



Reform of State-Owned Enterprises for the Purpose of Economic Growth in the Republic of Serbia

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Abstract: This study on the performance of state-owned enterprises in Serbia has shown that the state has great difficulties managing the enterprises that are in its portfolio and under its control. The adaptation of state-owned enterprises to exogenous shocks unfolds at a slow pace and is faced with many problems. The institutional environment for the strategic restructuring of the state sector is not in the service of strengthening the efficiency of its business operation. The study has shown that the economic performance of state-owned enterprises exerts a direct influence on economic growth, the budget, government balance sheets, and debt. While healthy enterprises (the ones conducting their business successfully) are valuable state-owned property, enterprises with a loss or over indebted enterprises are obligations which demand intervention through the injection of additional capital or through other forms of help from the state. The main goal of restructuring state-owned enterprises is to improve responsibility and efficiency. The array of measures for improving efficiency ranges from modifications of the legal framework and corporate governance of socially owned enterprises (including corporatization and separation of activities) to the sale of property to the private sector or complete privatization. Reforms are aimed at improving the transparency and responsibility of state-owned enterprises, not just for the purpose of efficiency but also for the purpose of harmonization with the ethical and deontological requirements.

Keywords: State-Owned Enterprises, Structural Changes, Qualitative Business Performance, Reform Issues and Priorities

1. Introduction

'Reforms of strategic state-owned enterprises in Serbia are progressing at a slow pace, additional efforts are needed to strengthen corporate governance and ensure professional leaders in those enterprises' (Sebastian Sosa, IMF Resident representative in Serbia, February 20, 2020).

Although the process of privatization in Serbia has not yielded the expected results (due to corruption or other issues in privatization processes), the first decade of transition saw a rapid reduction in state ownership through a combination of privatization, bankruptcy, and restructuring. However, as a result of a series of factors – the 2008 financial crisis [12], the 2020 global pandemic, heightened social tensions, inequality, pressure on public services, pensions and social security networks, and intensified flow of migration – there has been a greater direct engagement of the state and a growth of the state sector in all transition countries. A justification for greater

presence of the state was found in the correction of market deformations and the accomplishment of strategic or social goals. Although in part this can be justified by a high rate of unemployment, depressed regions and devastated industries, and the maintenance of "priority" sectors (the defense industry, etc.), the overwhelming impression, based on the study of business operation of enterprises in the state portfolio, is that many state-owned enterprises still exist and survive without any clear rationale, chiefly as a relic of unfinished transition and privatization or acquired interests [9].

The topic of research in this paper is the impact of inefficient business operation of state-owned enterprises on economic growth. The goal is to make a critical overview of the key performance characteristics of state-owned enterprises' business operation and to point out the necessity of their restructuring to the creators of economic policies. The basic

research hypothesis has sprung from the goal of this study: restructuring state-owned enterprises positively affects macroeconomic stability, economic growth, and brings about better efficiency in business operation of the economy. State-owned enterprises are a byword for inefficiency of business operation, they are permanent users of direct budget investments, by means of which they bring about an increase in public spending and fiscal imbalance (). State-owned enterprises also receive different forms of indirect subsidies, such as state guarantees for loans and toleration of unpaid taxes, which results in increased current and future public expenditures and decreased public revenues (Stojanović & Stanišić, 2015). An increase in the efficiency of the state sector's business operation would result in considerable fiscal savings and bring about a total increase in the efficiency of the national economy. More efficient business operation of the state sector and increased responsibility in management would reduce direct and indirect budget subsidies at all levels of management (republican, provincial, and local).

The basic coordinates of this study have determined the structure of this paper. The paper consists of three mutually related parts: the first part shows basic reasons for the inefficiency of state-owned enterprise management in transition countries, the second part points to the methodological character of this study, whereas the third part analyzes the basic results of the study. The conclusion shows the basic modes of restructuring state-owned enterprises in Serbia as serving the purpose of greater economic growth.

2. The Inefficient Institutional Framework of State-owned Enterprise Management in Transition Countries

Research into the efficiency of the institutional framework of state-owned enterprise management in transition countries has revealed that the business operation of state-owned enterprises increases risks [1], above all, in three areas: a) functioning of the market, b) public finance, and c) financial stability.

A comparative analysis of the role of state-owned enterprises in Central European, East European, and South European transition countries (CESEE) has revealed that state-owned enterprises (SOE) make up a considerable share of economic activities, though with great variations between countries and sectors (in most countries the SOE make up at least 5% of total employment or total Gross Value Added, but in Poland and Russia this share amounts up to around 15%, and in Belarus even up to 30%). The SOE are concentrated in natural monopoly sectors, but they are also present, to varying degrees, in other sectors such as mining, agriculture, production and services. In all transition countries, the SOE sector has, in systematic terms, a significantly poorer rate of efficiency in comparison with the private sector [3], primarily due to the following reasons: (1) it generates a lower income per one employee, (2) it pays higher salaries than is the case with private enterprises [18], and (3) it is much less efficient. The unequivocal conclusion is that poor management of

state-owned enterprises is at the root of the problem, whether it is the field of ownership policy (the lack of balance between active governmental engagement and delegation to the independent supervisory boards and boards of directors at SOE) that we are discussing or modalities by which governments supervise the financing of these enterprises and manage the relations between state-owned enterprises and national budgets [11]. In any case, the analysis of transition countries shows that greater state ownership is not a good way to achieve faster growth and convergence – quite the contrary [4].

State-owned enterprises in all EU countries make up a large share of property and employment (in OECD countries, more than 6 million workers are employed in majority-owned SOE), and they are specially concentrated in so-called “network industries” (energy and transportation systems) where the *spillover* effects on the rest of the economy are extremely important [13-15]. In the EU, the state sector is particularly large, because of historical heritage, in transition member-states such as Poland, Croatia, Romania, and Slovenia. However, SOE are also prominent in some member-states of the EU-15, such as France, Italy, and Sweden. The European Commission's analyses of the 2008 global recession's effects show that in EU countries the profitability of SOE in key “network sectors”, such as energy and railways, remained positive and quite stable during the crisis, although there are differences between the national and subsector levels. In transition countries, the return of capital in private enterprises is, in the majority of cases, considerably higher than in SOE [6], but analyses have shown that, in the periods of recession, the profitability of public enterprises was more resistant to the crisis (because the private sector registered a greater fall in production).

In 2018, Serbia was ranked 15th of 20 Central and East European transition countries which were evaluated based on the management of state-owned enterprises (the composite index of the IMF included ownership policy, financial supervision, as well as fiscal and political interactions). The institutional framework of SOE management is at its most efficient in particular Baltic countries, while in other transition countries there is plenty of space for improvements. Politically the most difficult elements of SOE management are centralized supervision and greater severity in financial reporting [7].

In the period behind us, the process of privatization was not adequately followed by market reforms. Changes in the regulatory framework have important implications for SOE because exposure to greater competition gives encouragement for better management and greater efficiency [16]. The privatization experiences of EU transition countries suggest that the transfer of public monopolies to private hands can stimulate rent-seeking [4].

The process of restructuring is faced with many difficulties that are often connected with political resistance and corporate cultures but also with a considerable debt in state-owned enterprises. In almost all transition countries, the inefficiency of SOE does not solely come from state ownership but also from other state policies (for instance, the practice of procurement and the like).

3. Scope and Structure of the SOE Sector

In 2019, the sector of state-owned enterprises (SOE) in Serbia included a total of 1,604 enterprises with slightly more than 180,000 employees. From the point of view of the

participation of basic economic indicators in the economy of the Republic, the SOE sector is oversized, primarily due to the slow process of bankruptcy and liquidation, as well as due to the still unfinished process of privatization and restructuring [12].

Table 1. Balance of state-owned enterprises (SOE) 2019.

	Number of enterprises	Number employee	Income mil.EUR	Liabilities	Net profit	Net loss	Net result	Cumulated loss	GVA
1. Public enterprise (PE)	546	139,828	8,596	12,326	249	367	-117	4,681	2,866
2. Non-privatized SOE	466	40,241	1,614	2,498	118	164	-46	2,014	505
3. SOE in bankruptcy& liquidation	592	438	143	4,768	8	227	-218	5,155	-9.0
SOE (1-3)	1,604	180,507	10,353	19,592	375	757	-382	11,849	3,362
% participation in the economy									
1. Public enterprise (PE)	0.5	11.9	8.4	15.0	4.3	14.8	-3.5	15.8	13.9
2. Non-privatized SOE	0.4	3.4	1.6	3.0	2.0	6.6	-1.4	6.8	2.5
3. SOE in bankruptcy& liquidation	0.6	0.0	0.1	5.8	0.1	9.1	-6.6	17.4	0.0
SOE (1-3)	1.5	15.4	10.1	23.9	6.5	30.5	-11.5	39.9	16.3

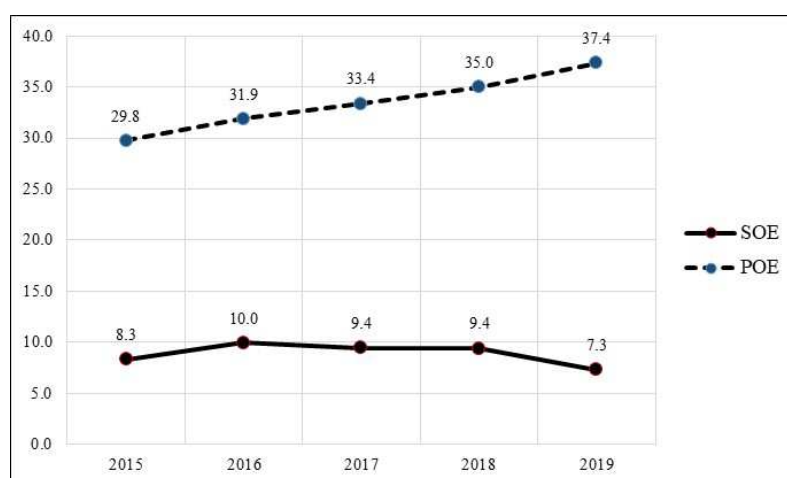
Source: Authors', based on the Serbian Business Registers Agency (SBA) data.

Basic coordinates of SOE business in 2019:

1. SOE in 2019 covered 1.5% of companies and 15.4% of employees, they achieved 6.5% of net profit and 30.5% of total economic losses;
2. Realized gross value added (GVA) of SOE, in the amount of 3.36 billion EUR (16.3% of the economy), mostly located in the segment of public enterprises (14% of GVA of the economy);
3. The total financial result of SOE in 2019 was negative and amounted to -381.6 million EUR, which reduced the positive business result of the economy by 3.3 billion EUR by 11.5%;
4. One of the key problems of SOE financial business is the high cumulative loss of 11.8 billion EUR (40% of all accumulated losses of the economy) and high total liabilities in the amount of 19.6 billion EUR (30.5% of all liabilities of the economy).

Structurally, the SOE sector includes three large groups of enterprises: (1) 546 public enterprises (republican, provincial and local); (2) 466 state-owned non-privatized enterprises; and (3) 592 state-owned enterprises in bankruptcy and liquidation.

1. Public enterprises (PE) employ a total of 140,000 employees at all levels, which is 12% of employees in the economy. The negative financial net business result of PE in 2019 (-117 million EUR) reduced the positive business performance of the economy by -3.5%. Cumulative loss of PE of 4.7 billion EUR represents 16% of all accumulated losses of the economy, while total liabilities of 12.3 billion EUR participate with 15% in total liabilities of the economy;
2. State non-privatized SOEs generated 505 million EUR new value in 2019 (2.5% of the economy), employs more than 40,000 workers (3.4%), participates with 6.6% in current losses, with 6.8% in cumulative losses and with 2.55 in total liabilities of the economy;
3. State-owned companies in bankruptcy and liquidation represent a huge ballast in the business of the economy: 5.2 billion EUR cumulative losses (17.4% of the economy), 227 million EUR of current losses (9.1%) and 4.8 billion EUR total liabilities (5.8% of the economy);
4. The contribution of the SOE to economic growth decreased in 2019, the share of GVA of the SOE sector in the total GVA of the non-financial sector was 7.3%.



Source: Authors', based on SBA data

Figure 1. Contribution to the economic growth of the state (SOE) and private sector (POE) of the economy - participation in GVA (%).

4. Basic Research Results

4.1. Private Versus State-owned Enterprises

The number of companies in the public sector has increased

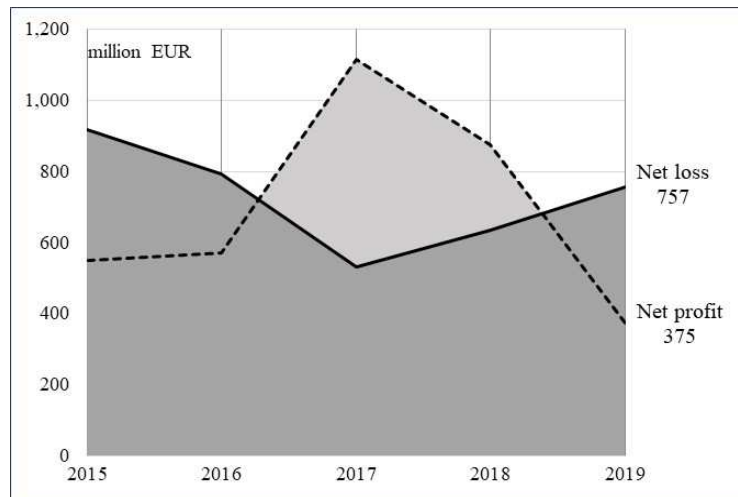
by 7.6% in the past five years. Despite a significant reduction in the number of employees, losses and liabilities, the SOE sector is a big loser in 2019 (30.5% of economic losses).

Table 2. SOE business performance versus POE 2015-2019.

	Number of enterprises	Number employee	2019 (million EUR)							
			Income	Net profit	Net loss	Net result	GVA	Capital	Cumulated loss	Liabilities
Economy	104.487	1.171.890	102.931	5.805	2.478	3.327	20.602	63.770	29.697	82.073
POE	101.726	987.159	92.072	5.420	1.702	3.718	17.191	41.644	17.730	62.127
SOE	1.604	180.507	10.353	375	757	-382	3.362	21.861	11.849	19.592
2019/2015 (rates in %)										
Economy	10.4	18.3	20.9	38.0	-30.9	435.0	35.3	13.6	-8.6	6.9
POE	10.4	29.9	28.0	51.6	-32.9	257.3	44.8	27.8	2.8	17.0
SOE	7.6	-20.3	-17.3	-39.4	-26.8	-	1.5	-6.1	-21.9	-16.1

Source: Authors', based on SBA data.

1. The number of state-owned enterprises increased by 7.6% (from 1,491 to 1,604);
2. The number of employees was reduced by 20% (from 226,367 to 180,507, by 45,860);
3. Total revenue of state-owned enterprises decreased by -17.3% (-10.4 billion EUR);
4. Unlike the private sector, the decrease in net profit (-39.4%) is greater than the decrease in net loss (-26.8%);
5. Gross value added of the sector SOE has had an extremely modest growth in the past 5 years (1.5%), in contrast to the private sector (44.8%);
6. Capital in state-owned enterprises decreased by -6.1%, while in the same period capital in the private sector increased by 27.8%;
7. Positive performance of the SOE sector is reflected in the reduction of accumulated losses by more than a fifth (-21.9%) and the reduction of total liabilities by 16.1%;
8. Having in mind the business performance of the private sector, especially the performance of private companies with majority foreign capital (increase in employment and GVA by 50%), it is clear that the business of SOE sector faces a number of accumulated structural problems.



Source: Authors', based on SBA data

Figure 2. Net result of state-owned enterprises 2015-2019.

4.2. Net Result of State-owned Enterprises

In 2019, state-owned companies operated with a loss of EUR 382 million, of which 57% of losses were located in state-owned companies in bankruptcy and liquidation, 30.6% in public companies and 12.4% in state-owned non-privatized companies. The net profit of state-owned enterprises is mainly located in the segment of large public infrastructure systems

and in enterprises of special-purpose industry.

1. The upward trend in the growth of net profit of SOE was short-lived (2016-2017), so that in 2019 the net profit of EUR 375 million was twice lower than the net loss (EUR 757 million);
2. The structure of net losses in 2019 is dominated by losses of SOE in bankruptcy and liquidation (EUR 218.4 million), followed by losses of public enterprises (EUR

117.2 million) and losses of non-privatized SOE (EUR 46 million);

3. A comparative analysis of the private enterprises (POE) and SOE shows, especially in 2018 and 2019, that while private companies increased net profit and reduced net losses, the performance of state-owned companies had the opposite trend, the net profit rate was lower, while on the other hand, the net loss rate was constantly increasing. For example, the rate of decline in net profit of SOE in

2018 was -23.3%, and in 2019 it registered an extreme decline of -58.1%. At the same time, the net SOE loss rate grew at a rate higher than 16%<

4. In 2019, there were 35 SOE whose profit was higher than 100 million RSD, and which participated with 5.6% of the total profit of the economy and with 6.3% in total employment. The structure of the largest state profits mainly includes large republican infrastructure PE and SOE of the defense industry.

Table 3. Trend of growth rates/decreases of profit and losses of POE and SOE.

	2016		2017		2018		2019	
	Net profit	Net loss	Net profit	Net loss	Net profit	Net loss	Net profit	Net loss
Economy	9,3	-19,3	25,1	-15,4	8,4	-3,8	-6,9	5,4
POE	10,2	-21,8	16,0	-5,4	16,5	-9,8	1,8	0,6
SOE	3,7	-13,6	82,1	-37,6	-23,3	16,6	-58,1	16,5

Source: Authors', based on SBA data.

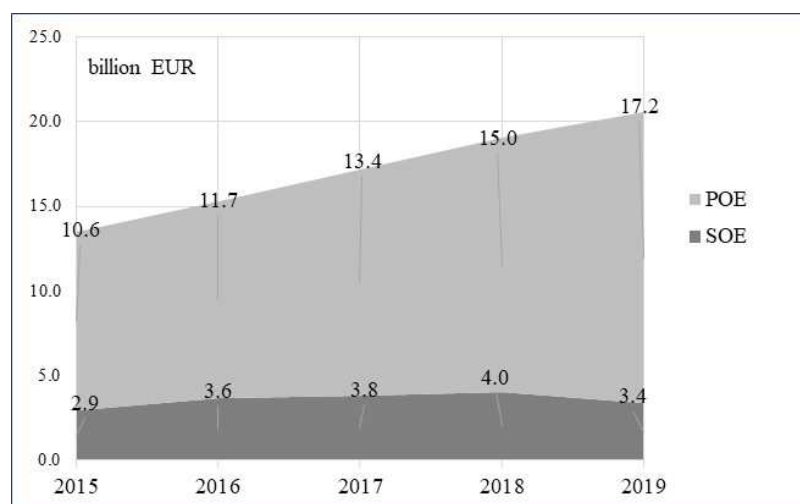
4.3. Gross Value Added of State-owned Enterprises

The SOE sector is in the period 2015-2019. achieved modest real growth of gross value added, only 1.5%, primarily bearing in mind that in the same period the growth rate of GVA of the private sector was 44.8% (growth of GVA of foreign private sector was 50%). The share of the state sector in the structure of the GVA of the economy decreased by 5.4 percentage points.

1. Real growth of GVA SOE sector in the period 2015-2019. of 1.5% was significantly above the average of the

economy (35.3%), especially the private sector (44.8%). In 2019, GVA of the SOE sector amounted to EUR 3.4 billion, while GVA of the private sector reached EUR 17.2 billion;

2. At the same time, the share of GVA of state and private enterprises changed: from 21.7% of the share of GVA of the SOE sector in the GVA of the economy in 2015, in 2019 the share of the SOE sector fell to 16.3%, while on the other hand, the private sector increased its share in the total GVA of the economy by 5.4 percentage points (from 78.0% to 83.4%);



Source: Authors', based on SBA data

Figure 3. Trend of GVA SOE versus POE 2015-2019.

Table 4. Annual fluctuations in GVA growth rates of SOE and POE.

	2016	2017	2018	2019
Economy	13.5	4.4	8.3	5.4
SOE	23.8	-3.3	4.2	-18.7
POE	10.5	6.9	9.5	11.9
-POE Foreign	5.7	13.7	9.5	14.0
-POE Domestic	13.9	2.5	9.5	10.4

Source: Authors', based on SBA data.

Annual oscillations of GVA growth rates are characteristic for state-owned enterprises (decrease of -18.7% in 2019), slightly less for the domestic private sector (stable growth registered in 2018 and 2019), and least for the foreign private sector.

4.4. Employment in State-owned Enterprises

Total number of employees in state-owned enterprises in

the period 2015-2019. it was reduced by -20%, ie by 46,000 workers (from 226 thousand to 180 thousand). Structurally, the reduction of employees in public companies at all levels amounted to -15.7% (-26 thousand workers), while in the group of state non-privatized enterprises 1/3 of workers were reduced (from 60 thousand to 40 thousand).

1. In 2019, the SOE sector employed 180.5 thousand workers, which is a decrease of 20% compared to 2015;
2. In the structure of the SOE sector in 2019, 77.5% (139,828 workers) were employed in public enterprises at all levels (republic, provincial, local), 3.4% (40,241) worked in state non-privatized enterprises, while in 428 employees (0.3%) were employed in the segment of state-owned enterprises in bankruptcy and liquidation;
3. Annual employment decline rates in state-owned enterprises have an accelerated trend: -2.9% in 2016, -5.7% in 2017, -5.5% in 2018 and -7.8% in 2019.
4. The concentration of employees is in 34 state-owned companies that individually employed more than 1,000 workers in 2019 (a total of 110,150), or 9.4% of the total number of employees in the economy.

4.5. Qualitative Performance of State-owned Enterprises

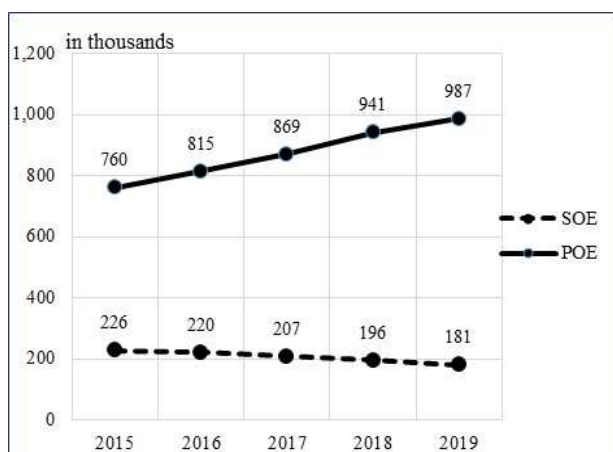
The survey of qualitative business performance of state-owned enterprises shows that all indicators of qualitative business performance are significantly below the indicators of private sector business. The general assessment is that the SOE sector operates unprofitably, illiquidity and unprofitably.

1. Productivity of enterprises in the SOE sector had a growth trend in the period 2015-2018, but in 2019 a decrease of 10% was registered;
2. The efficiency of the SOE sector is constantly at a lower level than the economy of the POE sector throughout the period, except for the oscillations in 2016 and 2017 when the SOE sector operated more economically;
3. Public sector profitability is constantly 5-10 times lower than POE sector profitability. In 2019, the SOE sector sent unprofitably (-1.7%), while the POE sector recorded a high profitability of 8.93%;
4. Solvency of the SOE sector is constantly moving throughout the period in the range of 1.7% -1.9%;

Table 5. Qualitative indicators of business versus private enterprises.

	2015		2016		2017		2018		2019	
	POE	SOE	POE	SOE	POE	SOE	POE	SOE	POE	SOE
Productivity (in thousands of RSD)	1,689	1,582	1,769	2,049	1,826	2,164	1,885	2,436	2,047	2,190
Efficiency	1.02	0.97	1.03	0.99	1.04	1.06	1.05	1.04	1.05	0.97
Profitability	3.19	-1.8	5.67	-1	7.47	2.5	9.26	1	8.93	-1.7
Solvency	1.46	1.7	1.49	1.8	1.51	1.8	1.53	1.9	1.56	1.9
General liquidity ratio	1.01	0.51	1.05	0.53	1.08	0.53	1.08	0.53	1.10	0.51
Reduced liquidity ratio	0.68	0.39	0.71	0.41	0.72	0.4	0.71	0.41	0.72	0.38
Net profit rate	1.5	-4	2.7	-2.7	3.5	6.3	4.5	2.8	4.3	-4.8
Business profit rate	5.0	3.4	5.4	7	5.4	5.3	5.0	8.7	5.5	0.2
ROA	2.4	-0.1	3.3	0.1	4.1	2.2	4.8	1.1	4.6	-0.7
ROE	4.4	-2.9	7.7	-1.4	10.0	3.4	12.4	1.3	11.6	-2.4
Indebtedness 1.	62.0	50.1	61.2	49	60.4	48.7	60.1	46.1	59.9	47.3
Indebtedness 2.	163.0	100	157.7	95.9	152.8	95	150.5	85.4	149.2	89.6

Source: Authors', based on SBA data.



Source: Authors', based on SBA data

Figure 4. Trend of employees in SOE&POE.

POE- Private-owned enterprises; SOE- State-owned enterprises; ROA - Return on assets; ROE - Return on equity;

Indebtedness 1.- ratio of total liabilities and total sources of financing; Indebtedness 2.- the ratio of total liabilities and capital.

1. Liquidity of the SOE sector is constantly twice lower than the liquidity of the POE sector (the ratio of the general liquidity ratio of the private and public sector in 2019 is 1.10: 0.51, while the ratio of the reduced liquidity ratio is 0.72: 0.38);
2. Profitability indicators show that the POE sector generally lags significantly behind the POE sector and operates unprofitably (with the exception of the operating profit rate in 2018). It is characteristic of 2019 when the SOE sector operated at a loss and with zero operating profit, when the rate of return on operating assets (ROA) and the rate of return on capital (ROE) were negative (-0.7% and -0.4%);
3. SOE sector indebtedness is constantly lower than POE sector indebtedness. While the ratio of total liabilities and total sources of financing (Indebtedness 1) is slightly more favorable in the SOE sector, the ratio of total

liabilities and capital is significantly more favorable in the SOE sector (Indebtedness 2, 149.2 versus 89.6).

4.6. Losses in Large State-owned Enterprises

Out of 1,604 state-owned companies, 96 companies employ more than 250 workers. Every 9th worker in the economy of the Republic works in large state-owned companies, they create 14% of gross value added, but also 14% of economic losses. All losses of large state-owned enterprises are located

in 24 large state-owned enterprises. Of the 96 large state-owned enterprises, 24 large state-owned enterprises generate all losses in large state-owned enterprises. In the structure of these losses, 3/4 of losses are located in public enterprises, primarily in large infrastructure public enterprises, while 1/4 of losses (EUR 85 million) are the result of operations of large state-owned non-privatized enterprises in the process of restructuring.

Table 6. Business performance of large state-owned enterprises 2019.

	Number employee	GVA Million EUR	Income	Net profit	Net loss	Net result	Liabilities	Cumulated loss
Economy	1,171,890	20,602.1	102,930.5	5,805.1	2,478.0	3,327.1	82,073.1	29,696.7
SOE	180,507	3,362.0	10,352.7	375.2	756.8	-381.6	19,592.3	11,849.4
Large SOE (96)	137,702	2,941.7	8,642.3	286.4	341.1	-54.8	10,884.7	4,982.7

Source: Authors', based on SBA data.

1. Of the total number of state-owned enterprises, 6% are large state-owned enterprises employing more than 250 workers (96 enterprises). Large state-owned enterprises employ 137,702 workers, out of 4 workers in state-owned enterprises, 3 work in large state-owned enterprises (76.3%), which represents 11.75% of the total number of employees in the economy. In 2019, large state-owned companies created almost 3 billion EUR gross value added (88% of GVA of all SOEs), ie 14.3% of GVA of the economy. Other business performance of large SOEs in 2019 is shown by their predominant share in total state-owned enterprises: 83.5% of total revenue and 76.3% of net profit, but also more than 45.1% of net losses, 55.6% of total liabilities and 42% of accumulated economic loss (EUR 5 billion). In addition to current losses, the operations of large SOEs are burdened by cumulative losses (16.8% of cumulative corporate losses) and the amount of total liabilities (EUR 10.9 billion, 13.3% of total corporate liabilities);
2. Total losses in 2019 in the group of large state-owned enterprises of EUR 341.1 million were created by 24 large SOEs, which represented 13.8% of economic losses, ie 45.1% of net losses of state-owned enterprises. It is significant that this group of 24 losers in large state-owned enterprises employs 3% of employees in the economy (36 thousand workers), or 20% of employees in

state-owned enterprises. The total liabilities of this group of large state-owned enterprises that generate losses amount to EUR 3.8 billion (4.6% of the total liabilities of the economy. In the structure of this group of 24 companies, half (12) are public companies at all levels, while the other half are companies of non-privatized state-owned companies that are in the process of restructuring. While the losses of 12 large state-owned enterprises in restructuring amount to EUR 84 million.

4.7. Public Enterprises with the Biggest Loss

In 2019, public enterprises in Serbia at all levels (republic, provincial and local) operated negatively, employed 11.9% of employees, created 13.9% of GVA and participated with 8.4% in total economic income, 4.3% in net profit, 14.8 in net losses, 15% in total liabilities and 15.8% in total cumulative losses of the economy.

Out of 564 public enterprises, 120 enterprises were operating at a loss in 2019, while 258 PEs reported a cumulative loss. The business of the republic's large infrastructure PE-15s has a decisive influence on the overall performance of public enterprises. Consolidated financial statements show that PE-15 operated negatively in 2019 (10% of net losses of the economy), employing 7% of employees in the economy, 10% in GVA, 5.2% in revenue, but also 11.8% in total liabilities and 9.8% in cumulative loss.

Table 7. Business performance of public enterprises 2019.

	Number employee	GVA Million EUR	Income	Net profit	Net loss	Net result	Liabilities	Cumulated loss
Economy	1,171,890	20,602.1	102,930.5	5,805.1	2,478.0	3,327.1	82,073.1	29,696.7
PE (546)	139,828	2,865.7	8,595.5	249.4	366.6	-117.2	12,326.2	4,680.6
-% participation in the economy	11.9	13.9	8.4	4.3	14.8	-3.5	15.0	15.8
PE-15*	82,657	2,072.8	5,365.1	62.9	248.1	-185.3	9,712.1	2,911.7
-% participation in the economy	7.1	10.1	5.2	1.1	10.0	-5.6	11.8	9.8

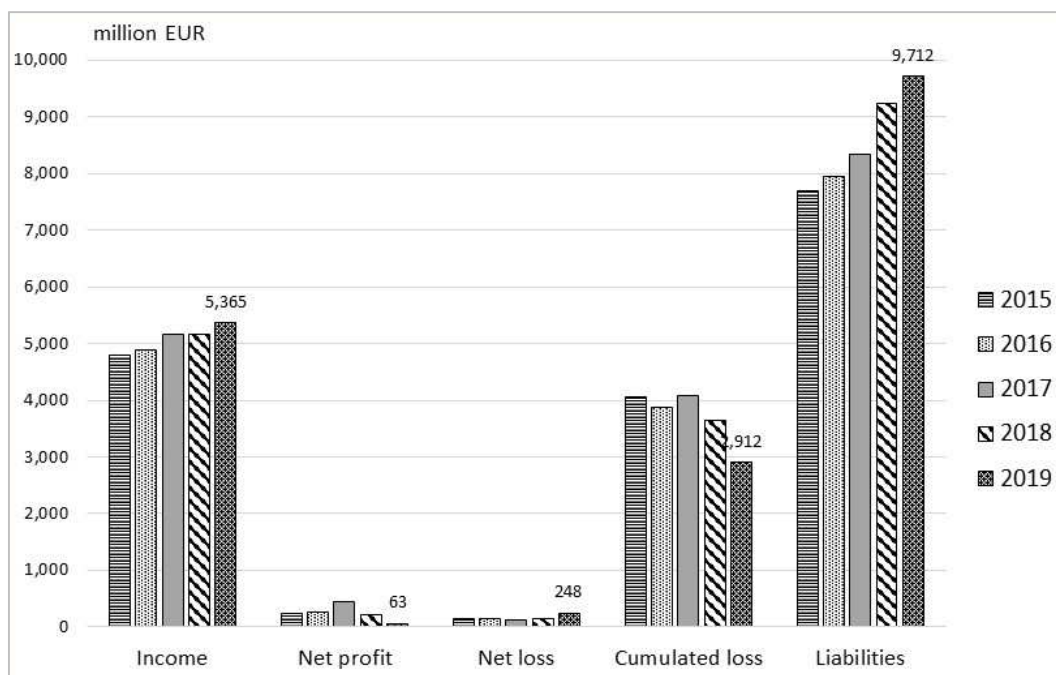
Source: Authors', based on SBA data.

1. In 2019, 140 thousand workers worked in the public sector in the Republic, ie 11.9% of employees in the

economy. Almost 3/4 of GVA of public enterprises generates PE-15 (more than EUR 2 billion). The total

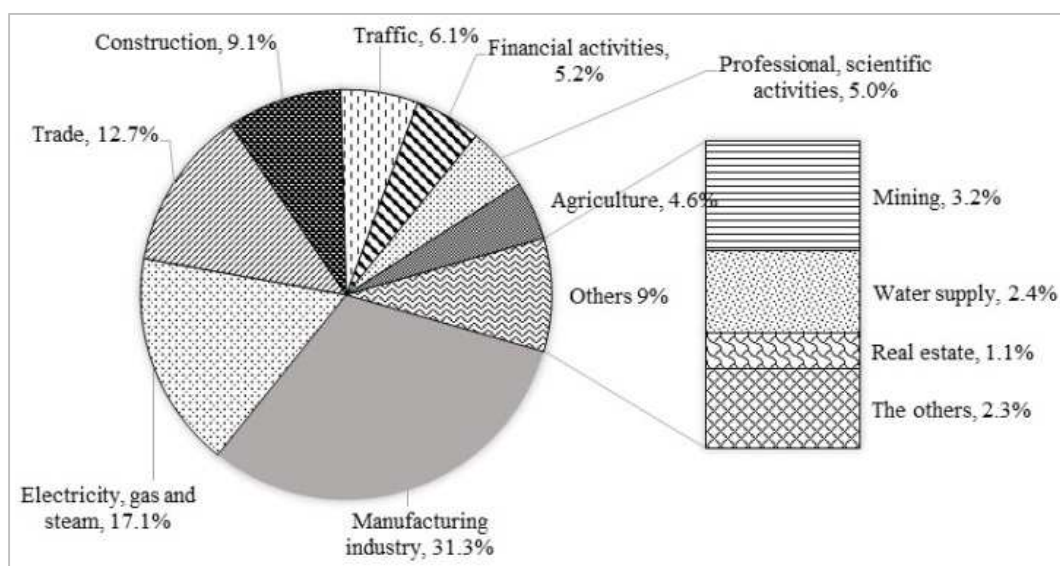
revenue of public enterprises at all levels amounted to 8.4% of the total revenue of the economy (EUR 8.6 billion), of which almost 2/3 is the result of the operations of the large republican PE-15 (EUR 5.4 billion). In 2019, public companies operated with a loss of EUR 367 million, which reduced the positive performance of the economy (by -3.5%). The negative business of PE-15 had a decisive impact on the negative financial result of public companies (-185 million EUR). In the total cumulative loss of public enterprises of EUR 4.7 billion (15.8% of the cumulative loss of the economy), 62% refers to the cumulative loss of PE-15;

2. The key segment of state-owned enterprises is represented by public enterprises, especially the performance of the republic's large infrastructure public enterprises (PE-15), which are extremely important for the functioning of the entire economy. The trend of reduction of employees in the republic's large infrastructure PE-15 continued (in the period 2015-2019, the number of employees decreased by 10%). Positive business of PE-15 in the period 2015-2018. was interrupted in 2019. Large republican infrastructure PEs entered the zone of negative business in 2019, the net loss in 2019 amounted to EUR 248 million (10% of economic losses).



Source: Authors', based on SBA data

Figure 5. Business performance of PE-15 in the period 2015-2019.



Source: Authors', based on SBA data

Figure 6. Sectoral schedule of cumulative loss of state-owned enterprises 2019.

4.8. Sectoral Performance of State-owned Enterprises

In the sectoral structure of state-owned enterprises, the most represented are enterprises from the following sectors: Manufacturing (244), Water supply and wastewater management (230), Professional, scientific, innovation and technical activities (213), Construction (179), Trade (137) and Traffic (101). Most employees are in the sector Electricity supply (21% of employees in state-owned enterprises), Transport and storage (20%), Water supply (16.8%) and Manufacturing (12%). The largest GVA, revenue and profit are generated by state-owned enterprises in the electricity supply sector (45%, 47% and 50%). Current losses are concentrated in the sectors of Construction, Manufacturing and Trade, cumulated in the sectors Electricity supply and Manufacturing, while liabilities are located mostly in the sector Electricity supply (26%).

The biggest losers in the state sector are Construction, Manufacturing and Trade, whose total negative financial result in 2019 amounted to 411 million. EUR. Total liabilities are concentrated in the electricity supply sector (EUR 5.2 billion), while accumulated losses are mostly accumulated in state-owned enterprises in the manufacturing industry (31%).

4.9. State-owned Enterprises in Bankruptcy and Liquidation

Out of 1,604 state-owned enterprises, almost 600 companies are in the process of bankruptcy and liquidation. This group of enterprises in the state portfolio permanently burdens the business of the economy, creating current losses and increasing the accumulated losses from year to year. State-owned enterprises in bankruptcy and liquidation (592) represent a transitional burden whose resolution is proceeding at a slow pace. The current losses of this group in 2019 amount to EUR 227 million (30% in the total losses of all state-owned enterprises, 9.1% of net losses in the economy). The total liabilities of this group of SOEs amount to EUR 4.8 billion of total liabilities (24.3% of liabilities of all state-owned enterprises, 5.8% of liabilities of the economy). Cumulative loss of 5.2 billion EUR (44% of SOEs, 17% of the economy), is located in the former large economic systems that are in a decades-long process of bankruptcy and liquidation.

5. Discussion

Research on the performance of state-owned enterprises in Serbia has raised several key issues and priority tasks:

1. It is necessary to select SOEs based on their sustainability, and in accordance with clear criteria to determine which companies should remain state-owned (*natural monopoly, strategic interests, etc.*). Especially when it comes to the group of enterprises that are in the state's strategic interest, it is necessary to have transparent, argumentative data evaluations stating whether those enterprises fulfil their set goals and at what cost to the state and economy from an overall perspective.

2. *Legislative changes need to be made to improve corporate governance* (comparative analyses have shown that the quality of supervisory bodies and strategic planning directly increase the efficiency of state-owned enterprises' business operation) [10, 19];
3. *Continuous monitoring* of state-owned enterprises' business operation, fulfillment of rigorous obligations of periodical reporting;
4. *Setting transparent goals* for the business operation of state-owned and especially public enterprises, where a clear distinction would be made between commercial and non-commercial goals of state-owned enterprises. The goals of state-owned enterprises often transcend a mere maximization of profit, and also include social objectives. For this reason, one of the primary requirements is to employ a team of leaders with appropriate professional expertise. Consideration of the ways to improve the efficiency of state-owned enterprises assumes the clarity of commercial and non-commercial goals. In accordance with that, any attempts to increase the efficiency of state-owned enterprises must expressly take into account *the costs of non-economic goals* [17];
5. It is important to mention that, in the context of the amount of public debt, *privatization may become a policy option, because it can contribute to supporting the reforms of public finance*. The revenue may contribute to the lowering of debt, while abandoning public ownership can help reduce public obligations, both of which contribute to the return of investors' trust;
6. *Reforms can ensure that the financial and social obligations which are specific to an enterprise are set clearly and presented to the public, and that the costs of public obligations are transparent and covered by direct subsidies, in accordance with the EU rules on state support*. Greater transparency in the operation of an enterprise and the setting of adequate goals which are specific to an enterprise bring greater exposure to market discipline and target indicators of efficiency, and thus strengthen responsibility. *The main challenge in this respect is to establish the mechanism of harmonization and the sustainability of the business and economic cycle, and of non-commercial activities;*
7. *To apply OECD general principles and conduct the reforms of SOE legal framework, that is, to clarify the role of the state as the owner and to guarantee the applicability of general laws for the purpose of ensuring neutrality of competition*. The key issues on which the OECD insists deal with the following: the scope of state ownership and organization of the state as the owner (reforms for the purpose of centralizing the function of state ownership or, in other words, more efficient management of SOE public finance); the separation of ownership from other state functions: reforms can also ensure a clearer distinction between ownership, policy-making, and the state's regulatory role,

especially in terms of sector policies and regulations; change in the modalities of management and reporting for state-owned enterprises: reforms can also help to determine with greater precision who gives instructions in the government and supervises state-owned enterprises, and which instruments of control can be used (it is important to avoid the conflict of interests); the applicability of general laws and regulations to state-owned enterprises [2, 8];

8. *Continuous creation of models for improving the performance of state-owned and public enterprises:*
 - a. In cases where the state has decided to keep an enterprise in the state portfolio, it is necessary to conduct a periodical evaluation of results and responsibility to the goals;
 - b. Operational and financial goals should be set each year, with a rigorous assessment of effects in relation to the goals;
 - c. The effects of business operation should be evaluated in relation to effects in the public sector;
 - d. *Salaries need to be evaluated in relation to productivity, with reductions in the exceedingly high level of employment;*
 - e. New investment plans need to be the subject of a full analysis of costs, gains, and feasibility;
 - f. Transparent data are the prerequisite (priority).
9. *In case that state-owned or public enterprises do not fulfil the established goals, the government should establish a clear procedure for remedy or liquidation/sale which minimizes political involvement;*
10. *Removal of identified flaws in SOE management:*
 - a. Centralized and depoliticized management of the state share, and more precise accounting of what the government owns;
 - b. Election of independent, apolitical and competent members for the board of directors and the supervisory board (as employed with competitive salaries);
 - c. Establishing an efficient evaluation and managing the fiscal risks that arise from state ownership;
 - d. Re-evaluation of the legal frameworks which regulate state-owned enterprises;
11. According to the 2019 IMF analysis [8], Serbia was at the very bottom of the list of Central and East European countries when it comes to the management of enterprises with state-owned assets (of 20 analyzed countries, it was ranked 15th). Among the greatest reform challenges in carrying out the IMF recommendations are still the reforms that need to be conducted in the largest public enterprise – the Electric Power Industry of Serbia [5];
12. To define a *state program of capital subsidies* for the upcoming three-year period, which would include developmental priorities, modalities of monitoring, larger control of earmarked spending for direct subsidies, and reduction in indirect subsidies (issuance of state guarantees, debt servicing, toleration of belated

payment of liabilities to the state and other public enterprises, linkage of years of service, and the like);

13. To adopt *The Strategy of Development for State-Owned Enterprises up to 2035 and with a Vision until 2050*, which would lay special stress on the segment of *strategic directions in industry and energy*, and which would elaborate not only upon the commercial aspect of the most significant state-owned enterprises in the field of energy, but also upon the urgent ecological aspect because of the enormous CO₂ emission and degree of pollution. Apart from that, it is important to mention that the modalities of using state-owned energy facilities will be one of the key issues in Serbia's accession to the EU.

6. Conclusion

By reforming state-owned and public enterprises, the state would free itself from its double role (owner and regulator) and from its exhausting task of having to balance numerous and quite often mutually conflicting goals in the management of those enterprises – from creating conditions for their efficient business operation, to pursuing investment policies aimed at their long-term sustainability, to establishing tariffs that are compatible with long-term business operation, to carrying out the social policy of employees and the protection of consumers from any possible abuse of monopoly position. During the entire transitional period, the economic-financial consolidation of public enterprises (the modernization of production and technological processes, debt reschedule, subsidies, grants, price policies, etc.) unfolded in waves, cyclically and selectively. In order to stop the trend of qualitative business operation performance becoming ever worse (*illiquidity, insolvency, reduction in long-term financial imbalance, increase in liabilities*) it is necessary to carry out the prioritized structural reforms of public enterprises aimed at: depoliticizing the process of management and decision-making in enterprises (maximization of the number of employees, a high level of salaries, the maintenance of low prices for services as a social category, and the like); establishing financial discipline (improvement of legislation in the area of debt collection, tax payment, and payment of other liabilities to the state, more efficient bankruptcy proceedings, establishing the timeframe for restructuring, and the like); reducing the number of employees; business-technical consolidation and modernization (reduction in technical losses, reorganization and closing down the unnecessary entities which create losses, etc.); removing price disparities; continuing the liberalization of infrastructure activities through the introduction of competition, but also modernizing, in a technical-technological sense, the production process and enhancing the efficiency of business operation for state-owned enterprises whose activity has a strategic character or the character of a natural monopoly, and for which partial privatization has been envisaged (majority state ownership). Improving the management of state-owned enterprises is an urgent structural problem. Improvements in the management

of state-owned enterprises (the introduction of more independent and professional boards into SOE, stricter financial reporting and revisions) do not unfold at the desired pace, which is visible in the effects of business operation. *It is necessary to broaden the spectrum of measures and mechanisms, which, in general, demands making difficult choices* (for example, reducing the number of employees, selling non-resistant property, the state's need to pull itself out of these difficult choices, and the like). In brief, the resolution of problems in the state sector is a complex, long-lasting process which demands continuous devotion in the course of several years.

References

- [1] Acemoglu, D. & Robinson, J. (2012). *Why Nations Fail - The Origins of Power, Prosperity, and Poverty*. New York: Random House.
- [2] Christiansen, H. (2011). *The Size and Composition of the SOE Sector in OECD Countries*. OECD Corporate Governance Working Papers, No. 5, OECD Publishing.
- [3] Estrin, S., Hanousek, J., Kocenda, E. & Svejnar, J. (2009). The Effects of Privatization and Ownership in Transition Economies. *Journal of Economic Literature* 47 (3), 699-728.
- [4] European Commission, Directorate-General for Economic and Financial Affairs. (2016). *State-Owned Enterprises in the EU: Lessons Learnt and Ways Forward in a Post-Crisis Context*. Luxembourg: Publications Office of the European Union.
- [5] Fiscal Council of Republic of Serbia. (2014). *Analysis of state-owned enterprises: Fiscal aspect*. summary-state_owned_enterprises.pdf (fiskalnisaet.rs).
- [6] Harrison, Ann., Meyer, M., Wang, P., Zhao, L. & Zhao, M. (2019). *Can a Tiger Change its Stripes? Reform of Chinese State-Owned Enterprises in the Penumbra of the State*. NBER Working Paper 25475, National Bureau of Economic Research, Cambridge, MA.
- [7] IMF. (2016). *How to Improve the Financial Oversight of Public Corporations*. IMF How-To-Note 16/05, International Monetary Fund, Washington, DC.
- [8] IMF (IMF staff team led by Richmond, Ch., Dohman, P., Miniane, J. & Roaf, J. in collaboration with EBRD staff). (2019). *Reassessing the Role of State-Owned Enterprises in Central, Eastern, and Southeastern Europe*.
- [9] Jakopin, E. & Cokorilo, N. (2020). *Business performance of the economy of the Republic of Serbia 2015-2019*. Trendovi (special edition). Republic Statistical Office. Belgrade.
- [10] Kowalski, P., Buge, M., Sztajerowska, M. & Egeland, M. (2013). *State-Owned Enterprises – Trade Effects and Policy Implications*. OECD Trade Policy Papers, No. 147.
- [11] Li, Sh., Chou Lin, Y. & Selover, D. (2014). Chinese State-Owned Enterprises: Are They Inefficient? *The Chinese Economy*, 47 (5–6), 81–115.
- [12] Madžar, L.J. (2015). Gordijev čvor javnih preduzeća u Srbiji: Drešiti ili seći? Restrukturiranje JP u uslovima institucionalnih ograničenja. Scientific Society of Economists of Serbia and Faculty of Economics in Belgrade. zbornik2015deo1.pdf (bg.ac.rs).
- [13] OECD. (2011). *State-Owned Enterprise Governance Reform*. Paris: OECD Publishing.
- [14] OECD. (2017). *The Size and Sectoral Distribution of State-Owned Enterprises*. OECD Publishing.
- [15] OECD. (2018). *Ownership and Governance of State-Owned Enterprises: A Compendium of National Practices*. Paris: OECD Publishing.
- [16] PricewaterhouseCoopers. (2015). *State-Owned Enterprises: Catalysts for Public Value Creation?* PricewaterhouseCoopers, London.
- [17] Putnins, T. (2015). Economics of State-Owned Enterprises. *International Journal of Public Administration* 38 (11): 815–32.
- [18] Wang, K. & Shailer, G. (2018). Does Ownership Identity Matter? A Meta-analysis of Research on Firm Financial Performance in Relation to Government versus Private Ownership. *Abacus* 54 (1): 1–35.
- [19] World Bank. (2014). *Corporate Governance of State-Owned Enterprises: A Toolkit*. World Bank Group, Washington, DC.