however, contributes little to the development of the rest of the domestic economy. What were the reasons for this mixed success?

They are partially rooted in the model of promoting innovation-driven growth based on start-ups financed by venture capital funds. It proved extremely effective in fostering R&D in private firms, but over time many Israeli technology companies either became a part of large US corporations or turned themselves into R&D focused multinationals, which tend to generate more jobs abroad than at home. In the author's view the Israeli high-tech sector has become a second Silicon Valley which offers great jobs for highly qualified specialists but contributes little to the development of the rest of the economy.

How then can a region or a city engineer innovation-driven growth to bring well-paid and attractive jobs also to people with a variety of qualifications, skills and experience?

Dan Breznitz responds that local authorities, rather than adopt the widely acclaimed model of promoting start-ups financed by venture capital, should design ecosystems conducive for the emergence and development of technology companies, which might become an integral part of the local economy and create jobs for the local community. For this to happen, local authorities should focus especially on teen-tech firms with promising growth prospects.

Having said that, though, the author immediately warns local leaders that there are no easy solutions to be universally applied. He emphasizes that the first step towards potential success is to formulate a clear vision for innovative firms that can thrive in a given region.

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[4] D. H. Autor, D. Dorn, and G. H. Hanson (2016). "The China Shock: Learning from Labor Market Adjustment to Large Changes in Trade", *Annual Review of Economics*, vol. 8, pp. 205-240.
[5] A. Case, A. Deaton (2020). *Death of Despair and the Future of Capitalism*, Princeton University Press

Formulating such a vision requires local authorities to perform two kinds of assessments.

The first one is to identify the competitive edge of their region. The author cites numerous successful examples of such approach - one of them being Hamilton, a city which used to be a prosperous industrial center, but had to face serious economic difficulties once its trademark steel mills had been closed and their production moved aborod. Yet the community of Hamilton found the energy and strength to create new prospects for the city's development. Local authorities decided to focus on health care as the local competitive advatage. They mobilized the city's human and social capital, i.e. the city people's competencies and their readiness to cooperate, to achieve this goal. Among other things, they involved managers from the closed steel mills in the restructuring of the local hospitals and medical academies.

The other task for local authorities is to identify the places in the global supply chains where companies from a given city or region could successfully use their competitive advantage. In short, Breznitz points out that in the cotext of production globalization, the effectiveness of local initiatives in promoting innovation-driven growth depends on wheter or not local authorities understand the working of the global economy.

The author further argues that due to the fragmentation of today's production process, the opportunities of a region or a city to initiate innovation-based growth are to be found not only in R&D: local firms may specialize in introducing improvements at every stage of a product's life cycle – from its design through production engineering and manufacturing. The author often cites the example of Taiwan as an unrivaled manufacturer of semiconductors designed in the USA.

For this this reason Breznitz differentiates (not only in his latest book) between *invention* and *innovation*. In his view, the latter concept applies not only to the rare moments when a new product is invented but also to the ongoing improvement of methods and procedures used at each stage of the production of already existing goods. At the start of his book, he shares his pleasant surprise that the bicycles he was about to buy for his children were so much lighter than they used to be.

The main message of Dan Breznitz's book is that while finding proper places for local firms in the domestic or international manufacturing chains is important, it is equally imperative that local authorities have to understand the needs of the technology firms and support them in innovative ways.

What does this mean in practice? It means that public authorities whether at the national or local level can never rest on their laurels and should constantly experiment (the word often

appears in this context) in order to keep discovering the most effective methods of supporting technology companies.

As was mentioned above, local communities ought to focus on teen-tech companies which have managed to operate successfully for a fairly long time. Regional authorities have an obvious interest in contributing to the emergence of new attractive and well-paid jobs since it increases their chances of winnig the next elections.

While Dan Breznitz's book is about advising local leaders on promoting innovation-driven growth, he also highlights the role of innovation agencies at the national level. Undoubtedly one of his contributions to the academic literature in this field is proving that such agencies should be sufficiently autonomous in their operation in order to attract the best people who are capable to create a courageous and feasible vision of innovation policy.[6]

In Israel, such a personality was Itzhak Yaakov, the long-servicing head of the Office of Chief Scientist (OCS), who developed a clear vision of how the agency should work. It was the substantial degree of autonomy that enabled him to enlist the cooperation of numerous domestic and foreign institutions in the public and private sector[7].

Israel's experience shows how important in promoting innovation are both the high social capital of a given community, i.e. its readiness to cooperate, and its innovation agency's considerable degree of autonomy, which is indispensable if it is to experiment with various methods of supporting technological firms. To prove this point, the OCS has recently been transformed into the IIA (Israeli Innovation Authority) which enjoys an even greater autonomy.

The importance of all these factors is evidenced by the fact that the OCS, while being only a small institution with modest financial resources, successfully transformed Israel into a technologically advanced economy. This was made possible not only by Itzhak Yaakov energy and knowledge but also by all the people, firms and institutions he convinced to cooperate with the OCS.

Dan Breznitz offers the same recommendations to authorities at the local level. The key factor is to have a clear vision of how the local teen-tech companies could exploit their competitive edges to place themselves successfully within domestic or international production chains. It is equally important to mobilize a given region's social capital to build an ecosystem

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[6] D. Breznitz, D. Ornston, and S. Samford (2018), 'Mission critical: the ends, means, and design of innovation agencies', *Industrial and Corporate Change* 27, pp. 883–896. D. Breznitz, D. Ornston (2013), 'The Revolutionary Power of Peripheral Agencies: Explaining Radical Policy Innovation in Finland and Israel', *Comparative Political Studies* 46 (10), pp. 1219–1245.

[7] Breznitz, D. (2007), *Innovation and the State: Political Choice and Strategies for Growth in Israel, Taiwan, and Ireland*, New Haven/London: Yale University Press.

conducive to the emergence and development of technology companies. Needless to say, the likehood of success is greater the larger are the local authorities' degree of autonomy and financial resources. This is especially important in countries such as Poland which have not enjoyed too many periods conducive to the development of civil society or social capital in their history.

At the end of my review, prepared for the journal *Safe Bank*, I feel obliged to commnet on Dan Breznitz's optimistic message about the role of banks.

The starting point in his reasoning is that even though the current model of innovation-based growth, which relies on start-ups financed by venture capital, has proven successful, it generates substantial social costs. As mentioned above, there are two closely linked components of these costs. The first one is the widening inequality between highly qualified specialists employed in the innovative sector and the rest of the economy, whereas the other one involves insufficient spillovers from the former to the latter.

According to Breznitz, the inherent weakness of the still predominant model is that it produces non-optimal incentives by motivating all actors involved to focus on maximizing returns from the sale of start-ups rather than on creating attractive and well-paid jobs for workers with many different specializations in a given country, region or town. He perceives the current model of promoting innovation as part of the centrifuge of globalization which creates jobs mainly abroad, as it is with Silicon Valley.

For all these reasons, the author of the book believes that commercial banks could provide and alternative source of financing for innovative companies, although he argues that they cannot be left alone with this task. If banks were to become institutions taking the risk of financing innovative companies, the state should take on an appropriate part of this risk as it does in case of lending to small and medium-sized enterprises (SME).

Polish banks have extensive experience in this field since they cannot focus exclusively on large companies, which, as parts of global supply chains, tend to be financed from abroad. If, apart from providing funding to SMSs, banks decided to finance teen-techs, they would have to invest more in their capital of competencies in order to properly understand the needs of such firms. Dan Breznitz believes that for the younger generation of bankers it presents a challenge they would be willing to take up.

The author is thus optimistic about the role of banks in fostering innovation-based growth. To reinforce his message, let me add that commercial banks' lending to technology companies is not just a hypothetical situation. The Israeli Innovation Authority has just started

to make this vision a reality. It must be the author's modesty that prevented him from mentioning his contribution to it in his capacity as a consultant to the IIA.

Andrzej Sławiński, Warsaw School of Economics