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Reassessing the Role of State-Owned Enterprises in Central, Eastern, and Southeastern Europe

An IMF staff team led by Christine Richmond, Peter Dohlman, Jacques Miniane, and James Roaf, in collaboration with EBRD staff

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Executive Summary

The Central, Eastern, and Southeastern European (CESEE) region is ripe for a reassessment of the role of the state in economic activity. The rapid income convergence with Western Europe of the early 2000s was not always equally shared across society, and it has now slowed dramatically in many countries of the region. Moreover, past privatizations have not always lived up to their promise. In this context, it is pertinent to ask to what extent state-owned enterprises and banks (SOEs and SOBs, respectively) can be a source of economic growth and stability or instead impose a significant drag on the economy, and if so why. This paper draws on original surveys of country authorities, large micro-level databases, and corporate case studies (with European Bank for Reconstruction and Development involvement) to answer some of these pressing questions.

SOEs and SOBs account for a significant share of economic activity in the CESEE region, though with large variation across countries and sectors. In most countries in the region, SOEs account for *at least* 5 percent of total employment or total value added, but in countries such as Poland or Russia this share rises to some 15 percent, and to 30 percent in the case of Belarus. Not surprisingly, SOEs are concentrated in natural monopoly sectors, but they are present to varying degrees in other sectors as well, such as mining and quarrying, agriculture, manufacturing, and services. In the financial sector, SOBs are nonexistent in some countries but very large in others, accounting for more than half of banking sector assets in Russia, Belarus, and recently (following supervisory actions) also Ukraine.

SOEs systematically underperform relative to their private sector counterparts. Statistical analysis in the paper finds that SOEs (1) generate less revenue per employee, (2) pay higher wages than private companies, and, not surprisingly, (3) are significantly less profitable. These results hold to varying degrees in every country in the region and in every sector of the economy. A

related concept of efficiency, namely total factor productivity, is also found to be lower in SOEs. The key reason for this underperformance is the inefficient use of resources, most notably labor; SOEs use too much labor for the output they produce. In countries where SOE presence is material, the paper finds large potential output gains from boosting SOE efficiency up to the level of their private counterparts.

A similar picture emerges in the financial sector. Consistent with previous literature on the subject, our study finds that SOBs (and development banks) are overall less profitable than private banks, though there is significant heterogeneity across countries. Lower net interest margins and net fees but also higher provisioning costs (related to higher nonperforming loan ratios) explain the difference in profitability. And, surprisingly, SOBs do not perform worse solely because they focus their lending on weaker SOEs; their lending decisions are poorer whether lending to SOEs or to the private sector. Finally, the study points to risks from the government–SOE–SOB nexus, such as when government ownership of a bank leads to relaxed oversight over poor lending to SOEs, which in turn can lead to a significant financial stability shock with fiscal consequences.

Poor governance of SOEs is at the root of the problem. Be it in the area of ownership policy—in particular, the balance between active government engagement and delegation to independent SOE supervisory and management boards—or in the way governments oversee these companies' finances and manage the links between SOEs and national budgets, CESEE countries fall short of international best practice. There is, granted, significant cross-country variation, but no country comes close to best practice in all areas. This matters because the paper finds a clear correlation between how well a country ranks in terms of SOE governance and how close this country's SOE performance is to the private sector benchmark.

There is little evidence that inefficiencies arising from state ownership can be justified by noneconomic objectives. Countries in CESEE and elsewhere report a variety of rationales for state ownership that go beyond economic efficiency. However, state-owned entities tend to disappoint even against some of these objectives. For instance, we find only partial evidence that SOEs shed less labor (or protected real wages better) during the global financial crisis. Similarly, there is mixed evidence that a higher share of state ownership in the banking system is good for financial inclusion, though we do find some evidence that it correlates with more stable credit flows. Finally, economies with a larger SOE footprint tend to have a lower public capital stock and a lower quality of infrastructure even after controlling for income levels.

The balance of evidence in the paper strongly suggests that larger state ownership is not the way to achieve faster growth and convergence. Rather, the opposite seems to be the case. In this context, a good first step—which some CESEE countries are taking or have taken in the past—is to triage state-owned companies and SOBs on the basis of their viability, and on whether the rationale for state ownership is strong (natural monopoly, strategic interests, etc.). For the latter group in particular, there has to be a frank, transparent, and data-driven assessment of whether these companies are fulfilling their stated objectives, and at which cost to the state and to the economy.

Improving SOE governance is urgent unfinished business, but it is not enough in itself. The scope for SOE governance improvements is large in the region, be it more independent and professional boards in the companies, stricter financial reporting and auditing, or greater clarity on the fiscal links to SOEs. This being said, the paper offers cautionary tales against simple de jure improvements that do not translate into real implementation changes; the latter often requires dogged determination to go against vested interests. Moreover, the paper shows through various case studies that improving governance, while necessary, is typically not a sufficient condition for lifting performance. This requires hard choices such as shedding employment or divesting noncore assets, choices that create tension between the need for the state to manage at arm's length and the need for it to get behind these hard choices. In short: state ownership is seldom the answer to an economy's ills, but fixing problems in the state-owned sector is a complex, often long-winded process that may require sustained commitment over several years. But if there is something that this paper shows, it is that it can be done, typically if not always to the benefit of the sector and the economy.

CHAPTER

1 Introduction

A number of factors have led to a reassessment of the role of the state in the economy in recent years. For some, the global financial crisis heightened the debate over elements of the Washington Consensus which had dominated emerging market policymaking for the previous two decades, including its emphasis on arms-length relations between the state and businesses, elimination of subsidies to SOEs, or outright privatization. The aftermath of the global financial crisis also placed a renewed emphasis on fiscal policy—including both public investment policy and identification of fiscal risks—in macroeconomic management. At the same time, China's rapid growth has suggested to some that a more state-centric model could deliver superior outcomes.

This debate has particular resonance in the Central, Eastern South-Eastern (CESEE) region, given its history of state control and ownership. Following the fall of the Berlin Wall, European transition countries initially fell into recession, but then mostly grew very strongly in the period up to the global financial crisis. However, the region was then hit hard by that crisis, and slower growth in the post-crisis period has generally failed to restore the prospect of rapid convergence to Western European living standards. Privatization has not always lived up its promise due, for example, to corruption or other problems in the privatization processes, or because public monopolies were replaced by private monopolies. Social tensions, inequality, strains on public services, pensions and social safety nets, demographic pressures, unemployment, and emigration have tended to make the old state-centric models seem more attractive in hindsight—even in countries where overall income levels have risen strongly, such as Hungary and Poland.

Although the first decade of transition saw dramatic reductions of state ownership across the region, a few countries have shifted toward larger direct state involvement in recent years. The initial downshift occurred through a

combination of privatization, bankruptcy and restructuring. This momentum tailed off in the 2000s, in part due to mixed reactions from the experience or because strong growth reduced the imperative for politically difficult steps such as privatization or SOE governance reform, with little further progress even in countries with relatively higher remaining state ownership. And in recent years state ownership in the economy has remained steady in many countries, and even increased in some sectors (for example, energy in Russia or the financial sector in Poland).

Various rationales have been put forward for establishing and maintaining state ownership. A state presence has often been justified on the basis of correcting for market failures, or to meet strategic or social objectives.[1] The latter include providing employment to those willing to work but unable to find private sector employment, such as in depressed regions or across economic cycles, or maintaining 'priority' sectors, including defense but also other sectors such as high tech. In light of this, SOEs and state-owned banks (SOBs), by combining commercial and noncommercial objectives, are seen by some as good remedies to address these failures. At the same time, it appears that in practice, many state-owned entities exist today without a clear rationale, often as a result of the unfinished transition and privatization process, or vested interests, potentially contributing to weak performance.

There is a large academic literature on SOE and SOB performance, restructuring and privatization. Common themes include the efficiency gains from privatization and restructuring; analysis of alternative privatization methodologies; comparisons of the efficiency of SOEs/SOBs and comparable private entities; and the comparisons of reform experience across different regions, notably China versus Central and Eastern Europe. However, this literature was mostly concentrated in the 1990s, with fewer contributions in recent years.[2]

Against this backdrop, it is pertinent to reassess the situation of SOEs and SOBs in the CESEE region. This paper takes stock of the rationale, scale and performance of state ownership in more than 20 CESEE countries. It conducts a comprehensive cross-country analysis of state ownership in the real and financial sectors. The paper identifies performance differentials relative to private counterparts and discusses standards of corporate governance in

[1]Shirley and Walsh (2001) surveyed the main theoretical arguments put forward for state ownership (market failure, including externalities, economies of scale, imperfect competition, imperfect information), but also the debate about whether government officials act in the social welfare or with distorted objectives. See also Atkinson and Stiglitz (1980) and Stiglitz (1993). Governments have relied on market failure arguments, but also social (for example, employment, regional development, delivery of services to underserved population) and national strategic (for example, food and energy security) interests in making the case for state ownership (see Lawson 1994; World Bank 2014; Putnins 2015; Peng and others 2016).

[2]See below for further discussion of the literature.

SOEs. As the aim is to focus on sectors in which public and private entities compete head-to-head and the rationale for state-ownership more in question, the bulk of the comparative work focuses on non-network SOEs and on the commercial banking sector, along with deeper looks in targeted countries and cases. The paper does not include in-depth discussion of fiscal risks from state ownership or of privatization methodologies and outcomes, although these are covered in boxes on individual country or enterprise experiences.

The analysis rests on a broad set of quantitative and qualitative inputs. Novel country surveys are used for stocktaking of the presence of SOEs and assessing governance frameworks. Analytic work relies on rich firm-level datasets for both nonfinancial firms (Orbis) and banks (Fitch) across the CESEE region, as well as more complete datasets from business registries for some specific country cases. The paper also covers other selected topics and examples through case studies. An important qualifier is that most of the quantitative analysis extends only through 2016, and therefore does not capture the last several years of country-level developments.[3]

The paper is organized as follows. Chapter 2 presents stylized facts about the SOE footprint in the CESEE region, relying on a survey of country authorities and case studies. Chapter 3 discusses the rationale and objectives of state ownership. Chapter 4 presents analysis of the relative performance of SOEs compared to their private counterparts in countries across the CESEE region. It draws on a combination of ORBIS and country authority data and case studies. Chapter 5 looks at the state presence in the financial sector. It presents analysis of the relative performance of state-owned versus private banks and the links between SOBs and SOEs, using Fitch (and Orbis) data. Chapter 6 explores whether some of the stated rationales for and objectives of state ownership are being achieved. Chapter 7 presents the results of a unique survey on SOE corporate governance in countries across the region. Chapter 8 provides conclusions and key policy recommendations.

[3]The country coverage for state-owned entities (firms and banks) varies slightly across various sections of the study, due to data availability and analytic requirements. See Annex 1 for details on the definition of state-ownership and sources of data used throughout this paper.

CHAPTER

2 Stylized Facts on SOEs in the CESEE Region

Recent studies show that state-owned (financial and nonfinancial) entities remain an important part of the global economic landscape. An Organization for Economic Co-operation and Development (OECD 2017) study of 39 countries (excluding China) found that state-owned entities employ more than 9.2 million people and are valued at $2.4 trillion, with the largest portfolios residing in emerging market and post-transition countries (Figure 1). The eight CESEE countries included in the survey accounted for 634,000 workers in entities valued at $84 billion. As a percent of overall employment, the OECD data indicate that state-owned entities account for 3.5 percent of employment in the eight CESEE countries, the highest among the country regions reported by the OECD.[1] The OECD study also found that, on average, roughly half of state-owned entities are in network industries (energy and transportation sectors) and one-quarter each in nonnetwork industries and finance (by equity value). Another study found significant and growing state ownership among top global companies (PricewaterhouseCoopers 2015).

- Looking more closely at the CESEE region, the SOE footprint has not been well understood or consistently reported. Available documentation across CESEE countries on their respective SOEs varies considerably, with some maintaining exhaustive lists and data whereas others conduct limited centralized tracking. Either way, government releases rarely go beyond very basic statistics. One paper attempting to document the SOE presence in Eastern Europe is Bower (2017), who focuses on 11 emerging European

[1]The averages for the other regions are: 2.2 percent in non-CESEE European countries; 0.7 percent in Latin American countries; 0.4 percent in the United States and Canada; and 2.1 percent in southeast Asian and Middle Eastern countries (excluding China). These figures draw from the OECD report employment data on fully or majority state-owned entities, divided by OECD labor force survey data (or where not available, WEO employment data). The regional figures represent simple averages of the countries.

Figure 1. OECD: SOE Employment vs. Number of SOEs

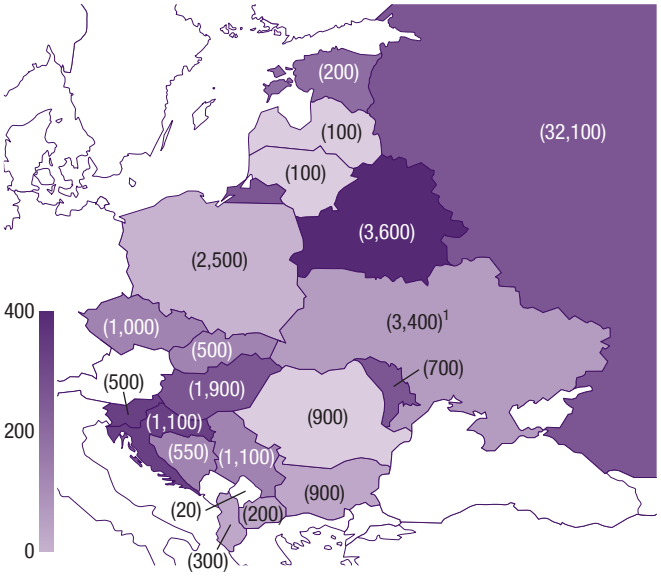
Sources: OECD Stat; IMF WEO Database; and IMF staff calculations.

countries plus Sweden. However, the paper relies on Orbis data whose coverage is limited (even if representative for statistical analysis); hence, that paper's findings on SOE presence should only be seen as indicative.

- To remedy these gaps, an original survey of country authorities was undertaken. The survey, which benefitted from a high response rate, aimed at assessing the number, size and importance of SOEs in each country, both in the aggregate and in various key sectors (excluding finance, which we address in a later chapter). It includes questions about key indicators such as value-added, employment, wages, and financing.[2] In principle, the results should convey the most accurate and comprehensive representation to date of the SOE footprint in the region.
- The survey results point to a large number of SOEs, but with significant variation across countries (Figure 2). For the CESEE region as a whole, there are 51,000 SOEs in total. Not surprisingly, Russia has the largest number at about 32,000.[3] Normalizing by population puts Belarus at the top (380 SOEs per one million inhabitants), followed by Slovenia and Croatia (about 260), and Russia (about 220). Latvia and Lithuania are at the other end of the scale, with less than 50 per million.
- SOEs are also shown to be a quantitatively important part of economic activity, although again with significant cross-country variation. The survey reveals that in most CESEE countries, SOEs account for *at least* 5 percent of total employment or total value-added (Figure 3). In Poland, they employ one of every eight persons. In Belarus, the country with the largest SOE prevalence, they account for one-third of activity and employment. The stock of reported SOE assets is also large, with Bosnia and Herzegovina at the top with about 100 percent of GDP. In about half the countries in the sample, SOE assets exceed 40 percent of GDP.[4]

[2]For more details see Annex 2.
[3]Russia and Kosovo data are supplied by IMF country teams.
[4]These are assets of nonfinancial SOEs.

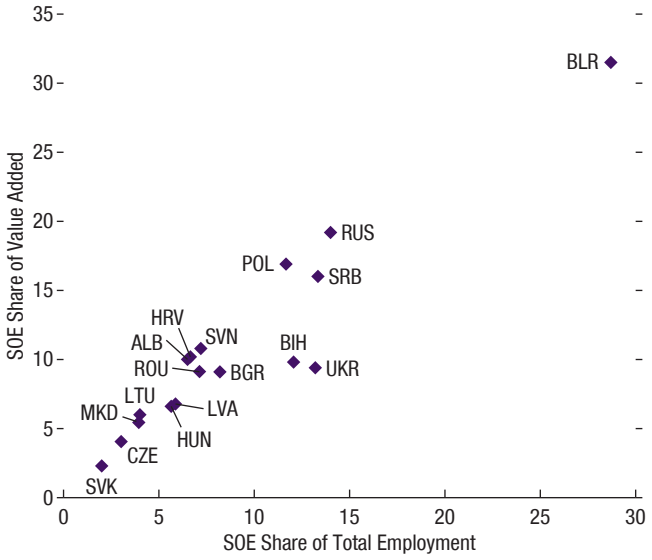
Figure 2. SOE Prevalence
(SOEs per million population: Total Number of Non-Financial SOEs in parentheses)



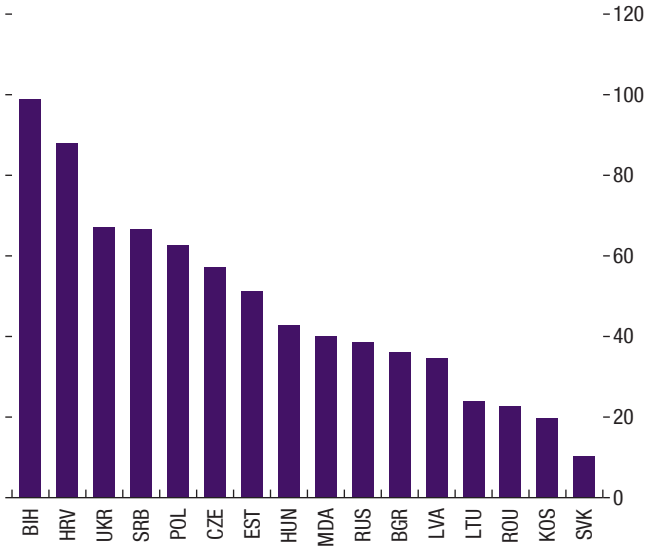
Sources: National country authorities; IMF staff calculations.
[1]The Ukrainian authorities report that only about half of the 3,400 SOEs are active.

Figure 3. SOE Footprint

1. Value Added vs. Employment, 2016 (Percent)

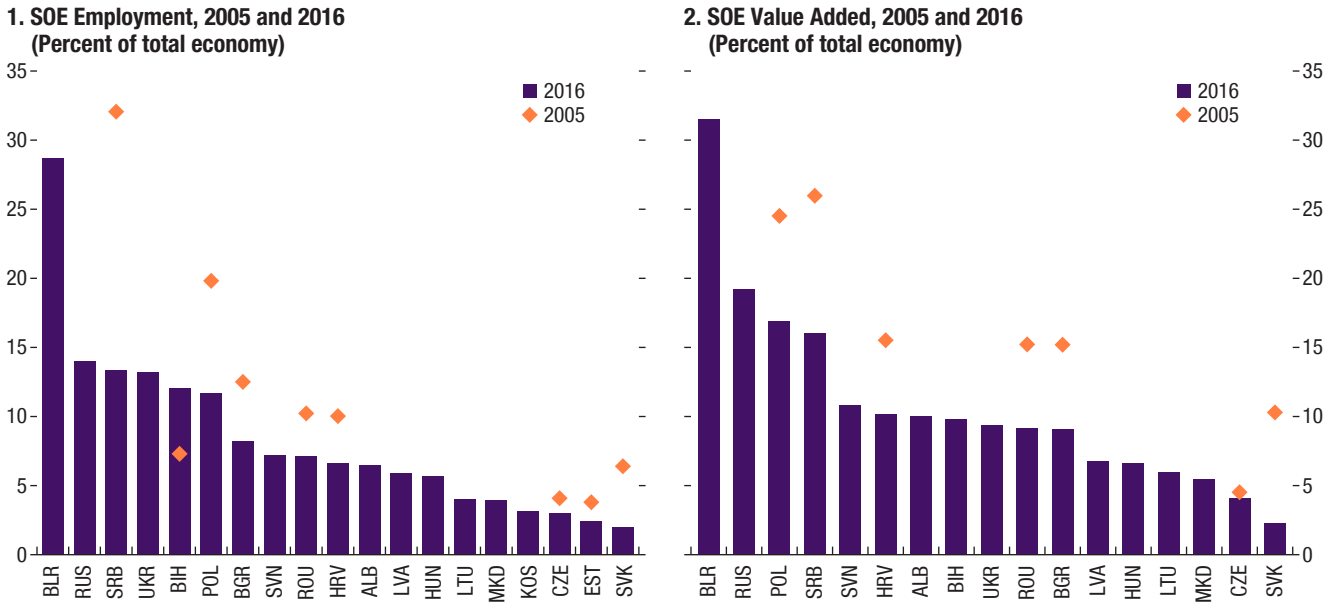


2. SOE Assets, 2016 (Percent of GDP)



Sources: National country authorities; IMF staff calculations.

Figure 4. Evolution of SOE Footprint (2005–2016)



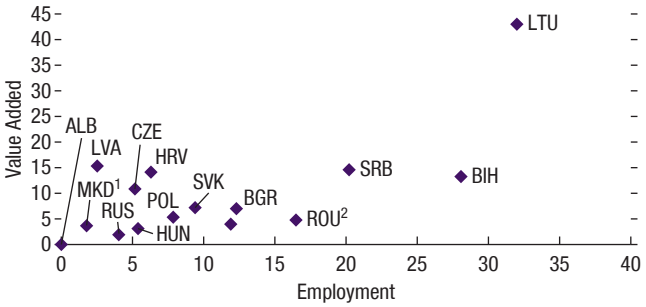
Sources: National country authorities; IMF staff calculations.

- This being said, SOEs now account for a smaller share of economic activity than a decade earlier (Figure 4). In all countries but one for which we have 2005 and 2016 survey data, the share of SOEs in total value-added fell by 5–10 percentage points over this period. Similarly, SOEs now account for a smaller share of employment than they did in the mid-2000s. This is particularly so in Serbia, where the share has fallen from 32 to 13 percent. The only country where the SOE footprint appears to have increased, and nontrivially so, is Bosnia and Herzegovina.
- The SOE footprint also varies across sectors (Figure 5). Not surprisingly, SOEs are concentrated in natural monopoly sectors such as the provision of gas and electricity, water supply, waste management, or transportation. In such sectors, SOEs account for *at least* 50 percent of value-added and employment in most countries. But SOEs are present to varying degrees in other sectors as well. They have a heavy presence in mining and quarrying in many countries, though not as high as the natural monopoly sectors just mentioned. At the other end, the majority of CESEE countries have limited exposure to SOEs in agriculture, construction, manufacturing, and services, although there are notable exceptions such as Lithuania (agriculture) and Belarus (manufacturing and services).[5] This pattern across sectors points to an important conclusion that the SOE presence goes well beyond

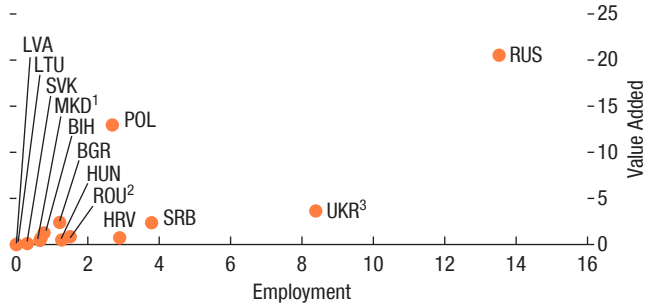
[5]Belarus data are based on bilateral exchanges with the authorities.

Figure 5. State Footprint in Different Sectors of the Economy

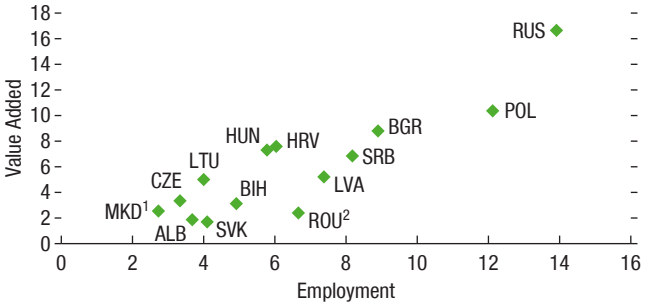
1. SOEs Value Added vs. Employment: Agriculture, 2016 (Percent of the sector)



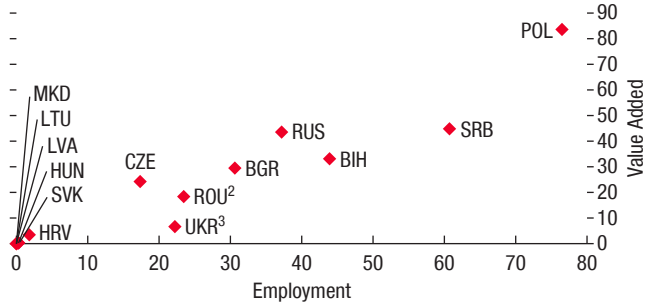
2. SOEs Value Added vs. Employment: Manufacturing, 2016 (Percent of the sector)



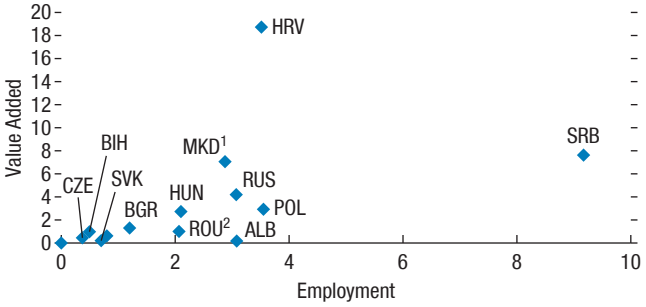
3. SOEs Value Added vs. Employment: Services, 2016 (Percent of the sector)



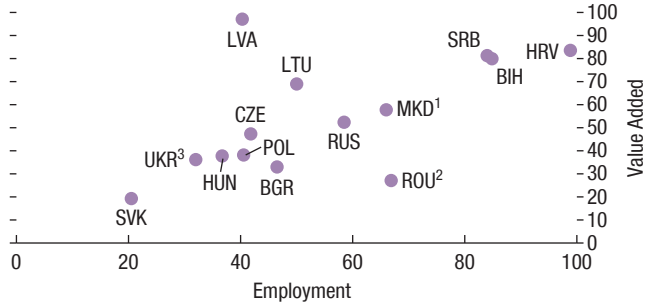
4. SOEs Value Added vs. Employment: Mining and Quarrying, 2016 (Percent of the sector)



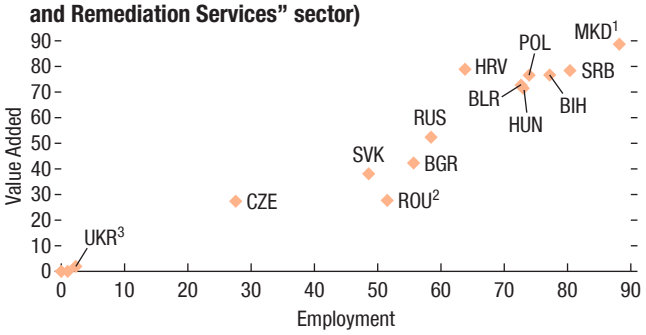
5. SOEs Value Added vs. Employment: Construction, 2016 (Percent of the sector)



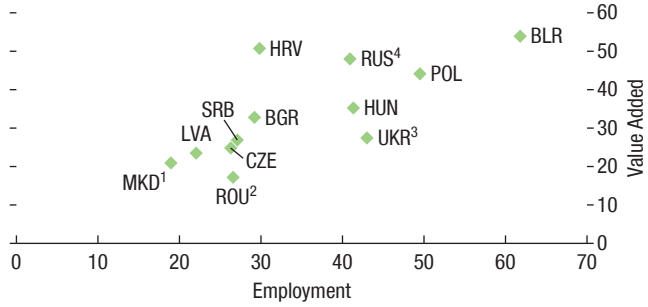
6. SOEs Value Added vs. Employment: Electricity (Percent of the "Electricity, Gas, Steam and Air Conditioning" sector)



7. SOEs Value Added vs. Employment: Water and Sewage, 2016 (Percent of the "Water Supply; Sewage, Waste Management and Remediation Services" sector)



8. SOEs Value Added vs. Employment: Transportation, 2016 (Percent of "Transportation and Storage" sector)



Sources: National country authorities; IMF staff calculations.
[1]Data for 2015.
[2]Turnover data used instead of value added.
[3]Data for 2017.
[4]Sector defined as "Transport and communications."

those sectors (such as natural monopolies) where a strict economic rationale for state-ownership is strong. Specific examples abound, and include a state-owned circus in Ukraine, swimming pools and hotels in Bosnia and Herzegovina, a shoe company in Croatia, a winery in Moldova, and sanatoria in Belarus.[6]

- Historical legacies and transition paths explain a large part of the cross-country variation in SOE footprints. At one end, Slovakia, Czech Republic, and the Baltics—countries that are known to be at an advanced stage of transition out of their communist-era legacies—have some of the lowest presence of SOEs in the aggregate. At the other end stands Belarus, still very much a state-dominated economy. An interesting middle case is Poland, a large economy with a successful transition, but where the SOE footprint remains sizable (but as we will see later, underperforms on revenues relative to private sector counterparts) and SOBs continue to play an important role (and actually perform relatively well).

[6]Directorate of Mobile Circuses (http://cirk.kiev.ua/; Ukraine); hotel in Neum http://stella-neum.com/, Swimming pool Aquana (http://aquana.ba/; Bosnia and Herzegovina); Meiso D.D. Gorican shoe company (http://www.meiso.hr/javni_poziv.html; Croatia); Cricova winery (https://cricova.md/; Moldova); and Berezka of JSC (Belaruskalihttp://berezka-sanatory.by/en/; Belarus).

Box 1. The Russian State: Size and Footprint

The state accounted for about one-third of Russia's total value added in 2016, a share that remained largely unchanged for about a decade. The state, comprising general government and SOEs, represents two-fifths of formal sector activity and one-half of formal sector employment. SOEs are present in most sectors. Over the past 5 years, the state's share has increased significantly in energy and banking, although this has been mostly offset by reductions in other sectors. The prevalence of SOEs means that the state accounts for a higher share of employment compared to other middle income and advanced economies, even though general government spending is relatively lower. About 1.5 percent of SOEs represent more than 85 percent of revenues, suggesting room for consolidation of smaller enterprises, efficiency gains and better management of state property.

The state leaves its footprint in the form of lower efficiency in resource use and reduced market competition. Market concentration is high across all sectors, but especially so in sectors with the largest state presence. These include natural monopolies (electricity, gas, water, and railway transportation), defense, energy, and the financial sector. A comparison of gross returns on assets in various market activities shows that the distribution of returns for SOEs is typically to the left of that of private entities.

The lack of competition is exacerbated by procurement policies. State purchases, including by SOEs, amounted to nearly 30 percent of GDP in recent years. Most SOE procurement occurs through noncompetitive methods and supplier concentration is high. Market access, efficiency, and value chain development are hindered by the use of small- and medium-sized enterprise procurement quotas by subsidiaries of larger firms and unconstrained price advantages for domestic suppliers. Competition may be further undermined by a conflict of interest, with the state acting as both owner and regulator.

This box summarizes the findings in Di Bella, Dynnikova, and Slavov (2019).

CHAPTER

3 Rationale and Objectives of State Ownership

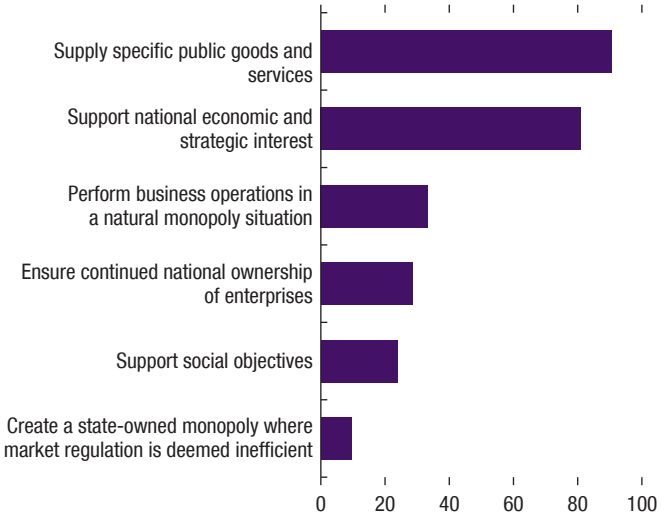
There are many reasons put forward by governments as to why state ownership may be desired. It is often argued that SOEs are important for the local economy (even in nonstrategic sectors), such as employing workers who cannot be easily employed elsewhere or providing livelihoods for households in economically depressed regions. Another motivation of state ownership is the strategic importance of certain industries (defense, utilities, etc.). Other examples include meeting public service obligations and protecting against foreign competition (Gylfason, Herbertsson, and Zoega 2001). Governments argue that these nonfinancial objectives outweigh the fact that SOEs are less profitable, efficient, or productive than private firms.

A survey undertaken for this study asked governments to identify their objectives for SOE ownership (including network and non-network), grouped into six categories: (1) supplying of specific public goods and services; (2) supporting national economic and strategic interests; (3) performing business operations in a natural monopoly situation; (4) ensuring continued national ownership of enterprises; (5) supporting social objectives; and (6) creating a state-owned monopoly where market regulation is deemed inefficient.

The results show that CESEE countries most frequently cite (1) the supply of specific public goods and services; and (2) the support national economic and strategic interests as the rationale for ownership (Figure 6). These are also the most commonly cited reasons among OECD countries (OECD 2018b). At the same time, most CESEE countries cite multiple objectives (modal frequency is three objectives).

A recent survey of governments' rationales for state ownership in the financial sector echoed those found for SOEs. Ferrari, Mare, and Skamnelos (2017) surveyed 21 European and central Asian countries (including 13 CESEE countries) regarding their state-owned financial institutions' objectives. Most

Figure 6. Objectives for SOE Ownership
(Percent of respondents)



Sources: Country authorities; and IMF staff calculations.

SOBs were found to prioritize profit maximization, but some also pursue multiple objectives (for example, profit maximization and a social objective). The study also found that SOBs with mixed mandates (for example, profit maximization, financial stability, and financial inclusion) had relatively lower return on assets and higher operating expenses. A separate review of state-owned development banks undertaken for this study found a predominance of policy objectives (see Box 6).

CHAPTER

4 State-Owned Enterprise Performance

Using a large panel of real sector firms in the region, we find that SOEs generate less revenue than their private counterparts, incur heavier costs of production not least on wages, and as a consequence are significantly less profitable. These results hold not just on average for the region but in almost all individual countries and sectors as well. Looking at the underlying reasons for the significant performance differences, it appears that state-owned firms are not efficient in the use of resources, notably labor. If SOEs were as efficient as private firms, their output gains would be sizeable.

Are SOEs as Efficient and Profitable as Private Firms?

There is a large body of empirical work studying the relative financial performance of SOEs and their private sector counterparts. In a comprehensive review of the empirical literature, Shirley and Walsh (2001) found that most but not all work indicates SOEs underperform.[1] More recent studies affirm underperformance (see Li, Lin, and Selover 2014; Wang and Shailer 2018; Harrison and others 2019). There has not been a comprehensive study of the CESEE region as a whole, but the European Commission (2016) found that SOEs in eight CESEE region EU countries substantially underperformed relative to their private counterparts, especially in the manufacturing sector. Bower (2017) found similar subpar results in 11 CESEE region EU countries. These findings are echoed in a series of country-specific studies of CESEE countries.[2]

[1]Dewenter and Malatesta (2001) compare the performance of SOEs to private firms from a sample covering the largest 500 firms globally between 1975 and 1995 and found lower revenue and higher costs per employee.

[2]See IMF (2017), IMF (2016b), and Di Bella, Dynnikova, and Slavov (2019) for country-focused assessments of SOE sectors in Belarus, Bulgaria, and Russia, respectively.

Another approach to the same question has relied on evaluating the impact of privatization on the privatized firm's performance. Megginson, Nash, and Van Randenborgh (1994) and Megginson and Netter (2001) are among those who find improved performance after privatization. However, others have found mixed results both on financial performance (Estrin and others 2009) and on employment and wages (Gupta and others 2001), leading to related work that seeks to identify the institutional and regulatory preconditions for successful privatization (Shirley 1999; D'Souza, Megginson, and Nash 2005; Estrin and Pelletier 2018).

Our performance comparisons of CESEE SOEs versus private firms are built on a rich dataset. Data on key firm characteristics are from the Orbis database and consider the 2014–16 period to smooth out yearly variations due to idiosyncratic shocks facing each firm.[3] We identify SOEs as firms whose shareholders are a public authority, state, or government and assume that state ownership of 25 percent or higher implies corporate control over firm financing and investing decisions. As the focus is on sectors of economic activity where SOEs and private firms can compete side by side, the analysis drops natural monopoly sectors. For the sake of meaningful comparisons between SOEs and private firms, the analysis focuses on companies with at least $100,000 in assets. With these criteria, the dataset includes about 10,000 SOEs and 57,000 private firms across the region for each year.

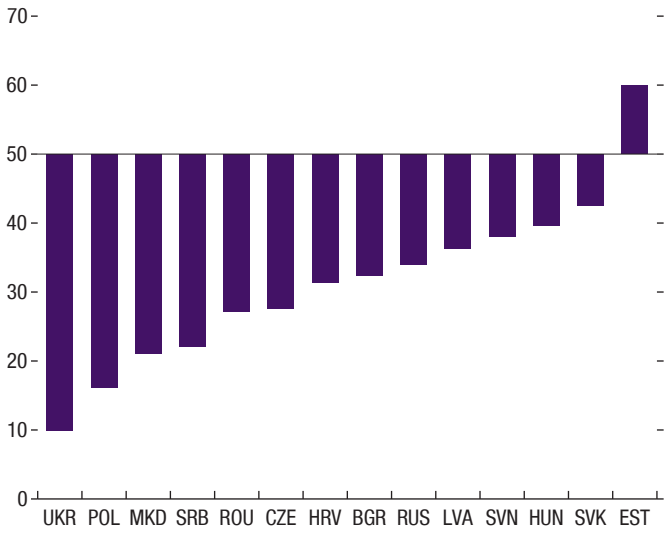
CESEE SOEs generate significantly less revenue per employee than their private firm counterparts (Figure 7). To take full advantage of each country/sector/year distribution, each observation is normalized by the private firm median in that country/sector/year. This allows for an assessment of the percentage of SOEs that were above the private firm median across all years and sectors. If this share is below 50 percent, then SOEs in this country tended to generate less revenue per employee compared to private firms in the same sector/year.[4] As shown, this proportion is below 50 percent in all countries except Estonia. For most countries in the sample, the share is below 40 percent, and in a few cases nearly all of the SOEs perform worse than the median of their private sector counterparts (for example Ukraine, where only 10 percent are above the private sector median, and Poland, with less than 20 percent).[5] The lower capacity of SOEs to generate revenues can also be seen in more detail by focusing on the full probability distributions of (normalized) revenue per employee for two countries, Ukraine and Serbia (Figure 8). It is evident that the private firms' distribution lies to the

[3]Albania, Belarus, and Kosovo are not included in this section given a lack of Orbis coverage. See Annex 3 for details of variation of coverage across countries and sectors.

[4]By definition, 50 percent of private firms fall below this median.

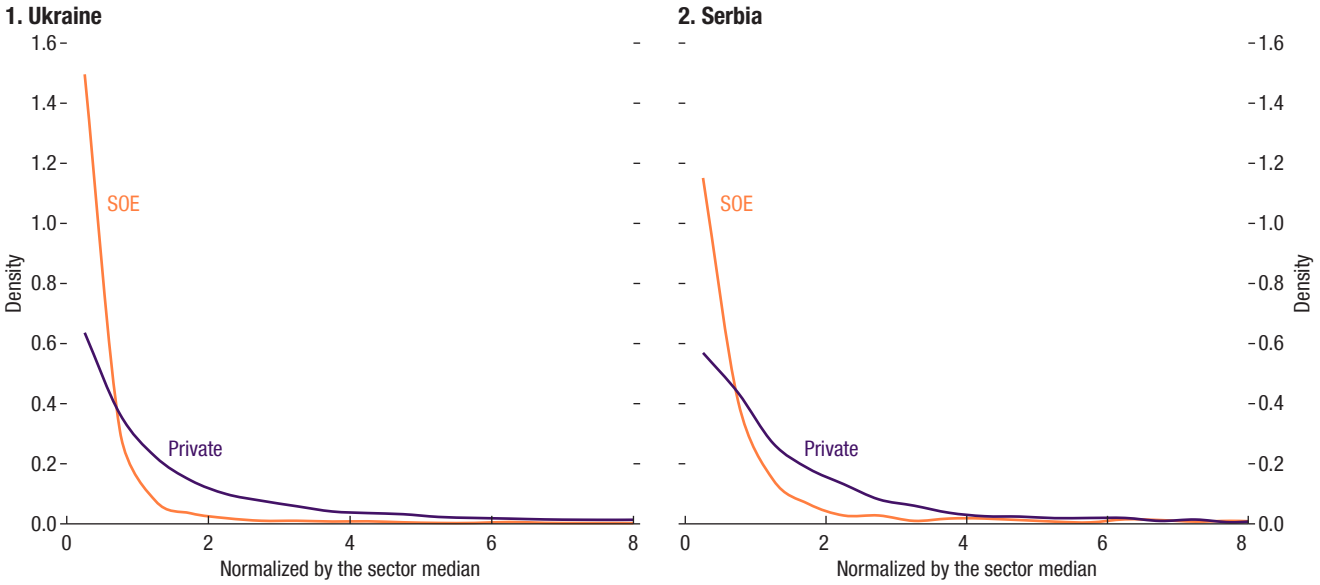
[5]As noted, Ukraine is pursuing changes in its approach to the SOE sector, especially since 2018, that will take time to be reflected in the data.

Figure 7. Revenue per Employee, 2014–2016
(Share of SOEs being above private firm sector median, percent)



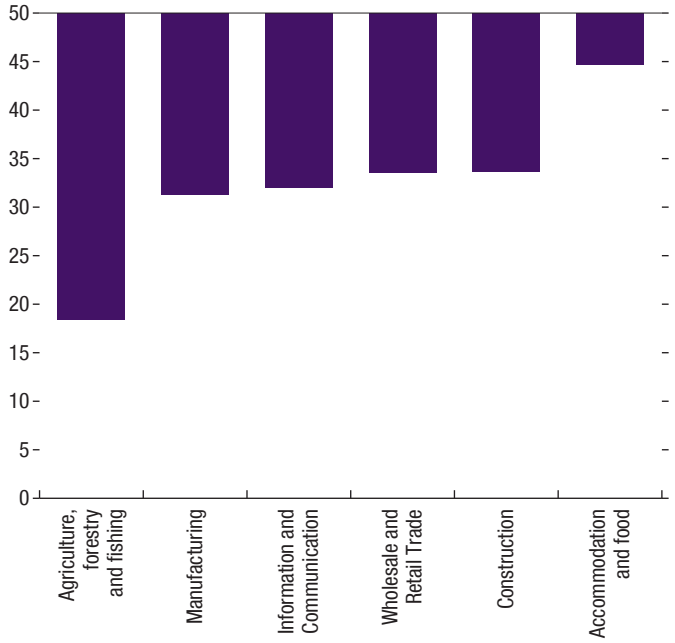
Sources: Orbis; and IMF staff calculations.

Figure 8. Distribution of Revenue per Employee, 2014–2016



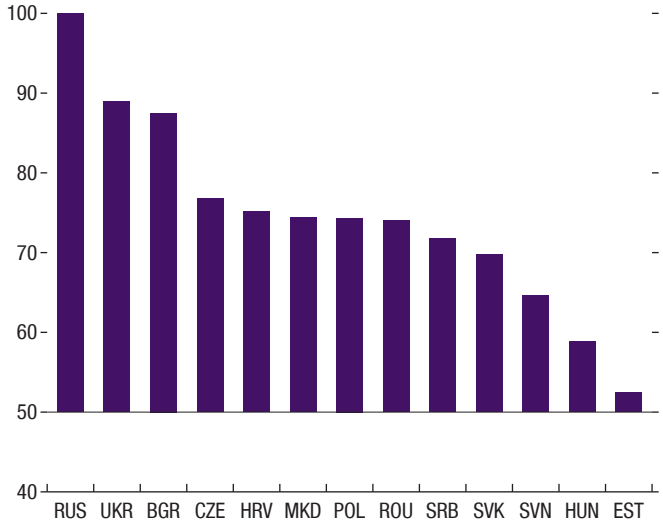
Sources: Orbis; and IMF staff calculations.

Figure 9. Revenue per Employee, 2014–2016
(Share of SOEs being above private firm country median, percent)



Sources: Orbis; and IMF staff calculations.

Figure 10. Employee Cost Share in Operating Revenue, 2014–2016
(Percent; Share of SOEs being above private firm sector median)



Sources: Orbis; and IMF staff calculations.

right of SOEs; in other words, SOEs have a higher probability of being bunched at the lowest revenue values[6] whereas a greater proportion of private firms are at higher values.

The results here also hold if one looks across sectors rather than countries.[7] In all key sectors of activity we find that SOEs generate less revenue per employee than their private sector counterparts (Figure 9). In agriculture, less than 20 percent of SOEs generate at least the median private firm revenue level, and in two other key sectors—manufacturing and wholesale and retail trade—the share is less than 35 percent. It is only in the accommodation and food sector that SOEs are almost as revenue-generating as private firms, perhaps not surprising given the smaller scope for productivity gains in this sector.

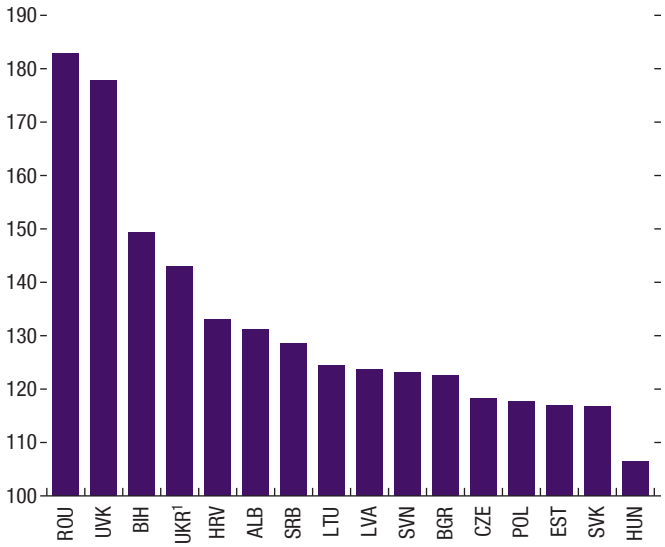
The relatively *lower* revenue performance of CESEE SOEs is compounded by evidence that SOE costs per employee are significantly *higher* than their private counterparts. In all CESEE countries, the share of wage costs in total operating revenue is significantly higher in SOEs than in private firms (Figure 10). In more than half the countries, at least 70 per-

[6]Again, this is normalized for each sector/year so that observations from all sectors and all three years can be aggregated for each country.

[7]As mentioned previously, the financial sector is covered in a separate section.

cent of SOEs are above the private sector median for this indicator, a large distributional gap.[8] This finding is consistent with the more comprehensive (but aggregated) survey responses from country authorities, which indicate that the average nominal gross monthly wage is higher for SOEs than for private firms in every single CESEE country. However, the SOE wage premium varies significantly across countries and also by sector of economic activity; it ranges from less than 10 percent in Hungary to more than 80 percent in Romania (Figure 11).[9] Although these numbers do not control for differences in education levels and other skill levels between SOEs and private firms, it is unlikely that the skill mix is so different as to account for these differences.

Figure 11. SOE Wage Premium, 2016
(Percent of average private sector wage)



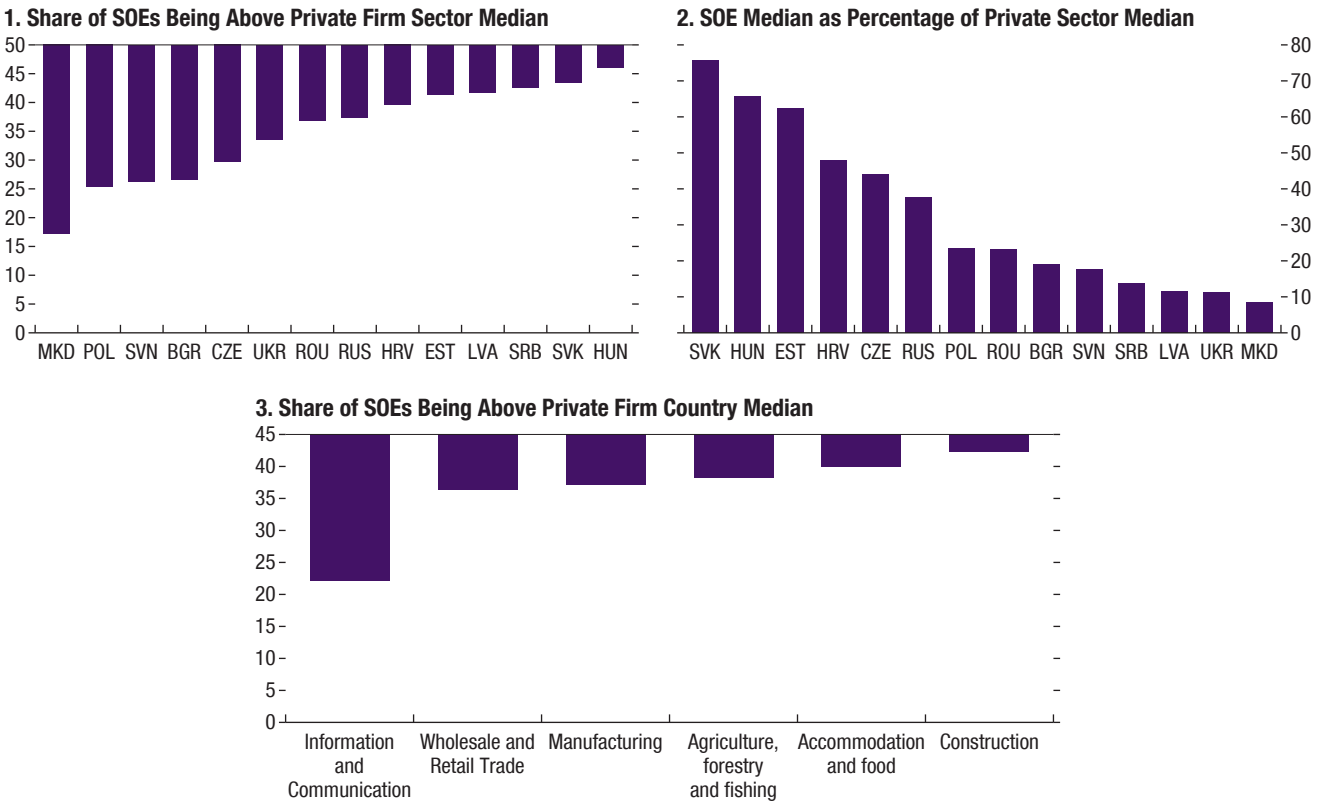
Sources: Country authorities; Haver Analytics; and IMF staff calculations.
[1]Data for 2017.

As a result, SOEs are significantly less profitable than private firms in CESEE countries (Figure 12). The effects of lower revenues per employee and high wage premia weigh on the financial bottom line of SOEs in the CESEE region. The distribution of pretax returns on equity (ROE) shows that, in all countries in the sample, SOEs are more likely than not to fall below the private firm median. In countries such as North Macedonia, Poland, and Slovenia, the differences are stark, with more than 70 percent of SOEs below the sectoral private firm profitability median. In fact, in many countries the median SOE profitability is less than a quarter that of private firms, a remarkable gap. Zooming in to the full probability distribution of (normalized) ROE for each country, it is again visibly clear that the distribution for private firms lies to the right (that is, higher profitability) of that of SOEs

[8]The employee cost share is also found to be significantly higher in SOEs when we look across sectors rather than across countries.

[9]The magnitude may be somewhat overstated as wages in the private sector tend to be underreported, especially in the service sector, due to the shadow economy.

Figure 12. Distribution of Return on Equity, 2014–2016
(Percent)



Sources: Orbis; and IMF staff calculations.

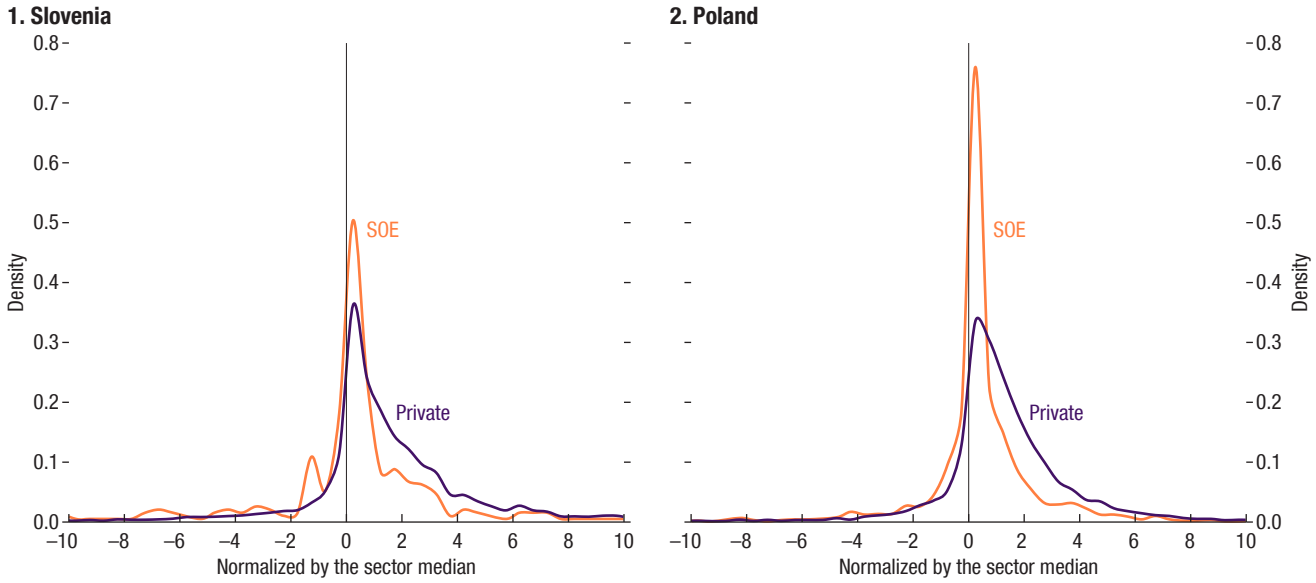
(Figure 13). Finally, note that results hold across sectors as they do across countries: in the key sectors, more than 60 percent of SOEs fall below the private sector median ROE. Interestingly though, the dispersion across sectors is not as large as across countries (see Boxes 2, 3, and 4).

Why Are SOEs Less Productive than Their Private Counterparts?

The previous section shows that SOEs are, on average, less profitable and productive than private firms. One theory put forward in the literature for this is a misallocation of resources—the inefficient use of factors of production.[10] In a well-functioning economy, more productive firms should expand production by employing more labor and utilizing more capital. But in the presence of distortions, this may not occur. Distortions can arise from government

[10]Hsieh and Klenow (2009).

Figure 13. Distribution of Return on Equity, 2014–2016



Sources: Orbis; and IMF staff calculations.

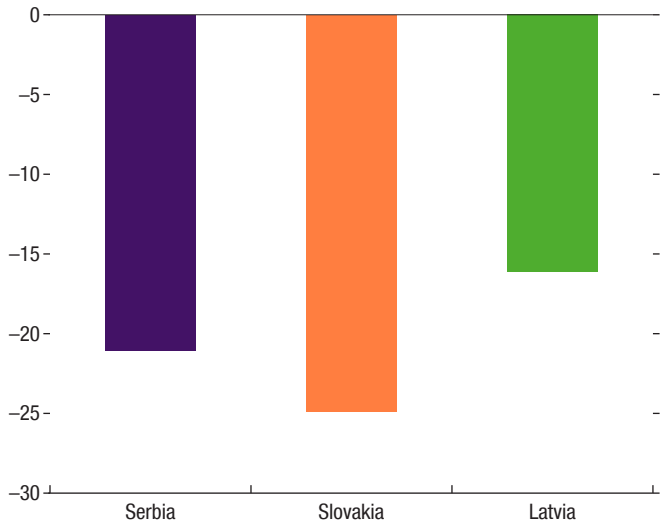
policies (such as taxes, market regulations or competition constraints) or underdeveloped markets that favor some firms over others.[11] This section of the paper explores one possible source of distortions—state ownership—for the importance of misallocation, analyzes the sources of inefficiencies in SOEs, and estimates the potential total factor productivity (TFP) and output gains from SOEs using resources more efficiently.

Resource misallocation is observed through the dispersion of revenue productivity across firms within narrowly defined industries. Potential TFP and output gains from reducing resource misallocation are measured using the analytical framework of Hsieh and Klenow (2009) and solution method proposed by Dias, Marques, and Richmond (2016). The framework assumes (1) monopolistic competition where each firm produces a unique variety of the good, which is aggregated assuming a constant elasticity of substitution; (2) firm-specific output and capital distortions; and (3) industry-specific production technology used in the U.S. economy to control for distortions that could affect factor shares (see Annex 4).

This analysis focuses on three countries with different SOE characteristics—Latvia, Serbia, and Slovakia—using firm-level census data and covering all

[11]See Dias, Marques, and Richmond (2016) for a long list of policies that could lead to this.

Figure 14. SOE Productivity
(Percent of average private firm productivity)



Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond and Witteman (2019); IMF staff calculations.
Note: Regressions include Year × Sector fixed effects.

sectors, excluding financial.[12] Serbia has a large SOE sector, with a large presence in the service sector; Slovakia's SOE sector is smaller and has been broadly stable in terms of the number of SOEs; Latvia's SOE sector has shrunk since the mid-2000s through a reduced presence in the service sector (see Annex 5).

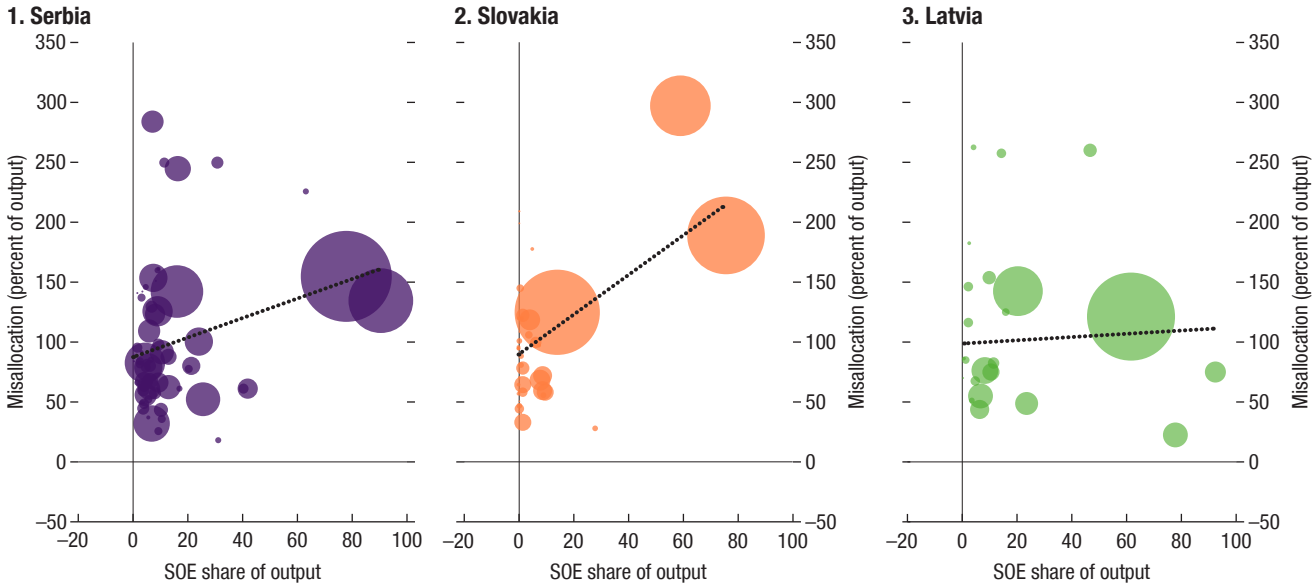
SOEs in all three countries tend to be less productive than private firms. Figure 14 summarizes the results of regressing total factor quantity productivity (TFPQ; relative to the industry average) on ownership types (see Annex 6). In all countries, SOEs, on average, have lower productivity than private firms, confirming earlier findings. In the case of Slovakia, municipal SOEs exhibit the largest negative productivity gap. In Latvia the analysis shows that the degree of state ownership matters. SOEs in which the state is the majority shareholder have the lowest productivity compared to private firms. But the presence of foreign shareholders can offset the negative state effect, as SOEs with foreign shareholders exhibit higher productivity on average than private firms.

A large SOE presence appears to contribute to more resource misallocation (Figure 15). Within sectors, there is a positive relationship between the degree of misallocation[13] and the share of output produced by SOEs. This relationship also holds when the SOE footprint is measured as the SOE share of total employment rather than output and is present across both industrial and service sectors. This indicates that by eliminating distortions in SOEs there can be large potential output gains.

[12]Data are provided by the Central Statistical Bureau of Latvia (CSB) and Latvijas Banka (LB); Institute of Financial Policy (IFP) Slovakia; and the Serbian Business Registry Agency (SBRA). See Annex 5 for details on the data. All sectors are included in the analysis including network industries as they often have a large SOE presence and are important for the economy. The analysis benchmarks to the United States, making the issue of domestic private sector comparator firms less relevant.

[13]Misallocation is presented as the potential output gains from reallocation.

Figure 15. Relationship between Misallocation and SOE Share of Sector Output



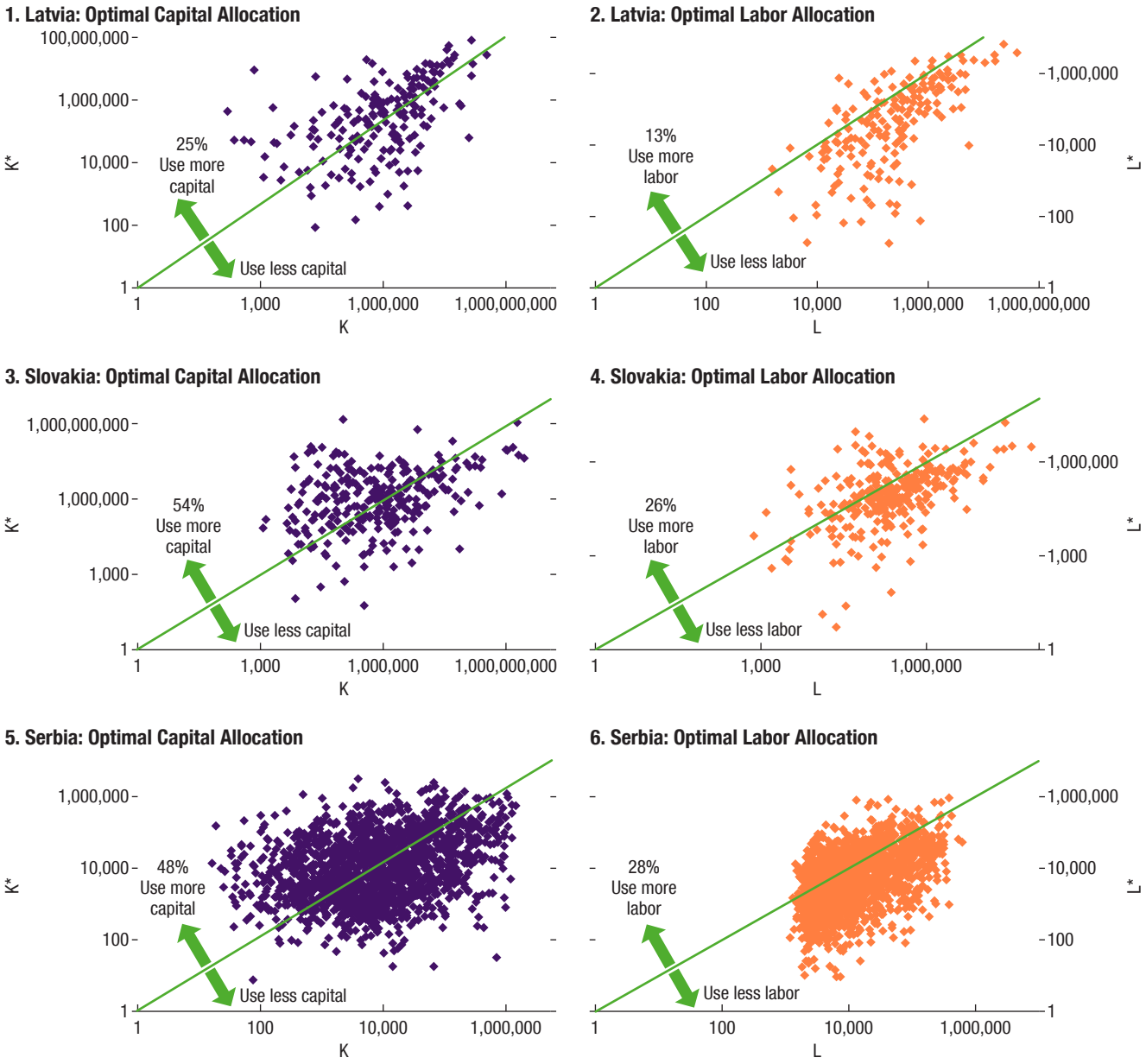
Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond and Wittemann (2019); IMF staff calculations.
Note: Bubble size is value added produced by SOEs in the sector. The positive relationship is statistically significant at a 1 percent level in the cases of Serbia and Slovakia.

What is the source of resource misallocation in SOEs? To answer this question, the profit-maximizing capital and labor allocation is calculated (assuming industry-efficient distortions to capital and output) for each SOE and compared to the amount of each factor actually being employed.

Overall, labor misallocation is the larger problem for SOEs. At the individual SOE level, there is extensive heterogeneity, with some SOEs producing with close to the modeled optimal factors inputs, but others are using substantially too much or too little of an input (Figure 16). Labor misallocation is the more frequent problem, with about 80 percent of SOEs in the full sample needing to employ less labor, compared to about 60 percent of SOEs needing to utilize less capital.[14] This is in line with the findings of higher wages and overall employment cost shares compared to the private sector. It is also consistent with the general view that political considerations influence hiring decisions and lead to overstaffing (Stan, Peng, and Bruton 2014)—particularly by unskilled workers—whereas greater job security results in less motivated employees and contributes to lower labor productivity (Gong and Chang 2008).

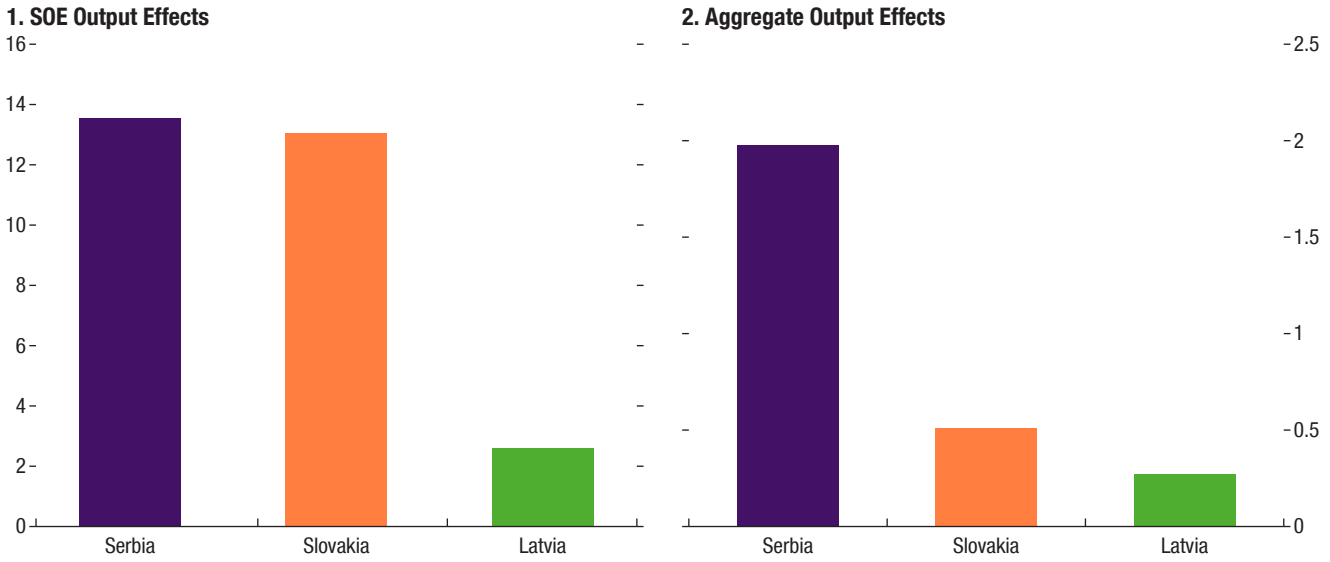
[14]Kilinc (2014) and Ryzhenkov (2016) also find that labor allocation is worse for Ukrainian SOEs in the manufacturing sector compared to private firms due to overemployment.

Figure 16. Optimal Allocations of Capital and Labor by SOEs



Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond and Witteman (2019); IMF staff calculations.
Note: Each dot represents an SOE. SOEs above the 45 degree line should utilize more of the factor of production.

Figure 17. Output Gains by SOEs Moving to Private Sector Productivity Distribution
(Percent)



Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond and Wittemann (2019); IMF staff calculations.
Note: Data presented is an average of last three years.

There are potentially large output gains from improving SOEs' productivity in these countries (Figure 17). The potential output gains are calculated under a hypothetical exercise of SOEs adopting the same total factor revenue productivity (TFPR) distribution as private firms (see Annex 4). In the cases of Serbia and Slovakia, the results show large effects on SOE output—gains of more than 10 percent—whereas for Latvia the output gains are small, reflecting the fact that misallocation is more of a generalized problem, not concentrated in SOEs per se. To calculate the aggregate impact, these potential gains are multiplied by the share of output produced by SOEs. The greatest impact is in Serbia, with its large SOE sector, where there is a 2 percent permanent increase in aggregate output. In the cases of Slovakia and Latvia, with their smaller SOE footprint, the aggregate output gains are smaller. These findings underscore the view that if SOEs are to continue to operate inefficiently, the costs and benefits of SOEs should be better assessed.

Box 2. SOE Performance in Belarus

Belarus is an important case study, given the dominant position of SOEs in the economy—their performance will have a determining effect on the country's economic growth (Box Figure 2.1). However, Belarusian SOEs are not covered in the Orbis data and hence could not be part of the analysis in the main text. This box relies instead on data on some 550 SOEs shared by the authorities to evaluate their performance.

Box Figure 2.1. Performance Gaps
(Percent)

Sources: Belstat and IMF staff calculations.
Note: Return on capital employed defined as operating profit/loss to capital employed (proxied by assets minus short-term liabilities).

The results confirm what was found for other countries: the profitability of Belarusian SOEs significantly lags that of private companies. SOEs' return on equity and return on assets are, on average, around three to four times lower than those of private companies; their average net profit is about half; and SOEs are less liquid and have higher arrears on credit and loans despite heavy state support.[1] Findings about the relative performance of SOEs hold not only in the aggregate but also within sectors, despite some heterogeneity.

One key reason is that SOEs are less efficient at employing labor and capital. On average, SOEs generate significantly lower value added per employee, and their operating profit per worker is almost half that of private companies. Return on capital employed is three times lower on average compared to private companies. Net operating profit as a ratio of fixed capital investment is also lower. Despite lower nominal average wages in SOEs, the share of remuneration costs in total costs of production is higher, suggesting significantly higher employment relative to other assets.

This box is based largely on chapter 3 of IMF Country Report No. 17/384.
[1]See Box 7 for details on various sources of government support for Belarusian SOEs.

Box 3. SOEs in Croatia

Croatia's public portfolio of corporations is prominent and fragmented. Croatian SOE performance is weaker than in private firms, and their lower efficiency holds back national growth.

In aggregate, 1,100 non-financial SOEs account for a large share of Croatia's economy (Box Table 3.1). FINA—the Croatian state agency that monitors firms—reports that SOEs employ about one person in seven, and account for a quarter of the country's assets and debt. Their activities span a large spectrum beyond those of natural monopolies and include manufacturing for retail markets, construction, and hotels. State ownership is fragmented and heterogenous.

Box Table 3.1 Croatia: SOE Key Indicators (2016)
In percent of total economy

	Labor	Assets	EBITDA	Debt
SOEs share *of which:*	14.5	27.2	25.2	24.7
Utilities	4.1	15.2	11.9	15.2
Transportation and trade	3.9	3.7	4.4	2.4
Services	1.4	1.1	1.1	0.9
Manufacturing	1.7	3.6	5.5	3.1
Agriculture and mining	1.3	0.7	0.4	0.6

Sources: FINA balance sheets, P&L data, HNB, 2017; IMF staff calculations.

A growth-accounting analysis indicates that Croatian SOEs have adversely weighed on growth. Applying growth-accounting on firm-level data shows that SOE total factor productivity (TFP) has been declining steadily, by some 40 percent cumulatively from 2006 to 2015. Private firms, on the contrary, have seen TFP increase by about 20 percent over the same period, although trends in the most recent years are mixed. The results are consistent with data from the Total Economy Database (TED) that suggest that *aggregate* TFP has declined by about 15 percent in Croatia since 2006. Looking deeper within sectors, the contraction in SOE TFP was driven by several retail and business market-oriented sectors, whereas TFP held up in utilities, manufacturing, and construction.[1]

A recent European Bank for Reconstruction and Development (EBRD) study shows that Croatian SOE profitability is low compared with SOEs in peer countries. This study reports that Croatian SOEs have a return on assets of 0.7 percent, which is only one quarter of the average SOE return on assets in CEE4.[2]

[1]Bajo, Zuber, and Primorac (2018) also find Croatian SOEs have lower profitability and performance of enterprises of strategic interest is unpredictable. In contrast, a recent analysis by the Institute of Economics in Zagreb based on FINA data finds that Croatian SOEs' aggregate productivity growth was higher relative to private sector firms. However, the study used a somewhat different period (2009–13) and their sector-by-sector TFP path was more erratic. See Botric and Broz (2017).

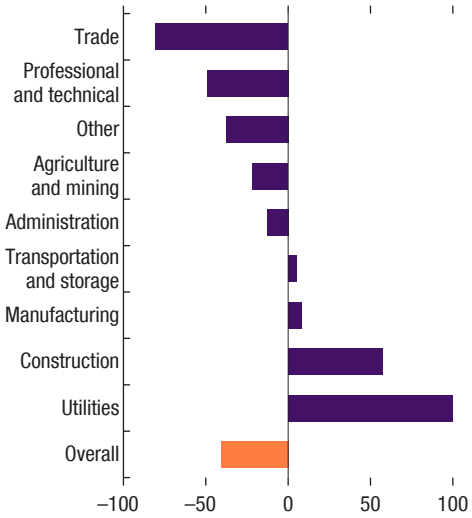
[2]See Tabak and Zildovic (2018).

Box 3. SOEs in Croatia *(continued)*

Box Figure 3.1.

1. TFP in SOEs and Private Firms, 2007–15 (Index, 2006 = 100)

2. SOEs' Change in TFP, 2007–15 (Percent)

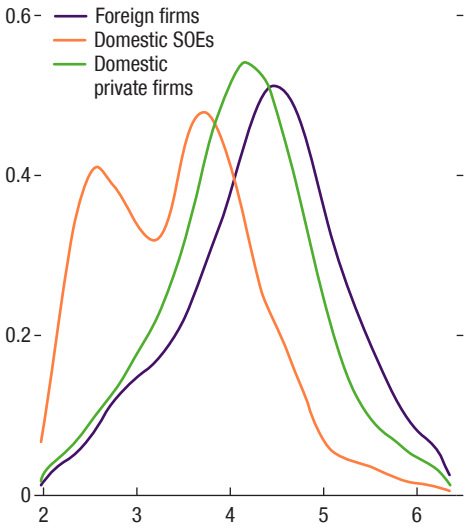


Sources: Orbis; and IMF staff calculations.
Note: Based on a public ownership from 25 percent of share in the corporation's capital.

Box 4. Ownership Structure and Productivity: Evidence from Poland

Given the size of the Polish economy and the significant role that SOEs play in it, it is worth looking more closely at the links between state ownership and firm productivity in the country. The analysis focuses on companies operating in the market economy, with companies grouped into three ownership categories: state-controlled, foreign-controlled, and domestic private.[1] State-controlled enterprises account for only 3 percent of total number of firms in the sample, but they hold about 20 percent of total assets of nonfinancial corporates.

Box Figure 4.1. TFP by Firm Ownership
(Density log TFP)



Sources: ORBIS; and IMF staff calculations.

In Poland, foreign-controlled firms are more productive than domestic firms, especially the state-controlled ones. Domestic firms have lower total factor productivity (TFP),[2] partly due to the significant presence of state-controlled enterprises. Specifically, although the TFP distribution of private (both foreign and domestic) firms approximates a normal distribution, the TFP distribution of state-controlled firms is bimodal, with one hump somewhat below the TFP modes of the private firms' distributions, and a second hump at the low end of the TFP distribution (Box Figure 4.1). For state-controlled firms, the TFP distribution is skewed toward the low end (lower productivity), although the long right tail suggests that there are highly productive ones as well. There is also substantial heterogeneity across sectors in terms of public enterprises' efficiency. In sectors with a high concentration of state-controlled enterprises (either due to the legacy of past monopolies or oligopolies or the result of market forces), both high- and low-productivity enterprises coexist, suggesting the presence of economic distortions.

Prepared by Ran Bi. This box is based on chapter 2 of IMF Country Report No. 19/38, which explores the roles of a wider set of determinants of firm-level total factor productivity, using data from Statistics Poland and Orbis.

[1]This analysis uses a similar definition to the main text of when a firm is classified as state controlled. Namely, it is considered an SOE if the state has a direct or ultimate shareholdings of 25 percent or more. Foreign-controlled firms are those with single foreign ultimate/direct shareholdings of 10 percent or more (as per the balance of payments definition); domestic private firms are all others. However, this box uses a lower size threshold for SOEs (relative to the main text). Most notably, this box includes natural monopoly sectors and small- and medium-sized enterprises. The latter helps explain the much higher number of average firms per year (48,000) in the dataset.

[2]TFP was estimated using the Levinsohn and Petrin (2003) methodology.

Box 4. Ownership Structure and Productivity: Evidence from Poland *(continued)*

Empirical analysis confirms that state ownership in Poland is associated with lower TFP levels and growth rates. This is the case not only across firms but also within firms across time (by comparing the same firm before and after an ownership change). Meanwhile, foreign-controlled firms are found to have above-average TFP levels and growth rates. It follows that a larger presence of foreign firms will be associated with higher productivity levels—this can occur through the transmission of better technologies and practices to local affiliates or to domestic partners of the foreign firm, or through market competition that leads to more efficient resource allocations. In contrast, SOEs are found to be systematically less productive and grow at a slower rate than private firms (controlling for other factors), implying that a prevalence of SOEs acts as a drag on productivity. However, there exist SOEs that are as productive as private firms, which may suggest substantial heterogeneity in SOE management.

CHAPTER

5 State-Owned Banks and Links to SOEs

Background

This chapter assesses the footprint and performance of state-owned banks relative to private banks, and links between state-owned banks and SOEs, in CESEE countries. It focuses mainly on a comparison of state-owned commercial banks (SOBs) and private commercial banks, and briefly discusses state-owned development banks (DBs). In contrast to SOEs, there is more complete and consistently reported information on CESEE region banks, including those that are state-owned, likely due to generally stricter oversight of financial sectors.[1]

State-owned financial entities are a modest but important part of the global and European financial landscape. Micco, Panizza, and Yanez (2004) and Cull, Martinez Peria, and Verrier (2017) found similar ranges of state ownership of banks across regions: ranging from about 10 percent of financial system assets in sub Saharan Africa to close to 40 percent in South Asia.[2] For Eastern Europe and central Asia, their estimates of state ownership were 23 to 14 percent of financial system assets, respectively.[3] Schmit and others' (2011) study of 32 European countries, including 12 CESEE countries, found a roughly similar state presence (21 percent of total financial sector assets). Ferarri, Mare, and Skamnelos (2017) reported that no new SOBs have been established in the region since 2007, although in some cases SOBs were added following nationalization, for various reasons.[4]

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[1]Data was available for 20 of the 21 CESEE countries (no data available for Albania), of which 10 have no meaningful commercial SOB presence.

[2]Cull, Martinez Peria, and Verrier (2017) provide an extensive literature summary on patterns of private and state-controlled bank ownership across 93 countries.

[3]Micco, Panizza, and Yanez (2004) found 23 percent based on 1995–2002 data whereas Cull, Martinez Peria, and Verrier (2017) found 14 percent based on (more recent) 2010 data.

[4]For example, in Ukraine, two of the SOBs shown in Annex Table 7.1 were failing (systemic) banks that were nationalized. A third, Rodovidbank, was liquidated in 2017.

The literature points to similar motivations for government ownership of banks as for SOEs. One strand argues that state ownership helps overcome market failures and takes advantage of externalities to promote socially desirable welfare enhancing investments, helps allocate resources to strategically important industries that the private sector is unable or unwilling to finance, or promotes competition (Schmit and others 2011; Ferrari, Mare, and Skamnelos 2017). Critiques of state ownership have pointed to "*agency*" costs (that is, conflict of interest between owners and managers driving deviation from value maximization) and "*political*" costs deriving from politicians using government-owned banks as a mechanism to pursue their own goals (Shleifer 1998) that contribute to operational inefficiencies and misallocation. As to social objectives, a survey by Ferrari, Mare, and Skamnelos (2017) found that most SOBs prioritize profit maximization, but some have mixed commercial and social mandates.

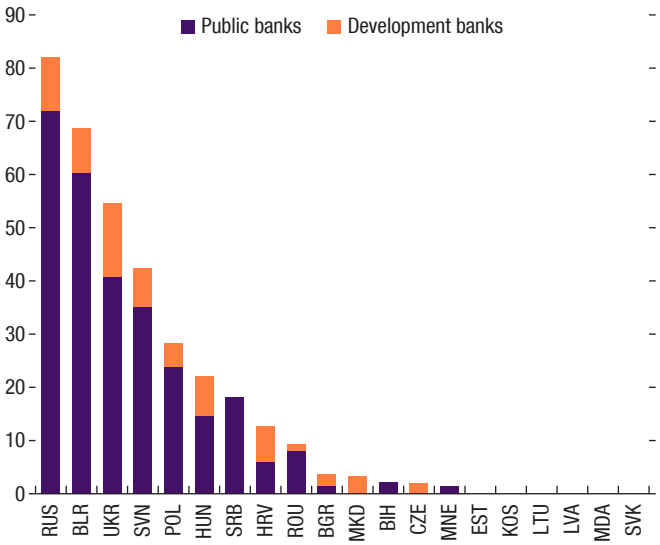
Previous empirical studies find evidence of operational inefficiencies and misallocation in state-owned banks, and less procyclicity, when compared to private banks.[5]

- A global study by Micco, Panizza, and Yanez (2004) found that state-owned banks operating in developing countries tend to have lower profitability than private banks, but that performance variables do not vary significantly in industrial countries (except that SOBs have higher labor costs).[6] However, a study on advanced Europe by Iannotta, Nocera, and Sironi (2007) found that SOBs underperformed relative to private banks on profitability, despite having lower costs.
- Studies of countries in the CESEE region have generally found state-owned banks to be less efficient than private banks. Focusing on relative costs, Bonin, Hasan, and Wachtel's (2005a) study of 11 CESEE countries during 1996–2000 and Fries and Taci's (2005) study including 14 CESEE countries over 1994–2001 found SOBs to be less efficient than private banks, although Mamatzakis, Staikouras, and Koutsomanoli-Filippaki (2008) found the opposite for 10 new EU member states. With respect to profitability, Mamatzakis, Staikouras, and Koutsomanoli-Filippaki (2008) found that SOBs in countries in the region underperformed relative to private banks, whereas Bonin, Hasan, and Wachtel (2005b) found mixed results. Using other metrics, Andries (2011) and Koutsomanoli-Filippaki,

[5]The efficiency of banks has been extensively studied, with a focus on profitability, but also other metrics such as intermediation, value-added, and lending rates (pointing to the relative complexity of assessing relative bank performance compared to real sector enterprises).

[6]This was attributed to lower net interest margin, higher overhead costs (mostly due to the fact that state-owned banks tend to employ relatively more people), and higher nonperforming loans.

Figure 18. Public Bank Assets Share in the Banking System, 2016
(Percent)



Sources: Fitch Solutions; and IMF staff calculations.

Mamatzakis, and Staikouras (2009) also found SOBs in selected CESEE countries to be less efficient than private banks.[7]

Stylized Facts on SOBs and DBs in the CESEE Region

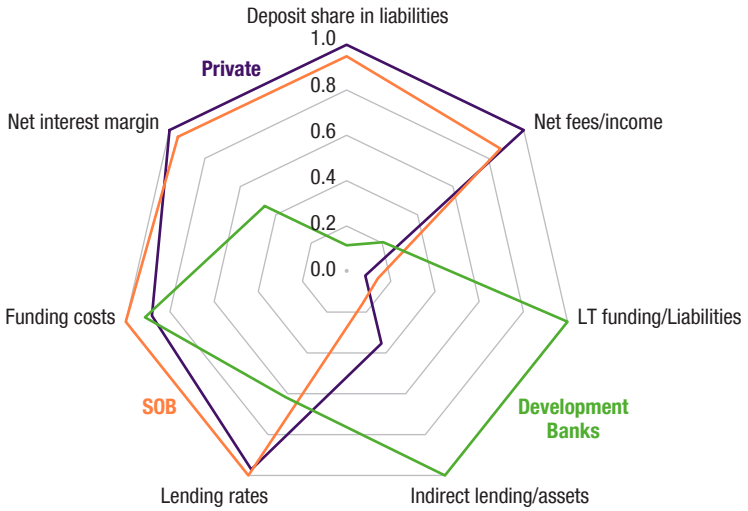
The analysis in this section is based on bank-level balance sheet and income components data extracted from the Fitch database. Our sample covers information on close to 500 banks in 11 countries with SOB presence for the 2006–16 period. A more detailed description of the database and technical analysis is provided in Annex 7.[8]

This study finds evidence of state ownership of banks in a majority of CESEE countries, but with a high degree of variation (Figure 18). In three countries (Belarus, Russia, and Ukraine), they account for more than half of banking

[7]Several country-specific studies provide evidence that suggests misallocation of resources is due to political manipulation and lending to politically strategic sectors or regions near elections (Sapienza 2004; Khwaja and Mian 2005; Cole 2009; and Carvalho 2014). There is also evidence that government-owned banks target firms that have political ties to the detriment of other firms (Khwaja and Mian 2005; Claessens, Feijen, and Laeven 2008; and Carvalho 2014).

[8]SOBs are defined as banks with more than 25 percent state ownership. This analysis does not consider the impact of foreign ownership, given data constraints. However, this has been shown to be an important factor in previous studies (for example, Ferrari, Mare, and Skamnelos 2017).

Figure 19. Business Models



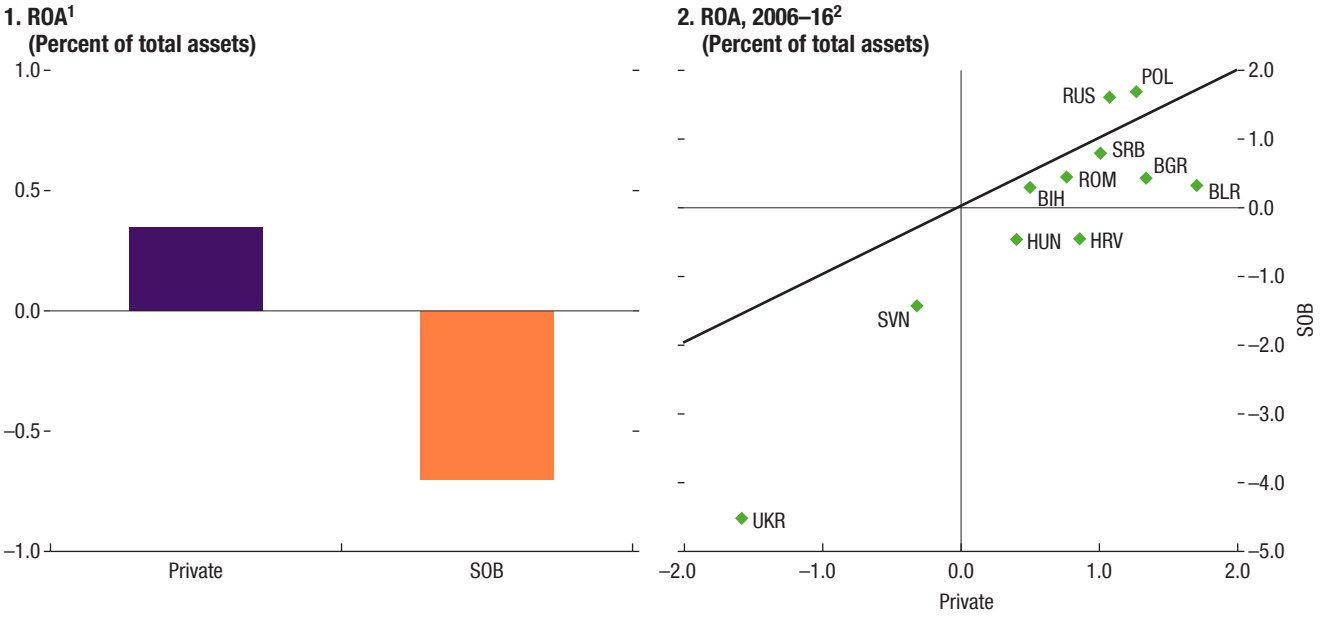
Source: Staff calculations based on Fitch.
Note: Normalized to the bank category with maximum value for each category (e.g., a score of "1" for lending rates signifies the highest lending rate).

sector assets. SOBs/DBs have a noticeable footprint in another eight countries. The remainder have little or no presence. State ownership remained largely stable during the 2006–16 period, with the exception of Hungary and Ukraine, where the state footprint increased mainly due to re-nationalization of failing private banks (for example, MKB and Privatbank, respectively).[9]

SOBs and private banks are shown to have similar business models, whereas DBs operate under a distinctly different model (Figure 19). SOBs and private banks, in line with their predominantly market-oriented mandate, collect deposits from the public and use them to directly lend to firms and individuals at market rates. Net interest income and bank service fees are the main sources of revenue, and personnel and other operating costs account for a large share (two-thirds) of their expenses. DBs, which have a more dominant policy mandate, do not take deposits and rely instead on long-term funding (international financial institutions, bonds, government transfers). They on-lend or directly lend to firms at below-market rates, on average. Service fees are not a significant source of revenue for DBs and they have lower operational costs (reflecting their streamlined branch network). Given the distinct differences of DBs, the focus of the discussion here is on comparisons of SOBs and private banks. Findings on DBs and other specialized state-owned financing entities are presented in Box 6.

[9]See Annex 7.

Figure 20. Profitability of Private Banks versus SOBs



Sources: Fitch; and IMF staff calculations.
[1]Means estimated by Least Squares Dummy Variables (LSDV). Specification includes market share as control variable for size, plus country and time fixed effects. See Annex 7.
[2]Weighted average.

How Do CESEE Region SOBs Perform Compared to Private Banks?

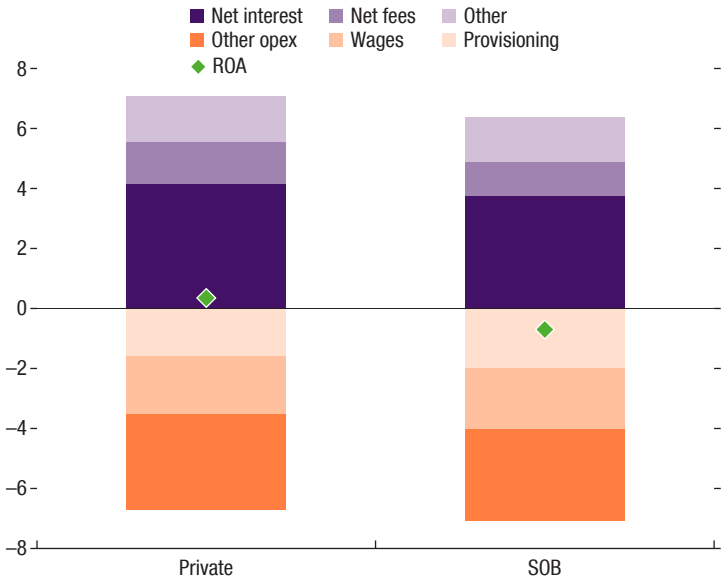
Consistent with much of the literature, this study finds that SOBs are overall less profitable than private banks, though there is significant heterogeneity across countries. Although the return on assets (ROA) of private banks is estimated at 0.4 percent, SOB profitability is significantly lower, at about –0.7 percent (Figure 20). The estimate controls for the size of banks.[10] However, there is significant variation across countries, as discussed.

A Deeper Look at Why SOBs Have Relatively Lower Profitability

Decomposing profits sheds light on the source of lower profits in SOBs (Figure 21). The low profitability compared to private banks is shown to be due primarily to three factors: lower net interest income (3.8 vs. 4.2 percent of total assets in SOBs vs. private banks, respectively), lower net fees (1.6 vs.

[10]This is done because SOBs tend to have larger market share than private banks (without this adjustment, their relative profitability would be overestimated, helped by economies of scale, compared to the private sector).

Figure 21. Decomposition of Return on Assets (ROA)
(Percent of total assets)



Sources: Fitch; and IMF staff calculations.
Note: Means estimated by Least Squares Dummy Variables (LSDV). Specification includes market share as control variable for size, plus country and time fixed effects. See Annex 7.

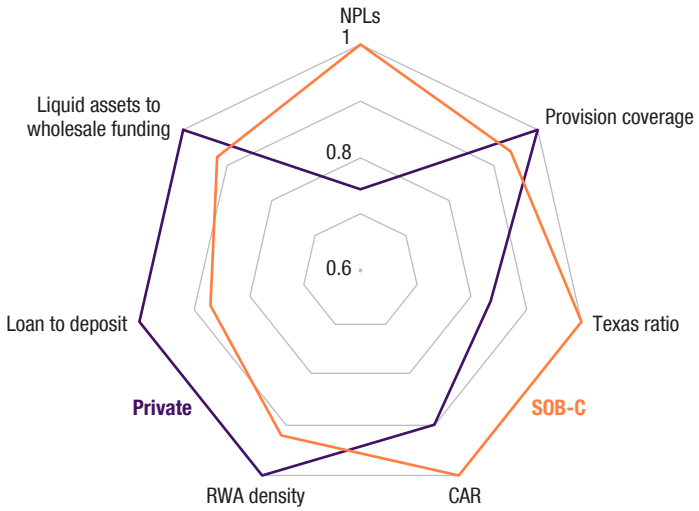
1.4 percent), and higher provisioning costs (2.0 vs. 1.6 percent). Echoing the literature, SOBs have lower operating expenditures, but higher labor costs (although only in periods outside the global financial crisis), underscoring that lower revenues is the main driver of the subpar performance of SOB profitability, relative to their private counterparts.

Financial Soundness

We also look at relative performance through the lens of financial soundness and vulnerability indicators (Figure 22). First, SOBs have higher nonperforming loans (NPLs) but lower provisioning coverage (and higher Texas ratios), suggesting possible forbearance and underlying financial vulnerabilities, despite a slightly higher capital adequacy ratio (CAR).[11,12] Second, risk-weighted asset (RWA) density is lower in SOBs which might imply below optimal risk weights (although this could also signal a higher share of

[11]This can also be interpreted as signaling an inefficient use of capital.
[12]Although it is common to find variations for the definition of NPLs across countries, this is beyond the scope of the analysis.

Figure 22. Financial Soundness Indicators



Sources: Fitch; and IMF staff calculations.
Note: Normalized to the bank category with maximum value. CAR = Total regulatory capital ratio; Provision coverage = Reserves for impaired loans / impaired loans; Texas ratio = Impaired loans / (reserves for impaired loans + capital); Risk weight density = Risk-weighted assets / total assets.

safe assets).[13] Third, leverage ratios are relatively lower in SOBs, potentially pointing to inefficient use of capital (but could also signal less risky portfolio). Lastly, liquidity ratios are also lower in SOBs, pointing to higher risks (or the possibility of government serving as a liquidity backstop). Although these indicators are difficult to interpret in isolation, the overall (bottom-line) subpar performance of SOBs discussed points to more negative interpretations (see Box 5).

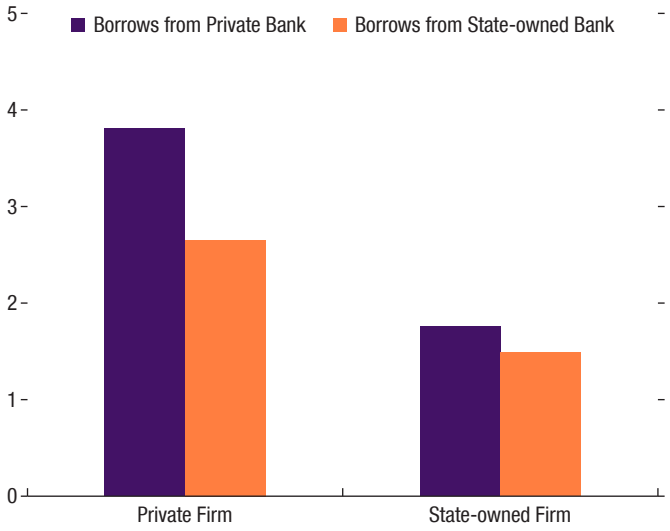
SOB-SOE Lending Links

This section assesses linkages between SOBs and SOEs by matching firm and bank data. Using a fuzzy matching algorithm, Fitch bank data are merged with firm data reporting their main bank (although not the magnitude of lending) in Orbis.[14] This allows for establishing crude firm-bank links and respective characteristics for the observed relationships. However, absent granular loan-level firm-bank data, no conclusions can be made concerning

[13]However, regression results indicate that the RWA density remains significantly lower in SOBs than in private banks even when controlling for the share of government bonds in the portfolio.

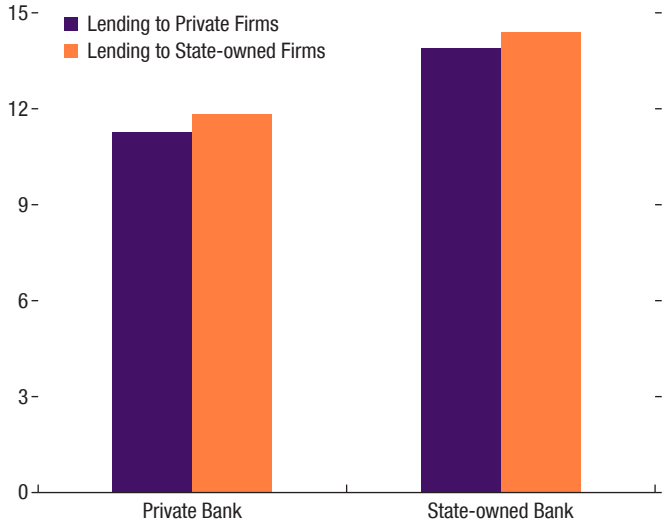
[14]Data on firm debt could be used to compute exposure, but this would assume all debt be associated with the main bank. Even then further strong assumptions would be needed to derive relevant ratios as banks' portfolios that are not covered by the identified Fitch-ORBIS links are likely still significant. See Annex 8 for a detailed description of the procedure.

Figure 23. Profits per Type of Firm, per Type of Bank
(Profit per employee)



Sources: Fitch Solutions; Orbis; and IMF staff calculations.

Figure 24. NPL Ratios, 2006–16
(Percent of total assets)



Sources: Fitch Solutions; Orbis; and IMF staff calculations.

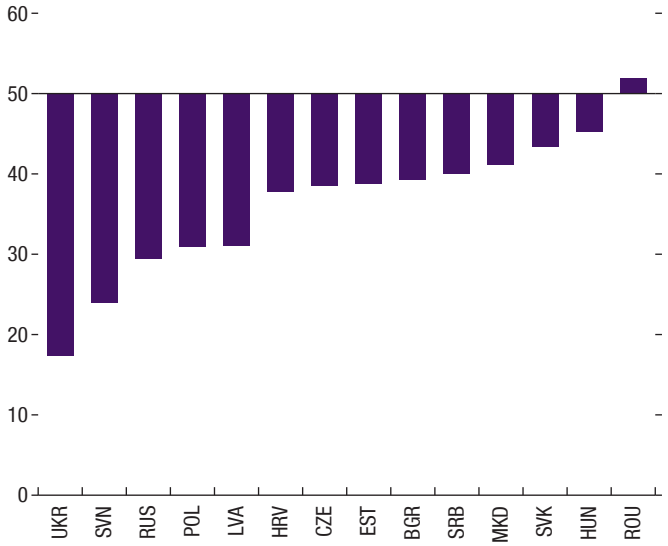
the relative overall loan exposure of SOBs and private banks to SOEs (for example, SOBs lending concentration to SOEs).

The main finding is that, on average, SOBs tend to lend to less profitable firms regardless of their ownership. SOBs, like private banks, lend to both private and state-owned firms (Figure 23). However, SOBs lend on average to less profitable firms across both groups (SOE and private) relative to their private sector bank counterparts.[15] The difference is particularly large for lending to private sector firms. Moreover, whereas NPL ratios of SOBs are shown to be higher than NPL ratios of private banks, there is no noticeable difference for banks lending predominantly to SOEs compared to those lending predominantly to privately owned firms (Figure 24). This suggests that private banks may have more prudent borrower screening procedures in place than state-owned banks.[16]

Interestingly, both SOBs and SOEs carry fewer liquid assets. Controlling for sector and year characteristics, SOEs are found to be more likely to keep a smaller portion of their assets in the form of current or relatively liquid assets compared with private firms (Figure 25). Whereas the decision to carry liquid assets may include several considerations, a

[15]See Annex 8 for the estimation procedure.
[16]Storz and others (2017) find that speed and type of corporate deleveraging depend on the interactions between corporate and financial sector health in seven euro area economies.

Figure 25. Current to Total Assets, 2014–2016
(Percent; Share of SOEs being above private firm sector median)



Sources: Orbis; and IMF staff calculations.

smaller share on the balance sheet suggests that SOEs are less concerned about running into liquidity problems to meet short-term obligations than private firms. This difference in asset composition, which is maintained across all CESEE countries and sectors of economic activity, points to implicit or explicit liquidity support provided by the state, possibly through SOBs, for SOEs, if the need arises (see Box 6).

Box 5. The NLB Case: Ambitions of a Private Bank with Flawed Governance

This case study points to pitfalls of government ownership of banks, including the dangers of political influence, lack of independent oversight, and maintaining sustained consensus around a strategic plan.

NLB, the largest banking group in Slovenia with a balance sheet of €13 billion or approximately 30 percent of domestic banking assets at end-2017, was established in 1994 to assume the operations of Ljubljanska Banka established in the former Socialist Federal Republic Yugoslavia. Until 1997, NLB was under a rehabilitation process. In 2001, NLB merged with three smaller Slovene banks. In the same year, the NLB's privatization process was launched.

The first stage of the privatization achieved the government's target of having one-third of the bank owned by the government, one-third by a key shareholder (KBC bank from Belgium) and one-third by state or privately-owned institutional investors, including the EBRD. The second stage, selling part of the government's stake to institutional investors through a tender in October 2002, failed due to unfavorable market conditions. The next privatization stage (with KBC anticipating acquisition of a majority stake in the bank) was never reached either, as the government of Slovenia decided to maintain a majority Slovene ownership in NLB and state-delegated members in the supervisory board were in majority. After this decision and until its final exit from NLB in 2013, KBC did not participate in strategic decisions.

During the 2000s, NLB utilized the abundance of cheap international funding to grow its lending activities significantly by more than 25 percent annually between 2000 and 2007. Its loan to deposit ratio rose from 80 percent in 2000 to more than 130 percent in 2008. It was also lending heavily to large Slovenian companies that became highly indebted during this period. Subsequently, NPLs at NLB increased from less than 1 percent in 2007 to close to 30 percent in 2012.

From 2006, NLB (which remained under majority state ownership) started a strong regional expansion through bank acquisitions and establishment of new companies (including nonfinancial ones) in Slovenia and in southern and eastern Europe. As a result, NLB Group became a highly complex organization with close to 60 companies operating in more than 15 countries by 2007.

The lack of ownership control by a private strategic investor, a complex cross-ownership structure and weak corporate governance altogether contributed to a disastrous outcome. NLB required three state recapitalizations between 2011 and 2013 (altogether €2.2 billion or more than 6 percent of Slovenia's GDP) together with a transfer of

Prepared by Peter Tabak (EBRD).

Box 5. The NLB Case: Ambitions of a Private Bank with Flawed Governance *(continued)*

impaired assets to a state-owned bad bank with an implied aid element of €130 million. In exchange for European Commission approval of the state aid involved, Slovenia committed to sell 75 percent minus 1 share of NLB by end-2017 (later modified to end-2018 and then to end-2019) (see European Commission 2015). The majority (65 percent) of NLB in the end was privatized at end-2018 with further share sale expected in 2019s.

Lessons from the NLB Case

Large (state-owned) banks that lack strong internal and external controls can create systemic risks to a (small) country. State-owned banks' lending commitments to state-owned companies can create vicious circles as SOBs, influenced by political interests, may avoid timely actions to initiate corporate restructuring.

Full transfer of operational control (likely requiring full privatization) to the private sector is preferable to a partial one. This applies in particular if the government retains a significant ownership stake and continues to exert influence over decisions about credit allocation. If a government chooses partial privatization, it should provide assurances that the state will be only a passive owner.

In any privatization deal, government commitment to the privatization and quick action are critical. Delays lead to loss of value. Governments should deal effectively with NPLs in a bank that is due to be privatized and proceed quickly with the privatization, once the NPL issue has been resolved. If NPLs—in particular, uncollectable loans to SOEs—remain on balance sheets, this may create incentives to keep SOEs afloat through forbearance. It can also reduce the sale value of the bank, discourage potential buyers, and further exacerbate the NPL problem.

Although bank boards and management bear the lead responsibility in ensuring prudent business decisions and practices, it is key that banking regulators and supervisors be well-prepared to oversee complex banking groups and avoid extending any preferential treatment or forbearance to state-owned banks.

Box 6. The Role of National Development Financing Entities in CESEE

Box Table 6.1 Bi-variate Probabilities

	Probability of \ given	Type 1	2	3
Features	Banking licence	0.7	0.8	0.6
	Rated	0.5	1.0	0.5
Funding sources	Deposit taking	0.3	0.0	0.2
	Bond issuance	0.8	1.0	0.6
	Money market	0.8	1.0	0.6
	Credit from IFIs	0.9	0.5	0.8
	Budget transfer	0.9	0.8	0.9
Lending Tools	Individual lending	0.6	0.0	0.5
	Direct enterprise	0.9	1.0	1.0
	Indirect enterprise	0.8	0.8	0.7
	Guarantees	0.8	1.0	0.9
	Insurance	0.4	0.8	0.4
	Equity/Venture capital	0.2	0.3	0.3
Note: 1 5 Development Bank, 2 5 Export-Import, 3 5 Other.				
P(given)		0.6	0.2	0.2

National development organizations (NDOs) that provide state-backed financing are widespread in CESEE countries. The NDO landscape is dominated by development banks (DBs) and export-import banks (EXIMs). Other NDOs include microfinance institutions and smaller funds. Although forms vary by country, conditional bivariate probabilities suggest that certain business models are common among NDOs (Box Table 6.1). For instance, all EXIMs have ratings, can in principle issue bonds, act on the money market, and accept no deposits from retail clients nor lend to households directly. There is more variation for DBs and other forms of NDOs. Most CESEE countries have more than one NDO.[1]

The majority of NDOs engage in direct enterprise lending and guarantee provisions. DBs tend to have three or more lending tools. Although all NDOs engage in direct lending to firms, about 55 percent (excluding EXIMs) also lend to individuals.

The official sector is the most common source of funding for DBs, whereas EXIMs rely more heavily on market funding. Most NDOs have three or more funding sources, but very few take deposits unrelated to servicing the provided loan. DBs tend to rely on budget transfers and international financial institutions, whereas EXIMs rely heavily on market funding (which helps explain their rating requirement). Funds and microfinance institutions are funded through the budget, donors and EU funds.

Development banks tend to have wider mandates than other NDOs. DBs tend to target SOEs, municipalities, agriculture, and energy efficiency whereas other NDOs (for example, microfinance and EXIMs) tend to have narrower mandates focusing often on small- and medium-sized enterprises and exporters. This explains the bimodal distribution of NDOs with several having narrower mandates of three target groups and another set of NDOs having eight target groups.

[1]The exceptions are Moldova and Kosovo, where no NDOs were identified. Data is based on annual reports of identified institutions in CESEE countries available online. The list is more comprehensive than the available sample in Fitch but may not cover the entire universe of existing institutions.

Box 6. The Role of National Development Financing Entities in CESEE *(continued)*

Although performance varies widely across the NDO sample, they generally underperform relative to mainstream banks. For 2016, NDOs reported higher NPL ratios and lower ROA compared to the respective country's banking sector average. For the entire NDO sample, NPL ratios were more than twice as high, and the ROA less than half, relative to the banking sector average.[2] However, a longer time series comparison to private sector counterparts and full balance sheet analysis is needed to conclude which models outperformed in terms of institutional set-up (see also Chapter 5).

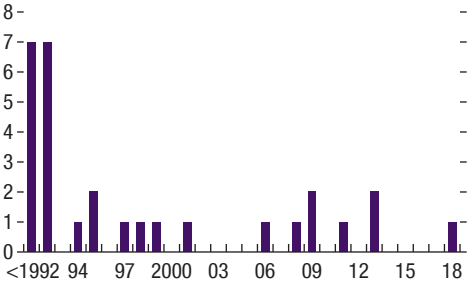
[2]A higher NPL may be expected if NDOs are supposed to address market failures where higher risk-higher return projects are financed. Lower ROA could imply that the higher risk is not (fully) compensated for by higher return on performing borrowers.

Box 6. The Role of National Development Financing Entities in CESEE *(continued)*

Box Figure 6.1. National Development Organizations in CESEE

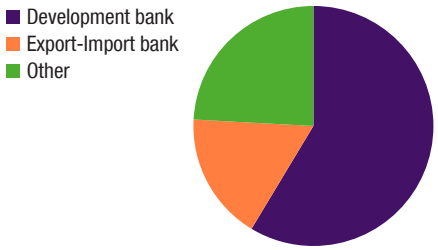
NDOs are widespread and continue to be created.

1. National Development Organizations in CESEE (Number of NDOs, Year of Establishment)



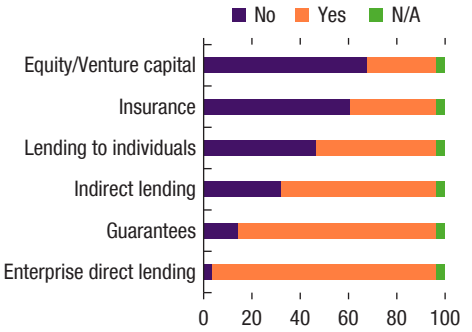
Development bank and EXIM models dominate.

2. NDO Type (Share of NDOs)



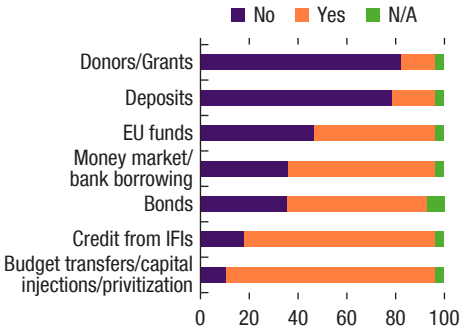
Direct lending and guarantees are the most common lending tools.

3. Financing Provided (Percent)



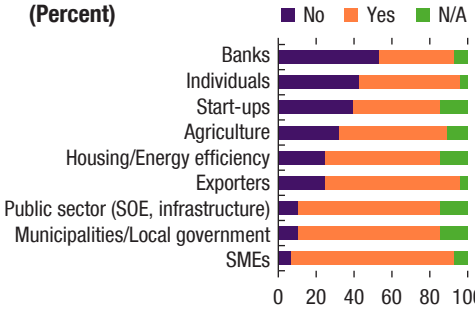
Funding from the budget and IFIs dominate, followed by markets.

4. Funding (Percent)



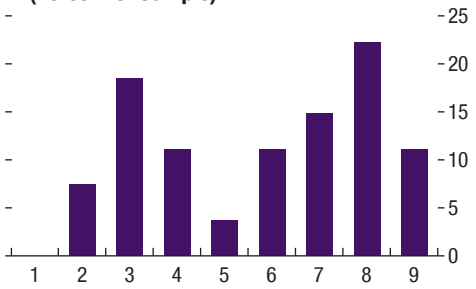
SMEs and the public sector are the main targets ...

5. Target Group (Percent)



... but mandates are often wider including many groups.

6. Number of Target Groups by Organization (Percent of Sample)



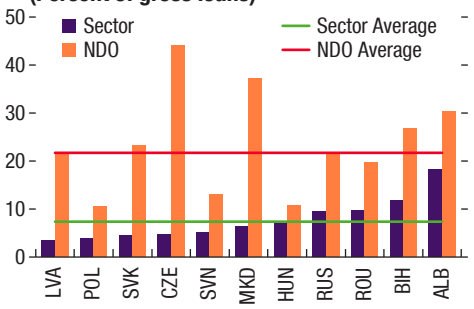
Sources: Annual Reports; Company Webpages; and IMF staff calculations.

Box 6. The Role of National Development Financing Entities in CESEE *(continued)*

Box Figure 6.1. National Development Organizations in CESEE *(Continued)*

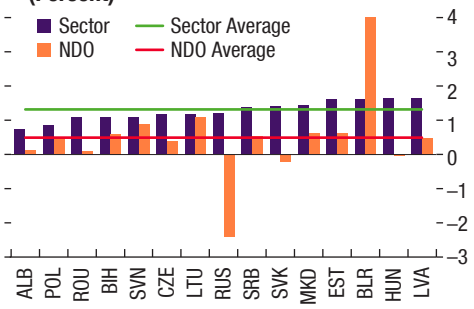
NDO NPLs are above sector standards reflecting higher risk ...

7. NPL Ratios, 2016
(Percent of gross loans)



... which weighs on profitability.

8. Return on Assets, 2016
(Percent)



Sources: Annual Reports; Company Webpages; and IMF staff calculations.

CHAPTER

6 Are (Nonfinancial) State Ownership Objectives Being Achieved?

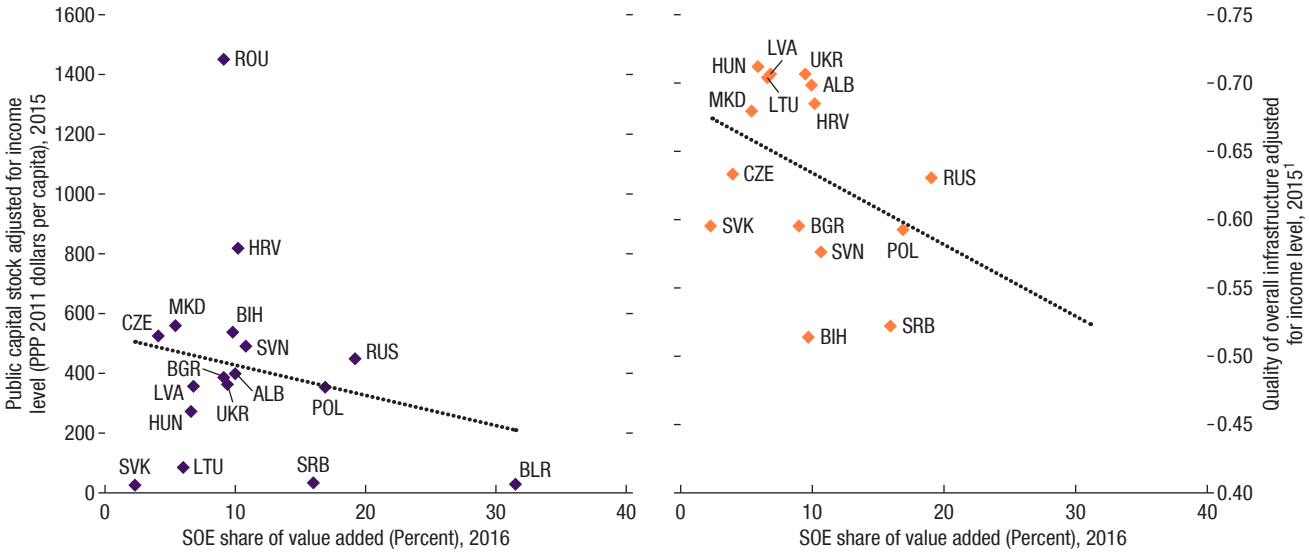
Thus far we have analyzed the relative performance of SOEs and SOBs, which suggests underperformance compared to the private sector. However, performance is only one dimension to assess ownership rationale against, and in fact the authorities often cite nonprofit-maximizing motivations for SOEs.

In most cases, countries do not have explicit, publicly stated objectives of state ownership, making it difficult to assess whether objectives are being met. Some objectives will be difficult to measure success against (for example, counterfactuals from no national ownership), but others may be testable along various dimensions. To do this, we examine the relationship between the supply of specific public goods and services and state ownership by looking at both infrastructure provision and financial inclusion along the dimensions of quantity and quality. We also study the support of social objectives by studying employment patterns, focusing on the economic cycle.

Supply of Public Goods and Services

SOEs in CESEE countries provide essential infrastructure and services that are critical for economic and social development. The list of activities is large, ranging from energy infrastructure to banking. The rationale for SOE provision of public goods and services relates mostly to the presumed comparative advantage stemming from the scale involved, which requires considerable organization and administration, whereas individuals are unlikely to have sufficient incentive to monitor and hold providers accountable (Krueger 1990). At the same time, the quality of providing goods and services also needs to be considered as it can raise the cost of activities.

Figure 26. Public Capital Stock and Infrastructure Quality



Sources: IMF FAD Investment and Capital Stock dataset; WDI database; World Economic Forum (WEF); IMF staff calculations.
[1]WEF measures the infrastructure quality based on surveys.

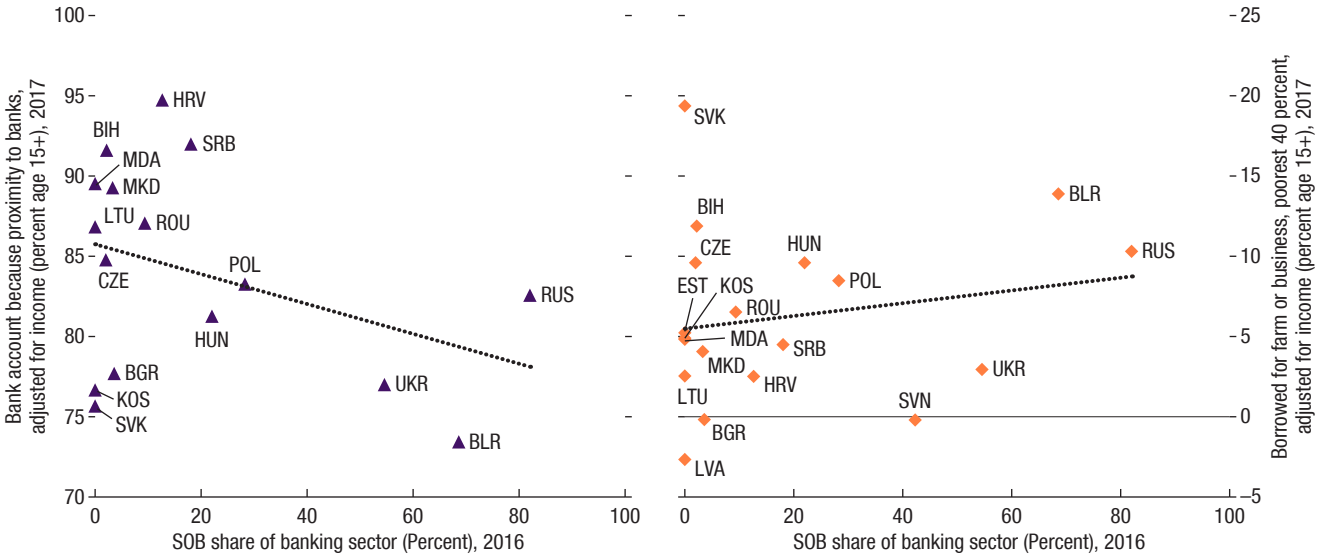
A larger SOE footprint is associated with a smaller public capital stock and lower infrastructure quality.[1] Controlling for income levels[2] we find a negative and statistically significant relationship between the size of the SOE footprint (measured by value added or employment) and both quantity and quality of infrastructure (Figure 26). The same findings hold if one considers only roads. Poor quality and limited supply of infrastructure constitutes a major source of high costs for all producers and consumers within countries (Krueger 1990) and suggests that SOEs are not meeting their provision mandate.

There is mixed evidence on whether a larger SOB share of the domestic banking sector is good for financial inclusion (Figure 27). Although SOBs often claim to meet citizens financial needs and help underserved segments of the population gain access to credit (Caprio and others 2004), the evidence is mixed. Across CESEE countries, a greater percentage of borrowers in the poorest 40 percent of the income distribution are able to borrow in order to

[1]We recognize that the public capital stock is not identical to the quantity of infrastructure and SOEs do not provide all of the public capital stock. For example, financial estimates of capital stocks in the public sector include values of residential housing, health institutions, and government buildings. Moreover, some government assets are difficult to value (for example, roads), both within a country and across countries.

[2]Adjustment for income was done by removing from the variable of interest the estimated effect of GDP per capita on that variable. A linear model was used to estimate the effect of GDP per capita on the variable of interest.

Figure 27. Financial Inclusion



Sources: Global Findex database; Fitch; IMF staff calculations.

start, operate, or expand a farm or business when there is a larger SOB presence, suggesting SOBs are able to meet the needs of an important segment of the population.[3] At the same time, however, a larger SOB presence is also associated with a greater share of the population citing no bank account due to distance from financial institutions and less trust in the banking sector.[4]

Support of Social Objectives

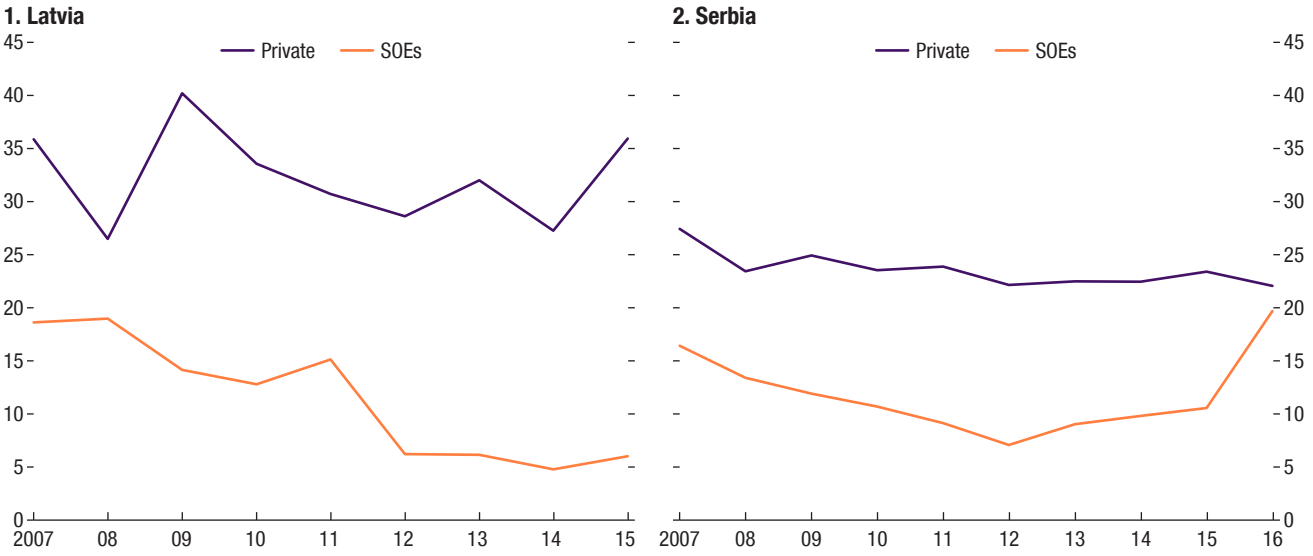
SOEs are often viewed as serving as an employment buffer against economic downturns and the impact of broader economic reforms, which may otherwise harm living standards (Putterman 1992). To test this hypothesis, gross job reallocation and net job creation rates for SOEs and private firms are calculated to examine the dynamism of labor markets and explore whether SOEs provide employment buffers during crisis periods.[5]

[3]This relationship, however, is statistically insignificant.

[4]These are both statistically significant at 10 percent.

[5]Gross job reallocation is the sum of gross job creation (the sum of all employment gains in expanding or new firms as a share of all employees in a sector, size class, economy, or by ownership) and gross job destruction (the sum of all employment losses in contracting or exiting firms relative to the total number of employees). Net job creation is the difference between gross job creation and gross job destruction rates. See Dunne, Roberts, and Samuelson (1988).

Figure 28. Gross Job Reallocation
(Percent)



Source: CSB; LB: Benkovskis and Richmond (2019); SBRA; IMF staff calculations.

SOBs can also provide support to the economy during downturns (households and firms) by extending credit to offset declines by private banks. The evidence from the global financial crisis period, however, is mixed when it comes to the behavior of government-owned banks in Eastern Europe.[6] To test this hypothesis, we examine banking metrics around the global financial crisis.[7]

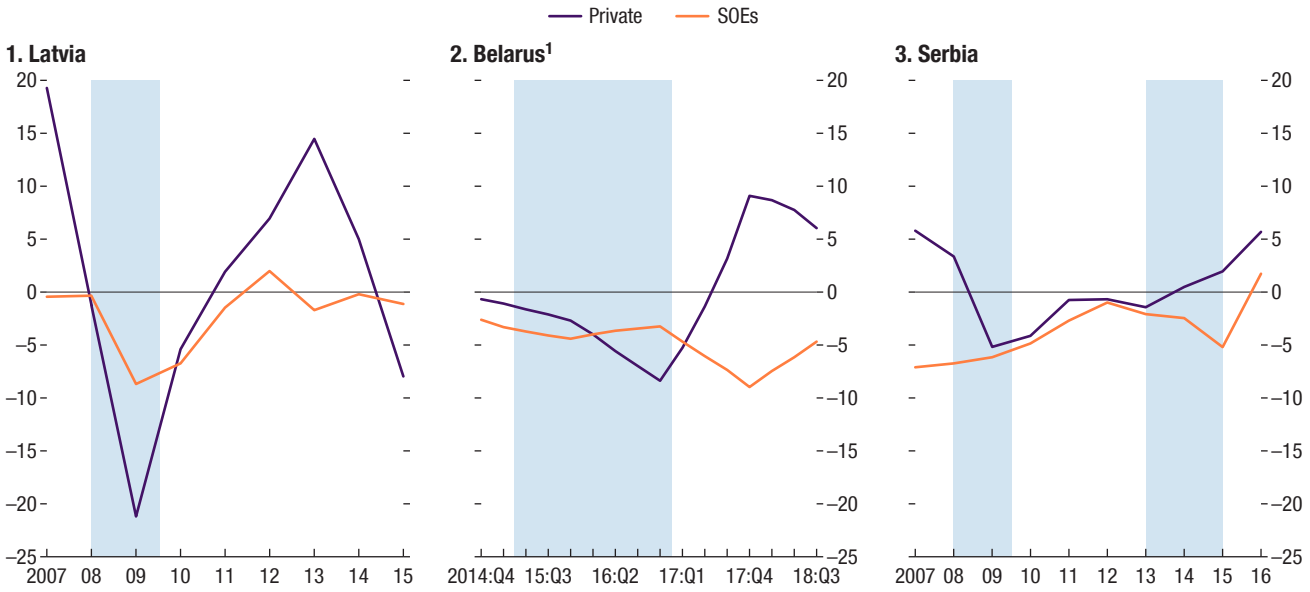
SOEs exhibit less dynamic employment patterns in Latvia and Serbia compared to private firms (Figure 28).[8] Consistently over the last decade, private sector employment has shown to be more turbulent, suggesting an active and dynamic process of reallocation of workers, which is important for economic growth. SOEs, on the other hand, consistently show less dynamism. This pat-

[6]Bertay, Demirgüç-Kunt, and Huizinga (2015) and Ferrari, Mare, and Skamnelos (2017) provide empirical evidence that lending by state banks is substantially less procyclical than lending by private banks in countries with good governance. See Cull and Martinez Peria (2013), De Haas and others (2015), and Allen and others (2017) for mixed evidence during the global financial crisis. There is clear evidence in the case of Poland that SOB lending was distinctly countercyclical during the global financial crisis compared to private banks (Kawalec and Gozdek 2012).

[7]For papers analyzing the pre-crisis period, see Micco and Panizza (2006); Foos (2009); Önder and Özyldirim (2013); Bertay, Demirgüç-Kunt, and Huizinga (2015); Brei and Schclarek (2015); and Duprey (2015). For papers analyzing the crisis period, see: Leony and Romeu (2011); Cull and Martinez Peria (2013); Coleman and Feler (2015); De Haas and others (2015); Chen and others (2016); Choi, Gutierrez, and Martinez Peria (2016); Allen and others (2017); and Ferrari, Mare, and Skamnelos (2017).

[8]We use comprehensive firm-level data to avoid biased job reallocation rates, which could arise from datasets where firms do not report consistently.

Figure 29. Net Employment Dynamics
(Percent)



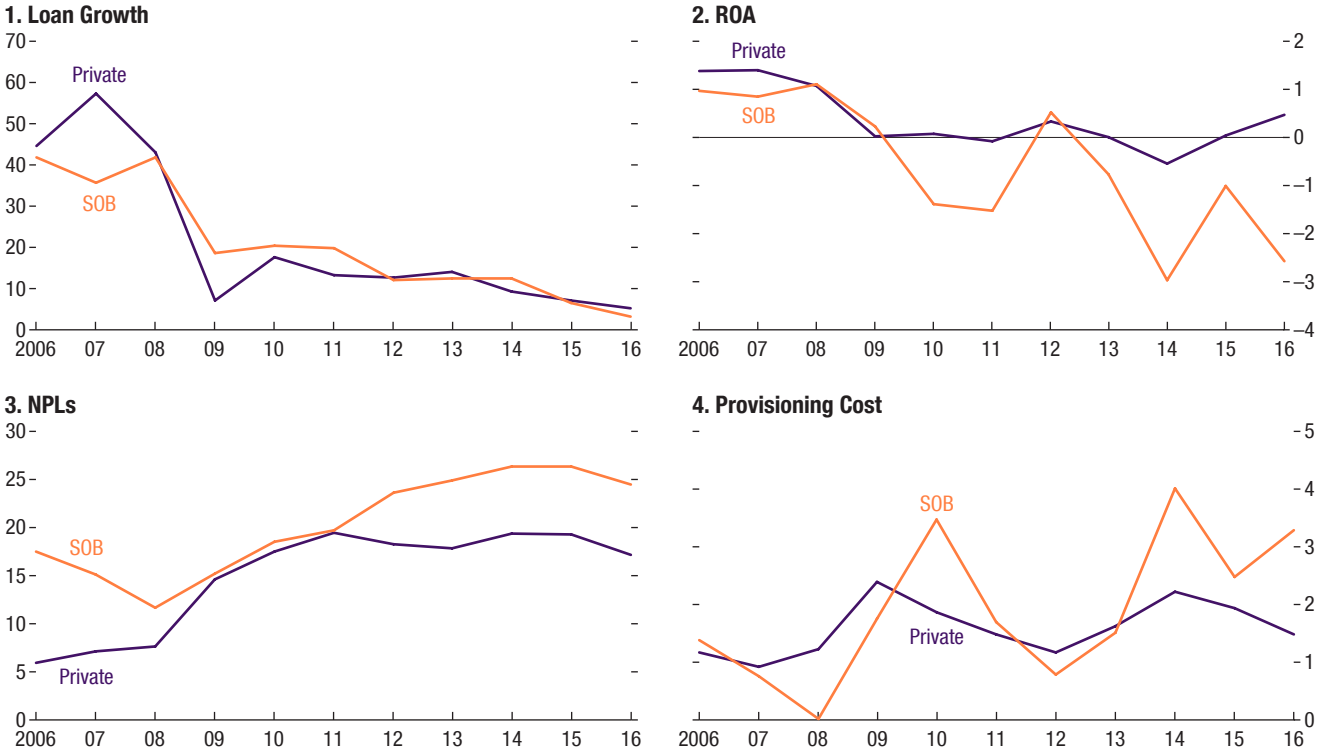
Sources: CSB; LB; Benkovskis and Richmond (2019); SBRA; Belstat; IMF staff calculations.
Note: Shaded areas are crisis periods in each country.
[1]Average employment in the corporate sector (percent change; yoy 4Q ma).

tern is not new and was observed in Bulgaria, Hungary, and Romania in the early 1990s after the first privatization wave (Bilsen and Konings 1998).

There is mixed evidence on the role of SOEs as an employment buffer during crises (Figure 29). In the case of Latvia during the 2008–2009 financial crisis, SOEs shed jobs at a slower rate than the private sector, thereby dampening the employment effect of the downturn. In a separate analysis, a similar pattern is found in Belarus around its 2015–16 crisis, where the pace of job loss increased in private firms as the crisis lengthened.[9] At the same time, SOEs there reduced wages (real average monthly wages and salaries dropped by a cumulative 9.5 percent over 2015–16) whereas private firms did not. In the case of Serbia, the SOE sector was shedding jobs at a faster pace than the private sector over the entire 2007–16 period regardless of the economic cycle. Taken together, the persistence of low volatility suggests that SOE employment may be a passive means of maintaining more stable employment, but governments are not actively using SOE employment as a policy tool to dampen negative employment effects during periods of downturn or major economic reforms.

[9]Based on medium and large nonfinancial companies (SOEs and private firms with the average number of employees above 251 during a calendar year).

Figure 30. Performance Around the GFC
(Percent)



Sources: Fitch; and IMF staff calculations.
Note: Time-varying means estimated by Least Squares Dummy Variables (LSDV). Specification includes market share as control variable for size, plus country and time fixed effects. See: Annex 7.

We find that lending by SOBs was less procyclical around the global financial crisis compared to private bank lending (Figure 30), but this came at a cost. SOBs lending growth initially remained strong (and higher than private banks) around the global financial crisis. As might be expected, this sustained lending was followed by a deterioration of loan portfolio quality and an increase in provisioning costs, which weighed on profitability. Among the SOBs suffering higher losses following extended lending, there was little sign of cost cutting either on personnel or other operating expenditures, pointing to rigidity in management practices (and, relatedly, a lack of responsiveness to business conditions).

The findings indicate that few objectives, across the dimensions considered, are being fully met. This suggests that there is a strong need to properly assess the costs and benefits and consider whether less distortionary policies could achieve the same, or better, outcomes.

CHAPTER

7 SOE Corporate Governance

The importance of improving corporate governance in SOEs has been increasingly recognized. In the initial years of transition in CESEE countries, the policy debate centered on the merits of public versus private ownership, with less focus on corporate governance of SOEs. In contrast to private enterprises, which are regulated by general commercial, corporate, tax and insolvency frameworks, governance of SOEs was perceived to be characterized by ad-hoc legal arrangements, limited transparency, regulatory exemptions, and inconsistent policy implementation. Later, however, in the context of weak SOE performance and the growing need to professionalize ownership functions of governments, many features of private sector corporate governance were introduced to SOE sectors, particularly in the areas of transparency and accountability (Frederick 2011). There is an emerging understanding that a better corporate governance leads to higher returns on equity and greater efficiency (Claessens and Yurtoglu 2012) and that corporate governance standards are not necessarily determined by public or private ownership). In other words, *how* an enterprise is owned may be as important as *who* owns an enterprise.

A new survey of CESEE country authorities undertaken in 2018 assesses corporate governance policies based on the World Bank Corporate Governance Toolkit and OECD recommendations. The survey of 21 countries includes 18 questions analyzing the governance frameworks in the areas of ownership policy, financial oversight, and fiscal links between SOEs and governments (World Bank 2014; OECD 2015).[1] This exercise allows for an assessment of *stated* policies as enshrined in national legislation. An assessment of the *actual* implementation of stated policies would require a more comprehensive

[1]See Annex 9 for details.

hands-on review of the legislation and its administration that is beyond the scope of this paper.[2]

Ownership Policy

SOE ownership policy requires a balance between active government engagement and delegation to SOE supervisory and management boards. Undue interference, including politically motivated, may contribute to the lack of accountability and weaker financial and operational performance.[3] For example, operational decisions regarding hiring, capital investments, credit allocation, or pricing of goods and services may be influenced by political pressures, which could result in operational inefficiencies. Government interference may also lead to multiple and unclear lines of accountability for SOE management. On the other hand, a passive style of ownership such as the lack of participation in shareholders meetings, ad-hoc dividend policies, inadequate disclosure, and weak financial controls may weaken incentives for SOE management to maximize value for the government, and may result in self-serving behavior by corporate insiders (OECD 2015, 2018a).

The survey covers three pillars of government ownership policy (Table 1). First, governments should know *what* they own, by establishing comprehensive SOE lists. Second, governments should decide *why* the government owns SOEs by enshrining a government ownership policy document, and decide *which government agency* is tasked with exercising ownership rights. Third, the government needs to select *who* will manage SOEs by having sound management selection processes and criteria.

The coverage of SOE lists is incomplete in almost all countries. All countries have SOE lists at the national level, but only six include sub-national SOEs in their registers. This creates a gap in coverage that complicates a comprehensive assessment of financial performance and fiscal risks that arise from these companies. However, not all countries publish their SOE lists.

A substantial minority of countries grant legal preferences to SOEs. Most countries follow international best practice of subjecting SOEs to the same regulatory, tax, and insolvency regimes as private companies. However, eight countries report that they grant some preferences to SOEs (Albania, Belarus, Bosnia and Herzegovina, Croatia, Lithuania, North Macedonia, Poland, and

[2]Moreover, where changes are very recent such as those in Ukraine (new privatization and SOE governance frameworks) and Bulgaria (a new SOE management modernization framework approved in 2H-2018), the impact will not be known for some time.

[3]See Shleifer and Vishny (1994).

Table 1. Ownership Policy

Sources: National country authorities; IMF staff calculations.
Note: The order of the countries in Tables 1–3 is based on the score obtained for each section. The fact that some countries have higher rankings, despite the tables showing more red is due to the different weighting scheme. The weights are presented in Annex 9.

Ukraine). In Belarus, a number of SOEs are fully excluded from insolvency procedures and some benefit from special insolvency regimes.

Decentralized SOE ownership—prevalent across the region—affects the implementation of government ownership functions, and potentially the formulation of sectoral policies. Decentralized models of SOE ownership, in which line ministries exercise ownership functions, create a potential conflict between sectoral policy setting and ownership functions.[4] Such ownership models may lead to "regulatory capture," because the regulator and the owner of SOEs is the same government agency, endangering the principles of competitive neutrality (Laffont and Tirole 1991). The decentralized model also hinders comprehensive monitoring of the overall SOE sector. Such monitoring is important to identify weaknesses, formulate ownership policies, monitor progress, and ensure financial and fiscal discipline. Accordingly, best practice is to separate policy and ownership functions, with the ownership function centralized in a single government agency (OECD 2015). Some countries have established centralized oversight units, but decentralized oversight is still the more common practice.

[4]For example, a ministry developing regulations for a sector in which it owns SOEs.

An effective ownership policy document is a pillar of a strong ownership policy—but these are rarely found in the countries that replied to the survey. OECD guidelines recommend that this document: (1) specify the rationale for state ownership; (2) outline defined policy objectives; (3) lay out a strategy for exercising the ownership function; and (4) reference and synthesize policies, laws, and regulations applicable to SOEs. Comprehensive review and update of the legal framework, including both the general company laws and the SOE-specific laws, may be required to formulate an effective ownership policy.[5] Only six countries have ownership policy documents in place. And, even for these cases, further work would be needed to assess whether these documents adequately balance compliance with OECD principles with country-specific considerations. In general, the lack of ownership policy documents is a significant gap in the exercise of ownership policy in the region.

Another key pillar of the ownership function is that the appointment of management and supervisory board members should be professional and depoliticized. To prevent appointment of board members unfit for their duties, a structured and formalized appointment process and clear selection criteria can be established. To strengthen the objectivity of the board, many countries, such as Denmark and Korea, reduce government representation on the board of SOEs and require a minimum number of independent directors (OECD 2018b).

SOE board composition requirements could be improved in many CESEE countries to support objective and independent judgement while avoiding potential conflicts of interest. In about one-third of the sample there are no legislative requirements for a minimum number (or share) of independent SOE board members. Most countries in the region have in place explicit competency, experience and skill requirements for SOE board membership. Still, actual implementation of these requirements is uneven. In Kosovo, for example, the definition of independence is general and does not prevent undue influence of political considerations in SOE boards. In Serbia, legislative requirements are circumvented by appointing management and supervisory board members on an interim basis.

Centralization of the board selection process has proved to be helpful in professionalizing SOE boards, but is practiced little in CESEE countries. In decentralized models, line ministries select supervisory and management board members, adding to risks of non-transparency, political influence, conflicts of interest, and different procedures across the government. Introducing oversight or consent requirements by the broader government may alleviate these concerns. In this respect, delegating the appointment of board

[5]For example, a government may be unable to bring salaries for some SOE employees closer to the market level if the SOE-specific legislation applies the civil service remuneration system.

Table 2. Financial Oversight Framework

Sources: National country authorities; IMF staff calculations.

members to a single entity and engaging a nomination committee, *including external experts*, can serve as a first step to depoliticizing the ownership function by preserving the line ministries' right to shape the competency profiles and criteria for the selection of board members. Few CESEE countries have centralized SOE board selection processes. In most cases, sectoral ministries have the lead in selecting SOE board members, which could potentially result in prioritizing sectoral or policy objectives of SOEs over financial value maximization.

Financial Oversight

The survey covers the financial oversight framework in three broad areas (Table 2). It benchmarks countries in the areas of financial performance, operational performance, and reporting. The last of these covers both publication of financial statements and an aggregate SOE sector report.

A financial oversight framework is in place in most countries. Annual financial performance targets should preferably be based on pre-established income and balance sheet indicators (Bower 2017). Annual financial performance targets are mandated in all but a few countries, and annual financial performance evaluations take place in virtually all countries. Fewer countries

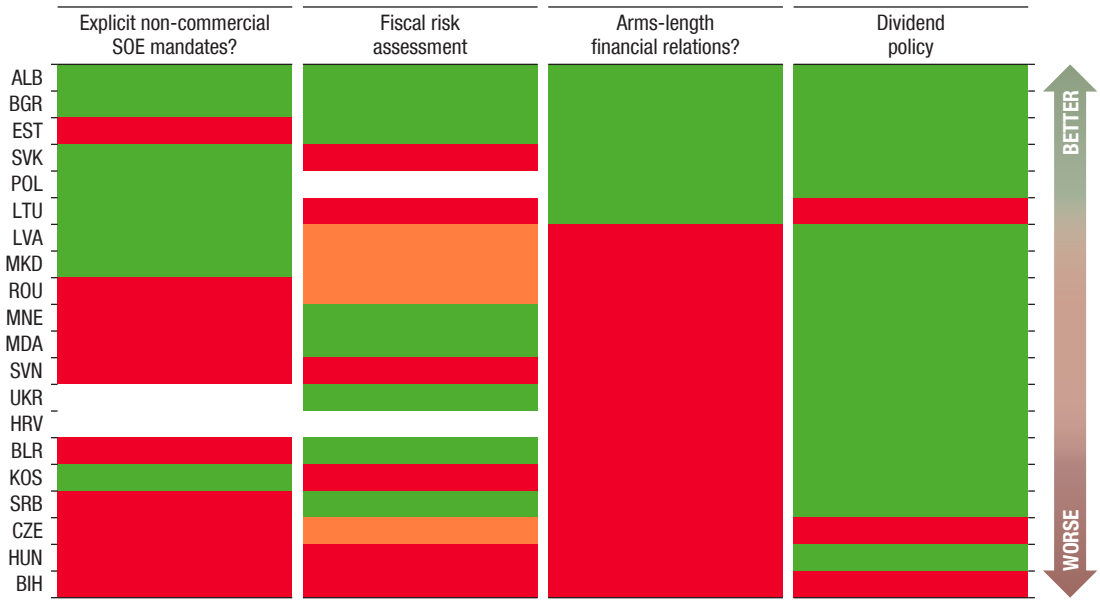
set operational targets (such as, production, exports, and employment) and perform operational evaluations. The existence of these performance setting and evaluations frameworks, however, do not by themselves ensure good financial and operational performance. On the contrary, setting operational performance targets could be counterproductive if they become instruments of industrial or employment policy (IMF 2016a). Moreover, the realism of financial and operational targets and the effectiveness of performance monitoring may sometimes be questionable. Thus, effective performance monitoring may require including accountability mechanisms to help foster value maximization and minimize fiscal risks.

Transparency and robust reporting are essential for monitoring SOE performance. Establishing special accounting rules for SOEs in the national accounting standards prevents comparisons with similar private sector companies and reduces the usefulness of financial statements as inputs to government decision-making. Maintaining common accounting standards, publishing and making financial statements readily available, and ensuring independent external audits all serve to enhance transparency and accountability. Greater transparency may also be correlated with lower cost of capital and higher dividend payout ratios (Kowaleski, Stetsyuk, and Talavera 2008). There is also evidence of a positive relationship between the quality of financial accounting information and economic performance (Bushman and Smith 2003). Although government auditors have mandates to audit SOE financial statements in many countries, independent external audits can help lend additional reliability and credibility.

Comprehensive financial reporting and auditing requirements are generally stipulated, but implementation is uneven across the region and does not ensure transparency. All countries require at least a subset of SOEs to have annual financial statements audited by independent external audit firms and be made publicly available. Except for Albania, Kosovo, and Slovak Republic, the oversight units are required to review such statements, but this may not necessarily guarantee adequate scrutiny in practice. Although financial statements are published on a centralized website in several countries (Estonia, Latvia, Lithuania, and Slovenia), in other countries publication is partial (Bosnia and Herzegovina, Kosovo, Montenegro, and Serbia).

Publication of consolidated SOE reports is irregular across CESEE countries. A comprehensive and consolidated SOE report could include a sector overview, disclosure of individual SOE mandates, individual performance and risk assessment, financial transactions with government, and assessment of ownership policy (OECD 2015). Such reports are publicly available in some countries—in Estonia an oversight unit within the Ministry of Finance monitors financial accounts and publishes a consolidated annual report (OECD

Table 3. Fiscal and Policy Interactions



Sources: National country authorities; IMF staff calculations.

2011). A consolidated report is also available in Kosovo, but it is not comprehensive nor fully aligned with OECD guidelines.

Fiscal and Policy Interactions

The survey covers fiscal and policy interactions between SOEs and governments (Table 3). First, governments need to underpin the non-commercial mandates of SOEs in legislation or regulation. Second, governments should establish clear rules for fiscal support to maintain competitive neutrality and budgetary transparency and sustainability. Third, dividend policies that set parameters for dividend payouts foster operational independence of SOEs and help budgetary planning. Fourth, fiscal risks units can help monitor risks emanating from the SOE sector, and craft policies to mitigate them.

CESEE countries lack a clear definition of social objectives needed to set SOE obligations toward vulnerable groups and to clarify fiscal links to SOEs. Clearly spelling out noncommercial mandates of SOEs in legislation provides the underpinnings for establishing transparent fiscal links between SOEs and governments. In some countries (Belarus, Bosnia and Herzegovina, Moldova, Romania, Serbia, and Slovenia), country authorities revealed that there are non-commercial rationales for state ownership of SOEs, but the rationales are not explicitly set out in legislation.

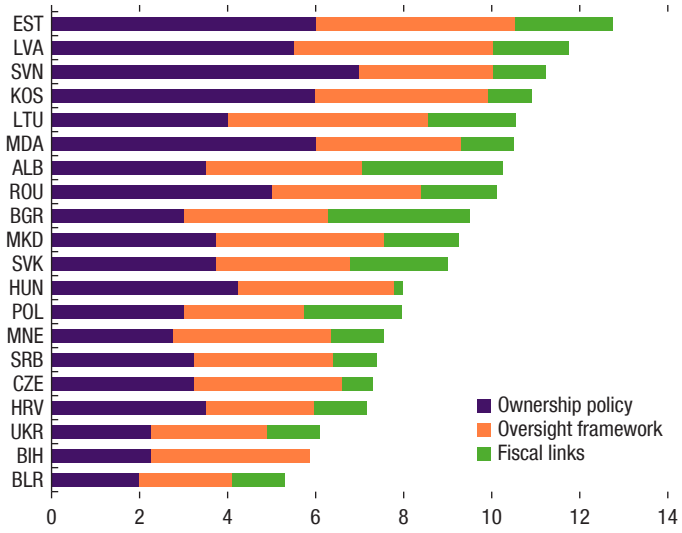
Competitive neutrality needs to be protected in fiscal and policy interactions of SOEs with the government. Limiting structural, fiscal, and quasi-fiscal support to SOEs is critical to ensure a level playing field with private enterprises. Governments often require SOEs to fulfill public service obligations (PSOs). OECD guidelines call for governments to underpin PSOs in laws or regulations, and to disclose the nature and extent of such obligations. Disclosing PSOs allows governments and the public to scrutinize SOE performance and to evaluate the effectiveness of fiscal support against stated objectives. This modality of budgetary support also helps ensure budgetary transparency and sustainability.

Almost all countries report financial support to SOEs but the modality and scope differ across the region. Most countries support SOEs by providing budgetary support or quasi-fiscal support, for example, via on-lending or guarantees (see Box 7). Several of these countries have established "arm's-length" financial relations with SOEs where subsidies are conditioned on preestablished PSOs. In contrast, unconditional support is given to SOEs in Bosnia and Herzegovina, Montenegro, and Ukraine. Only three countries (Albania, Latvia, and Lithuania) report giving structural support to SOEs (preferential procurement and/or competition restrictions).

Dividend policy is another important pillar of fiscal interactions between SOEs and governments, which is missing in a few cases. Governments should establish financial targets for SOEs, such as profitability, return-on-equity, capital structure, and dividend targets. Dividends may be a source of substantial revenues for government budgets. In this context, a well-defined policy can help governments in medium-term fiscal budgeting to avoid unexpected drops in revenue. Likewise, pre-established dividend policies along mutually-agreed performance parameters can help ensure that SOEs have adequate resources to fund operational costs and undertake necessary investments by preventing ad-hoc requests by governments for extraordinary dividend distributions. Retained earnings may finance SOE investments in some cases, but in countries with weak corporate governance the efficiency of capital allocation by SOEs may be low.

Centralized fiscal risk oversight units can play an important role in identification, assessment, and mitigation of the risks originating from the SOE sector, as well as their mitigation. These units are best placed in ministries of finance, which can incorporate the results of the risk analysis in the budget process and develop strategies to mitigate risks and publish findings in regular reports (IMF 2016a). Progress has been made in establishing centralized fiscal risk oversight units in most countries, although their effectiveness in practical implementation varies. Only six countries do not report having such functions at all.

Figure 31. Composite SOE Governance Index



Sources: National country authorities; IMF staff calculations.
Note: Score is out of a maximum of 16.5. Higher values denote closer adherence to WB toolkit, OECD guidelines and fiscal transparency. See Annex 9 for full description.

SOE Oversight Index

A composite index of oversight policies is constructed for cross-country comparison (Figure 31). The index covers ownership policy, financial oversight, and fiscal and policy interactions, but does not reflect the implementation of the policies. It provides a snapshot of *stated* policies in place in 2018 and can be helpful to provide an approximate *relative* comparison of policies vis-à-vis OECD guidelines. There is a tendency for EU member states to have higher scores than non-EU members in the overall index, although it is far from universal. This could be explained by generally stronger institutional development, as well as state-aid rules, which enhance transparency requirements related to budgetary support to SOEs that are applicable to EU member states.

In conclusion, most CESEE countries have room to align stated policies more closely with best practice guidelines, and—just as importantly—should improve implementation of policies. In particular, CESEE authorities could benefit by broadening the scope of monitoring by including subnational enterprises, adopting ownership policy documents, strengthening SOE board requirements and appointment procedures, establishing centralized SOE oversight and fiscal risk assessment units, and publishing aggregate SOE performance reports. And in many cases, stated policies are not necessarily fully

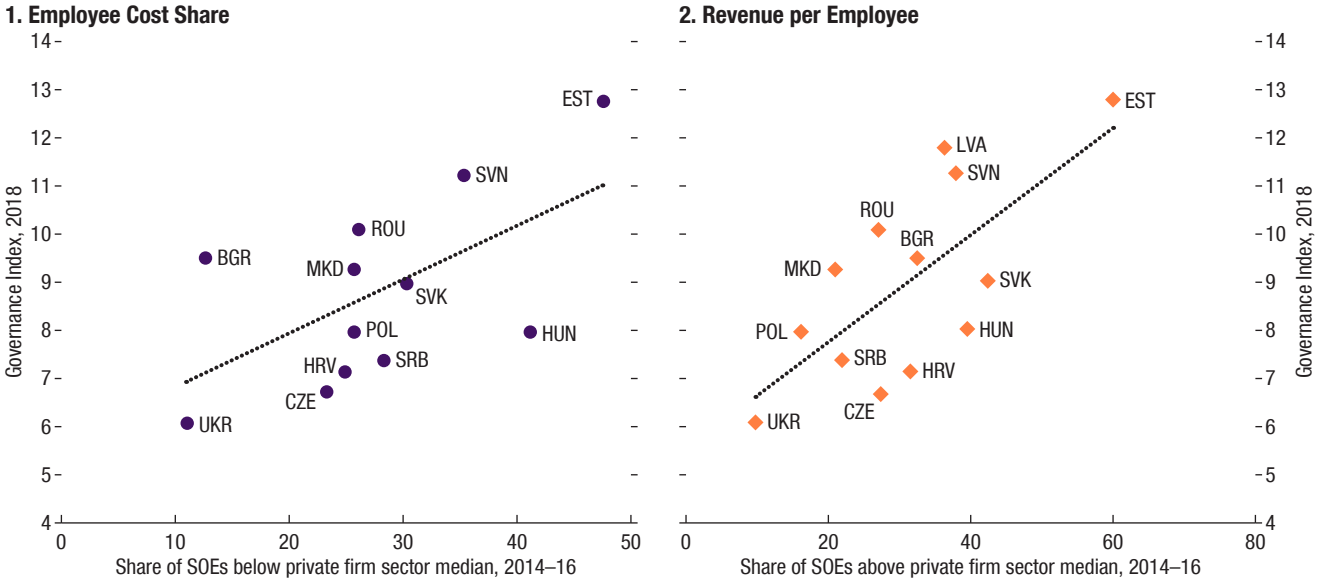
followed in practice, so some countries score higher on the composite governance index than their practical SOE governance frameworks would warrant.

Does Better Governance Affect SOE Performance?

The case studies presented in Boxes 5, 8, 9, 10, and 11 all point to corporate governance playing an important role for improving SOE performance. Claessens and Yurtoglu (2013) find that corporate governance results in better performance, and benefits firms through greater access to external financing, lower cost of capital, and improved allocation of resources. However, few studies have focused on SOEs. In one such study Curi, Gedvilas, and Lozano-Vivas (2016) analyzed commercial Lithuanian SOEs performance after the introduction of corporate governance reforms in 2012–13 and concluded that corporate governance reforms are efficiency-enhancing, with board quality and strategic planning playing important roles for overall organizational efficiency.

To explore whether there is a systematic relationship between governance and SOE performance in the CESEE region, we combine our governance index with our measures of SOE performance. We find that across all of the measures of firm performance we analyzed (revenue per employee, employee cost share in operating revenue, ROA, and ROE), better governance is associated with better SOE performance (Figure 32). we are unable to establish causation, there is nevertheless a strong statistical relationship. State/SOE capture by vested interests as well as clientelism are possible links between the two. This underscores the view that improving governance of SOEs should be a priority.

Figure 32. Governance and SOE Performance



Sources: National country authorities; Orbis; IMF staff calculations.
Notes: The LHS chart has a pair-wise correlation significant at the 13 percent level; the RHS chart has a pair-wise correlation significant at the 1 percent level.

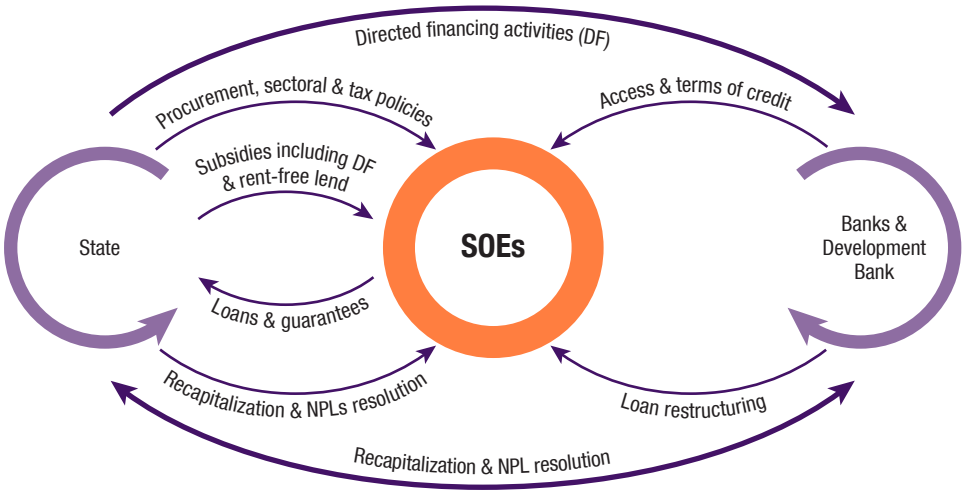
Box 7. Belarus and Serbia: Government Financing of SOEs and SOBs

Both Belarus and Serbia illustrate the fact that SOEs can have large fiscal costs.[1] The state supports SOEs through a variety of mechanisms, including: (1) procurement, sectoral, and tax policies; (2) subsidies for lossmaking activities as well as other less transparent reasons such as rent-free land; (3) assumption of liabilities from budget loans and explicit guarantees; and (4) recapitalization of balance sheets and NPL resolution. At the same time banks (including development banks) support SOEs often with favorable access and credit terms and facilitate loan restructurings (Box Figure 7.1).

In Belarus, state support to SOEs has been considerable. It includes:

1. Direct fiscal support (Box Figure 7.2)
   - Budget subsidies. These are related to provision of housing, utilities and transport services to households and also include reimbursement for specific expenditures on investment projects under state programs. Total budget subsidies (paid to SOEs and private enterprises, and some households) have amounted to 3.7 percent of

Box Figure 7.1.



Source: IMF staff.

Prepared by Marko Paunovic and Beata Jajko.

[1]See IMF (2012) and Bova and others (2016) for broad examinations of the fiscal contingent liabilities stemming from SOEs.

Box 7. Belarus and Serbia: Government Financing of SOEs and SOBs *(continued)*

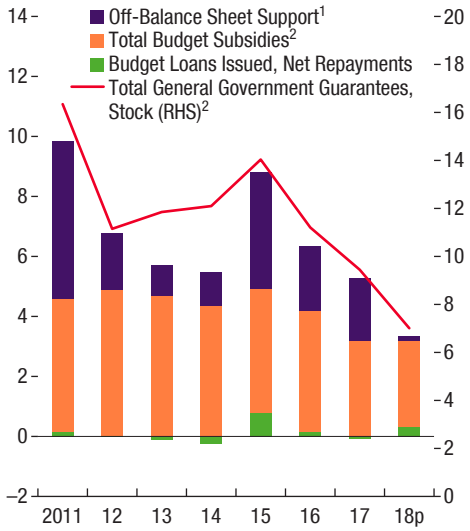
GDP per year on average over the last five years. An estimated 40 percent of this goes directly to SOEs.

- Off-balance sheet support. This includes direct capital injections to SOEs, SOBs, and the development bank as well as different forms of SOEs debt assumption, restructuring and NPL resolution, and execution of government guarantees.[2] Recent cases cover cement, glass, other manufacturing and wood working SOEs (2015), and agricultural (2016/2017) SOEs. These quasi-fiscal transfers have amounted to 2 percent of GDP per year on average over the last five years.

2. Other forms of support

- Easier access to financing. Belarusian SOEs benefit from low interest directed lending programs, budget loans, government guarantees on their debt, and access to SOB lending. Overall, this makes SOE financing costs cheaper than comparable private companies. Directed lending amounts to about one-third of total bank credit to nonfinancial corporates, though it is on a declining trend.
- Implicit preferential treatment over private companies. There is substantial anecdotal evidence that Belarusian SOEs have preferential access to public procurement and also tend to get better treatment when facing private companies in the courts.

Box Figure 7.2. Belarus: Fiscal Support to SOEs and SOBs
(Percent of GDP)



Sources: Country authorities; and IMF staff estimates.
[1]Includes capital injections, debt restructuring, guarantees called net recoveries.
[2]Including to SOEs.

In Serbia support has taken similar forms, relying on five main fiscal mechanisms during the past 10 years:

1. Direct central government budget subsidies. The largest beneficiaries have been the railways, followed by coal mines. Subsidies to Serbian companies undergoing privatization have fallen significantly over the period, as some of the most heavily supported companies have been either sold or bankrupted.

[2]Starting in 2018 capital injections are included in fiscal expenditures.

Box 7. Belarus and Serbia: Government Financing of SOEs and SOBs *(continued)*

2. Local government budget subsidies. Local governments have been the largest source of subsidies to Serbian SOEs. These mostly relate to local public enterprises—such as public transportation, water and waste disposal companies—reflecting poor user fee collection and, sometimes, low prices for services.
3. Government guarantees of bank loans to SOEs. Sometimes these reflected a belief in the firm's creditworthiness, but more often they served to circumvent recording support in the budget (until 2015, activated guarantees were recorded below the line). However, since 2015, the government has treated activated guarantees as part of the deficit and guaranteed debt is recorded in general government debt.
4. Debt assumption. In a few cases, the government took on SOE debts even when no guarantee was issued. This was either done to facilitate a strategic partnership agreement (Air Serbia), or to continue the supply of energy for key companies. Under IMF-supported programs, these transactions were recorded above the line.

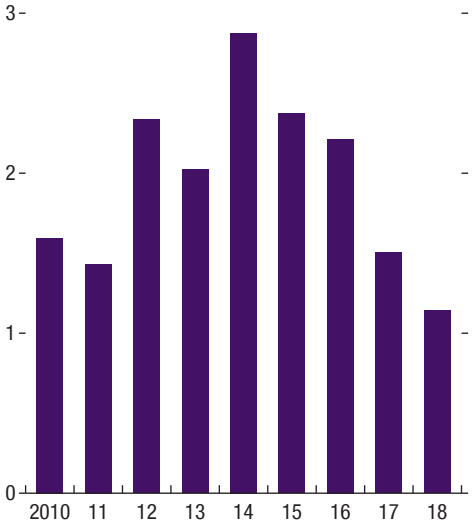
Direct budget costs tied to SOB failures. During 2012–14 the fiscal cost of resolution of four failed Serbian SOBs reached nearly 2 percent of GDP, with the government paying out not only insured deposits but also all uninsured deposits, in an effort to minimize contagion to other SOBs.

SOE arrears to government and other SOEs have also been tolerated. For example, the largest SOEs have accumulated about 0.3 percent of GDP in tax and contribution arrears during 2016–18, and debts of the 10 largest SOEs to the state electricity company amount to 0.4 percent of GDP (Box Figure 7.3).

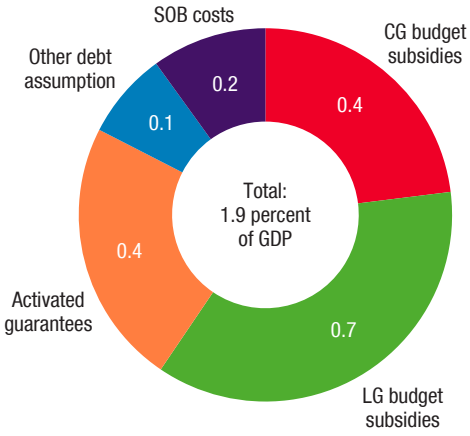
Box 7. Belarus and Serbia: Government Financing of SOEs and SOBs *(continued)*

Box Figure 7.3.

1. Serbia: Total Fiscal Cost of SOEs/SOBs (Percent of GDP)



2. Average Costs, 2010–18 (Percent of GDP)



Sources: Ministry of Finance Serbia; IMF staff calculations.

Box 8. PKP Reorganization: From Cost-Cutting to Privatization Efforts

Polish Railways, or Polskie Koleje Państwowe (PKP), found itself in a difficult financial and operational situation in the early years of transition. The collapse of the Soviet economic system combined with the restructuring of Polish coal and steel industries led to a significant decline of demand in the 1990s. The gradual reduction in government subsidies further contributed to mounting losses.

The government's restructuring program commenced following the approval of the "Polish State Railways" Law in July 1995, which paved the way for the creation of separate lines of businesses—freight, passenger and infrastructure services. The Railway Transport Law of 1997 advanced reform efforts further by allowing private sector provision of certain railway services and by opening the track network to third-party domestic operators.

This initial organizational restructuring was accompanied by substantial reduction in employment, amid declining revenues and traffic volumes. Total employment in the group fell from more than 245,000 in 1994 to about 200,000 in 1999, which was primarily achieved through controls on recruitment and early retirement schemes facilitated through agreements with the trade unions. Despite these restructuring measures, the financial performance of the company remained poor into the late 1990s. In addition, the group had accumulated significant financial debt, including short-term liabilities to the social security and other state duties.

In response to this difficult situation, the government initiated the next wave of reforms following the approval of the "PKP Restructuring, Commercialization and Privatization" Law in September 2000. The organizational restructuring component of the program led to the establishment of PKP S.A., a holding company supervising 24 subsidiary companies established for the provision of passenger, freight, infrastructure, energy, traction, telecommunication and other services. The law also allowed PKP S.A. to divest partial or full ownership in its subsidiary companies, thus paving the way for future privatization efforts. Labor restructuring continued, leading to the reduction of staff by about 50,000 employees (to 150,000) within two years. The labor restructuring component of the program was financed through PKP's own funds as well as borrowing from EBRD, the World Bank, and private sector banks. A number of debt write-offs were carried out as well.

A third reform wave followed the approval of the new Law on Railway Transport in 2003. This introduced a more liberal licensing regime and encouraged private sector participation, including opening of the cargo network to international operators in 2006.

Prepared by Umidjon Abdullaev (EBRD).

Box 8. PKP Reorganization: From Cost-Cutting to Privatization Efforts *(continued)*

Despite these reform and restructuring efforts, the financial performance of PKP remain stretched. Lack of coordination and effective operational supervision within group subsidiaries, delayed privatization efforts, inefficient use of EU funds, and a still-high level of indebtedness (equivalent to $1.3 billion in 2011, with a substantial part denominated in foreign currency) were some of the culprits.

In 2012, the government appointed a new management team with a mandate to improve PKP's performance along a number of dimensions and reinvigorate delayed privatization efforts. The new team carried out several governance reforms including the introduction of the management by objectives (MBO) framework across subsidiaries to improve supervision, use of the strengthened and centralized internal audit function and wider use of external experts in strategic projects and operations.

Privatization efforts were revitalized as well, including the sale of PKP's cable car and funicular services subsidiary, listing of PKP Cargo on the Warsaw Stock Exchange and the sale of PKP's telecommunication and energy subsidiaries between 2013 and 2015. In addition, the company continued the sale of its redundant real estate assets and established a property development company to develop more attractive ones. Total employment was further reduced to about 70,000 in 2017. As a result of these efforts, the company managed to significantly reduce its indebtedness, and productivity improved.

The restructuring experience of PKP provides a number of important lessons for governments embarking on reforming underperforming SOEs:

- Problems may be so widespread and deep-seated that they may require several reform waves to be brought under control.
- The functional separation of distinct business and service lines is a prerequisite for restructuring, but it is not in itself sufficient to improve the financial and operational performance of an enterprise.
- Actions to reduce indebtedness, including through privatizations and a focus on core assets, helped stabilize the company's performance.
- Labor restructuring, although socially difficult, is unavoidable in companies where excess labor is an obvious financial liability.

The introduction of a professional management team, deployment of enhanced monitoring frameworks, strengthened internal audit and improved corporate governance practices appear to have significantly contributed to the success of reform efforts.

Box 9. The Slovalco Case: Supporting the Privatization of a Large Company Through the Back Door

Slovalco was created in 1994 as a subsidiary of ZSNP a.s., the Slovak state aluminum monopoly. The company's aim was to complete and operate a state-of-the-art smelter, enabling inefficient and polluting production units of ZSNP to be shut down.

In October 1994, the EBRD made an equity investment of $15 million in Slovalco and extended a loan of $110 million. In 2001, the EBRD purchased additional ordinary and preferred shares of Slovalco from ZSNP, alongside a strategic investor, the Norwegian state-owned aluminum company Hydro Aluminum A.S. (Hydro). EBRD's co-investment assisted Hydro in taking majority control in Slovalco and to facilitate the expansion of the company's aluminum smelter.

The early initial investment of EBRD helped to instill a strong corporate governance structure and hire well-qualified managers. Indeed, the new owner, Hydro was pleased with the quality of the Slovalco management and continued to hire managers locally.

The privatization of Slovalco, by providing large one-off funding, allowed the still state-owned ZSNP to restructure its obligations toward local financial institutions, greatly improving the chances of a later privatization. This happened in October 2002 when the National Property Fund sold its stake in ZSNP (74 percent) to a management vehicle backed by a local finance group, Penta. The new owners restructured ZSNP to focus on the casting business. Noncore businesses have been sold to strong foreign and local firms while employment reduced from 4,000 in 2002 to 1,000 in 2006.

Lessons Learned

Private investment in a state-owned company by an investor with a strong agenda can help build a proper corporate governance culture, contributing to superior economic and financial performance. Nevertheless, one should take into account that Slovalco was a newly established project company. The outcome could have been much weaker in the case of an existing company with an established corporate culture and vested interests.

Unbundling of activities and privatization of a subsidiary can help the commercialization (more efficient operation) of the parent company. While unbundling can help identify weak spots in the operations and eliminate cross-subsidization, the sale of the subsidiary might provide resources to improve the financial and operational performance.

Prepared by Peter Tabak (EBRD).

Box 10. Naftogaz Group (Ukraine) 2014 Restructuring

Naftogaz, Ukraine's largest natural gas producer and distributor, employs more than 75,000 people. The company has been historically loss making, with negative earnings of about $7.6 billion in 2014 (about 5.8 percent of GDP).

With prospects of a severe crisis in 2014, the Ukrainian government and its international institution partners (EBRD, EU, World Bank, European Investment Bank, and IMF) were actively engaged in reforming the gas sector and ensuring financing for critical investments to rehabilitate the transmission network and to increase energy supply reliability. The EBRD (backed by a €150 million loan) focused on supporting Naftogaz and its subsidiary Ukrtransgaz (UTG) to undertake a comprehensive reform of their corporate governance practices. The main objectives were to: (1) reduce state interference within the company's management; (2) separate the ownership, regulatory and policy-making functions; (3) establish an empowered, independent and qualified supervisory board in Naftogaz; and (4) strengthen the group's internal controls and transparency.

After three months of negotiations, the Ukrainian government approved a three-phase corporate governance action plan in October 2015:

1. Insulating Naftogaz from political inference and allow it to start operating as a company, including the clarification of the ownership structure, the approval of a new charter, defining the role of shareholders, the supervisory board, committees, internal audit, compliance, anticorruption, risk management, and the introduction of a transparent nomination policy for the supervisory board based on clear qualifications and expertise;
2. Legislative and regulatory reforms that would allow . . .
3. . . . Naftogaz's governance structure to be aligned with the OECD Corporate Governance Principles and OECD Guidelines for Corporate Governance of State Owned Enterprises.

There was good progress for the first six months. Most notably, a new supervisory board made up of a majority of well-qualified and independent directors was in place (a first for an SOE in Ukraine). The positive effects of the reform were immediately apparent. The Naftogaz group made a net profit of around $1 billion in 2016 and paid dividends of about $500 million for that year. A government reshuffle in April 2016 led to a temporary slowdown and disruption (including resignation of the board), but a new board was back in place by November 2017—thanks to the coordinated effort of the government and Ukraine's partners from international institutions.

This box summarizes the findings in Cigna and Sheremeta (2018).

Box 10. Naftogaz Group (Ukraine) 2014 Restructuring *(continued)*

Legislative reforms have also been crucial. Most notable was a law on joint stock companies requiring boards of SOEs to have a majority of independent directors. However, other legislative efforts have met fierce resistance and remain blocked, including a legislative effort to empower SOE supervisory boards to approve the strategy and budget as well as to appoint and remove management, and to strengthen internal audit and objectives. As the draft law envisages a serious shift of authority, it has encountered fierce resistance.

Lessons Learned

The key lesson from the Naftogaz case is that corporate governance reforms need both pressure and culture. Constant and well-coordinated pressure (backed by financing, technical assistance and policy advice) from the international community is crucial to keep up the reform momentum and deliver results.

A second lesson is that creating a good corporate governance culture requires much more than just changing legislation or setting up corporate boards. In Ukraine, it has taken considerable time, measured in years, to develop an understanding of what *'corporate governance'* means. But once better understood, it has helped develop consensus for reform that is now taking place in a number of other SOEs in Ukraine.

Box 11. ESM: Sector Restructuring and Focused Privatization

In the early 2000s, Elektrostopanstvo na Makedonija (ESM) was a state-owned vertically integrated electric power company responsible for generation, transmission and distribution of electricity across North Macedonia. The sector had suffered from significant underinvestment and was characterized by aging infrastructure, inefficient assets and electricity theft, resulting in network losses of 20 percent or more.

Initial steps for restructuring the electricity sector were made in 2003, when an independent energy regulatory commission (ERC) was set up and preliminary reform strategy outlined. The strategy envisaged unbundling the incumbent, modernizing the regulatory environment, developing transparent and efficient electricity markets, introducing competition in compliance with EU directives and privatizing existing key assets via transparent and competitive tender. During 2003–04, electricity transmission, generation and distribution where moved into separate entities (MEPSO, ELEM, and ESM, respectively).

In 2005 North Macedonia became party to the treaty establishing the Energy Community, an EU initiative to expand the EU energy market framework to neighboring countries. The sector restructuring envisaged two separate market segments: (1) households, small industrial consumers and small and medium enterprises who pay the regulated price; and (2) large industrial electricity consumers operating in the liberalized market and consuming electricity through fully liberalized electricity markets.

The distribution company required enhancing management practices, investments to reduce both technical and commercial network losses, improving monitoring and metering practices, and increasing collection rates. The government considered a well-structured privatization of this segment to ensure new capital investments and reforms. The international tender attracted strong interest and the process was concluded in 2006 when ESM was sold to EVN, a listed Austrian utility company. At the same time, a cost-based tariff system was introduced but well-developed accounting systems in MEPSO and ELEM were lacking and auditing the application of the new methodology was difficult. The methodology was not fully cost-reflective, but eventually allowed for full pass-through of the wholesale regulated tariff to the retail one.

EVN focused on the key bottlenecks of the company's performance including the improvement of collection rates, the reduction of network losses, and debt collections. The company introduced measures aimed at improving payment discipline through strict adherence to disconnection policy in case of non-payments and delays (including for public entities) as well as negotiation and agreement of new payment terms for bad debt. Extensive work on improving internal management systems, reporting, and

Prepared by Umidjon Abdullaev (EBRD).

Box 11. ESM: Sector Restructuring and Focused Privatization *(continued)*

transfer of knowledge from the parent EVN was also carried out (for example, coaching of local managers). These efforts led to positive results: total collection rates increased from 74 percent in 2006 to more than 91 percent in 2014; and network losses were reduced from 24 percent in 2006 to about 14 percent in 2014. The financial position of the company continued to gradually improve, with ESM reaching positive net earnings in 2013.

There are multiple lessons from this experience with reforming the electricity sector. These include:

- Establishing a predictable legal and regulatory environment to support restructuring efforts (which received a boost from adoption of EU directives) should be coupled with strong political commitment to achieve well-defined economic objectives.
- The government's clear multi-year plan for the liberalization of the market increased the understanding, especially of foreign investors, of how the sector was expected to evolve, thus reducing uncertainty.
- The government's support to EVN in improving the environment for collecting payments and reducing electricity theft helped improve operational performance.
- Readiness to advance with tariff reform, with appropriate phasing and addressing potential affordability issues, helped mitigate concerns over the social costs related to the restructuring and reforms in the sector.

CHAPTER

8 Conclusions and Policy Recommendations

Conclusions

The results point to significant heterogeneity in the footprint and performance of state-owned entities across CESEE countries and sectors, but overall find deep inefficiencies tied to state ownership. Some governments have opted to stay completely out of a significant ownership role (many following privatizations) and some continue to have a significant and even increasing presence. In some isolated sector and country examples, SOEs and SOBs successfully compete head-to-head with their private counterparts, but the weight of the evidence presented suggests systematic underperformance tied to state ownership across a series of metrics. Broadly speaking, performance of SOEs is below that of private companies both with respect to revenues and costs (and by extension profitability), with negative consequences for productivity and growth. Indeed, the more dominant SOEs are in a given sector, the greater the overall inefficiencies. SOBs also underperform relative to private banks in most countries, with higher underlying balance sheet vulnerabilities relative to their private sector counterparts, though the patterns of relative performance (for example, income versus costs) are more mixed.

This study also points to risks from the government–SOE–SOB nexus. The case study of the Slovenian bank NLB is a cautionary tale of government ownership and lack of strategic oversight leading to a substantial fiscal and financial stability shock. Similarly, the case study examining the experience of Belarus and Serbia points to substantial fiscal costs from SOEs, and from SOE–SOB links. The fuzzy matching of SOB lending to SOEs also points to such risks and suggests weaker risk management (and by implication weaker underlying balance sheets) in SOBs.

The more targeted analysis of several countries in the region suggest there are substantial potential economic gains if the efficiency and performance gaps

can be overcome. The deeper analysis of Latvia, Serbia, and Slovakia suggests significant misallocation of labor. The case studies on Belarus, Croatia and Poland also support this. One consistency across the state-owned real and financial sector analyses is a finding of overemployment relative to their private sector counterparts.

However, this study also points to substantial obstacles to restructuring (and efforts to privatize). The case studies of PKP (Polish Railways), Slovalco (Slovak aluminum producer), Naftogaz (Ukrainian energy company), ESM (North Macedonian energy company), and NLB (Slovenian bank) point to both successful experiences (including the value of strategic investors, splitting business lines, and compliance with EU directives), but also great difficulties, often tied to political resistance and corporate cultures, but also substantial debt in the SOEs. The case study on Russia points to inefficiencies that emanate not only from state ownership, but also from other state policies (for example, procurement practices).

This paper finds little evidence that inefficiencies tied to state ownership can be justified by nonfinancial (social) objectives. The novel survey of CESEE government rationales for state ownership, and previous literature on SOBs, both point to multiple objectives, including provision of services and financial inclusion. Although identification of nonfinancial objectives of specific SOEs is beyond this study, we examined several outputs (infrastructure, financial inclusion) and found little evidence that state ownership supports such goals. The study found only partial evidence that SOEs and SOBs provide countercyclical benefits though their employment and lending practices. Although not definitive, these results, together with the significant underperformance tied to government ownership, suggest that using state ownership of companies and banks to pursue public policy objectives comes at a significant cost.

This study points to significant gaps in SOE governance, pointing to a potential avenue for better performance. The novel survey undertaken for this study indicates that most countries have room to align state policies more closely to best practices across a range of governance dimensions (ownership policy, financial oversight, and fiscal and policy interactions), although with significant variation across countries. A composite index of the various dimensions shows that the governance framework is strongest in some Baltic countries, whereas Belarus, Ukraine and some western Balkan countries have much scope for improvement. The results also suggest that the most politically difficult elements of governance, such as centralized oversight and stricter financial reporting (more IFRS compliance and aggregated reporting), still lie ahead for a number of countries. This matters because the paper also finds a positive correlation between how well a country ranks in terms

of SOE governance and how close this country's SOE performance is to the private sector benchmark.

Policy Recommendations

The findings of this study underscore that governments in the region should take a closer look—and continually reevaluate—how and why they engage in ownership of real and financial sector entities. The recommendations here offer broad guidance, but they would best be adjusted and tailored according to the institutional strengths and weaknesses across the region. This paper offers cautionary tales against simple de jure improvements (legislation; regulations) that do not translate into real implementation changes; the latter often requires sufficient political buy-in to overcome vested interests, and often a change in culture.

Countries should take a fresh look at the *rationale* for existing state ownership in particular sectors and firms. This should be tailored according to the country and sector, given heterogeneity of the state ownership scale and performance (and readily available data) across countries. These efforts should include:

- A frank assessment of the appropriateness of using public ownership in the real and financial sectors as a policy instrument, based on cost-benefit analysis and whether there are more efficient means to achieve the specific policy rationales given[1]
  - This could be done (initially) in a risk-based manner, focusing on those most at risk or of importance; for example, where there is evidence that state-owned performance is particularly lagging (such as agriculture and manufacturing, but also other sectors, including the financial sector, in some countries) and may pose stability risks;
  - In some countries (such as Belarus), this could initially take the form of a 'triage' approach, focusing on healthy and viable, unhealthy but viable, and unviable (that is, in need of liquidation) SOEs; and then moving to whether state ownership is justified;[2]
  - Supporting analysis, such as full assessment of government balance sheets (as argued in the recent IMF *Fiscal Monitor*), and a better understanding of the government–SOE–SOB nexus could help governments better identify risks and prioritize the use of scarce public resources;

[1]For example, channeling support for SME lending through commercial banks rather than a dedicated public bank; or directing fiscal resources for depressed regions through development programs and active labor market policies rather than by propping up unviable SOEs.

[2]Ukraine is following a 'triage' approach under its new 2018 framework, where it aims to group SOEs into three categories: (1) to remain under state ownership; (2) to be privatized; and (3) to be liquidated.

  - A priority should be placed on producing sound centralized data (with a strong role for the finance ministry) and on transparency, where not already in place.[3]

- Clarification of the objectives for SOEs and SOBs, and assessment (and accountability) of whether state-owned firms are achieving these objectives;
- Where a clear cost–benefit tested rationale for state ownership is lacking, the default should be divestment of state holdings or, at a minimum, of state control. To avoid 'fire sale' valuations, divestment would best be pursued in good economic times.

Countries should seek ways to *improve the performance* of SOEs and SOBs:

- Where governments opt for continued state ownership, there should be procedures in place for periodic assessment and accountability against objectives (this could be done in a risk-based manner, focusing on those most at risk or of importance), depending on institutional constraints. More specifically:
  - Operational and financial targets should be set annually, with rigorous evaluation of performance against these targets;
  - Performance should also be assessed relative to private sector comparators;
  - Wages should be evaluated against productivity and market levels, with excess employment levels reduced (with appropriate safety nets in place first);
  - New investment plans should be subject to full cost-benefit and feasibility analysis;
  - A prerequisite (priority) is sound and transparent data.

- As shown in several case studies, governments can benefit from bringing in international financial institutions or private actors as strategic investors, preferably with experience in the region, to help improve management and efficiency;
- Where objectives are not being met by public firms and banks, governments should have clear procedures in place for remedy or liquidation/sale that minimize political interference (but with sufficient social safety nets in place first).

It is also vital to address other identified shortcomings in *SOE governance*:

[3]This might also require a reassessment of the corporate structure (for example, shifting to a joint stock company model, and away from unitary enterprise model.

- Many countries need to strengthen their government ownership policy, including centralized and depoliticized management of state shareholdings, as well as simply better accounting for what the government owns;
- Selection of independent, nonpolitical and competent management and supervisory board members (hired at competitive wages) is a priority across the region;
- Many countries need to establish effective evaluation and management of fiscal risks arising from state ownership;
- Countries should review their legal frameworks governing state-owned entities;
- Even where adequate legal and regulatory frameworks exist on paper, countries need to focus on improving implementation of SOE governance policies.

Finally, governments in the region could *consider a broader regional coordination initiative*. This could follow the model of the Vienna Initiative, aiming for an exchange of lessons learned and developing consensus best practices tailored to the region, with peer review.

Annex 1. Definitions of SOE and SOB Used in the Paper

Annex Table 1.1. Definitions of SOE and SOB Used in Paper

	Data Sources	Definition	Sectoral Coverage
Chapter 2	National authorities.	Companies with the state (all levels of government, including the local level) share in the ownership of 25 percent or more. Only three countries answered using this definition. The most commonly applied definition was state ownership of at least 50 percent. See Annex 2 for country-specific definitions.	All sectors, excluding financial.
Chapter 4. A	Orbis.	State ownership of at least 25 percent, assets of at least USD100,000. See Annex 3.	Non-network sectors (agriculture, forestry, and fishing; manufacturing; construction; wholesale and retail trade; accommodation and food services; information and communication; professional, scientific, and technical services; administrative and support services; arts, entertainment, and recreation; and other services).
Box 2	Belarusian authorities.	SOEs are defined as fully owned by the state (republican and local levels) or with any state's share in the ownership, with at least 251 employees.	All sectors, excluding financial.
Box 3	Orbis.	State ownership of at least 25 percent.	All sectors.
Box 4	Orbis.	State has direct or ultimate shareholders of at least 25 percent.	All sectors, excluding financial.
Chapter 4. B	Central Statistical Bureau of Latvia (CSB) and Latvijas Banka (LB); Institute of Financial Policy (IFP) Slovakia; and the Serbian Business Registry Agency (SBRA).	Serbia: state ownership is reported by the firm; at least 5 employees; all levels of state ownership. Slovakia: state ownership is identified in the dataset assuming at least 50 percent state ownership and includes municipal-level SOEs as well as minority foreign shareholder presence. Latvia: includes SOEs, regardless of degree of state ownership are included as well as municipal-level SOEs. See Annex 5.	Serbia: all sectors, excluding financial. Slovakia: all sectors, excluding financial. Latvia: all areas of activity except self-employment, public institutions, credit institutions, and insurance companies.
Chapter 5. A-E	Fitch.	Banks with more than 25 percent state ownership and market share of at least 0.1 percent.	State-owed commercial banks.
Chapter 5. F	Fitch and Orbis.	SOE state ownership of at least 25 percent, assets of at least USD100,000. SOB state ownership of at least 25 percent and market share of at least 0.1 percent.	Non-network sectors (agriculture, forestry, and fishing; manufacturing; construction; wholesale and retail trade; accommodation and food services; information and communication; professional, scientific, and technical services; administrative and support services; arts, entertainment, and recreation; and other services).

Annex 2. SOE Data Survey

The survey included four groups of questions. The first group included the number of SOEs, size of the SOE sector (proxied by total assets), profitability, and the SOE share in total value added and employment in the economy. The second group focused on the SOE footprint in specific sectors of the economy. The third group focused on employment and wages in SOEs relative to private entities. The fourth group referred to main sources of SOE financing, including links between nonfinancial and financial SOEs.

The overall response to the survey was high, but the coverage and granularity of the received information varied across counties. Out of the total 21 countries surveyed, three either did not respond or provided no data (Kosovo, Montenegro, and the Russian Federation). Survey results revealed cross-country variations in how authorities define state ownership. Only three countries (the Czech Republic, Poland, and Serbia) submitted data based on the definition preferred for the study, that is, SOEs defined as companies where the state's share (including local government share) in the ownership is 25 percent or more. Although the majority of countries applied a 50 percent threshold for state ownership, the coverage ranged from any state ownership to entities specified directly in national laws. There were also gaps in replies to specific questions (except for five countries). Some of the caveats hindering the cross-country comparison were addressed by using additional data sources.[1]

[1]For instance, data on Russia were collected and processed by the IMF Representative Office in Moscow.

Annex Table 2.1. Summary of responses to the SOE Data Survey

	Non-financial SOEs data comparisons																				
	ALB	**BGR**	**BIH**	**BLR**	**CZE**	**EST**	**HRV**	**HUN**	**KOS**	**LVA**	**LTU**	**MDA**	**MKD**	**MNE**	**POL**	**ROU**	**RUS**	**SRB**	**SVK**	**SVN**	**UKR**
Returned survey?	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓
Reporting on SOE ownership above 25%?	>1%	>50%	Ownership structure	>50%	✓	>50%	>50%	>50%	non-financial, central government level	>50%; central government	>50%	100% stake (state, municipal enterprises); >25% stake in JSCs	>50%	✗	✓; ≥10 employees	>50%	100% + other cases	✓	>50%	Institutional units	State influence
1. SOE background information complete?	✗	✓	✗	✗	✓	✗	✓	✓	✗	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✓
2. SOE shares in each sector																					
Value added	✓	✓	✗	✗	✓	✗	✓	✓	✗	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓
Employment	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✗	✓
3. Employment data																					
Employment	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓	✓
Wages	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✓	✓	✓	✓	✓
4. Main lenders to SOEs	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓
Years																					
2005	✗	✓	✓	✗	✓	✓	✓	✗	✗	✗	✗	✓	✗	✗	✓	✓	✗	✓	✓	✗	✗
2010	✓	✓	✓	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓	✗	✓	✓	✓	✓
2016	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓

Notes: Kosovo and Russia data were supplied by IMF country teams.

Annex 3. Filtering and Cleaning the Orbis Sample

Filtering Procedure

For all CESEE countries, we retrieve unconsolidated financial statements where available and consolidated otherwise, discarding firms with limited financials.[1] We also delete all forms of financial institutions, foundations, and research institutes, retaining the "corporate" category of the entity type provided by Orbis. We further drop 9 sectors that are either natural monopolies or where private firms are barely represented.[2] Our coverage includes 10 sectors of economic activity where both SOEs and private firms operate side by side in the CESEE region. These sectors are agriculture, forestry, and fishing; manufacturing; construction; wholesale and retail trade; accommodation and food services; information and communication; professional, scientific, and technical services; administrative and support services; arts, entertainment, and recreation; and other services activities. Furthermore, we drop countries with fewer than 30 SOEs.

Data Cleaning

We delete observations where total assets, tangible fixed assets, current assets, current liabilities, and cost of employees are negative, and where total assets do not equal total liabilities and equity. We also restrict our sample to entities with total assets in excess of $100,000 and drop observations above and below the top and bottom 1 percentile of the distribution of ROE and ROA,

[1]Data for Albania, Belarus, Kosovo, and Ukraine are either incomplete or not available.

[2]We delete sectors of mining and quarrying; electricity and gas; water supply, sewerage, and waste management; public administration and defense; human health and social work; transportation and storage; education; real estate activities (dominated by SOEs); activities of households as employers; and activities of extraterritorial organizations and bodies.

respectively. All in all, we end up with about 10,000 SOEs and 57,000 private firms each year over 2014–16 (see Annex Table 3.1).

Annex Table 3.1. Orbis Firm Coverage
(Number)

	2014		2015		2016	
Country	**Private firms**	**SOEs**	**Private firms**	**SOEs**	**Private firms**	**SOEs**
Bosnia and Herzegovina	63	8	64	8	64	8
Bulgaria	6,022	151	6,024	152	6,032	151
Croatia	2,081	204	2,076	204	2,075	203
Czech Republic	4,192	235	4,187	233	4,184	231
Estonia	2,075	33	2,080	33	2,084	33
Hungary	953	117	956	116	953	117
Latvia	894	86	889	84	888	84
Lithuania	58	6	60	6	59	5
Moldova	28	9	26	9	28	9
Montenegro, Rep. of	33	9	32	9	31	9
North Macedonia	593	59	592	60	593	60
Poland	6,114	644	6,103	639	6,097	637
Romania	5,055	264	5,040	265	5,039	262
Russia	14,930	5,669	14,907	5,666	14,888	5,668
Serbia	1,882	370	1,885	374	1,872	370
Slovak Republic	3,925	107	3,925	109	3,928	108
Slovenia	1,410	157	1,414	159	1,407	158
Ukraine	6,629	1,915	6,638	1,919	6,638	1,922
Total	*56,937*	*10,043*	*56,898*	*10,045*	*56,860*	*10,035*

Annex 4. Resource Misallocation and Total Factor Productivity

The analysis relies on the misallocation framework developed by Hsieh and Klenow (2009) and solution approach by Dias, Marques, and Richmond (2016). Note that the total amounts of inputs are fixed, which allows us to calculate how much output increases by reallocating resources between firms within each industry and makes potential output gains coincide with TFP gains.

To calculate the output effects of SOEs being as efficient as the private sector at allocating resources, we rely on equation (16) from Hsieh and Klenow (2009), which states that when A and $TFPR$ are jointly log-normally distributed, there is a closed-form solution for aggregate TFP:

$$log\, TFP_s = \frac{1}{\sigma - 1} log\left(\sum_{i=1}^{M_s} A_{si}^{\sigma-1}\right) - \frac{\sigma}{2} var\left(log\, TFPR_{si}\right)$$

The first term is assumed to be constant, whereas the second term is made up to two components: private firms and SOEs. We calculate the output gains if all firms operate like the private sector and compare them to the output gains achieved if all firms function like SOEs. The ratio of the two is then the gains from the SOEs becoming as efficient as the private sector.

$$log\, TFP_s^{PRI} - log\, TFP_s^{SOE} = \frac{\sigma}{2}\left[var\left(TFPR_{si}\right)^{PRI} - var\left(TFPR_{si}\right)^{SOE}\right]$$

Adjusting for SOE size and industry size we then have:

$$Y^{*SOE} = \prod_{s=1}^{S} exp\left(\theta_s\left(\frac{\sigma}{2}\left[var\left(TFPR_{si}\right)^{PRI} - var\left(TFPR_{si}\right)^{SOE}\right]\right)\right)$$

And aggregate economy-wide output effect can be expressed as:

$$Y = \left\{\prod_{s=1}^{S} exp\left(\theta_s\left(\frac{\sigma}{2}\left[var\left(TFPR_{si}\right)^{PRI} - var\left(TFPR_{si}\right)^{SOE}\right]\right)\right)\right\} \frac{Y^{SOE}}{Y^{total}}$$

Annex 5. Calculating Resource Allocation Efficiency Using Firm-Level Data

We use three separate firm-level datasets in our analyses:

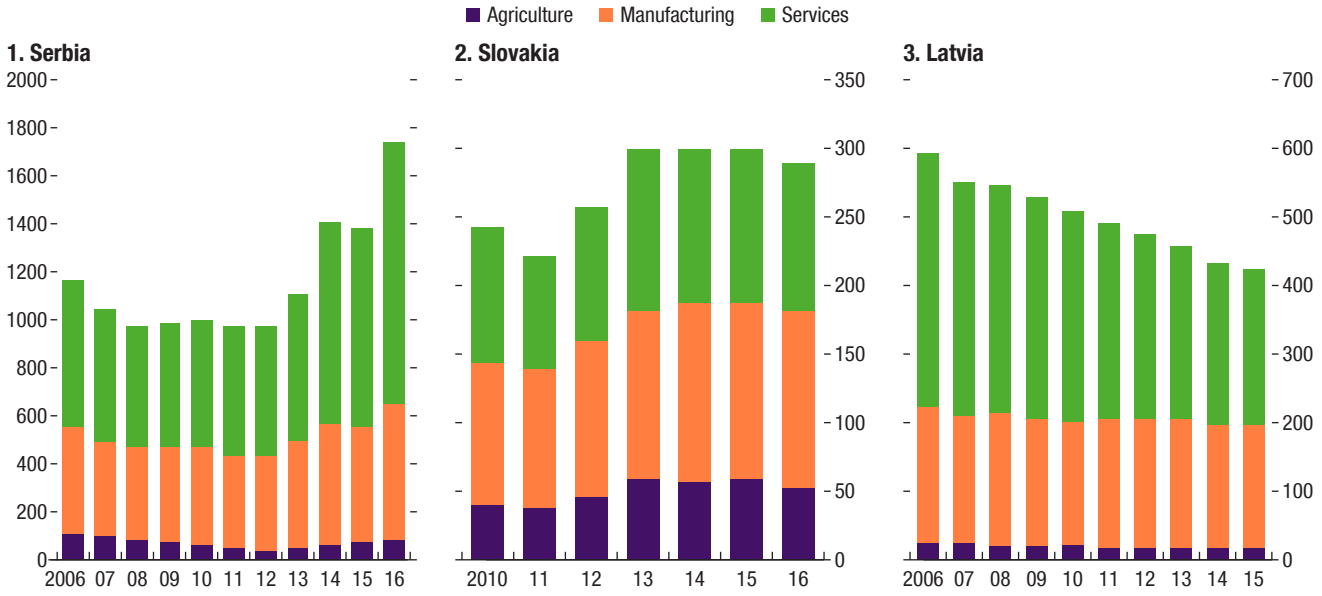
Serbia

The data on Serbian firms were provided by the Serbian Business Registry Agency (SBRA) and includes all firms with at least five employees for the years 2006–16. The dataset covers about 25 percent of reporting firms and 90 percent of reported employment in firms. Information is available on the firm's balance sheet, income statement, NACE rev2 four-digit classification, age, and employment. The financial sector is excluded from the analysis. State ownership is reported by the firm; information on shareholders is not available.

Slovakia

The data on Slovak firms were provided by the Institute of Financial Policy (IFP) within the Slovak Ministry of Finance. The database covers the entire population of firms with business in Slovakia from 2013–16 (excluding self-employed) and includes information on legal, sectoral, geographical, and operational aspects; financial profile including funding sources; and employment. For 2004–12, only a subset of firms is captured as submission of financial statements was voluntary. The financial sector is excluded from the analysis. The definition of SOE used in the analysis includes SOEs with at least 50 percent state ownership and includes municipal-level SOEs.

Annex Figure 5.1. SOE Footprint
(Percent of SOEs)



Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond, and Witteman (2019); IMF staff calculations.

Latvia

The data on Latvian firms were provided by the Central Statistical Bureau of Latvia (CSB) and Latvijas Banka (LB). The dataset covers all firms with at least one employee for the years 2006–15. It captures all areas of activity, except self-employed, public institutions, credit institutions and insurance companies. Information is available on the firm's balance sheet, income statement, profit and loss, employment, external assets and liabilities. State ownership is captured through ownership shareholder information. The definition of SOE is broader than that reported by the authorities in Chapter 2 as it includes SOEs with state ownership below 50 percent as well as municipal level SOEs.

We use the wage bill paid by the firm to measure labor inputs. This means that $H_{si} = w_{si}L_{si}$ and W_s=1, where L_{si} is employment and w_{si} is the firm-specific average wage rate. For the rental price of capital, R_s, we use 10 percent, an average depreciation rate of 5 percent plus a 5 percent real interest rate. Output, $P_{si}Y_{si}$ is measured as value added, and capital, K_{si}, is intangible and tangible assets at the end of the year. The elasticity of substitution, σ, is set at 3.

Annex Figure 5.2. SOE Characteristics

Sources: SBRA; IFP; CSB; LB; Benkovskis and Richmond (2019); Peciar, Richmond and Witteman (2019); IMF staff calculations.

Before computing any gains from reallocation, we trim the 1 percent tails of $log(TFPR_{si}/TFPR_s^*)$ and $log(A_{si}M_s^{\frac{1}{\sigma-1}}/TFP_s^*)$ across industries, where $TFP_s^* = (\sum_{i=1}^{M_s} A_{si}^{\sigma-1})^{\frac{1}{\sigma-1}}$.

Annex 6. Effect of State Ownership on Productivity

To answer the question of the relative performance of SOEs we estimate the following equation:

$$ln\left(\frac{TFPQ_{sit}M_{s}^{\frac{1}{\sigma-1}}}{TFP_{s}^{*}}\right) = \alpha + ln(age_{it}) + SOE_{it} + sector_{s} + year_{t} + \varepsilon_{it}$$

where the dependent variable measures the productivity versus the industry average and SOE_{it} is a dummy variable equal to one when the firm is state-owned. Depending on data availability, we replace SOE_{it} with more specific SOE-ownership details (degree of state-ownership or government level of SOE). In the case of Latvia, we also include lagged employment to control for size. The omitted group is private firms. Our preferred regressions are presented in column 5 with NACE2 × Year fixed effects to allow industry effects to vary by year.

Annex Table 6.1. Serbia: TFP by Ownership

	TFPQ				
	(1)	(2)	(3)	(4)	(5)
State ownership	**0.148**	**−0.231*****	**0.147**	**−0.230*****	**−0.237*****
	0.097	0.031	0.096	0.031	0.030
Ln(Age)	−0.021	−0.023*	−0.024	−0.025*	−0.028**
	0.019	0.013	0.020	0.014	0.014
Constant	0.038	0.103***	0.045	0.107***	0.116***
	0.047	0.033	0.049	0.035	0.035
F.E.					
NACE2		Yes		Yes	
Year			Yes	Yes	
NACE2 × Year					Yes
No. observations	176,082	176,082	176,082	176,082	176,078

Note: The dependent variable is the deviation of log TFPQ from the industry efficient levels. Robust standard errors are shown clustered at the firm level. Stars denote significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Firms with less than 5 employees are excluded.

Annex Table 6.2. Slovakia: TFP by Ownership

	TFPQ				
	(1)	(2)	(3)	(4)	(5)
State ownership	**−0.077**	**−0.209**	**−0.077**	**−0.203**	**−0.179**
	0.231	0.279	0.232	0.277	0.271
Municipal ownership	**−0.788*** **	**−0.699*** **	**−0.786*** **	**−0.694*** **	**−0.653*** **
	0.113	0.214	0.113	0.212	0.195
Government-International mix	**−0.020**	**−0.537**	**0.000**	**−0.505**	**−0.149**
	0.574	0.636	0.549	0.620	0.430
Ln(Age)	0.050	0.067**	0.053	0.066**	0.068**
	0.048	0.030	0.047	0.031	0.029
Constant	0.458***	0.421***	0.452***	0.422***	0.414***
	0.140	0.083	0.133	0.082	0.075
F.E.					
NACE2		Yes		Yes	
Year			Yes	Yes	
NACE2 × Year					Yes
No. observations	70,748	70,748	70,748	70,748	70,734

Note: The dependent variable is the deviation of log TFPQ from the industry efficient levels. Robust standard errors are shown clustered at the firm level. Stars denote significance: *** p < 0.01, ** p < 0.05, * p < 0.1. Firms with less than 10 employees are excluded.

Annex Table 6.3. Latvia: TFP by Ownership

	TFPQ				
	(1)	(2)	(3)	(4)	(5)
100 percent state ownership	**0.0218**	**−0.0736**	**0.0165**	**−0.0793**	**−0.0685**
	0.08212	0.06684	0.08033	0.06645	0.06677
100 percent municipal ownership	**−0.2223*** **	**−0.376*** **	**−0.2191*** **	**−0.3726*** **	**−0.3719*** **
	0.06554	0.07602	0.06648	0.07722	0.0782
>=50% state, no foreign share	**−0.0649**	**−0.2345** **	**−0.086**	**0.25267** **	**−0.2079*** **
	0.08044	0.09487	0.08973	0.10362	0.07521
>=50% state, some foreign share	**0.1809*** **	**0.42544*** **	**0.19211*** **	**0.43895*** **	**0.45229*** **
	0.03821	0.14831	0.03807	0.1442	0.146
<50% state, no foreign share	**−0.0594**	**−0.0175**	**−0.0518**	**−0.008**	**−0.0043**
	0.09027	0.07611	0.08835	0.07441	0.07465
<50% state, >50% foreign share	**0.01699**	**0.17456**	**0.01034**	**0.16944**	**0.18429** **
	0.10335	0.0791	0.10447	0.07957	0.07904
<50% state, <=50% foreign share	**0.01549**	**0.15388**	**0.01684**	**0.15312**	**0.01525**
	0.0759	0.19067	0.07707	0.18879	0.23483
Foreign	0.14889***	0.19758***	0.14461***	0.19392***	0.19123***
	0.02348	0.02175	0.0237	0.02181	0.02017
Ln(Age)	−0.0558***	−0.0454***	−0.0686***	−0.0608***	−0.0655***
	0.01515	0.01464	0.01628	0.01587	0.01536
Ln(Employment)t-1	0.28793***	0.33637***	0.29138***	0.34078***	0.34107***
	0.00799	0.07385	0.0008	0.0077	0.00722
Constant	−0.6697***	−0.8679***	−0.6549***	−0.8435***	−0.8035***
	0.03311	0.04309	0.03421	0.04415	0.06469
F.E.					
NACE2		Yes		Yes	
Year			Yes	Yes	
NACE2 × Year					Yes
No. observations	213,555	213,555	213,555	213,555	213,555

Note:s. The dependent variable is the deviation of log TFPQ from the industry efficient levels. Robust standard errors are shown clustered at the firm level. Stars denote significance: *** p < 0.01, ** p < 0.05, * p < 0.1. Firms with less than 10 employees are excluded.

Annex 7. State-Owned and Private Banks

Sample Coverage

The analysis is based on bank-level data on balance sheet and income components from the Fitch database. Our sample covers information on close to 500 banks in 11 countries with SOB presence for the 2006–16 period. The sample is unbalanced, with an increasing number of banks in the sample closer to the end of the period (Annex Table 7.1).

Annex Table 7.1. Bank Sample Coverage by Year and Country

Number of observations by type of bank: Private vs SOB vs development bank					Number of observations by bank category and country within the sample (market share > = 0.1 percent)				
	Private	SOB	DevBank	Total		Private	SOB	DevBank	Total
2006	221	23	10	254	BLR	163	42	5	210
2007	220	25	11	256	BIH	238	11	0	249
2008	217	26	11	254	BGR	217	11	11	239
2009	235	27	11	273	HRV	237	33	11	281
2010	241	30	11	282	HUN	274	28	22	324
2011	250	29	11	290	POL	322	45	11	378
2012	267	28	12	307	ROU	230	11	11	252
2013	286	29	12	327	RUS	103	44	32	179
2014	251	29	12	292	SRB	252	42	0	294
2015	242	34	12	288	SVN	159	20	11	190
2016	222	34	12	268	UKR	457	27	11	495
Total	2,652	314	125	3,091	Total	2,652	314	125	3,091

The Fitch data provide good coverage (above 70 percent) of banking sector total assets in most countries in the sample (Annex Table 7.2). The notable exceptions are Ukraine (63 percent average) over the 2006–16 period, and Russia and Serbia at the beginning and end of the sample, respectively. Hungary and Belarus also have a few years of low coverage in the middle of the sample.

Annex Table 7.2. Coverage

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
BLR	81%	81%	80%	81%	108%	60%	103%	97%	52%	82%	97%
BIH	87%	89%	79%	85%	81%	83%	90%	92%	80%	87%	81%
BGR	67%	87%	77%	89%	85%	78%	82%	82%	77%	87%	85%
HRV	81%	100%	89%	100%	94%	88%	80%	95%	85%	91%	88%
HUN	88%	74%	64%	82%	64%	66%	86%	86%	76%	83%	79%
POL	80%	92%	66%	91%	84%	75%	89%	85%	78%	85%	80%
ROU	96%	85%	76%	86%	67%	64%	83%	81%	72%	78%	76%
RUS	54%	57%	62%	61%	63%	67%	73%	75%	81%	79%	73%
SRB	89%	92%	73%	83%	82%	78%	89%	90%	62%	66%	61%
SVN	89%	100%	87%	97%	95%	86%	84%	88%	83%	85%	84%
UKR	58%	62%	47%	62%	68%	61%	65%	77%	59%	69%	62%

Note: "Coverage" reflects total banking assets based on Fitch in percent of total assets of the banking sector reported in the IMF FSI database. Figures greater than 100 percent point to discrepancies across data sources.

Average asset size (Annex Figure 7.1). SOBs (defined as banks with larger than 25 percent state ownership) and DBs tend to be larger than private banks in terms of the size of assets. In the sample, larger banks tend to be more profitable, likely due to their economies of scale (smaller fixed costs relative to total assets). This implies that the size of banks (market share) needs to be controlled for when assessing the differences in profitability of private banks versus SOBs.

The private versus state-owned financial indicators means (controlling for market share) are calculated in a multistep procedure:

1. The mean of a financial indicator (y_i) for the private banks equals the intercept (α) of the following equation estimated by least-squares dummy variable (LSDV) method:

$$y_i = \alpha + \beta_1 * market\_share_i + \beta_2 * d\_SOB_i + \varepsilon_i \quad (1)$$

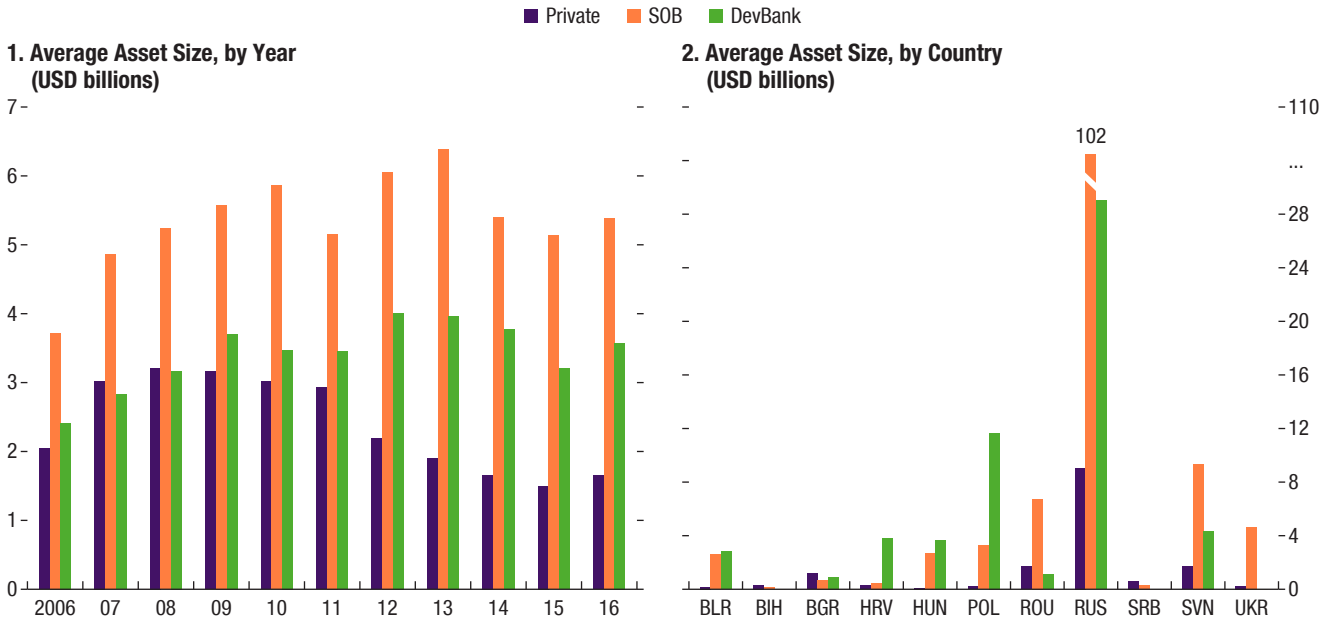
   where market_share is standardized to zero, so the mean refers to the value of the financial indicator in a bank with average market share.

2. The difference in the mean of the financial indicators of private and state-owned banks are given by the β_2 coefficient of the modified version of the above equation, which includes country and time fixed effects:

$$y_i = \alpha + \beta_1 * market\_share_i + \beta_2 * d\_SOB_i + FE_{country} + FE_{time} + \varepsilon_i \quad (2)$$

3. The mean of SOBs is then calculated as the sum of the mean of private and the difference ($\alpha + \beta_2$).

Annex Figure 7.1. Average Asset Size by Bank Category



Sources: Fitch; and IMF staff calculations.

4. The time series means for private banks are calculated as the sum of the intercept and time FEs from the modified version of (1) which includes time fixed effects:

$$y_i = \alpha + \beta_1 * market\_share_i + \beta_2 * d\_SOB_i + FE_{time} + \varepsilon_i \qquad (1')$$

5. The difference in the mean of the financial indicators of private and state-owned banks are given by the β_2 coefficient of the interaction term of time FE and d_SOB from the modified version of (2):

$$y_i = \alpha + \beta_1 * market\_share_i + \beta_2 * d\_SOB_i * FE_{time} + FE_{country} + FE_{time} + \varepsilon_i \qquad (2')$$

6. The time series means of SOBs is then calculated as the sum of the time series mean of private and the time-varying difference.

Annex Table 7.3. State-Owned Banks and Development Banks in the Sample

SOB	Average market share in 2006–16	DevBank	Average market share in 2006–16
		BELARUS	
Bank Moscow-Minsk JSC	1.2%	Development Bank of Republic of Belarus	6.9%
Belarusbank	35.3%		
Belinvestbank, OJSC	5.5%		
Joint Stock Company Belagroprombank	18.8%		
Opened Joint Stock-Company Paritetbank	0.4%		
		BOSNIA AND HERCEGOVINA	
Union Banka d.d. Sarajevo	1.0%		
		BULGARIA	
Municipal	1.3%	Bulgarian Develpoment Bank	1.0%
		CROATIA	
Croatia Banka	0.5%	Hrvatska banka za obnovu I razvitak	5.3%
Hrvatska Postanska Bank	3.8%		
Jadranska Banka	0.6%		
		HUNGARY	
Budapest Bank	2.6%	Hungarian Export-Import Bank Private Lim	1.0%
FHB Kereskedelmi Bank	1.0%	MFB Hungarian Development Bank Private L	3.4%
FHB Mortgage Bank Company	2.2%		
Granit Bank	0.5%		
MKB Bank	5.2%		
		POLAND	
Alior Bank S.A.	2.7%	Bank Gospodarstwa Krajowego	3.1%
Bank Ochrony Srodowiska	1.1%		
Bank Pocztowy SA	0.4%		
Pekao Bank Hipoteczny SA	0.1%		
PKOBP	13.6%		
		ROMANIA	
CEC Bank S. A.	5.5%	Eximbank Romania	0.9%
		RUSSIA	
Bank VTB (JSC)	14.2%	Russian Agricultural Bank	2.6%
CJSC Bank VTB24	2.7%	Russian Regional Development Bank	0.2%
Gazprombank (Joint-stock Company)	5.9%	Vnesheconombank	5.3%
Sberbank of Russia	27.9%		
		SERBIA	
Banka Postanska Stedionica A.D. Beograd	2.0%		
Jubmes banke a.d., Beograd	0.4%		
Komercijalna Banka ad Beograd	9.8%		
Srpska Banka AD	0.6%		
mts banka a.d. Belgrade	0.2%		
		SLOVENIA	
Abanka d. d.	8.3%	SID Bank Inc Ljubljana	6.2%
Nova Ljubljanska banka	25.3%		
		UKRAINE	
Oschadbank	6.1%	UkrEximbank	6.1%
PJSC CB PrivatBank	10.9%		
Rodovid Bank	0.6%		
Ukrgazbank	1.6%		

Annex 8. Matching Banks and Firms

Orbis firm-level data provide the name of the main bank a firm is working with.[1] Coverage is incomplete, and in some countries only a few firms provide the name of their main bank counterpart (see Annex Table 8.1).

Orbis bank names are matched to Fitch bank names using fuzzy matching techniques. Since firms do not report the exact official name of their main bank and may provide names in national language rather than English, no exact matching between the official Fitch name of the bank and the Orbis name provided by the respective firm is guaranteed. Therefore, a matching technique is needed.

A fuzzy match algorithm allows automating part of the matching. To match the databases, (1) all national language symbols are eliminated (for example, from "é" to "e"); (2) all letters are converted to lower case; (3) all nonalphabetic symbols and punctuation are eliminated (for example, "&"); (4) whenever the remaining words have more than four characters, vowels are eliminated; and (5) all blank spaces between letters are eliminated. This procedure reduces the banks' names to a single stem with only consonants. The stem from the Orbis dataset are then compared to all Fitch banks' stem for each country. Whenever there is an exact match, the relevant Orbis firm identifier is associated with the respective actual Fitch bank name. This procedure generates most matches (in some countries).

The remaining unmatched names are matched manually, to the extent possible. Where names are not exactly matched according to the above procedure, a similarity score is computed based on the comparison of a firm's bank name stem and all Fitch bank name stems. Focusing on cases where the similarity

[1]Orbis also provides bank identifiers, which would make a match with the relevant bank entry in the ORBIS data simple. However, Orbis bank data start in 2011 and Fitch bank data start in 2006.

Annex Table 8.1. Matched Firm-Bank Data

Firm-Year observations	Share of country data from ORBIS sample		
	Not matched		
	No name matched	No bank data	Matched
11,350	0.03	0.08	**0.89**
18,150	0.04	0.00	**0.96**
1,311	0.20	0.07	**0.73**
6,516	0.42	0.08	**0.50**
16,654	0.32	0.03	**0.64**
13,393	0.11	0.26	**0.63**
15,228	0.00	0.03	**0.97**
82,602	0.13	0.07	**0.79**

score is high and comparing the actual names in those cases allow for some further matches. In a next step the remaining unmatched bank names are inspected and compared to the entire existing list of banks in the country for a match (for example, based on a variation of the name that the algorithm could not capture, as would be the case for an inverted order of elements in a bank's name). Finally, the remaining unmatched bank names are compared to banks that have either been renamed or bought by existing banks in the Fitch data using outside information. If this last step is unsuccessful, the bank name remains unmatched.

The resulting dataset provides good coverage for selected countries. Annex Table 8.1 indicates the total number of firm-year observations in the Orbis dataset employed in this study (by country), and how many could be matched using this approach. It shows that for the overall sample, 87 percent of 82,602 firm-year observations are associated with a bank name (this excludes those countries for which either no bank names are provided in Orbis such as Bulgaria or Romania) or those countries for which bank names exist but no or very few SOE–SOB links could be identified/exist (Estonia, Lithuania, Moldova, North Macedonia, and Montenegro). Another 7 percent could not be matched due to missing bank financial data in the given year/country with a corresponding Fitch bank entry. Thus, of the total sample, 79 percent could be matched. For individual countries, such as Croatia or Slovenia, these values are relatively higher and there is also a decent number of total firms covered, whereas for others such as Hungary and Latvia coverage is low.

The estimation equation is given by: $Y_{c,i,t} = \alpha_c \cdot SOE_{c,i} + \beta_c \cdot SOB_{c,i} + \gamma_c \cdot SOE_{c,i} \cdot SOB_{c,i} + X_{c,i,t} + \varepsilon_{c,i,t}$, where Y stands for an indicator of firm i in country c at time t, SOE is a dummy taking on the value 1 if the firm is state-owned and zero otherwise, SOB is a dummy taking on the value '1' if the firm's main bank is a state-owned bank and zero otherwise and X includes country-sector-year fixed effects and firm age as a control. The relevant metrics are thus based on $\alpha = \frac{1}{C}\sum_{c=1}^{C}\alpha_c$ and similarly for β and γ. Hence, estimates are based on simple cross-country averages of conditional country means, controlling for country-sector-year fixed effects and firm age.

Annex 9. SOE Governance Index

A new survey conducted in Summer 2018 by IMF staff of CESEE country authorities assesses corporate governance policies against international best practices. The survey includes 18 questions comparing governance frameworks with OECD guidelines in the areas of ownership policy, financial oversight, and fiscal links between SOEs and governments (OECD 2015).

Ownership Policy

This section covers areas of organizational structure within the government decision making, legal framework, interaction between government and SOE boards and management, as well as board/management selection. There are eight questions in this section accounting for 8.5 points out of the total 16.5 points in the entire survey (52 percent section weight). The questions and answers weights are as follows (Annex Figure 9.1 and Annex Table 9.1).

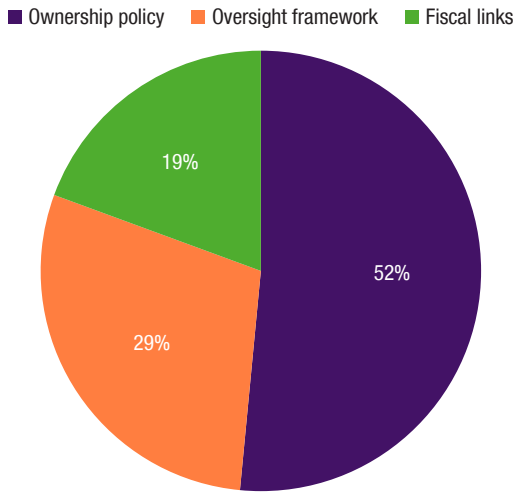
Financial Oversight Framework

This section covers SOE audit requirements and standards, and SOE reporting requirements. There are six questions in this section accounting for 4.8 points out of the total 16.5 points in the entire survey (29 percent section weight). The questions and answers weights are in Annex Table 9.2.

Fiscal Links

This section covers SOE mandate, and financial interactions and oversight with the government. There are four questions in this section accounting for 3.2 points out of the total 16.5 points in the entire survey (19 percent sec-

Annex Figure 9.1. SOE Governance Index Weights



Source: IMF staff.

tion weight). The questions and answers weights are in Annex Table 9.3.

Twenty-one Countries Responded to the Survey

All CESEE countries except Russia responded to the questionnaire. For Bosnia and Herzegovina, the answers of the two entity governments were consolidated into one score, using the lowest scores for each answer (Annex Table 9.4).

Annex Table 9.1.

Ownership Policy and Governance Framework	Score
1 Please select one of the following:	**1 weight**
There is a single list of SOEs operating in the country with full coverage of all existing SOEs.	1 points
There is a single list of SOEs operating in the country, but with partial coverage of SOEs operating in the country.	0.5 points
There are multiple lists of SOEs operating in the country with full coverage of all existing SOEs.	0.75 points
There are multiple lists of SOEs operating in the country, but with partial coverage of SOEs operating in the country.	0.25 points
There are no lists.	0 points
2 Are at least some SOEs categorized by policy or strategic relevance?	**0.5 weight**
Yes	1 point
No	0 point
3 Is it common practice to exempt at least some SOEs from some of the general laws on taxation, regulation or insolvency?	**1 weight**
Yes	0 point
No	1 point
4 How is SOE oversight organized in your government?	**2 weight**
There is no oversight unit within the government or as a separate administrative entity	0 point
SOE oversight is decentralized to sectoral ministries, other agencies or levels of government (i.e., municipalities, provinces, cantons)	0.25 point
Oversight is centralized within the government at least for a majority of SOEs (e.g. Ministry of Finance or Economy)	0.75 point
Oversight is centralized in a separate administrative entity for a majority of SOEs (holding company)	1 point
5 Is there an ownership policy document or documents, disclosed to the public that includes, for example, overall rationale for government ownership, the state's role in the governance of SOEs, how the state will implement its ownership policy, and the respective roles and responsibilities of those government offices involved in its implementation?	**1 weight**
Yes, the ownership document is publicly available	1 point
Yes. However, the ownership document is not publicly available	0.25 point
No. There is no ownership document	0 point
6 As common practice, the selection and/or nomination of board members, both executive and non-executive, is conducted by:	**1 weight**
A centralized unit tasked with SOE oversight	1 point
Cabinet	0.75 point
A centralized unit as a separate administrative entity (e.g. holding company)	1 point
Sectoral ministries or other agencies	0 point
Parliament	0 point
None of the above	0 point
7 Do legislative requirements call for a minimun/certain percentage of independent SOE board members, who are not representatives of the state:	**1 weight**
Yes – for all SOEs	1 point
Yes – for a subset of SOEs	0.5 point
No	0 point
8 Is it general practice for the SOE board or management selection processes to include explicitly formulated requirements for compentencies, experiences and skills, that are evaluated in a formalized, documented procedure?	**1 weight**
Yes – for all SOEs	1 point
Yes – for a subset of SOEs	0.5 point
No	0 point

Annex Table 9.2.

Financial Oversight	
1 As a general policy, does oversight unit(s) establish at least for a majority of SOEs:	**0.2 weight/each**
Annual financial performance targets	Yes - 1 point
Annual operational performance targets, such as production export or employment targets	Yes - 1 point
Annual financial performance evaluation	Yes - 1 point
Annual operational performance evaluation	Yes - 1 point
2 Is it common practice for annual financial statements of SOEs to be audited by independent external audit firms?	**1 weight**
No	0 point
Yes, for all SOEs	1 point
Only for a subset of SOEs	0.5 point
Only for state-owned banks	0.5 point
3 As a general rule, is it common practice to make audited financial statements publicly available?	**1 weight**
No	0 point
Yes, for all SOEs	1 point
Only for a subset of SOEs	0.5 point
Only for state-owned banks	0.5 point
4 Is it common practice for the oversight unit(s) to review audited financial statements?	**0.5 weight**
No	0 point
Yes, for all SOEs	1 point
Only for a subset of SOEs	0.5 point
Only for state-owned banks	0.5 point
5 Is it common practice for annual financial statements of SOE to be prepared according to international standards other than national standards (e.g, IFRS, US GAAP)?	**0.5 weight**
No	0 point
Yes, for all SOEs	1 point
Only for a subset of SOEs	0.5 point
Only for state-owned banks	0.5 point
6 Is there an aggregate public annual report that evaluates financial and operational performance of the SOE sector as a whole?	**1 weight**
Yes, there is an aggregate annual report and is publicly available	1 point
Yes, there is an aggregate annual report but it is not publicly available	0.25 point
No	0 point

Annex Table 9.3.

Fiscal and Policy Interactions with Government	
1 As a general policy, does oversight unit(s) establish dividend policy at least for a majority of SOEs	**0.2 weight**
Yes	1 point
No	0 point
2 Legislation generally provides for explicit non-commercial mandates for individual SOEs.	**1 weight**
Yes	1 point
No	0 point
3 The state provides financial support to SOEs by: (select all that apply)	**1 weight**
Transfer or subsidies – (budgetary support)	
On-lending or guarantees – (quasi-fiscal support)	
Preferential procurement or competition restrictions – (structural support)	
State has arms-length financial relations with SOEs	1 point
4 The MOF or relevant government institution has a fiscal risk assessment function and mechanism for addressing SOEs deemed at risk.	**1 weight**
Yes, the MOF or relevant government institution has a fiscal risk assessment function	1 point
Yes, there is a fiscal risk assessment function but it is not centralized	0.5 point
No, there is no risk assessment function	0 point

Annex Table 9.4.

	Number of countries in the survey	Number of respondents	Response rate	
	21	20	95.2	
		Summary Results		
	Total	Ownership policy	Oversight framework	Fiscal links
Max possible score	16.5	8.5	4.8	3.2
Max achived score	12.8	7.0	4.6	3.2
Min achived score	5.3	2.0	2.1	0.0
Avg achived score	8.9	4.0	3.4	1.5
Median	9.1	3.6	3.4	1.2

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