



CENTRE
FOR ECONOMIC
STRATEGY

ANALYTICAL
BRIEF

TO WHAT EXTENT STATE-OWNED ENTERPRISES ARE LESS PROFITABLE THAN PRIVATE FIRMS: A 10-YEAR ANALYSIS



INTERNATIONAL
RENAISSANCE
FOUNDATION



Sweden
Sverige



STATE
PROPERTY
FUND
of UKRAINE

YOU
CONTROL

AUTHORS:

Bohdan Prokhorov, Viktoriya Yuzkiv, Olena Serhieieva

Reviewer: Dariia Mykhailyshyna

DATE:

November 9, 2021

CONTENTS

Executive summary	3
1. Introduction.....	3
2. State-owned enterprises are less efficient – cross-country studies.....	4
3. Ukrainian data analysis	7
3.1 General comparison.....	7
3.2 Industry comparison.....	8
4. Conclusions and recommendations	12
Annex. Data limitation and cleaning.....	13

The Centre for Economic Strategy is an independent research agency on public policy issues. The mission of CES is to support reforms in Ukraine in order to achieve sustainable economic growth. The Centre contributes to the development of Ukraine's economic growth strategy, performs an independent analysis of the most important aspects of national policy, and works on strengthening public support for reforms. It was established in May 2015.

Our principles:

- Economic freedom (liberalisation, deregulation, privatisation)
- Free and fair competition
- Reducing the role of the state due to improving its effectiveness
- Information transparency and freedom of speech
- The rule of law and the protection of private property
- Healthy and stable public finances
- Knowledge-based economy

For more information on CES, please contact Andrii Fedotov, Director of Communications (tel.: (044) 492-7970, office@ces.org.ua).

Please visit our website www.ces.org.ua and follow the link on the social media facebook.com/cesukraine or twitter.com/ces_ukraine.

The study was supported by the Think Tank Development Initiative for Ukraine, implemented by the International Renaissance Foundation in partnership with the Open Society Initiative for Europe (OSIFE) with financial support of the Embassy of Sweden to Ukraine. The views and opinions expressed in this study are those of the authors and do not necessarily reflect the position of the International Renaissance Foundation.

In partnership with YouControl counterparty verification analytics system.

EXECUTIVE SUMMARY

There are about 3,300 state-owned enterprises (SOEs) in Ukraine, which operate in many sectors.

The state may own an enterprise to fulfil a unique public function that a private enterprise cannot provide or generate a return on equity (ROE)¹. Previous [CES research](#) has found that SOEs are generally less profitable than private enterprises. Consequently, it is not beneficial for the state to own them for revenue.

Form of ownership, industry specifics, economic conditions, and many other factors can affect each particular enterprise's profitability. This study analysed anonymised financial indicators of Ukrainian companies over ten years (2011-2020) provided by research partner YouControl, highlighting ten industries.

We compared Return on Equity (ROE)¹ and employee cost share² to the median values for private companies in the respective industry and year,³ adapting the methodology of the IMF study of state-owned enterprises in Central, Eastern and South-Eastern Europe.

Overall, 61.1% of Ukrainian state-owned enterprises have profitability lower than the median private firm. Our analysis shows that in sectors such as *construction, mining, manufacturing, HoReCa*, significantly more state-owned enterprises are less profitable than the median private firm. In construction, there are 89.5%, while only 10.5% overperform the median private counterpart. The median profitability of state-owned enterprises in these sectors is also lower than that of private firms. The median SOE in *construction* has only 0.6% of the median ROE of a private firm, while in *manufacturing*, it is 15%.

The situation is somewhat better for SOEs in the *agriculture, other services and transport sectors*. In these sectors, 55.6-60.6% of state-owned companies are less profitable for the median private firm. The ROE of the median state-owned enterprise in these sectors is only 53-63% of that of the median private firm.

State-owned enterprises tend to spend more on labour than their private competitors in most industries, but this does not necessarily mean lower profitability.

A general recommendation for public policy in the governance of SOEs is to transfer them to the State Property Fund and privatise companies with no unique public value. According to the OECD Guidelines, corporate governance reform should be implemented in those SOEs that remain in state ownership.

1. INTRODUCTION

According to the [Organisation for Economic Co-operation and Development \(OECD\) Guidelines](#), the state can own a company if it performs a specific unique publicly important function that a private company cannot achieve. The principles of governance of SOEs should be as close as possible to those of private firms. Private firms have the goal of making a profit. Consequently, state-owned enterprises should also strive to do so while performing public service obligations simultaneously.

¹ **ROE** (Return on Equity) is the ratio of net profit to equity. It is one of the measures of a company's profitability. In this study, we use the term "profitability" and "rate of return" to refer to this indicator.

² Employee costs share as a proportion of the company's operating revenue.

³ **The median** divides the series of values into two equal parts, arranged from the largest to the smallest. On either side of the median, 50% of the enterprises are placed on each side of the median. We take the median value for private firms of the respective year/industry as a reference point and compare the performance of each state-owned enterprise with it. The more state-owned enterprises with ROEs smaller than the median of private ones, the less profitable the state-owned enterprises in this sector tend to be.

Ukraine still owns 3,300 state-owned enterprises. In 2017, the Centre for Economic Strategy found that SOEs were 2.9 pp less profitable than private ones in 2016 in terms of ROE ("[Are state-owned enterprises less profitable than private ones?](#)"). CES built a regression model on anonymised data from Ukrainian companies' 2016 financial statements.

The Centre for Economic Strategy conducted this study in partnership with YouControl, an analytical system for checking counterparties, and the State Property Fund of Ukraine. It aims to assess the profitability of state-owned enterprises compared to private ones based on financial statement data for 2011-2020. The sample was 18,585 enterprises, with 102,117 observations.

In the following sections, we show how Ukrainian state-owned enterprises are performing compared to SOEs in other Central, Eastern and South-Eastern European countries according to cross-country studies (Section 3), show the change in median profitability of state-owned and private enterprises over ten years (Section 4.1), and compare the profitability of state enterprises in 10 industries with those of private ones (Section 4.2).

2. STATE-OWNED ENTERPRISES ARE LESS EFFICIENT – CROSS-COUNTRY STUDIES

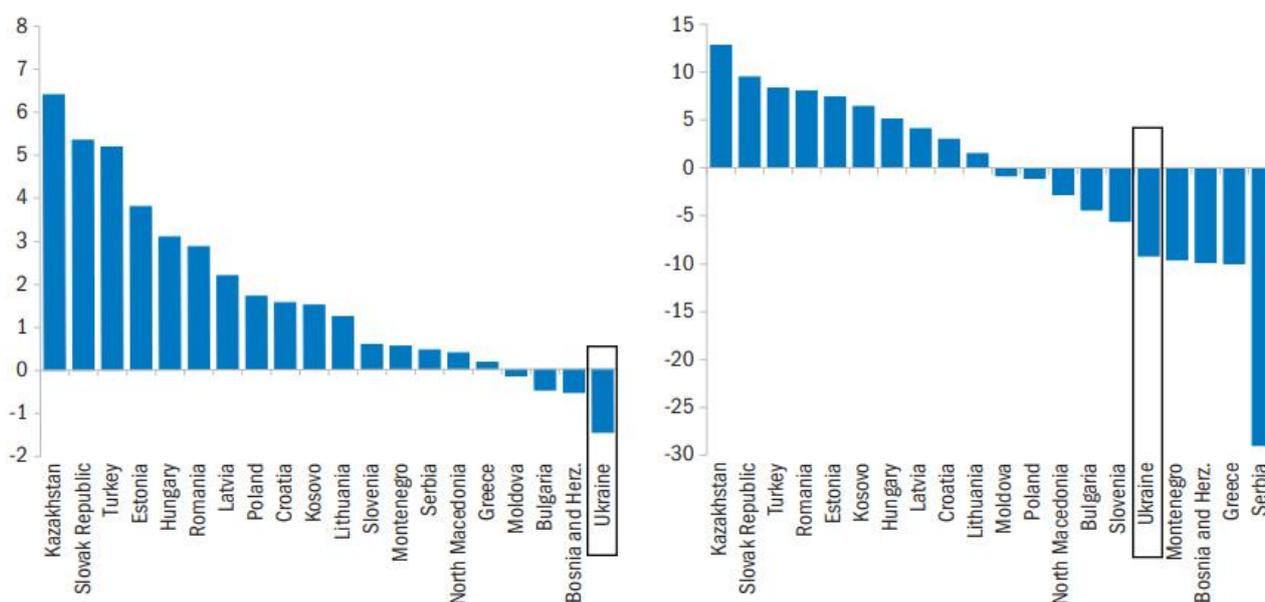
Various international organisations have measured the performance of state-owned enterprises (SOEs) compared to private firms. Most of them note that state-owned enterprises perform worse in terms of performance. In studies comparing several countries, ORBIS (the international business database) is usually used. Noticeably, researchers combine both state-owned and municipal enterprises into one group, making the total number of SOEs in Ukraine higher than 3,500. Some examples are given below.

European Bank for Reconstruction and Development (2020) – [Economic performance of state-owned enterprises in emerging economies: A cross-country study](#)

The sample for the study comprised some 17,600 SOEs in 25 of the 38 developing countries in which the EBRD invests (including Ukraine). The 2014-2016 period was analysed. The researchers included in the sample non-financial enterprises owned by the state and other administrative-territorial entities (regions, municipalities) by more than 25%.

The return on equity (ROE) of Ukrainian state-owned and municipal enterprises in 2014-2016 was ca. -10%, while their return on assets (ROA) was the worst of the 20 countries compared (ca. -1.5%). Notably, 2014-2015 were crisis years for the Ukrainian economy and public sector due to losing control over certain territories (Crimea and parts of Donetsk and Luhansk oblasts) and active hostilities.

Figure 1: Return on assets (left) and return on equity (right) of state-owned enterprises in the region (% , data 2014-2016)



Source: European Bank for Reconstruction and Development (2020) – Economic performance of state-owned enterprises in emerging economies: A cross-country study. The author’s calculations are based on the Orbis database.

International Monetary Fund (2019) – [Reassessing the Role of State-Owned Enterprises in Central, Eastern and Southeastern Europe](#)

The efficiency comparison of state-owned and private enterprises in 14 Central and Eastern European countries (CEE) is based on the ORBIS database (for Ukraine, the sample was around 1,920 firms) and consider the period 2014-2016 (as in the EBRD study above, but municipally-owned enter[prises are not included). Since the focus is on sectors of economic activity where state-owned and private firms can compete, the analysis does not consider natural monopoly sectors.

State-owned enterprises in the region tend to generate far less revenue per employee than do private firms. Each observation was compared to the median private firm in the respective country/sector/year. This allowed estimating the share of SOEs that exceeded the median value of private companies across all years and sectors. If this share was less than 50%, then state-owned enterprises in that country tended to generate less revenue per employee than private enterprises. **This share was less than 50% in all countries except Estonia. In Ukraine, only 10% of SOEs generated a higher revenue per employee than the private firm sector median (therefore, 90% generated less income).**

The distribution of return on equity (ROE) showed that state-owned enterprises are more likely to be less profitable than private firms in all countries of the sample. **In Ukraine, according to the study, about 68% of state-owned enterprises have ROE lower than the private firm median.**

OECD (2021) – [Review of the Corporate Governance of State-Owned Enterprises in Ukraine](#)

The study analyses the state-owned enterprise sector in Ukraine in terms of performance and management. In contrast to the studies cited above, this report took into account the specifics of Ukraine (in particular, the difference between state-owned and municipal enterprises). It used Ukrainian data sources, which should have been of higher quality.

The report's authors predominantly used data provided by YouControl, except from detailed data on the Top 15 SOEs provided by the government. It contains information on discrepancies in reporting indicators provided by the Cabinet of Ministers of Ukraine, YouControl and received by the authors from the ProZvit portal of SOEs and the Unified State Property Registry of the State Property Fund of Ukraine (table below). As can be seen, YouControl has the most comprehensive disaggregated data.

Table 1. Comparison of data availability for state-owned enterprises

	Total SOEs	Operational SOEs	Disaggregated financial data (2019)	Disaggregated financial data (2018)
SPFU Unified Registry	3 457 (2020)	N/A	N/A	N/A
ProZvit	3 605 (2019)	1 848 (2019)	≈1 100	≈1 400
YouControl	N/A	N/A	1 922	1 839
Ministry of Economy (questionnaire)	3 293 (2020)	1 535 (first quarter of 2020)	N/A	N/A

Source: OECD (2021) – Review of the Corporate Governance of State-Owned Enterprises in Ukraine

YouControl's data also allow us to compare the average performance of businesses of different forms of ownership – state-owned, municipally-owned and private (table below).

Table 2. Key financial ratios (median) 2019 for enterprises with different types of ownership

	Return on equity	Return on assets	Profit margin	Current ratio	Quick ratio	Debt-to-equity ratio	Asset turnover
State-owned enterprises	2%	0%	1%	1,05	0,51	0,40	0,97
Municipally-owned enterprises	0%	0%	0%	1,81	1,02	0,05	0,93
Private companies	8%	1%	2%	1,28	0,83	0,18	1,10

Source: OECD (2021) – Review of the Corporate Governance of State-Owned Enterprises in Ukraine

The OECD Review of the Corporate Governance of State-Owned Enterprises in Ukraine provides a detailed description of the SOEs sector and recommendations for its governance, particularly corporate governance reform and privatisation.

3. UKRAINIAN DATA ANALYSIS

3.1 GENERAL COMPARISON

The number of state-owned enterprises has not decreased significantly over the last ten years. There have been only a few examples of large-scale privatisations of state enterprises. For instance, *Ukrtelecom*, the largest state-owned enterprise privatised in recent years, was sold for 1.3bn dollars in March 2011. Litigation is now ongoing as the state is trying to retake ownership of the company due to a breach of investment obligations by the new owner.

In 2018, a law on privatisation of state and municipal property was passed⁴, simplifying the privatisation process. With the help of the *Prozorro.Sale* system, the State Property Fund and local self-governments began to dispose of the property.

Preparations for large-privatisation with investment advisers have been undertaken after the law entered into force. Still, at the time of writing this brief, only one large-scale privatisation auction has been successfully conducted, namely the sale of the *First Kyiv Machine-Building Plant* (at the time of publication, the privatisation process is not complete)⁵.

Small-scale privatisation has performed better. Successful examples include the privatisation of state-owned shareholdings of *Dnipro Hotel*⁶ and *Kyivpasservice* (bus terminals in Kyiv and Kyiv region).⁷

The distribution of equity and financial results for state-owned and private companies varies (see figure below). State-owned companies have lower equity and a lower net profit compared to private companies.⁸

⁴ On the privatisation of state and municipal property. <https://zakon.rada.gov.ua/laws/show/2269-19#Text>

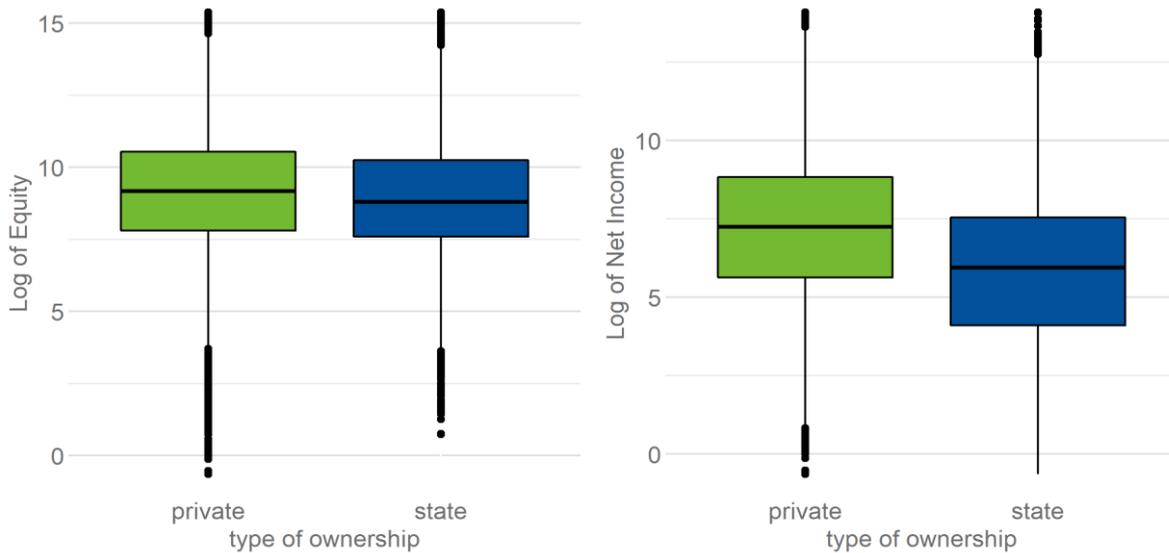
⁵ The large-scale privatisation has taken place: the auction to privatise the *Bolshevik* plant has been successfully completed with a result of UAH 1,429,017,000. <https://www.spfu.gov.ua/ua/news/8236.html>

⁶ 100% state-owned stake in PJSC “Hotel “*Dnipro*” <https://privatization.gov.ua/product/derzhavnyj-paket-aktsij-rozmirom-100-statutnogo-kapitalu-prat-gotel-dnipro/>

⁷ 99.9906% state-owned stake in the share capital of *Kyivpasservice* joint-stock company. <https://privatization.gov.ua/product/privatization-at-kiivpasservis/>

⁸ Due to logarithmic (necessary for better visualisation of the data and to approximate the outliers to the underlying data), the difference in the figure may be slight, but it is present in absolute values.

Figure 2: Distribution of equity (left) and financial result (right) by type of ownership

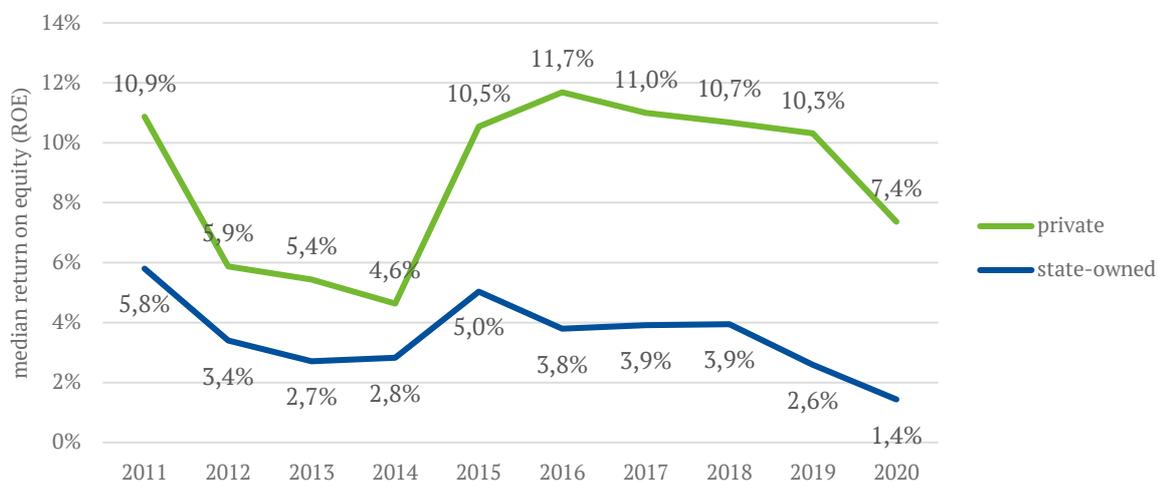


Note. The graph shows the quartiles. The horizontal line is the second quartile (median), while the lower and upper sides of the coloured rectangle are the first (25th percentile) and third quartiles (75th percentile).

Source: Anonymised financials of Ukrainian companies provided by YouControl, CES calculations

Let's look at the return on equity (ROE, calculated as the ratio of net income to equity). We see that the dynamics of the *median* indicators (see figure below) are constant over 2011-2020: private firms show higher profitability, state-owned companies repeat the trends of private ones, but with significantly lower figures.

Figure 3: Dynamics of median return on equity (ROE) for state-owned and private enterprises, %



Source: Anonymised financials of Ukrainian companies provided by YouControl, CES calculations

3.2 INDUSTRY COMPARISON

In the previous section, we compared state-owned and private enterprises in general. However, the rate of return of enterprises depends on the industry in which they operate. To account for the industry specifics of companies, we grouped enterprises in 10 industries by sector of the KVED / NACE rev.2 (see Annex for a detailed description). Economic conditions also influence profitability. We, therefore, compare the performance of the annual financial indicators by year (2011-2020) in the analysis below.

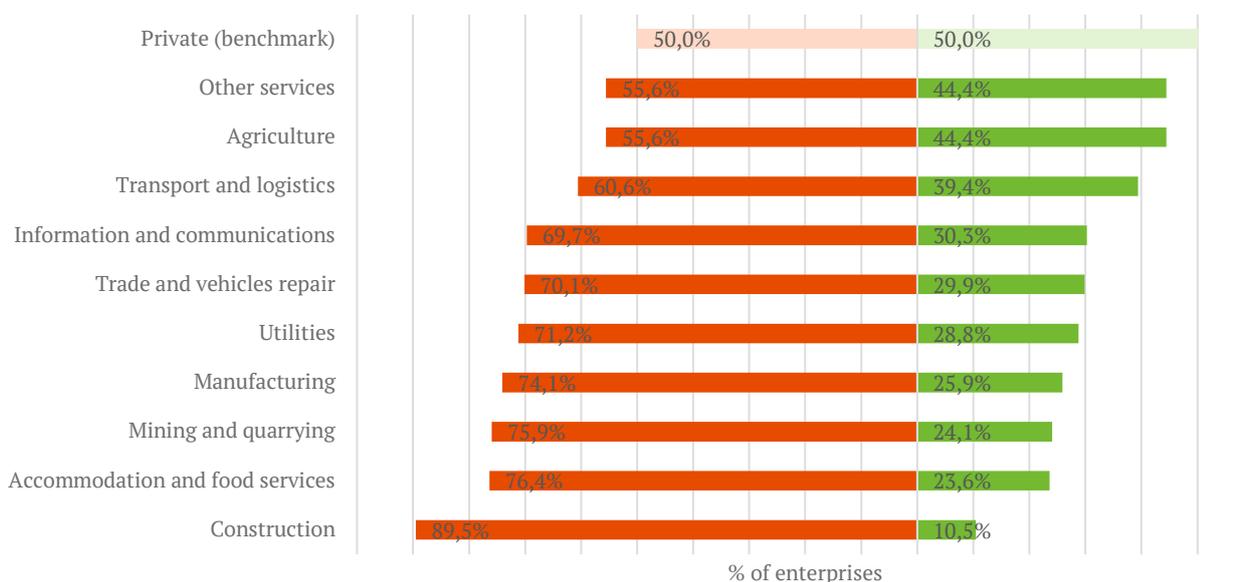
We used an adapted methodology from a study of state-owned enterprises in Central, Eastern and South-Eastern Europe conducted by the IMF.⁹ We compared the median profitability and the employee cost share by industry in private and state-owned companies, normalising the data to the median values of private companies. We took the median value of the performance of private companies in each industry in each year and then calculated:

1. The share of state-owned enterprises that are less profitable than the median private firm (in private firms, this is 50% by definition of the median; hence, if more than 50% of state-owned enterprises are below the median for private firms, this means that they tend to be less profitable than private firms in that industry);
2. The ratio of the median profitability of state-owned enterprises to the median profitability of private firms (taking into account industry);
3. The share of state-owned enterprises that spend more on employees (have a higher percentage of employee cost share in operating revenue) than the private firm median (similar to the ROE comparison).

We assume that private firms' median return on equity (ROE) should be targeted by state-owned enterprises (benchmark) in the respective sector and year. In other words, the share of SOEs with ROE below the median of private firms should be 50% or less.

As we see in the figure below, *more* than 50% of SOEs have ROEs *below* the median of private firms in all sectors. Consequently, they tend to be less profitable than private firms.

Figure 4: Distribution of ROE: state-owned enterprises in relation to the private firms median in the respective sector and year (% of enterprises)



Hereinafter, *Other services* include the following Sections of the NACE: Real estate activities; Professional, scientific and technical activities; Administrative and support services; Public administration and defence; Compulsory social security; Education; Human health and social work.

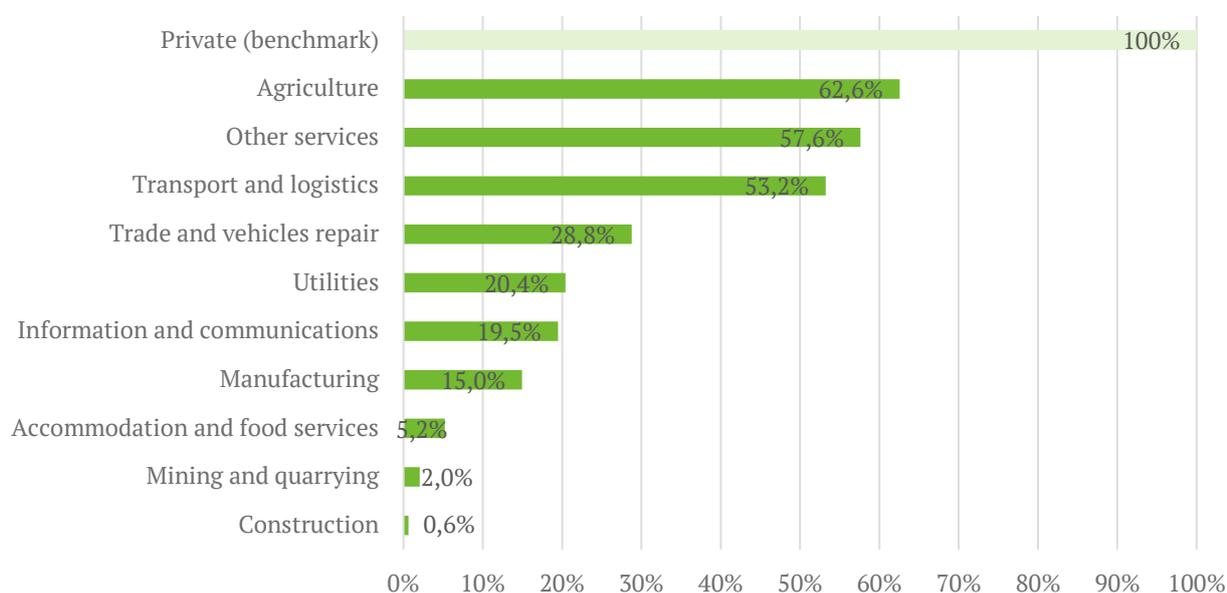
Source: Anonymised financial indicators of Ukrainian companies provided by YouControl, CES calculations

⁹ International Monetary Fund – [Reassessing the Role of State-Owned Enterprises in Central, Eastern and Southeastern Europe](#)

The most considerable difference between state-owned and private enterprises is in *construction* (89.5% of SOEs are less profitable than the private firm sector median). At the same time, *agricultural* and *other services* companies are more likely to have similar ROE (55.6% in both sectors are more profitable than the private firm median).

Also noteworthy is the significant difference between the absolute profitability ratios of state-owned and private enterprises. The median ROE for state-owned enterprises in *construction* is only 0.6% of that of private firms. It should be noted that the trend is equal to the previous chart: the *higher* the proportion of state-owned companies with ROE below the private firm sector median, the *higher* the difference between the median ROE values.

Figure 5: Median ROE of state-owned enterprises as a percentage of median ROE of private companies (% median of private companies)



Source: Anonymised financial indicators of Ukrainian companies provided by YouControl, CES calculations

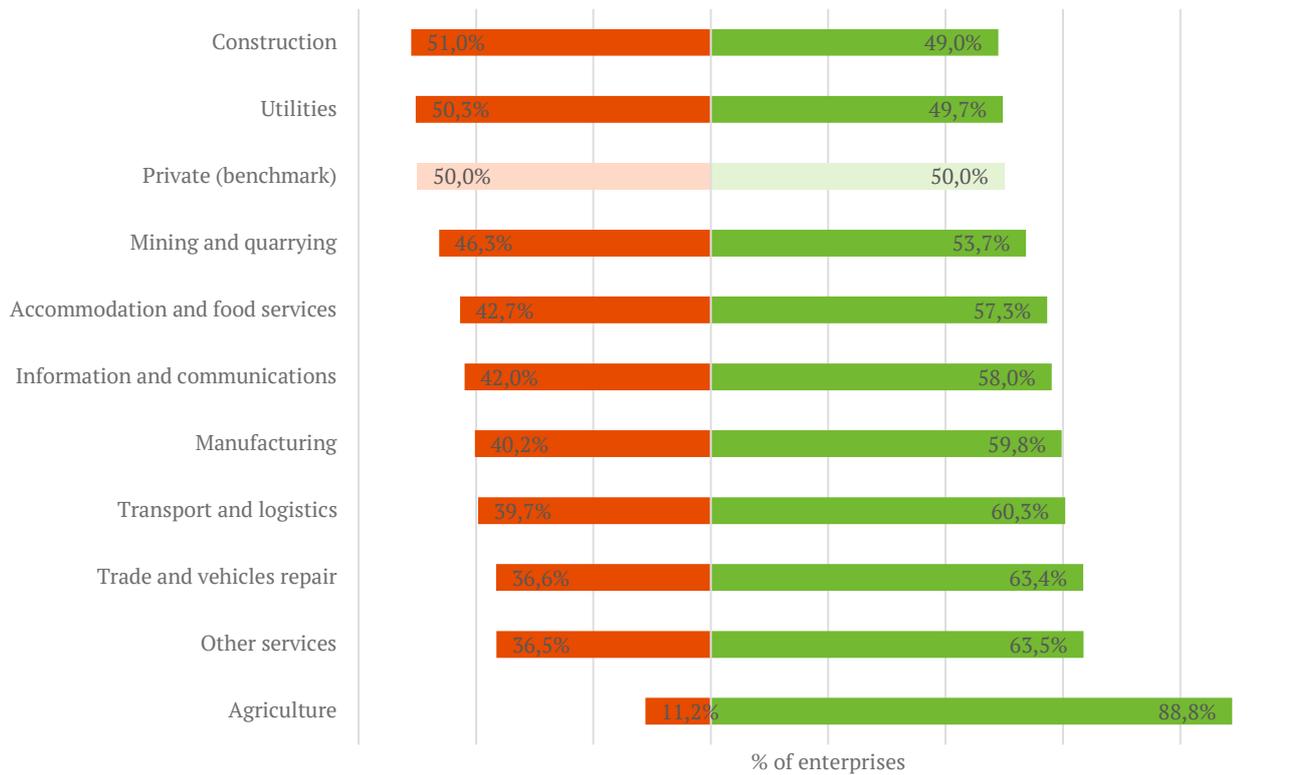
One factor affecting profitability is excessive employee cost share. If we compare wages as a share of operating revenue for state-owned and private enterprises, we see that state-owned enterprises tend to spend more. Still, we do not see a significant difference between most industries (see figure below).

SOEs in *agriculture* tend to have the highest employee cost share (88.8% spend more than the private firm sector median). This can be explained by the fact that this area includes state forestry, with its specific characteristics and no private counterparts.

In the *utilities* and *construction* sectors, less than 50% of state-owned enterprises spend more on wages than the private firm sector median. This means that they tend to spend on wages slightly less than private firms.

In other sectors, we see that state-owned enterprises tend to spend more than private enterprises on employees. However, the difference between industries is not striking (53.7-63.5% of state-owned companies spend more than the private median on wages and salaries).

Figure 6. Distribution of the employee cost share in operating revenue in state-owned enterprises to the median of private firms, % of enterprises



Source: Anonymised financial indicators of Ukrainian companies provided by YouControl, CES calculations

Accordingly, we do not see a clear trend towards lower profitability in those industries that spend more on employees than private ones. However, state-owned enterprises tend to spend more (in 8 sectors out of 10, more than 50% spend above the private median). It should be noted that the agriculture sector may have a significantly higher figure due to the inclusion of forestry, which is exclusively state-owned.

4. CONCLUSIONS AND RECOMMENDATIONS

Ukraine has 3,300 state enterprises, of which about 1.4 thousand are operating. Compared to private enterprises, SOEs tend to have less equity and a lower net profit.

Supported by *YouControl* and the State Property Fund of Ukraine, we analysed available anonymised data on the performance of enterprises (both state-owned and private) over 2011-2020.

The annual median return on equity (ROE) ratios for private enterprises over the 2011-2020 period were consistently higher than those for state-owned enterprises.

We estimated the percentage of SOEs being more profitable than the private firms median in the respective year and industry to account for industry specifics. The benchmark was 50% of companies with a higher ROE than the private companies' median.

In all ten industries, more than 50% of SOEs are less profitable than the private median. A significantly higher proportion of SOEs that tend to perform worse than private ones are in *construction, HoReCa, manufacturing*, etc. This is similar to similar calculations for state-owned enterprises in Central, Eastern and South-Eastern Europe.¹⁰

We found that the median ROE for state-owned enterprises is lower than for private enterprises in the same industry and year. If we take the median ROE of private enterprises as 100%, it is only 0.6% in *construction*; 2% in *mining and quarrying*; *agriculture* has the highest value (63.6%), but it is also much lower than the median for private firms.

Therefore, if the government owns an enterprise for profit, it does not achieve this goal, as private enterprises tend to be more profitable and thus use limited resources more efficiently.

The analysis showed that Ukrainian state-owned enterprises tend to spend more than private enterprises on personnel (which may be a factor in decreasing ROE). The largest of these is *agriculture*, where 88.8% of state-owned enterprises spend more on personnel than the median private firm (but it may be related to the specifics of state forestry). In contrast, state-owned enterprises tend to spend slightly less than comparable private firms in the construction and municipal sectors (water, gas, electricity supply). In the other sectors, 53.7-63.5% of state-owned enterprises spend more than the private firm sector median.

Overall, state-owned enterprises tend to be less profitable in each sector, and the profitability may differ several times in absolute values. Therefore, the state should critically evaluate which enterprises should remain in state ownership, depending on state ownership policy – including evaluation by the return on equity (ROE). Corporate governance reform should be carried out in these enterprises. The remaining enterprises should be transferred to the State Property Fund, prepared for privatisation, and later privatised.

¹⁰ International Monetary Fund – [Reassessing the Role of State-Owned Enterprises in Central, Eastern and Southeastern Europe](#)

ANNEX. DATA LIMITATION AND CLEANING

With the support of *YouControl*, we have analysed anonymised data on the performance of enterprises (both state-owned and private) from 2011-2020. We grouped enterprises by ownership form: state-owned, municipally-owned and private. We defined state-owned enterprises as being in the Unified Register of the State Property Fund or the register of shareholder rights of the state. Municipally-owned enterprises were defined by their legal form (municipal enterprises, municipal organisations, municipal institutions). All others were attributed to *private*. Municipally-owned enterprises were not used in the further analysis.

Table 3: Total number of operating enterprises (before data cleaning)

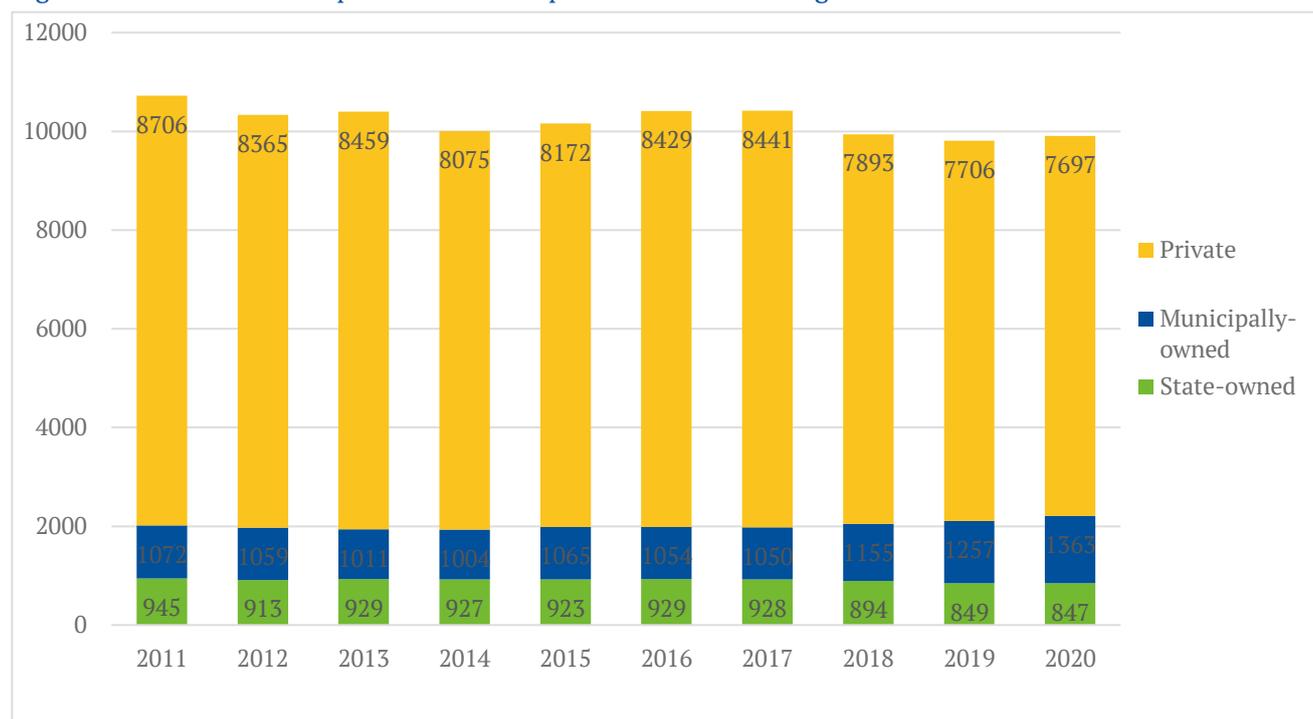
Рік	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Municipally-owned	6982	3 859	5 549	6 026	6 073	5 835	5 938	6 985	7 635	8 370	63 252
Private	248 542	136 257	201 830	310 065	307 879	278 673	303 899	321 102	312 507	270 945	2 691 699
State-owned	2 058	1 737	1 906	1 900	1 843	1 758	1 747	1 706	1 625	1 580	17 860
Total	257582	141 853	209 285	317 991	315 795	286 266	311 584	329 793	321 767	280 895	2 772 811

Note: The lower number of companies in 2012 is due to raw data issues.

Source: Anonymised financials of Ukrainian companies provided by YouControl, CES calculations

As a result of data cleaning and removing outliers – extremely high and low values (method of three standard deviations by "Net Income", "Equity", "Return on Equity") – the number of observations decreased (see figure below). This was partly due to companies registered in the non-government-controlled territory (the Autonomous Republic of Crimea and parts of Donetsk and Luhansk oblasts) and partly due to missing values for some indicators. We left companies operating for all ten years (or founded during those ten years) in the sample.

Figure 7: Number of enterprises in the sample after data cleaning



Source: Anonymised financials of Ukrainian companies provided by YouControl, CES calculations

Among the problems with data availability and reliability are the following:

- Some state-owned enterprises are not identified as such (e.g., Ukrnafta PJSC, majority-owned by Naftogaz).
- Some state-owned enterprises are entirely missing (e.g., some subsidiaries of Ukroboronprom, which are accounted for in the aggregated data of the Ministry of Economy, but which are not separately displayed on the ProZvit portal).
- Many state-owned enterprises do not report due to being in the process of liquidation or reorganisation.
- No data is available for some indicators: for example, the last reliable data on the number of employees is available for 2015, so it is not used.
- Some data is suspicious - e.g., negative values for balance sheet or income statement items (e.g., assets, revenues and costs).

Quality checks and data cleaning procedures eliminated data problems. In addition, as we only had information on the current owners of the companies, the sample may be less representative in historical terms, especially if the company was privatised during this period (e.g., Ukrtelecom in 2013).

We have divided companies into the following sectors (see table below).

Table 4: Breakdown by sector (Sections of the KVED / NACE Rev.2)

Sector	KVED / NACE Rev.2 (Sections)	Number of observations in the sample	- of which SOEs
Agriculture	A Agriculture, forestry and fishing	6 724	2 944
Mining and quarrying	B Mining and quarrying	1 757	100
Manufacturing	C Manufacturing	27 037	1 407
Utilities	D Electricity, gas, steam and air conditioning supply E Water supply, sewerage, waste management and remediation activities	5 334	172
Construction	F Construction	6 119	132
Trade and vehicles repair	G Wholesale and retail trade, repair of motor vehicles and motorcycles	18 223	146
Transport and logistics	H Transportation and storage, postal and courier activities	5 931	372
Accommodation and food (HoReCa)	I Accommodation and food services	1 357	101
Information and communications	J Information and communications	2 327	281
Other services	L Real estate activities M Professional, scientific and technical activities N Administrative and support services O Public administration and defence; compulsory social security P Education Q Human health and social work	17 401	2 582

Source: Classification - an adaptation of methodology from EBRD study – [Economic performance of state-owned enterprises in emerging economies: A cross-country study](#); number of companies - anonymised financial indicators of Ukrainian companies provided by YouControl, CES calculation