

The Industrial Policy Role of European State-Invested Enterprises in the 21st Century: Continuity and Change across Phases of Domestic and Global Transformation

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Abstract

This chapter explores the potential industrial policy role of European State-Invested Enterprises (SIEs) in the 21st century by analyzing the evolution of European State-Owned Enterprises (SOEs) from their rise in the second half of the 20th century to their partial privatization, and the subsequent transition to the SIE model in recent years. Partial privatization was a key step in SOEs' transformation because it entailed the removal of public policy mandates from their statutory provisions. As a result, most current SIEs are managed as private enterprises. However, this chapter argues that SIEs can still play a role in serving national interests, particularly in their global sphere of action. In fact, SIEs that operate in global strategic markets (e.g. natural resources, advanced technologies and transnational infrastructure) provide essential inputs to the domestic economy, a function in common with the traditional industrial policy role of SOEs. It suggests that, despite being mainly driven by profitability, SIEs still have a profound impact on economic competitiveness. Because of this systemic role, SIEs can act as industrial policy tools for states to address current economic challenges. For example, their ability to supply cheap and abundant inputs to domestic markets can make a decisive contribution to counteracting the relative decline of European economies vis-à-vis emerging economies. For this reason, the chapter suggests new ways for European states and SIEs to co-operate and maximise mutual synergies. However, in light of the extensive changes that have occurred in domestic and global markets, their co-operation should be different from what it was in the past. In particular, co-operation should make it possible to simultaneously address operational efficiency and industrial policy objectives, which are both important in order to face international competition from economic and political actors.

1. Introduction

In the last seven decades, European state-owned enterprises (SOEs) have undergone substantial transformations: from their rise in the aftermath of World War II and subsequent expansion, to the extensive privatizations of the 1980s and 1990s, to the current stabilization as state-invested enterprises (SIEs).¹ These transformations reflect how SOEs' policy role has changed across different stages of development and historical phases to address domestic and international challenges of a political-economic nature. This analysis provides a starting point to think about how contemporary SIEs can be used as policy tools by European states to face current challenges.²

This chapter argues that contemporary European SIEs operating in global strategic markets (e.g., natural resources, advanced technologies and transnational infrastructure) may help European states overcome their relative decline vis-à-vis emerging economies.³ SIEs often operate in sectors that produce intermediate goods for final producers. Therefore, their ability to produce domestically and source low-cost and high-quality inputs from abroad helps to reduce production costs and hence to increase productivity across the economy, thus improving its competitiveness vis-à-vis other economies. The systemic relevance of such inputs as well as their scarce and rival nature explain the high levels of international competition for their production and for procurement from abroad, and thus the increasing co-operation worldwide between states and SOEs on this aspect of industrial policy.

This chapter suggests that despite corporatization and partial privatization, SIEs can still play a role in serving national interests, particularly when they operate in global markets. More generally, their public-private ownership structure makes them well suited to operate

¹ In line with the definition provided by the OECD (see Christiansen & Kim, 2014), this chapter refers to firms in which the state holds a minority stake (i.e., between 10 and 50 percent of the voting stock) as SIEs and to firms in which the state holds a majority stake (more than 50 percent of the voting stock) as SOEs.

² This chapter considers Western European economies, particularly EU15, which are at a comparable stage of economic development and belong to the same geopolitical space. These similarities in the paths to economic-institutional development matter for the purpose of this research, despite some differences in size, industrial specialization and other macroeconomic trends. As a result of these similarities, Western European economies now share similar challenges in both the domestic and global spheres, which are unlike the challenges faced by economies in Eastern Europe and in other world regions.

³ Kwiatkowski and Augustynowicz (2015) show that from 2005 to 2014 SOEs increased their presence among the world's largest companies from 9.8 to 22.8 percent and that emerging economies are the main contributors to this trend. Given the systemic importance of providing extensive political support to key domestic firms, the heavy reliance on SOEs by emerging economies may be a primary factor explaining their increasing economic competitiveness.

successfully in both domestic and international markets, as they are profit-seeking and (potentially) policy-driven. This allows SIEs to reconcile operational efficiency, which is encouraged by the EU Single Market policy, with a policy-driven approach when operating in global strategic markets, which is made possible by coordination with state policies and particularly foreign economic policy.

To understand the current role of European SIEs and the strategic potential for European economies, it is necessary to analyze their evolution since WWII. In particular, this chapter focuses on how state ownership has changed over time, depending on the level of domestic development and competitiveness vis-à-vis other economies. The analysis traces three main phases since the aftermath of WWII: the rise and expansion of SOEs from the 1950s to the late 1970s, their privatization and subsequent decline in the 1980s and 1990s, and their current role in the form of SIEs. Although SOEs also played important roles in previous historical epochs, analyzing the period since the 1950s is particularly relevant because the rapid transformations it witnessed are unique in peacetime.

Because SOEs have been historically conceived as tools of economic policy, in order to understand their main transformations it is essential to identify the priorities of economic policy in each phase. This in turn requires using the analytical tools provided by different economic theories, as each theory's policy suggestions are relevant at specific stages of economic development.⁴ Structural theories' focus on structural change helps explain the role of SOEs as engines of economic growth in the phase from the 1950s to the 1970s. More specifically, sectoral analysis helps us understand SOEs' concentration in sectors of systemic relevance, and how state support for sectors that produce key inputs is a driver of industrialization. In contrast, allocative theories' emphasis on market efficiency sheds light on the rationale for the privatization and liberalization that took place subsequently in the 1980s–1990s phase. The rationale for privatization is here interpreted as deriving from a change in policy priorities from economic growth to market efficiency stemming from European economies' acquired advantages over international competitors after a high-growth phase. Finally, the geoeconomic approach, with its focus on the relation between control of strategic markets and political influence, is particularly suitable for interpreting the current

⁴ See Dasgupta (1987) on the suitability of different economic theories to understand different stages of development. See also Cardinale (2019a) on the relation between theory and policy at different stages of development.

phase, in which SIEs are both profit-seeking and (potentially) policy-driven. This approach explains how SIEs operating in international markets could serve the strategic interests of their respective states, an issue of particular relevance in the contemporary phase as markets for natural resources, technology and infrastructure are, more than ever, the arena for states to increase their prosperity and global influence. The renewed need of European states to rely on SIEs' global action is here explained by the rise of emerging economies as major competitors in strategic markets.

This chapter makes a contribution to the literature in two main ways. The first has to do with the interpretation of SOEs' policy role at different stages of development through different theoretical frameworks. Some of the literature focuses on SOEs' policy role at specific stages but not on how their role has changed across stages. For instance, Oefering (1953), Saraceno (1975), Dienel and Lyth (1998), Iordanoglou (2011) and O'Hara (2011) analyze European SOEs during their expansion after WWII. The privatization phase is explored by Domberger and Piggott (1994); Megginson and Netter (2001), Parker (2002), Florio (2004), and Köthenbürger, Sinn and Whalley (2006). Other contributions shed light on the policy implications of contemporary SIEs (Pargendler, Musacchio, & Lazzarini, 2013; Christiansen & Kim, 2014; Musacchio & Lazzarini, 2014; Bruton, Peng, Ahlstrom, Stan, & Xu, 2015; Cardinale, 2017; Clò, Fiorio, & Florio, 2017; Daiser, Ysa, & Schmitt, 2017; Christensen, 2017; Bernier & Reeves, 2018). Another approach in the literature is to look at longer periods, but typically without interpreting transformations at different stages of development in the light of economic theory (Foreman-Peck & Millward, 1994; Toninelli, 2000; Millward, 2005; Giannetti & Vasta, 2006; Amatori, Millward, & Toninelli, 2011). This chapter instead provides a systematization of the role of SOEs across different phases and interprets the rationale for their transformations through suitable theoretical approaches.

The second dimension of the contribution concerns the systemic nature of SOEs. Important strands of the literature have looked at the systemic importance of SOEs for macroeconomic objectives such as boosting economic growth in times of recession (Bance & Bernier, 2011; Bance & Obermann, 2015) or their role as providers of services of general interest (Florio, 2013) and national security (Millward, 2011). This chapter also looks at systemic features, but from a perspective that focuses on sectoral interdependences and how these affect the economic system. In particular, it emphasizes the strategic role of intermediate sectors (in

which many SOEs operate) and their contribution to enhancing the competitiveness of the whole economy.

By bringing together economic theory, historical analysis of economic priorities and policy objectives, and the study of different ownership structures of SOEs/SIEs, this chapter provides a framework for interpreting the rationale for the transformation of SOEs across historical phases. The framework sheds light on the potential contribution of 21st-century European SIEs to industrial policy objectives, particularly their systemic role in producing and outsourcing from abroad critical inputs for the economy. This particular aspect of industrial policy emerges as an element of continuity across the historical phases analyzed and performs a central role in the pursuit of core objectives of industrial economies: industrial competitiveness, energy security and defence.

Section 2 reviews the contributions of three theoretical approaches – structural, allocative and geoeconomic – that shed light on the policy role of SOEs in different historical phases.

Section 3 traces the transformations of SOEs from their rise after WWII to their decline and privatization in the 1980s and 1990s. Section 4 explores the environment in which European SIEs operate today, and provides insights into how their global business can be leveraged to serve industrial policy objectives. Section 5 concludes the chapter.

2. Theories of state intervention compared

Understanding the policy role of SOEs across historical phases – and the rationale for different levels of state ownership over time – requires the adoption of different theoretical lenses. This chapter considers three main approaches – structural, allocative and geoeconomic. The analytical lens and policy implications of each theoretical approach are most relevant in a specific historical phase and can help explain the evolution of SOEs' policy role. Structural theories interpret changes in national economic systems as the result of changes in proportions between sectors. Their adoption of sectoral methods of analysis makes it possible to understand the sectoral composition of the economy and how this evolves over time through structural changes (Baranzini & Scazzieri, 1990; Leontief, 1991; Löwe, 1976; Pasinetti, 1981; Quadrio Curzio, 1986; Scazzieri, 2009; Silva & Teixeira, 2008).

This section suggests that sectoral analysis is particularly suitable for understanding SOEs' policy role from the 1950s to the 1970s, their concentration in sectors of systemic relevance and their contribution to structural change. The presence of SOEs in sectors that produce key inputs has proven important for providing significant advantages to the overall economy in terms of increasing returns to scale and large-scale innovation (Millward, 2005; Toninelli, 2000). This made it possible to effectively pursue policy objectives that were a priority in that historical phase, namely high rates of economic growth, technological upgrade and qualitative structural changes.

Structural change, economic growth and the role of critical inputs are extensively analyzed by structural theories. For example, Löwe (1976) emphasizes sectoral interdependencies and the role of intermediate sectors in structural change. Pasinetti (1981) explores the implications of technological change for structural change and economic growth. Quadrio Curzio (1986; see also Quadrio Curzio & Pellizzari, 1999) focuses on how scarcity of natural resources affects structural change. In these contributions, differentiation between sectors with higher and lower economic interdependence and the role of specific inputs are pivotal to understanding the causal relationships that generate structural changes and economic growth.

Sectoral differentiation is particularly relevant in Löwe's (1976) analysis, because it makes it possible to understand the contribution of different industrial sectors to trends in macroeconomic aggregates. In his production model, he argues that "machine-tool" sectors are strategic for economic growth because they serve as fundamental inputs for production in several other sectors. For this reason, he suggests that one way to enhance economic growth is to pursue capital accumulation in basic or intermediate sectors, because of their higher systemic relevance in comparison to sectors producing final goods.

The strategic relevance of intermediate sectors to economic growth and structural change emerges also in the contributions of the structuralist school (Furtado, 1964; Prebisch, 1950). Most of the contributors within this school highlight the systemic importance of basic manufacturing and intermediate production. In particular, they agree that early-stage economies' reliance on foreign inputs in intermediate stages of production is a core factor in the perpetuation of their underdevelopment. In contrast, their domestic production is seen as a key factor in reducing dependence on expensive foreign supplies, and also as a major driver

of industrial upgrade, thanks to technological spillovers from intermediate to final production.

The importance of sectoral interdependences is also evident in Quadrio Curzio's (1986) analysis, particularly regarding the role of specific inputs in production processes (see also Quadrio Curzio & Pellizzari, 1999). For example, Quadrio Curzio explores the role of raw materials and finds that their availability or scarcity can act as a driver or constraint in production processes, depending on their level of substitutability. He shows that changes in technology may occur as a consequence of attempts to replace inputs that are scarce in domestic markets. Changes in technology may be a driver of innovation in existing production processes but may also act as a constraint on economic growth, for example when old and new technologies are not compatible.

Structural theories therefore explain differences in the systemic relevance of sectors and inputs for the economy and improve our understanding of SOEs' industrial policy role during the 1950s–1970s period. More specifically, the concentration of SOEs in sectors that produce intermediate goods was a powerful policy strategy, because it allowed the benefits deriving from public investments in SOEs (i.e., economies of scale and innovation) to spread across final production through the supply of low-cost and high-quality inputs. This is the core aspect of the systemic role played by SOEs, and in particular of their contribution to industrialization and economic competitiveness.

A substantially different perspective on SOEs' policy role may be developed if one adopts the lens of allocative theories. These theories conceive of economic change as being mainly influenced by individual choices of consumers and producers. They adopt a microeconomic approach to analysis and focus on markets (Debreu, 1959). In particular, they explore how resources could be allocated efficiently through markets (Arrow & Hahn, 1983). However, the static perspective that characterizes allocative analysis fails to capture the essence of the structural and systemic change that justified SOEs' industrial policy role in the 1950s–1970s phase. Because they emphasize market efficiency and only allow for state intervention if it is limited to regulation that guarantees efficiency (see below), allocative theories seem to be more suitable for understanding the rationale for the widespread privatization of SOEs in Europe starting from the 1980s.

Allocative theories conceive of market competition as the main determinant of allocative efficiency. Competition makes it possible to generate optimal levels of output and prices for producers and consumers. In contrast, state intervention in the economy is conceived as potentially distortive of market mechanisms, as it alters the quantities produced and distorts equilibrium prices (Stiglitz, 1989). Only in the presence of market failures do allocative theories justify state intervention, and only as a second-best option (Pigou, 1920). Therefore, from an allocative perspective, state intervention should consist of regulation, namely setting the rules of the game and allowing market agents to operate in their self-interest without external political interference (Arrow, 1969). In other words, the ideal regulatory frameworks to incentivize market competition would be based on liberalization policies for domestic markets and foreign trade.

In domestic markets, liberalization is seen as allowing efficient producers to replace inefficient ones, generating benefits for society as a whole, particularly for domestic consumers. However, efficiency gains generated by liberalization of domestic markets may be a desirable policy outcome in certain economic systems but not a priority in others. Allocating existing resources more efficiently may be relevant in advanced economies, whose productive capacity meets economic and societal needs in terms of quantity and quality of output, and where there is diversification across different productive specializations. However, in the context of emerging economies, whose priorities consist in rapidly expanding production and creating new markets, liberalization may not be sufficient. In this case, extensive state intervention may be necessary.

Liberalization of foreign trade is based on a similar logic. Liberalization yields the benefits of economies of scale, and hence of efficiency improvements, in sectors in which a country has comparative advantages (Balassa, 1967). Therefore, it is advanced economies that typically derive long-term benefits from liberalization, because they mainly export technology-intensive goods. In contrast, in early-stage economies, liberalization may lead to a lack of diversification into higher value-added production (List, 1909; Chang, 1994).

Privatization of SOEs is an essential subset of liberalization policy, as it serves to reduce the inefficiencies generated by direct state intervention and to limit the interference of political dynamics in market mechanisms. For example, property rights theory (see Coase, 1960; Hart & Moore, 1990; Hoppe & Schmitz, 2010) argues that public ownership does not provide

incentives to improve firms' efficiency and profitability. Other contributions stress the (quasi) public goods nature of SOEs due to their "non-excludability" and "non-diminishability," which are likely to lead to negative externalities that generate social costs (Jefferson, 1998). While some of these assumptions have been questioned (see Florio, 2004), allocative efficiency remains a hallmark of influential strands of economic theory, and privatization still represents one of the most debated policy measures to maximize it.

To summarize, allocative theories suggest policies that are relevant for advanced economies, which enjoy substantial advantages over international competitors. This can help explain the extensive privatizations that have occurred in Europe since the 1980s. The domestic expansion and international competitiveness achieved by European economies in the 1980s made it possible to emphasize efficiency over further expansion of domestic production while relying on profit-driven, privately managed firms capable of managing such advantages in their global business.

Nevertheless, in recent decades some emerging economies have succeeded in narrowing the development gap with European economies. The reduced gaps and the transition from a unipolar to a multipolar system in international relations have increased political-economic competition among countries, which have been increasingly relying on political strategies to control strategic markets and preserve or expand their sphere of influence. This section suggests that the geoeconomic approach provides a suitable analytical lens to understand today's global trends as well as the potential global role of European SIEs in serving European interests in the current historical phase.

The geoeconomic approach studies the relationship between control of strategic markets and political influence (Luttwak, 1990; Lorot, 2001; Quadrio Curzio & Miceli, 2010; Blackwill & Harris, 2016; Munoz, 2017). According to Lorot (2001, p. 114; my translation), geoeconomics "analyzes economic strategies, most notably commercial ones, adopted by states to protect their own economies or certain well-identified sectors of it, to help their national enterprises acquire technology or capture certain segments of world markets for the production or commercialization of a product or a range of sensitive products whose ownership or control confers upon the entity, state or national enterprise, a measure of power and international influence and helps reinforce its economic and social potential." Luttwak (1990) assigns even greater political relevance to geoeconomics. He argues that

geo-economics is the continuation of geopolitics by industrial means, namely a soft-power strategy to attain geopolitical goals. In such cases, the threat of force is replaced by economic threat. According to Luttwak, given the scarcity of strategic resources (e.g., natural resources and critical technologies), a country's economic power in these global markets also contributes to its political influence in relation to political competitors. Control over vital resources, therefore, represents a powerful lever for the pursuit of both economic and political goals.

Luttwak (1990) also emphasizes the importance of public-private synergies and mutual interests in the pursuit of geo-economic strategies. Both economic and political actors in a given national system benefit from such synergies, creating an alliance that reconciles their respective interests. In countries traditionally characterized by extensive public industry, this alliance usually takes place between state bodies and SOEs. However, Luttwak points out that states and private corporations can also co-operate in the pursuit of geo-economic objectives. This suggests that geo-economic strategies can operate beyond the bounds of SOEs, and the adoption of different ownership arrangements (public or private) depends on the historical and institutional context in which the relations between political and economic elites evolved over time.

Sovereign wealth funds (SWFs) are among the actors that have most widely pursued geo-economic strategies, although only Norway has so far shown particular activism among its European peers (Quadrio Curzio & Miceli, 2010). Nevertheless, the role of Cassa di Risparmio di Venezia in Italy, Caisse des Dépôts in France and others suggests that European SWFs and state-owned holdings are also driven by industrial policy objectives. While these are not explicitly framed in terms of geo-economic objectives, the SWFs have wide-ranging implications for enhancing overall economic competitiveness. This is evident in the systemic nature of the industries under their control and in their investment strategies globally.

By analyzing the role of Chinese SWFs, Quadrio Curzio and Miceli (2010) shed light on how emerging economies adopt geo-economic strategies to increase their economic competitiveness. For instance, by means of takeovers of European high-tech firms, Chinese SWFs not only aim to provide stable financial returns on their investments, but also to acquire skills and technologies that can be transferred to their domestic industry. This strategy contributes to industrial upgrade and to reducing the technological gap between the

Chinese and European economies. The Chinese example is widely followed by other emerging economies, particularly among the BRIC countries. It demonstrates how international competition for strategic markets has become increasingly intense.

In summary, the increasing use of political tools to gain influence in global markets suggests that the geoeconomic approach provides a suitable lens for understanding current economic trends. In particular, the geoeconomic approach is useful for thinking about how to conceive and design contemporary European SOEs and SIEs, and how their global action can address current policy challenges. For example, state influence on SIEs' boards can help exploit synergies with state bodies in a more systematic way; it can therefore help coordinate SIEs' global strategies to also serve national interests. At the same time, the private management structures and profit-oriented nature of SIEs limit interference by short-term political interests and enable them to compete in domestic and global markets.

3. Transformation of state ownership: From SOEs' rise and expansion to full and partial privatization

The rise of European SOEs in the early 1950s is, to a certain extent, attributable to the need to overcome some of the main political-economic weaknesses left by the war. Despite the differences in the objectives of SOEs in each national context, common aspects emerge as a consequence of shared challenges that were a priority across Western European economies at the time. In domestic markets, SOEs contributed to economic growth by providing a constant flow of public investment to compensate for a sluggish private sector (Cronshaw et al., 2008). Their international business also helped European economies re-emerge, particularly when they supplied domestic markets with inputs that were scarce domestically and necessary to support economic expansion. More generally, SOEs operated in domestic and international markets to serve national interests, while playing a systemic role that generated benefits across different sectors of the economy (Antonelli, Barbiellini Amidei, & Fassio, 2015). Their contribution to economic competitiveness was crucial also from a geopolitical viewpoint, as they helped Europe position itself in relation to the US and the USSR, and to achieve greater bargaining power with both. As a result, SOEs played a key role in the transition from the critical post-war phase to the mature stage of the 1980s.

The role of European SOEs in the 1950s–1970s phase cannot be reduced to a merely economic one. SOEs were also extensively used to pursue a wide range of political objectives, especially in the spheres of defence, energy security, social welfare and technological development (Millward, 2011). However, economic growth remained a priority because the increased availability of financial resources and enhanced industrial capabilities generated by it were important preconditions for the pursuit of the other objectives. Economic growth was particularly important in the period of post-war reconstruction to recover the industrial and infrastructure stock lost during the war and to open the way for a new phase of economic expansion and improved welfare (Toninelli, 2000).

Industrialization was the pillar of this strategy. The relative increase of the secondary over the primary sector, aimed at raising productivity levels, was a central element of economic growth (Millward, 2011). The role of SOEs in generating this structural change was decisive. Their presence in several manufacturing sectors made it possible to overcome the private sector's risk aversion and accelerate capital accumulation. SOEs made it possible to increase industrial capacity as well as productivity. Access to credit was eased by public control of the banking sector. The reallocation of labour from the primary to the secondary sector, in addition to improvements in productivity, contributed decisively to increasing industrial output.

More specifically, the role of SOEs was pivotal in a sophisticated industrialization strategy, based on sectoral differentiation. In fact, European states concentrated SOEs in sectors of systemic relevance, namely those with a high level of interdependence with the rest of the economy: basic manufacturing, network and infrastructure industries, energy and other natural resources, high technology and banking (Amatori et al., 2011). The systemic relevance of these sectors can be explained by their strategic positioning in the supply chain, namely in intermediate phases that serve most final production. Public ownership of industries producing intermediate goods was essential to decrease the cost and increase the supply of critical inputs used across the economy. Cost reduction occurred through technical improvements and the realization of economies of scale and scope that would have been difficult to achieve by relying solely on risk-averse private capital. Public ownership proved important also for SOEs' international business. Diplomatic support enabled SOEs to negotiate imports of domestically scarce inputs on favourable terms.

SOEs' ability to increase the performance of intermediate sectors played a decisive role in developing leadership in interdependent sectors producing final goods. For instance, the rise of the Italian mechanics and naval sectors to the status of global leaders since the 1970s can be explained in part by technical improvements in the steel sector. These were made possible by the acquisition of costly technologies from the US by the state-owned holding Istituto per la Ricostruzione Industriale (IRI) and their adaptation to national plants, which have since supplied low-cost and high-quality steel to domestic industries operating in various sectors (Ranieri, 2011).

German SOEs have also enhanced the competitiveness of German industry, although by the 1950s German SOEs were already well positioned in German markets and competitive worldwide. In fact, their contribution to industrial competitiveness started in previous phases. As in the Italian case, German SOEs benefited from the import of foreign technology and its adaptation to domestic plants (Wengenroth, 2000). Not surprisingly, German SOEs were initially concentrated in the steel, ore and automotive sectors, which all have systemic relevance in both economic and strategic terms.

Technical improvements and output increases in the production of intermediate goods were supported by both the domestic and international businesses of SOEs. At the international level, diplomatic support made it possible to negotiate better deals for the procurement of new technologies and natural resources from abroad. Synergies between SOEs and diplomatic corps have proven to be beneficial for this purpose (Cardinale, 2019b). SOEs benefited from the diplomatic support of states, while states benefited from SOEs' business relations and physical assets abroad. As a consequence, SOEs' international business served to strengthen European states' influence in global strategic markets for critical inputs unavailable domestically. Typical examples include not only energy and other raw materials, of which European states have suffered chronic deficits, but also the import and adaptation of new technologies for domestic development.

The French case shows SOEs' role in serving national interests, as well as the advantages and disadvantages of their exposure to the French government's foreign policy. For instance, in an initial phase, SOEs took advantage of the Monnet Plan, which envisaged the production of coal and steel mines in the Ruhr area, historically controlled by Germany. The plan was the result of negotiations between the French government and its main allies, and was based on

French security concerns about Germany (Hackett & Hackett, 1963). Political influence on French SOEs also remained strong in the subsequent decades, when changes in the international political landscape created difficulties for French business abroad. For example, the loss of former colonies brought the French government and SOEs to reorient their strategies to meet targets for the procurement of energy and raw materials from abroad (Musso, 2017).

Smaller economies in Europe also took advantage of synergies between state diplomacy and SOEs. For example, Österreichische Mineralölverwaltung (OMV) in Austria was the first European company to enter into energy deals with the Soviet Union in the late 1960s, opening the way to a paradigm shift in the energy policies of other European states and to increasing political interdependence between European states and the Soviet Union.

At the domestic level, public ownership made it possible to overcome the high risks associated with upgrading and further expanding the production of intermediate goods, given the production scale that characterizes these sectors, and the capital and technology required. The fact that SOEs' managers could look beyond short-term profitability made public ownership suitable for these investments. As a consequence, it was possible to overcome the private sector's risk aversion, which was strong at that time due to its relative underdevelopment. This had wide-ranging implications for industrial upgrade, incentivizing leapfrogs and domestic development of cutting-edge technology.

Innovation by SOEs in intermediate phases of production was key not only in reducing the production cost of final goods, but also in spreading technological spillovers. These contributed to upgrading the overall supply chain, while addressing broad political objectives such as energy security and defence.

SOEs played a significant role in industrial upgrade in several European countries. The Spanish case is exemplary of how SOEs could generate successful industrial transformations, particularly in the energy sector (Carreras, Tafunell, & Torres, 2000). The creation of joint ventures between Spanish SOEs and foreign international oil companies (IOCs) by the 1950s and 1960s succeeded in upgrading the underdeveloped Spanish energy industry and transforming it into a global player.

Another example in which SOEs played a role in enhancing the competitiveness of domestic industry is provided by the Dutch Staatsmijnen in the 1950s and 1960s, a state-owned holding specialized in the production of energy, chemicals and automotives. In this case, the strong links with the state allowed Staatsmijnen to be awarded 40 percent of the newly discovered domestic gas fields, and thus to switch from the production of coal to gas. The large-scale exploitation of gas fields not only generated large surpluses but also made it possible to adopt lower-cost inputs in the holding's other operations. These factors were particularly decisive in the success of the chemical branch, which shortly emerged as a global leader under the name De Nederlandse Staatsmijnen (DSM) (Davids & Van Zanden, 2000).

To summarize, the approach to economic policy pursued through SOEs was based on sectoral differentiation. Considerable financial, organizational and diplomatic resources were allocated to sectors of systemic relevance, namely those that were characterized by high levels of interdependence with the rest of the economy. This strategy allowed the state to shape the trajectory of long-term development in a fast and effective way. The systemic role played by SOEs contributed to European economies' transition to an advanced stage of economic development. By the 1980s and 1990s, European economies had widened the development gap between themselves and their Asian competitors, except for Japan, and had to a certain degree caught up with the US. Table 1 shows the extent to which European companies ranked in top positions in terms of internationalization of their business.

Table 1 World's largest transnational companies ranked by foreign assets (1996)

Rank	Company	Country	Sector	State shares
1	General Electric	USA	Electronics	No
2	Shell	UK/NL.	Petroleum	No
3	Ford	USA	Automotive	No
4	Exxon	USA	Petroleum	No
5	General Motors	USA	Automotive	No
6	IBM	USA	Computer	No
7	Toyota	Japan	Automotive	No
8	Volkswagen	Germany	Automotive	No
9	Mitsubishi	Japan	Diversified	No
10	Mobil	USA	Petroleum	No
11	Nestlé	Switzerland	Food	No
12	ABB	Switz./Sweden	Electrical eq.	No
13	Elf Aquitaine	France	Petroleum	Yes
14	Bayer	Germany	Chemical	No
15	Hoechst	Germany	Chemical	No
16	Nissan	Japan	Automotive	No

17	Fiat	Italy	Automotive	No
18	Unilever	NL/UK	Food	No
19	Daimler-Benz	Germany	Automotive	No
20	Philips Electro.	Netherlands	Electronics	No
21	Roche	Switzerland	Pharmaceuticals	No
22	Siemens	Germany	Electronics	No
23	Alcatel	France	Electronics	Yes
24	Sony	Japan	Electronics	No
25	Total	France	Petroleum	Yes
26	Novartis	Switzerland	Pharmaceuticals	No
27	BP	UK	Petroleum	Yes
28	Philip Morris	USA	Food/Tobacco	No
29	Eni	Italy	Petroleum	Yes
30	Renault	France	Automotive	Yes

Source: UNCTAD (1998).

As Table 1 shows, in 1996, 19 of the world's 30 largest companies by foreign assets were European, and the others were American and Japanese. Of the 19 European companies, only 6 were (or had previously been) state-owned. However, the success of European private companies also depended, to some extent, on the role of SOEs as providers of inputs. For example, the German automotive, chemical and electronics industries in the top world positions benefited from cheap and abundant supplies from state-owned companies in the steel and energy sectors, which were also among the world's largest and most competitive. This was also the case in France and Italy, although they also had extensive state ownership of companies producing final goods. The industrial leadership of Switzerland, the Netherlands and the UK was the result of various factors, including not only state ownership of basic manufacturing, but also these countries' long-standing industrialization, diplomatic leadership and links with former colonies, which contributed to a different extent in each national context.

The competitiveness achieved by European industry in the 1980s made it possible to reduce state intervention in the economy. This was done through the liberalization of domestic markets and foreign trade, and was accompanied by widespread privatization of SOEs (Cardinale, 2019a). The United Kingdom was the first and major promoter of this policy. Privatizations in the UK started by the late 1970s and lasted until the late 1990s. Nearly the entire range of network industries were fully privatized, with energy, telecommunications and transport being among the most important ones (Florio, 2004). Continental Europe followed,

although several countries delayed privatization, maintaining a substantial public interest in the former SOEs alongside private shares.

Liberalization and privatization are typically seen as two sides of the same coin (Köthenbürger et al., 2006). The rationale for liberalization consisted in the pursuit of increasing levels of domestic market efficiency. On the supply side, market opening to new entrants was expected to raise the level of competition, rewarding the most efficient producers at the expense of inefficient ones. On the demand side, competition would decrease prices, increasing consumers' welfare. Privatization of SOEs was conceived as complementary to liberalization, as lack of political support for selected firms would reduce their market power and remove "political" barriers to entry that penalized new entrants (Parker, 2002).

However, there is evidence that the growing emphasis on allocative efficiency, which was brought about by the liberalization and privatization policies of the 1980s, can be explained by, among other factors, the presence of an advanced industrial sector and a consistent gap between the competitiveness of developed and developing economies in key sectors. These advantages encouraged the demise of traditional direct state support for domestic firms, at least in the form of state ownership. In fact, by that time most market failures related to economic underdevelopment and lack of infrastructure in Europe had been solved (Cardinale 2019a). In relation to foreign trade, the pursuit of lower barriers to trade with non-European countries was strategic in view of the competitiveness achieved by European firms. By a similar logic, privatization was justified on the grounds of national champions' reduced need for political support abroad. As former SOEs, they had already benefited from political support in the previous phases, which made it possible for them to grow and control large shares of global strategic markets.

In conclusion, privatization of European SOEs in the 1980s–1990s phase was driven by a different political-economic rationale than the one that prevailed in the 1950s-1970s. At that stage of economic development, privatization was suitable for strengthening established advantages over competitors and managing them more efficiently. However, privatization also furthered other political objectives, such as accelerating the process of European integration and reducing public debt.

4. The global role of European SIEs in the 21st century: Insights for industrial policies

The process of privatization of European SOEs encountered a setback in the 2000s. The 2008–2009 financial crisis was certainly a major factor. In fact, besides other countercyclical measures, some European states re-nationalized important firms in key sectors – particularly banking – to address the effects of the crisis and overcome recession (Bance & Bernier, 2011; Bance & Obermann, 2015). However, the financial crisis may not have been the only cause of the setback to privatization. Another cause may lie in the increasing perception that privatized firms were unable to meet expectations in terms of performance and the quality of services provided to citizens (Florio, 2013). Lastly, states may have been reluctant to fully privatize firms that operate globally and supply key inputs to domestic markets.

Regardless of the reasons for the halt in privatization and the slight increase in state ownership in recent years, the major shares held by European states in global firms are potentially powerful tools for facing the rise of emerging countries. However, 21st-century SIEs must be different from the SOEs of the past, as several changes have taken place in domestic and global markets.

Domestically, the objectives of economic policy have radically changed, shifting from industrialization, fast economic growth and structural changes to market competition and market-led innovation. This has affected the mission of SOEs, which has moved away from supporting industrial policy. At the same time, some SOEs have maintained their social and allocative roles, although on a much smaller scale than before. For example, in Germany, France and Italy public ownership of downstream utilities is still justified by the need to maintain certain levels of quality and affordability in services of general interest and to guarantee basic rights such as access to water and energy. State ownership is also justified by the need to minimize inefficiencies arising from natural monopolies. In fact, many European states still own the national networks in several sectors – from energy to transport and telecommunications – with the aim of avoiding transaction costs associated with regulating and monitoring the activity of a private monopolist in a strategic sector of the economy.

As a result, apart from these exceptions, liberalization required SOEs to compete on a level playing field with private firms and to be managed as private companies. This was usually done through a process of corporatization, which offered the options of full or partial privatization. The privatization of SOEs can be attributed to several factors. First, the transition to an advanced stage of development meant that most of these markets were saturated and large-scale public investments were not needed, at least not to the same extent as in previous phases. Second, privatization made it possible to comply with the EU Single Market policy, which encourages market competition in sectors that were historically dominated by state monopolies. Third, privatization served various political objectives that ranged from reducing public debt to gaining electoral support in a period of negative perceptions of SOEs, particularly in terms of lack of transparency and mismanagement.

Internationally, several factors have changed the landscape in which European companies operate. For example, the relative size and competitiveness of advanced economies have declined in relation to emerging economies. Table 2 shows the rise of emerging economies over the last 40 years and the decline of some Western economies, particularly in Europe.

Table 2. World's largest economies by gross domestic product (GDP) based on purchasing power parity (PPP)

Rank	1980	2000	2020
1	United States	United States	China
2	Soviet Union	China	United States
3	Japan	Japan	India
4	Italy	Germany	Japan
5	West Germany	India	Germany
6	France	Russia	Russia
7	Brazil	France	Indonesia
8	United Kingdom	Italy	Brazil
9	Mexico	Brazil	United Kingdom
10	India	United Kingdom	France

Source: IMF World Economic Outlook Database (2018) and CIA World Factbook (2014)

The rise of emerging economies has also been accompanied by their increasing competitiveness in strategic sectors such as natural resources, engineering and infrastructure, and other network industries. This trend is arguably due to their efforts to upgrade their industry and increase the share of capital- and technology-intensive production in relation to labour-intensive production, in which they historically retained a comparative advantage. Table 3 shows that, while Western companies are still dominant, companies from developing

economies in the BRIC countries, particularly China, rank among the top positions in many critical sectors. Arguably, a primary reason for the prevalence of state ownership in companies from emerging economies is their governments' desire to reduce the competitiveness gap with Western incumbents.

Table 3. World's largest companies by revenue

Rank	Oil & Gas	Mining	Engineering	Aerospace	Chemical	IT
1	Saudi Aramco	Glencore (Switzerland)	GE Power (USA)	Boeing (USA)	BASF (Germany)	Apple Inc (USA)
2	Sinopec (China)	BHP Billiton (Australia)	Siemens (Germany)	Airbus (Europe)	Dow Chemical (USA)	Samsung (SK)
3	CNPC (China)	Rio Tinto (UK-Australia)	CSCEC (China)	United Technologies (USA)	Sinopec (China)	Amazon (USA)
4	Exxon Mobil (USA)	Vale (Brazil)	Bosch Corporation (Germany)	Lockheed Martin (USA)	SABIC (Saudi Arabia)	Foxconn (Taiwan)
5	Shell (UK-NL)	Anglo American (UK)	Hitachi (Japan)	General Dynamics (USA)	ExxonMobil (USA)	Alphabet (USA)
6	Kuwait Petroleum Co. (Kuwait)	China Shenhua Energy	China Railway Group.	GE Aviation (USA)	Formosa Plastics (Taiwan)	Microsoft (USA)
7	BP (UK)	Freeport McMoRan Copper & Gold (US)	China Railway Construction Corp.	Northrop Grumman (USA)	LyondellBasell Industries (USA)	Huawei (China)
8	Total (France)	Barrick Gold (Canada)	CRRC (China)	Raytheon (USA)	DuPont (USA)	Hitachi (Japan)
9	Lukoil (Russia)	Coal India Limited (India)	Honeywell (USA)	BAE Systems (UK)	INEOS (UK)	IBM (USA)
10	Eni (Italy)	Fortescue Metals Group (Australia)	ABB Group (Switzerland)	Rolls Royce (UK)	Bayer (Germany)	Dell (USA)

Source: Fortune Global 500 (2018)

The table shows that control of global markets for strategic inputs has seen substantial changes in recent years. In particular, Chinese corporations are now dominant in many sectors, while corporations from the other BRICs (i.e., India, Brazil and Russia) are also starting to rank in top positions. However, the relative decline of Western economies mainly affects European countries (although Germany and the UK still hold important positions). In

contrast, the US is still able to maintain the gap with emerging competitors thanks to its leadership in high technology.

In emerging economies, the effort to pursue leadership in capital- and technology-intensive sectors may be driven by different industrial policy rationales. One is certainly related to the contribution of these sectors to industrial upgrade and the technological spillovers to the domestic economy. Another, which is our focus here, is related to two fundamental and interconnected features of these sectors: the fact that they produce fundamental inputs for the economy and the scarcity and rivalry of such inputs. The latter entails a zero-sum game with international competitors, either for procurement from abroad, in the case of scarce natural resources, or for domestic production, in the case of high tech.

In the case of natural resources, the zero-sum game emerges not only from their limited availability but also from the complex logistics, which structure their control around production sites and transport routes that connect specific countries.

In the case of capital- and technology-intensive inputs, the zero-sum game is inherent in the dynamics of international trade and the difficulty for newcomers of defying the incumbents' comparative advantages and competing with them in technology-intensive sectors. Although protective measures may provide time for the nascent domestic industry to expand and develop, its real competitiveness in the long term is determined by the ability to conquer significant shares in global markets at the expense of incumbents. Control of high-tech markets not only has a positive effect on the domestic economy but also improves the terms of trade vis-à-vis foreign economies that need to buy high-tech inputs.

By ceasing to rely on foreign suppliers for critical inputs, developing economies can potentially lower production costs, which is a precondition for meeting domestic development and industrial competitiveness targets. As contributors to structural theories argue (Furtado, 1964), pursuing this industrial strategy in the initial stage of development interrupts the dependence on imports of high-tech goods and services from advanced economies and starts a process of industrialization which mainly relies on domestic inputs.

In more advanced stages of development, when the need to expand domestic industry becomes less relevant, these inputs are still strategic. In fact, the rise and decline of

economies heavily depend on their ability to compete in global markets for the production and procurement from abroad of such inputs, which are needed in final production. Furthermore, developing leadership in these markets is decisive to exercise political bargaining power towards competitors, due to the scarce and rival nature of such inputs, and their contribution to economic resilience and national security. This consideration, inspired by the contributions of geoeconomics, sheds light on the potential implications for European states of retaining a controlling interest in firms that produce these inputs domestically or supply them from abroad, and explains how state ownership may also be justified in advanced stages of development.

There are two other key interconnected elements that are relevant for global strategic markets and show the emergence of fundamental changes in comparison to previous historical phases: globalization and financialization. Globalization consists in greater interdependence among economies. It has political roots in the process of economic liberalization promoted by Western economies in previous decades and was accelerated by technological improvements, primarily in the information and communications technology (ICT) sector (Bordo, Taylor, & Williamson, 2003). Financialization consists in the global increase of the financial sector's value-added compared with the primary and secondary sectors, and it is partially rooted in the decreased margins of industrial growth. It has resulted in a radical change in the investment and business strategies of multinational corporations (MNCs) (including SOEs), namely a shift from greenfield investments to mergers and acquisitions (M&As) of existing businesses (Clò et al., 2015).

Both globalization and financialization entail potential threats and opportunities for national interests. The increasing degree of economic globalization may jeopardize state interests if the internationalization of domestic firms involves large-scale divestments from domestic markets and/or the reorganisation of global supply chains in ways that marginalize the domestic market, by excluding it from trade routes or from phases of production with the highest technological content and value added. Financialization of global markets can also represent a threat to national interests. Domestic companies providing critical inputs to national markets are increasingly exposed to takeovers from foreign companies, whose business strategies usually conflict with public policy objectives, as their main objective is to maximise profitability for shareholders rather than to invest for the domestic economy.

Nevertheless, globalization and financialization can be turned from potential threats to favourable opportunities if states and domestic firms co-operate. While state support for domestic firms helps overcome competition from foreign companies, globalization makes it possible to penetrate foreign market with greater ease. Furthermore, financialization makes it possible to increasingly rely on financial strategies to pursue policy objectives, as shown by the strategies carried out by Sovereign Wealth Funds (Quadrio Curzio & Miceli, 2010). Therefore, co-operation between state and domestic companies may serve important industrial policy objectives while improving firms' profitability.

The aforementioned co-operation can provide fruitful outcomes under different ownership structures, as shown by the opposed examples of the US and China. In the former case, domestic firms have benefited considerably from US diplomacy, whose bargaining power and ability to create privileged bilateral relations have eased firms' access to foreign markets and enabled them to obtain favourable contractual terms. Furthermore, as Mazzucato (2015) notes, the strength and global competitiveness of US firms are largely generated by state support in the form of large-scale investments in research and development, the successful outcomes of which are then internalized by US firms. The US government also takes advantage of the global leadership of US firms, for example in the ICT sector, as is evident in their ongoing collaboration to develop cutting-edge technologies and services for national security purposes.

In the case of China, state support is more evident due to extensive state ownership of the largest Chinese companies. Not surprisingly, Chinese SOEs benefit from wide-ranging support from state institutions, such as privileged access to credit from state banks. In particular, the role of Export-Import (or Exim) Bank of China has proven crucial in enabling Chinese SOEs operating abroad to face competition from other global players. Exim's extremely favourable terms of financing have made it possible for Chinese SOEs to finance major infrastructure projects in developing countries, particularly Africa, strengthening China's global leadership in key sectors (Huang & Chen, 2016; Aidoo, 2017). This suggests that Chinese state control over the largest companies has been instrumental not only in domestic political affairs but also in China's international relations.

Therefore, state ownership may serve as a binding force for economic and political interests, or may reflect a certain political culture, but it is not necessarily a precondition for reconciling strategic and economic interests, as the case of the US shows.

With respect to Europe, a revival of state ownership in global companies may help address relative economic decline and decreased global influence, thanks to their leadership in global strategic markets. Table 4 shows the main European SIEs operating in such markets.

Table 4. Main European SIEs by sector

Energy	Transport & Infrastructure	Banking	Aerospace & defence	Telecom
Verbund (Austria)	Naval Group (France)	Dexia (France)	Patria (Finland)	Telekom Austria
OMV (Austria)	Fincantieri (Italy)	Belfius (Belgium)	Leonardo (Italy)	Orange (France)
Ørsted (Denmark)	SNCF (France)	Commerzbank (Germany)	Safran (France)	Deutsche Telekom (Germany)
EDF (France)	Ferrovie dello Stato (Italy)	KfW (Germany)	Thales (France)	STMicroelectronics (Italy-France)
Engie (France)	Deutsche Bahn (Germany)	Cassa Depositi e Prestiti (Italy)	Nexter Systems (France)	Telia Company (Sweden)
Eni (Italy)	Hapag-Lloyd (Germany)	Caisse des Dépôts (France)	Airbus (Germany, France, Spain)	Swisscom (Switzerland)
Enel (Italy)	Navantia (Spain)	SACE (Italy)	Empordef (Portugal)	BBC (UK)
Hellenic Petroleum (Greece)	SAS Group (Sweden, Denmark)	Banque et Caisse d'épargne de l'État (Luxemburg)	Indra Sistemas (Spain)	Proximus Group (Belgium)

Source: Privatization Barometer Database (2019)

In the current phase, European SIEs show weak links with the state. Moreover, their investment strategies often are not coordinated with industrial policy. This hypothesis finds empirical evidence in recent studies. For example, after analyzing the investment strategies of SIEs, Clò et al. (2017) found no correlation with the pursuit of policy strategies. In contrast, SOEs tend to be driven by policy objectives. Bass and Chakrabarty (2014) find similar results with particular reference to the energy sector, although they also report some exceptions to this pattern. This evidence suggests that state shares in European SIEs seem to be the result of incomplete privatization rather than a specific strategy to maximize public-private synergies. The lack of a policy strategy for SIEs may be caused by states' retention of minority shares

only, which can make it difficult for the state to take a leading position vis-à-vis other shareholders, but it may also result from the deliberate intention of states not to interfere in the management of SIEs.

Nevertheless, the lack of direct state influence over European SIEs does not necessarily imply that they do not contribute to national interests. In fact, despite partial privatization and the liberalization of domestic markets, SIEs' assets, international positioning in strategic markets and relationships with foreign countries still bear the imprint of their original public policy missions (Cardinale, 2019b). Therefore, even in the absence of direct state influence, a firm's business may serve national interests. For example, the management of former SOEs may deem it more profitable to use existing transnational infrastructure for energy imports rather than investing in new infrastructure that would divert such supplies to other countries. Ultimately, co-operation between states and SIEs can occur as with private companies and provide fruitful results. However, unlike in the case of SOEs, this kind of co-operation does not enable the state to intervene directly in strategic markets.

Nevertheless, the extensive use of political tools by states around the world to support their domestic firms suggests that European states could also leverage SIEs. This is important for improving the performance and market power of European firms in global strategic markets, and for European states to maintain their long-term economic and political leadership. The industrial policy role played by SOEs in the 1950s–1970s phase can provide insights into how to maximize synergies between state institutions and domestic companies operating globally. In particular, it sheds light on the important role of SOEs in supplying critical inputs to domestic industry, which remains of strategic importance for addressing broad policy objectives in defence, energy security and innovation. This requires the development of an industrial policy that coordinates SIEs' global action and takes the interests of private shareholders into account.

This chapter suggests that reconciling the interests of states and SIEs is possible, particularly in global strategic markets, where they tend to collaborate to overcome competition from foreign (political and economic) actors in the production and import of scarce and rival inputs. In contrast, in domestic markets, such collaboration is often undermined by divergent interests, for example because corporate profitability occurs at the expense of price affordability for consumers and/or the quality of essential services for citizens. In the future,

a collaborative strategy for leadership in global markets may prove even more effective if coordinated at the EU level. The extent to which a EU foreign industrial policy strategy may be successful will depend on the EU member states' ability to identify common interests in their global action and make common plans to interact with other global players.

5. Concluding remarks

European SOEs have undergone remarkable changes in the last seven decades. The foregoing analysis shows that these changes reflect transformations in domestic and international markets and the need for European states to adapt strategies and tools of economic policy to the new circumstances. In particular, European SIEs are both profit-seeking and (potentially) policy-driven; they are therefore able to address economic and strategic objectives that are relevant in the current historical phase. For example, SIEs' private management makes them suitable to operate under market competition domestically, while various forms of state support may serve to overcome the increasing competition from emerging economies. As a result, contemporary SIEs can be important actors in the framework of a renewed industrial policy at the national or EU level.

To understand the potential industrial policy role of today's SIEs, this chapter traces the transformations of SOEs across different historical phases and their relation to changing policy priorities. In the 1950s–1970s phase, SOEs played a key role in the expansion and technological upgrade of domestic industries. Public ownership of firms that produced domestically and sourced essential inputs from abroad (such as natural resources, basic manufacturing and high tech) was a driver of industrialization. Domestically, the role of SOEs consisted in channelling large-scale public investments to the *ex novo* creation, expansion and technological upgrade of industrial plants that produced such inputs. Globally, their goal was to procure such inputs when these were scarce domestically. As a result of their domestic and global businesses, the output and productivity of systemic sectors within the country grew, contributing to increasing the scale and decreasing the production costs of most other sectors in the economy.

Structural theories are particularly useful for understanding the systemic role of SOEs in the 1950s–1970s and their contribution to industrialization. In fact, this literature emphasizes the

role of intermediate sectors in the pursuit of economic growth and industrial upgrade. In particular, the adoption of sectoral analysis makes it possible to differentiate the systemic relevance of each sector and to determine how the relative growth of certain sectors brings about specific structural changes.

In the 1980s–1990s phase, European SOEs witnessed large-scale privatization, which aimed to make liberalization policies more effective and improve market efficiency. Decreasing the level of political interference in the market, while transforming former SOEs into profit-driven actors, was considered necessary for this purpose. The emergence of market efficiency as a key goal of economic policy and the demise of traditional objectives of state-led industrialization show that fundamental objectives of industrial policy had been accomplished, particularly domestic expansion and the international competitiveness of systemic industries. In fact, by the 1980s European firms were highly influential in global strategic markets and hence did not need substantial support from the state.

To shed light on the rationale for the privatization of SOEs, this chapter has adopted the lens of allocative theories, whose policy suggestions are relevant for economies with significant advantages over competitors, as was the case of European economies in the 1980s–1990s phase. In fact, trade liberalization usually benefits economies at advanced stages of development, as it makes it possible to specialize in capital- and technology-intensive production. Privatization is here interpreted as driven by a similar rationale: it is believed to be effective for managing existing advantages, due to the presumably higher operational efficiency of privatized firms.⁵

In recent years, privatization has slowed down considerably or even stopped. As a result, European states currently retain majority or minority stakes in former SOEs. The analysis suggests that the current trend may be a starting point for a revival of SIEs in Europe. In fact, European SIEs may serve to address certain aspects of industrial policy that, in the current historical phase, have again become priorities. In particular, with the rise of international competitors, the traditional global business of SOEs may prove relevant for maintaining European leadership in strategic global markets, and thus stopping or slowing down the

⁵ However, studies show that the performance and operational efficiency of privatized firms in comparison with SOEs are context-dependent (Domberger & Piggott, 1994; Florio, 2004). Hence, it is difficult to draw definite conclusions on this issue.

current decline. The revival of European SIEs may prove to be a priority considering the increasing political backing that competitors receive from their respective states.

The foregoing analysis shows that the systemic relevance of certain sectors has political implications too, and that economies around the world compete by using political tools to provide domestic economies with fundamental inputs. It is therefore important to adopt both structural and geoeconomic lenses to understand the current historical phase and the challenges that European economies are facing. Structural approaches shed light on the systemic importance of certain inputs, while geoeconomics helps us understand the political strategies adopted by states to supply domestic markets with such inputs and overcome international competition. The application of allocative theories has also proved useful for understanding current policy challenges. In particular, their theoretical lens provides insights into how to design SIEs that are profit-oriented and privately managed, and thus compatible with the principles of the EU Single Market Policy. Furthermore, it suggests that European economies are losing some of their comparative advantages in key sectors, which should be a starting point for elaborating a policy strategy for SIEs' global businesses.

Although the different theoretical lenses discussed above highlight the changes undergone by SOEs/SIEs across historical phases, they also point to some constants. In particular, there is continuity in the actual (or potential) contribution of SOEs/SIEs to industrial policy, particularly when they operate in sectors and phases of production that are strategic for the country's long-term prosperity and global influence. In fact, as some strands of the international relations literature suggest (Gray & Sloan, 2000), some of the main strategic objectives of countries do not change substantially across historical phases, because states are tied to relatively unchangeable conditions such as geographic position, access to the sea and scarcity or abundance of certain factors of production. In this regard, this chapter shows that the ability of SOEs/SIEs to supply domestic markets with low-cost and high-quality inputs is an element of continuity that serves the long-term strategic interests of industrialized economies, regardless of the stage of development. This aspect of industrial policy is even more relevant for European economies, considering the relatively high value added of the manufacturing sector compared with other sectors. In a broader political perspective, this aspect is central for the pursuit of industrial competitiveness, energy security and national defence, which are essential elements of long-term prosperity and global influence.

To conclude, the industrial policies of European countries can benefit from their SIEs' leadership in global strategic markets. In particular, states could engage more actively in the development of SIEs' business strategies when synergies between state bodies and private shareholders maximise their mutual interests. Similar forms of coordination may also be conceived between EU institutions and SIEs to boost the emerging EU industrial policy vision. An industrial policy strategy is especially important in the current phase of rising multipolarity, where each emergent centre of power attempts to gain influence over competitors by controlling vital resources. Contemporary European SIEs are suited to this purpose, as they are able to overcome competition in global strategic markets. They can therefore reconcile economic and strategic objectives.

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