ARTICLE IN PRESS

Structural Change and Economic Dynamics xxx (xxxx) xxx

Contents lists available at ScienceDirect

Structural Change and Economic Dynamics

journal homepage: www.elsevier.com/locate/strueco

Global state-owned enterprises in the 21st century: Rethinking their contribution to structural change, innovation, and public policy

A B S T R A C T

In the 21st century, State-Owned Enterprises (SOEs) reemerged as key players in strategic sectors, showing a renewed intention to contribute to relevant economic and societal objectives, including structural economic change, innovation, internationalisation, and industrialisation. This special issue explores the revival of SOEs in the last two decades, by identifying their specificities as compared to traditional SOEs of the 20th century. It finds that the new political-economic context has changed the mission, mandate, governance, ownership structure of SOEs. The 21st century has witnessed the rise of some emerging economies as major industrial competitors, and a process of increasing market globalisation. In addition, the transition from a unipolar to a multipolar international order is increasing political rivalry among States, which is reflected in the increasing competition in strategic sectors such as natural resources, high technologies, and control of infrastructure and trade routes. SOEs have evolved in the 21st century to suit these challenges by becoming policy-driven but also efficient and competitive. In fact, they are increasingly investing in strategic sectors, while at the same time relying on models of corporate governance that ensure operational efficiency. This model has allowed the presence of private shareholders alongside the State, and the need for SOEs' industrial strategies to reconcile both public and private objectives. To address this theme, the special issue has selected studies on contemporary SOEs of both advanced and emerging economies – including China, Indonesia, Italy, Singapore, Vietnam – operating in strategic sectors – such as energy, transport, infrastructure and logistics, banking and high-tech. The special issue comprises both quantitative and qualitative studies that shed light on the nexus between changes in corporate governance and industrial strategies at different stages of economic development and political contexts.

1. Introduction

The increasing pace of economic globalisation since the 1980s and 1990s has led to decisive changes in the role and governance of State-Owned Enterprises (SOEs) worldwide (Daiser et al., 2017; Florio and Fletcher, 2011; Florio, 2014; Grossi et al., 2015; Papenfuß, 2020). Liberalisation of national markets and corporatisation have been important factors affecting the transformation of SOEs, which have evolved from national monopolist to global players (Bałtowski and Kwiatkowski, 2022).

Most of the literature since the 1980s until today has focussed on the performance of SOEs (Aharoni, 2000; Bozec et al., 2002; Kuzman et al., 2018; Lazzarini and Musacchio, 2018) and on the opportunity to privatise them to improve their operational efficiency (Aivazian et al., 2005; Astami et al., 2010; Okhmatovskiy, 2010; Omran, 2004). However, a key question that is still unanswered by the literature concerns the evolution of their public policy role. More specifically, how the relationship between States and SOEs has been redefined following the internationalisation of SOEs? Are contemporary SOEs still pursuing policy objectives on behalf of the State? How are SOEs addressing the structural changes needed by contemporary economies, such as the transition to innovative, equitable and sustainable industrial systems?

To address the economic policy role of contemporary SOEs, one must first consider the differences across SOEs in terms of ownership structure, mandate, and degree of managerial autonomy. This variety reflects sectoral specificities and the policy relevance of certain sectors; the stage of economic development, which requires different levels of coordination with State policy (higher in early stages, lower in late stages) (Cardinale, 2019a); the political culture, whose values may be more or less favorable to direct State intervention in the economy.

Considering these aspects is essential to understand whether SOEs today are at the centre of key transformations in contemporary economies, as they have been in previous decades. In fact, while we rely on the classical term SOE, at the same time we acknowledge that the nature of this peculiar form of business enterprise has changed, not only in terms of ownership structure (minority-owned or majority-owned by the State) but also in terms of policy objectives, range of action, and degree of coordination with State policies.

One of the main focuses of this special issue is on the contribution of contemporary SOEs to structural changes. This role may be performed thanks to their ability to i) produce and/or supply from abroad strategic inputs (natural resources, infrastructure) to national economies, favouring the emergence of new industries; ii) upgrade industrial and infrastructure systems by introducing new technologies, leading to the development of new paradigms of production, including smart and more sustainable systems; iii) incentivise equitable redistribution by allocating monopolistic rents across various segments of the economy and society, for example by promoting productive investment in disadvantaged areas and by enhancing the quality of services for citizens; iv) increase the economic and political power of the State, by producing key technologies, supplying the national industry with key inputs including raw materials and natural resources, contributing to industrialisation

https://doi.org/10.1016/j.strueco.2024.01.013

Available online 6 February 2024
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Please cite this article as: Roberto Cardinale et al., *Structural Change and Economic Dynamics*, https://doi.org/10.1016/j.strueco.2024.01.013

and GDP growth. Although these have been policy objectives traditionally pursued by SOEs, the forms and business models adopted by contemporary SOEs for their pursuit have evolved, due to deep transformations in the global business landscape in the last few decades.

The articles of the special issue adopt both quantitative and qualitative methods of analysis. This composition reflects the need to bring together approaches that explore specific variables across several industries and in different countries, therefore shedding light on macro trends (Castelnovo, 2022; Clò et al., 2023; Gao et al., 2021; Liu et a 2022; Lo et al., 2022; Wang et al., 2022); with approaches that provide a focus on a specific country or industry, which allow to understand decisive aspects of the governance and strategy of SOEs (Cardinale and Belotti, 2022; Gasperin, 2022; Kim and Sumner, 2021; Mai and Casady, 2023; Paiva-Silva, 2022). The themes of the special issue can be broadly classified in two categories – innovation and internationalization of SOEs; SOEs as a tool of industrial policy at different stages of development.

2. Innovation and internationalization of state-owned enterprises

Innovation in SOEs has been interpreted quite differently across various strands of the literature. While part of the literature considers political influence on SOEs to be potentially detrimental, for innovation (Belloc, 2014; Chen et al., 2021; Kroll and Kou, 2019), recent contributions show evidence that SOEs are key players in high-tech sectors and drivers of innovation (Landoni, 2020a; 2020b; Meissner et al., 2019; Tonurist and Karo, 2016). In addition, it is shown that SOEs are different innovators as compared to Privately-Owned Enterprises (POEs) (Benassi and Landoni, 2019). Contributions in this special issue show that SOEs are more innovative than the private sector, especially in some selected industries, and that their innovative production processes do not generate any significant negative effect in terms of operational efficiency and performance.

Lo et al. (2022) take some steps in this direction by exploring the innovative potential of SOEs based on data of China's listed manufacturing companies from 2007 to 2018. Their aim is to go beyond the narrow focus on internal governance as a determinant of firm performance, by also considering the wider policy influence. More specifically, they focus on how partial privatisation, mixed ownership reforms, and specific government decisions on the stakes to be retained in SOEs by the State, affect innovation in SOEs as compared to their private peers.

The paper finds that SOEs tend to be more innovative than non-SOEs. In addition, partial privatisation of SOEs (or mixed-ownership reforms) has increased their innovative capacity. This can be explained by the role of 'organizational control', which indicates a successful process of corporatisation and the setting up of an effective governance. The paper provides relevant suggestions on how to maintain high levels of innovation in the transition process to corporatisation and partial privatisation.

Innovation in contemporary Chinese SOEs has become crucial in light of the ongoing slowdown of China's economic growth. However, traditional innovation strategies might not be suitable anymore to China's more advanced stage of development, which instead would require the development of domestic technology. In this context, SOEs play a key role as drivers of a new concept of innovation for the Chinese economy, as they are more policy-driven but also better equipped than private firms to withstand the uncertainty and risks of the technological frontier.

Innovation in Chinese SOEs is also investigated by Wang et al. (2022), with a focus on the relations between the government and the management of SOEs. By analysing a dataset of 2406 Chinese listed companies over the period 2008 – 2016, the paper finds that SOEs' close ties with the government encourage high quality innovation. The paper interprets this result by relying on two key concepts, namely 'political endorsement' and 'lack of resources constraints'. As State institutions invest in SOEs with a mission to determine economic and societal advances, SOEs are incentivised to pursue high quality innovation to meet political demands. At the same time, the political endorsement provides privileged access to credit and other resources, which makes it feasible to pursue these ambitious objectives. By contrast, private companies usually pursue lower quality innovation as this strategy allows to face lower risks and obtain higher profits in the short term, also thanks to government subsidies for innovation.

In addition to China and some other economies in Asia, the EU is also among the economic areas in which SOEs and State-Invested Enterprises (SIEs) are dominant in sectors with high technological content. For this reason, the special issue has included a study of SOEs in the EU, conducted by Castelnovo (2022). Through a comparison of patent activity across SOEs and POEs between 2011 and 2018, the article provides new evidence on the innovation activity of contemporary SOEs in different sectors of the EU economy. The study finds that SOEs outperform POEs in some medium to high-tech manufacturing industries such as chemical, motor-vehicles, natural gas and electricity industries; and in some knowledge-based services such as transport. However, POEs outperform SOEs in other knowledge-based services such as professional, scientific, and technical activities, while in high-tech manufacturing there are no significant differences. The study provides novel empirical evidence on recent trends and represents an important starting point for qualitative studies that aim to interpret them on a sectoral basis.

The international dimension is another major aspect of 21st century SOEs, which are taking advantage from the globalisation of supply chains and trade. This is an emerging field of study, as most studies have traditionally focussed on the domestic role of SOEs. Only recently some studies have begun to investigate the international dimension (Babic et al., 2020; Cuervo-Cazurra et al., 2014; Cuervo-Cazurra, 2017, 2018; Landoni, 2018; Li et al., 2018; Mariotti and Marzano, 2019; Santangelo and Symeou, 2023). In this special issue, the article by Clò et al. (2023) contributes to this emerging field by analysing Mergers & Acquisitions (M&As) conducted by contemporary SOEs in international markets. The study investigates whether SOEs tend to acquire firms that show high levels of performance, for the purpose of contributing to profitability, or firms that operate in strategic sectors, which are more likely to contribute to the pursuit of policy objectives.

Based on a dataset of around 110,000 M&As, the paper finds that 21st century SOEs show increasing similarities with their private peers. More specifically, partially privatised SOEs, and particularly SIEs in which the State holds only minority stakes, show high levels of internationalization, probably to capture the opportunities offered by globalised markets. This suggests that the pursuit of profitability became a priority as compared to public policy objectives, which were prioritised by traditional SOEs. This consideration is supported by the fact that contemporary SOEs tend to acquire well performing firms, which operate in markets that are geographically close and not politically risky, showing also cultural similarities and institutional quality.

3. State-owned enterprises as a tool of industrial policy at different stages of development

Industrialisation has been one of the core objectives pursued by SOEs in the 20th century. Articles in this special issue explore how contemporary SOEs are pursuing industrial development. Recent contributions have analysed the developmental role of contemporary SOEs, but mainly in emerging economies (Castañeda et al., 2020; Nem Singh and Chen, 2018), with some of them focussing on the relationship between governments and SOEs (Rentsch and Finger, 2015; Van Thiel et al., 2020). However, exploring how governments and SOEs are aligning their strategies to pursue long-term industrial development needs more research. A framework to understand this issue is provided by Cardinale (2019a; 2020; 2021) who identifies how the governance of SOEs change across different stages of development and historical phases to meet industrial development needs.

In the special issue, one of the most successful cases of industrial development in the history of capitalism is displayed by Gasperin (2022), who analyses the industrial strategy of the Institute for the Industrial Reconstruction (IRI). IRI was an industrial holding company, partially owned by the Italian State, that has promoted the development and innovation of the Italian industry for about 70 years (1930s – 1990s). The paper shows how IRI pursued industrial policy objectives through several initiatives including sectoral reorganisation, diversification and investments in new industries, promotion and revival of underdeveloped territories, large-scale investments in scientific research, technical and managerial training. The case of IRI shows that when SOEs operate in strategic sectors and are coordinated through a holding system supported by a long-term industrial vision, private investments are crowded-in and several sectors across the country are likely to benefit from the positive spillovers of the SOEs-led industrial upgrade. The article provides insights on how SOE holding systems such as IRI could be replicated in our days to face current industrial challenges.

A practical step in this direction is taken by Cardinale and Belotti (2022), who centre their analysis on the current industrial strategies of partially privatised SOEs in Italy. As many of the SOEs analysed in this paper were previously part of IRI or other State holdings, the paper adds an important piece to the historical analysis of Gasperin (2022), by showing how 20th century Italian SOEs have evolved till our days, highlighting aspects of continuity and change.

One of the main focuses of the analysis concerns the changes led by the large-scale privatizations and liberalizations of the 1990s and 2000s. In this context, Cardinale and Belotti (2022) explore whether the Italian government, through its remaining stakes in partially privatised SIEs, is still pursuing industrial policy objectives or if it is only a passive shareholder. Based on a limited literature arguing that States retaining minority stakes are usually not interested or unable to influence industrial strategies, while the opposite occurs when a majority stake is held, the paper finds that (i) ownership structure depends on sectoral specificities and strategic relevance for the State; (ii) minority stakes also serve State interests, albeit in a more indirect way. While the existing literature interprets financialization and globalisation of financial markets as a form of pressure to the State on giving up control over strategic firms, this paper shows how the State can benefit from it, without losing control. For example, SOEs can be partially privatised to different extents, depending on sectoral specificities and strategic relevance. If necessary, the power of new investors to influence decisions of the board can be contained, for example by privatising a more limited number of shares. In addition, partial privatization can be done by targeting typologies of investors whose interests align with those of the State, for example strategic investors. In these ways, partial privatisation of SIEs would not lead to a loss of strategic control but to the launch of strategic alliances and access to new capital, markets and technologies.

Another example of interest alignment between the State and the private sector is provided by Paiva-Silva (2022) through the analysis of SOEs in Singapore. They show that the governance of Singaporean SOEs has changed overtime to grant them with more autonomy, even when full State ownership persists. Despite more autonomy is supposed to emphasize objectives linked to profitability, it does not exclude the possibility to maintain a strategic coordination between corporate and State interests. For example, Singaporean SOEs have been increasingly involved in highly strategic national sectors, first and foremost venture capital and entrepreneurship (Cheang, 2023; Cheang and Lim, 2023). This has allowed contemporary Singaporean SOEs to be critical providers of funds to Singapore's most successful high-growth companies, as well as to own and manage assets for logistics and trade, providing worldwide influence and leverage to the State of Singapore.

While the mission of contemporary SOEs in advanced economies such as Italy and Singapore can be to maintain current productive and trade advantages, or avoid being overtaken by competitors, emerging economies are relying on SOEs to induce structural changes that allow industrial upgrade and catching up with advanced economies. This is shown by Kim and Sumner (2021) through a case study of Indonesia. The paper adopts an historical perspective to analyse the evolution of Indonesian SOEs since the 1960s and shows how the Indonesian government has used SOEs in different historical phases to industrialize the country. The rationale has been to establish SOEs in sectors characterized by high levels of interdependence with the rest of the economy. In this way, the State could better address the direction of industrialization, first and foremost by means of demand of domestically produced inputs. In the current historical phase, Indonesian SOEs are tackling the issue of premature deindustrialization, which is common also among other emerging economies. In addition, they are committed to drive structural changes in productivity-enhancing sectors, to increase economic competitiveness and reduce the development gaps with more advanced economies.

The perspective provided by Mai and Casady (2023) on 21st century SOEs also refers to the context of emerging economies, although the focus is on how to reconcile effectiveness in infrastructure delivery with limited public budgets. The paper analyses a case study of the establishment, design and development of the Vietnam Expressway Corporation (VEC) in the 2000s, a SOE with the mission to extend Vietnam's motorway network in a fast and cost-effective way. The analysis compares SOEs as an infrastructure delivery model with the Traditional Public Procurement (TPP) and Public-Private Partnership (PPP) models, and explain why the Vietnamese government has decided to rely on the former rather than the latter. The authors argue that the SOE model makes it possible to reconcile infrastructure delivery with budget constraints of the public sector. However, this is possible if the SOE is designed in innovative ways as compared to traditional SOEs. For example, VEC shows aspects of the private sector, such as the possibility to rely on toll-funding; as well as aspects of the public sector, such as the advantage to access to diversified sources of financing that are not always available to the private sector, including foreign aid from multilateral institutions, loans from commercial bank guaranteed by the State, State equity injections, and others. The paper provides insights on how contemporary SOEs can be designed to maximise synergies between the public and private sectors in resource-constrained economies.

Missions and approaches to SOEs' reform may change significantly across emerging economies, especially when they show substantial structural differences. Differently from Indonesia and Vietnam, China is also an emerging economy but in the upper middle-income range, and with an established and comprehensive SOE sector. This has led the focus of policymakers and researchers in China to partially shift towards themes related to 'efficiency in SOEs'. This shift reflects China's emphasis on better managing the existing industrial stock rather than promoting new productive capacity on a large scale, probably due to the successful industrialisation of the recent times.

In our special issue, Gao et al. (2021) develop a model to measure efficiency of 21st century SOEs in China. Their model attempts to include the role of factors that traditional models measuring firm's efficiency do now usually include. According to them, the ability to save on production costs and profitability must be assessed along with social and industrial policy burdens that SOEs bear. Otherwise, studies would not be able to assess the real added value of SOEs to the economy and society. Although this is an aspect of continuity with 20th century SOEs too, the implications are different, as 21st century SOEs operate in more competitive markets.

Liu et al. (2022) agree to adopt a more comprehensive view when assessing SOEs, although their focus of analysis concerns SOEs' reforms. They suggest considering 'factor intensity' and argue that, on the one hand, capital-intensive SOEs are more difficult to privatize because they require larger amounts of private capitals. However, on the other hand, capital-intensive SOEs have greater policy significance because they are drivers of innovation and economic development, and because they are a significant contributor to employment. This suggests that SOEs should be privatized without neglecting the implications on citizens' welfare, in addition to firm's performance. The authors argue that partial privatization can suit capital-intensive SOEs, because it enhances operational efficiency, as the private shareholders would advocate for better performance, while at the same time it avoids compromising the strategic role of SOEs (see also Cardinale 2017; 2019b; 2021; 2023a; 2023b; Shen et al, 2023). They also propose that the policy burden (e.g. employment policy) should be channelled outside the SOE and beared by the State separately, to avoid underperformance.

In summary, this special issue explores the revival of SOEs in the 21st century, and their specificities in terms of strategy and governance. It finds that the objectives they pursue show aspects of both continuity and change with traditional SOEs. However, the aspect of change is significant and reflects the deep economic and political transformations occurred worldwide in the last two decades, including increasing competition between emerging and advanced economies, increasing political rivalry among major powers and conflict for resources, internationalisation of firms and trade. SOEs have changed accordingly to be able to pursue corporate and policy objectives in a radically different world.

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Roberto Cardinale[a,*], Matteo Landoni[b], Zhifu Mi[a]

[a] *The Bartlett School of Sustainable Construction, University College London, Gower Street, WC1E 6BT, London, United Kingdom*

[b] *Department of Economics and Management, University of Brescia, Via S. Faustino 74/B, 25122, Brescia, Italy*

[*] Corresponding author.

E-mail addresses: r.cardinale@ucl.ac.uk (R. Cardinale), matteo.landoni@unibs.it (M. Landoni), z.mi@ucl.ac.uk (Z. Mi).