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BOOK REVIEW

Michael Schedelik, *The Political Economy of Upgrading Regimes: Brazil and Beyond*, Cham: Palgrave Macmillan, 2023. Figures, tables, bibliography, index, 297 pp.; hardcover $139.99, paperback $139.99, eBook 109
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The middle-income trap is a pivotal topic in the literature on emerging economies. Technological upgrading is frequently highlighted as the main solution for emerging economies to overcome growth slowdowns after reaching a certain income level. This stagnation is typically marked by rising wages and production costs, jeopardizing a country's international competitiveness (Reynolds et al. 2019). Technological upgrading can increase productivity and produce higher value-added products to boost economic growth. In *The Political Economy of Upgrading Regimes*, Schedelik draws from the innovation system literature and the comparative capitalism framework (May and Schedelik 2021) to build an explanation that diverges from the neo-institutionalist approach advanced by Acemoglu and Robinson (2012). Schedelik establishes the concept of an "upgrading regime" in dialogue with the theories of growth models and varieties of capitalism in the broader comparative capitalism literature.

The book emphasizes the political dimensions of technological upgrading. Brazil, being one of the largest economies positioned in the middle-income category, is a compelling case for comprehending the intricacies of the middle-income trap and the quest for technological upgrading. Over the past few decades, the country has gone through profound transformations in a number of policy areas. During the Workers' Party (PT) administrations, fiscal incentives and important policies were implemented in areas such as research and development (R&D), innovation, education, and labor, in a quest for development. This makes the country a relevant case study for the impact of those policies on technological upgrading. However, Brazil failed to meet the expectations and transitioned from being a global promise to entering a profound crisis, ending up with disappointing results given the efforts and expectations of the so-called neo-developmentalist policies. Despite ranking second-highest in GDP per capita relative to R&D expenditure, the growth results were mediocre. Schedelik aspires to address that outcome, contributing to the discourse on the challenges encountered by emerging economies in advancing technology and innovation capacities. In this pursuit, the author aims to forge a framework to study technological upgrading in emerging economies.

The research incorporates data from a variety of sources that contribute to understanding the diverse analytical dimensions, such as GDP accounting, sectoral data from various industries, patent data, and a national innovation survey. Dozens of interviews with academics, bureaucrats, economists, and experts also inform the book. Additionally, insights are drawn from newspaper articles and various secondary sources, ensuring a comprehensive and multifaceted approach to the issue.

The book is divided into three parts and comprises 11 chapters. The first part presents the objectives of the book and explains the theoretical framework that underlies the study based on the Comparative Capitalism and Innovation Systems literature. Part II analyzes key institutional aspects of the Brazilian political economy derived from the theoretical framework presented. The chapters within this segment encompass seven areas of interest: (i) innovation capacity building; (ii) political coordination and socioeconomic coalition; (iii) research and development and competition policy; (iv) finance; (v) education, training, and labor; (vi) international integration;

and (vii) macroeconomic management and domestic demand. Many of these institutional aspects serve as the primary pillars of the neo-developmental model, and they were the focus of PT's industrial and innovation policies. The author contends that these institutional dimensions create negative complementarities, hindering Brazil's technological upgrading, building upon Schneider's (2013) concept of the Latin American hierarchical variety of capitalism. Part III places Brazil in a broader comparative perspective among other middle-income countries and concludes with a summary of the main arguments presented throughout the book.

Regarding institutional complementarities, Schedelik's findings evaluate the institutional characteristics that have the greatest impact on the impediments to technological upgrading. According to the author, limited access to funding is the main obstacle to technological upgrading. Brazil faces a significant challenge due to an overly concentrated banking market and a restrictive monetary policy, which results in a lack of access to finance for the sectors that are eager to develop new technologies. Although there was a policy of earmarked credit, it was unsustainable and fostered consumption-driven growth that quickly deteriorated into growing inflation. Hermetic institutions of the Brazilian economy—marked by salary indexation, administered prices, and exchange rates tied to international commodity prices—also contributed to the inflation surge. The author argues that reallocating these resources towards public investments would have been a more prudent approach. Instead, the New Economic Matrix, a set of heterodox macroeconomic policies implemented by the PT, fostered demand-side over supply-side strategies.

Schedelik argues that the New Economic Matrix was too expensive (with tax exemptions, price freezes, and subsidized loans) and had little to no impact on raising the investment rate. The deteriorated fiscal conditions left no space for social policies and anti-cyclical measures. Moreover, the political strategy of advancing national champions is critiqued due to its primary focus on low-technology sectors—such as construction, meatpacking, petrochemicals, and mining sectors—yielding marginal impacts on technological upgrading and contributing to a less competitive economy. Policy-driven credit resulted in the misallocation of capital, leading to increased state debt without actual productive investments. The deterioration of policy coordination and collaboration with the private sector is attributed to corruption, which, in turn, is explained by coalition presidentialism and dependence on campaign donations from big businesses to secure election victories.

Another dimension that represents an important barrier to technological upgrading is the country's low level of human capital, which the author attributes to high turnover. This phenomenon is tied to a segmented labor market, low union representation, and stringent labor laws, ultimately constituting the "low-skill trap" characteristic of Latin American countries, as outlined in the literature (Schneider, 2013). The low competitiveness of the domestic market further compounds the challenge, providing minimal incentives for innovation. Despite grappling with high taxes and costs—colloquially referred to as "Custo Brasil"—influential companies often manage to secure tax exemptions, exacerbating unequal conditions between companies and economic sectors.

The limited collaboration between universities and industry is another challenge. The fear of corruption charges restrains public employees from engaging with the private sector, argues the author. Consequently, although the PT government made substantial investments in the R&D regime, these efforts were largely channeled into advancing basic academic research rather than applied research for the development of new technologies. The distinct characteristics of the field in Brazil create a scenario where universities and industries do not engage in direct dialogue. Additionally, the author argues that private R&D policies primarily function as protective measures against competition, with secondary effects on innovation. To culminate, an intricate tax structure and high regulatory burdens contribute to undermining the technological upgrading of the Brazilian economy.

In summary, the neo-developmentalist model that intended to generate economic development and technological upgrading lacked focus and performance criteria, and many were adapted to accommodate entrenched interests. The global financial crisis and the sharp decline in commodity prices in 2011 and 2013 prompted a shift toward demand stimulation, emphasizing protectionism due to increased capital inflows and leading to a rapidly deteriorating fiscal situation, which ultimately marked the end of the neo-developmentalist model. Therefore, the policies weren't well-suited for the economic context and left the Brazilian economy vulnerable and destabilized.

Schedelik proposes several policy implications based on the book's findings. The author suggests isolating the developmental bank from political pressures and narrowing its mandate to focus on technological upgrading and increasing awareness of the country's concentrated banking sector. In addressing human capital challenges, the author advocates for expanded investments in education and labor market reforms to reduce high turnover. Proposals also include fostering more competition in the domestic market, implementing measures against corruption (such as prohibiting campaign donations from companies), and introducing transparency and accountability measures. Furthermore, Schedelik suggests that investments in research and development should prioritize applied research and technical assistance over basic science and academic research.

Schedelik's research makes a significant contribution by combining the comparative capitalism framework with the innovation system approach, exploring a series of institutional domains within the Brazilian economy, resulting in important findings and interesting theoretical advancements. The study sheds light on the dynamics of consumption-led growth in ECEs and offers valuable insights into the development of growth models and strategies to navigate potential pitfalls. Schedelik's work is particularly noteworthy as it positions the Brazilian case within the spectrum of middle-income countries, contributing to the development of a theory for upgrading regimes and the varieties of capitalism in ECEs more broadly.

Schedelik navigates the complex political economy of upgrading regimes in Brazil, offering an innovative contribution by synthesizing diverse fields of literature into a robust framework. The introduction of the "upgrading regime" concept presents a promising path for further exploration of policies implemented by countries grappling with the challenges of the middle-income trap. The book successfully weaves together key insights into the dynamics characterizing the Brazilian upgrading regime during the Workers' Party administrations. It is an excellent resource for those researching ECEs or interested in policy alternatives proposed by the author, with potential to impact public debate.

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