Knežević Goranka*
https://orcid.org/0000-0003-3642-7682
Ristanović Vladimir**
https://orcid.org/0000-0002-2957-3465
Pavlović Vladan***
https://orcid.org/0000-0002-2228-7095

UDC: 336.226.14:336.227.2
Original scientific paper
DOI: 10.5937/ptp2402076K
Received on: January 29, 2024
Approved for publication on:
May 10, 2024
Pages: 76–93

DETERMINANTS OF EFFECTIVE TAX RATES OF PUBLIC ENTERPRISES AS AN INDICATION OF TAX AVOIDANCE ON PROFIT TAX

ABSTRACT: Scientific research related to the avoidance of calculation and payment of profit tax in public enterprises is very rare, due to the belief that public enterprises do not avoid paying profit tax because their owner is the state, city, or local government unit. The research conducted in this paper has shown that the largest public enterprises in Serbia, which have a high profitability rate, as well as capital-intensive enterprises, have a higher effective tax rate and do not use tax planning techniques to avoid taxes. These findings can be considered scientifically adequate. All other determinants used in this paper did not show a statistically significant impact on the effective tax rate. When deciding and implementing the profit tax rate policy, as well as tax exemptions, the state must take into account the specificities of the operations of public enterprises and assess the effects of these policies on this sector of the economy.

Keywords: *public enterprises, effective tax rates, tax avoidance.*

* PhD, Full professor, Singidunum University, Belgrade, Serbia, e-mail: gknezevic@singidunum.ac.rs
** PhD, Research Associate, Institute of European Studies, Belgrade, Serbia, e-mail: vladimir.ristanovic@ies.rs
*** PhD, Full professor, University of Priština in Kosovska Mitrovica, Faculty of Economics, Kosovska Mitrovica, Serbia, e-mail: vladan.pavlovic@pr.ac.rs

1. Introduction

Public enterprises are significantly different from other business entities in many ways (Pavlović, Knežević, Bojičić, 2022). According to the Serbian Law on Public Enterprises, public enterprises can be established by different political authorities: The Republic, the autonomous province, or the local self-government unit. Public enterprises in Serbia are governed by the supervisory board and the director (Law on Public Enterprises, Article 15). The supervisory board comprises members appointed by the political authority that has established the public enterprises (in the majority) and an employee representative (in the minority).

Public enterprises are all firms that have separate legal existences and provide goods and services of specific public interest, where most of their revenue is earned. They operate partially as commercial entities in terms that return on investment is the primary measure of their profitability. However, they partially operate as any other governmental unit with many benefits from this safeguarded position. In practice, those enterprises are less directly controlled by the political authority that has established them.

At the beginning of 2021, 549 public enterprises operated at the national, provincial and local levels in Serbia. They employ about 115,000 workers, 10 percent of the total employees in the Republic of Serbia (Ladjevac, 2021). They represent a huge national fixed investment, although their economic effects are quite disappointing (they contribute to 5.9% of total income generated in Serbia by all business entities).

In order to research them, we have chosen a specific sample of those entities consisting of 49 public enterprises owned by the big cities in Serbia. Those 49 public enterprises were chosen because they had the highest revenue during the observed period. In the context of effective tax rates, the position of public enterprises implies that public enterprises need to pay taxes, but at the same time, they can do tax planning to minimize the tax burden. This feature makes them quite interesting in academic research and analysis in the context of effective tax rates. The corporate tax rate in Serbia is 15% annually, and it is considered a high rate compared with the neighboring countries: in Bosnia, it is 10% as well as in Nort Macedonia, while it is 9% in Montenegro and 12% in Croatia (Eurofast, 2020).

The higher is the rate, the higher is the tax evasion by all business entities. According to the PriceWaterhouseCoopers and World Bank report, if the total tax rate increases by 1%, it is associated with a 3% increase in tax evasion (PWC and World Bank, 2014). All businesses, whether private

or governmental, believe that the tax rates constrain their normal business operations, so they will try to avoid them. However, this avoidance is quite specific in the context of public enterprises. On the one side, their political connections could make them pay fewer taxes than other entities (Adhikari, Derashid & Zhang, 2006; Meng, Wang & Zhou, 2008; Rijkers, Arouri & Baghdadi, 2017), but on the other side, they need to pay more taxes because their owner is a governmental unit, so not paying taxes or doing tax planning could be unacceptable practice if the governmental unit like municipality or city is financed through income taxes paid by public enterprises.

Bradshaw, Liao and Ma (2019) found that state-owned enterprises' (SOEs) taxes are a dividend to the controlling shareholder, which is the state in this case, and that SOEs experienced lower tax avoidance than other entities. Eberhartinger and Samuel (2021) found that state activities and monitoring incentives affect SOEs' tax planning in German SOEs. "SOEs only engage in less tax planning relative to privately owned firms (i.e., non-SOEs) if the SOE's state owner benefits from the tax revenues" (Eberhartinger & Samuel, 2021). While prior research interprets lower tax planning in SOEs as an indicator of governmental power over the firm, the results of Eberhartinger and Samuel (2021) "imply that state owners, just like any other shareholder, can have different monitoring incentives". So, it seems that public enterprises in our analysis should be incentivized to pay as low taxes as possible.

This topic seems to attract academic attention worldwide, and according to our knowledge, this is one of the rare studies that has taken into analysis Serbian public enterprises. That is why we have tried to correlate the effective tax rate with its major determinants in order to find evidence about public enterprises' tax behavior in terms of tax avoidance. According to academic researchers, major contributing factors or determinants of effective tax rates are the size of the entity, profitability, leverage, inventory levels, and capital intensity (Mocanu, Constantin & Răileanu, 2021; Pattiasina, Tammubua, Numberi, Patiran & Temalagi, 2019; Kovermann, 2018; Ann & Manurung, 2019; Mohd & Saad, 2019 etc.).

Our study contributes to the literature because it is the first one to examine the effective tax rate of Serbian public enterprises correlated with the contributing factors that influence the behavior of public enterprises in the context of tax management. The study's result can be useful for policymakers in formulating policies to establish an effective tax framework for public enterprises to increase the payment of taxes in the government budget or before considering tax concessions. Our results should also interest managers of public enterprises in order to use tax planning more carefully and avoid aggressive tax avoidance, as well as possible tax law violations.

2. Literature review

Wang, Xu, Sun and Cullinan (2020) find that corporate tax avoidance can range from legal activities with the legitimate use of tax rules to the other extreme consisting of violation of tax laws. They "consider theoretical developments and the related empirical findings about the interconnected issues of measuring tax avoidance and the possible causes and outcomes of corporate tax avoidance" (p. 793). Our paper will use this approach to support the idea that contributing factors to tax avoidance depend on its expected outcomes. Tax avoidance depends on many factors, some of which are measurable, such as accounting performance indicators (Mocanu et al., 2021; Pattiasina et al., 2019; Kovermann, 2018; Ann & Manurung, 2019; Mohd & Saad, 2019 etc.), some of them are behavioral (Amberger, Eberhartinger & Kasper, 2015) and other are governance-based and have indirect influence (Kovermann & Velte, 2019) on tax avoidance. Tang (2020) synthetizes the empirical findings regarding tax avoidance in China, and four main areas were highlighted: "1) the mechanisms through which Chinese firms avoid income taxes; (2) the effects of government ownership and agency problems on tax avoidance; (3) tax avoidance and political connections; and (4) the roles of book-tax conformity, tax enforcement, and corporate governance" (p. 327).

Payne and Raiborn (2018) discuss the ethical dimension of tax avoidance. Aggressive tax avoidance is related to a corporate entity's tone at the top. "The conclusion is drawn that the use of the letter of the law to avoid payment of taxes sorely needed by governments for the good faith provision of public goods and services is ethically unacceptable" (Payne & Raiborn, 2018, p. 469). Lenz (2020) did a thorough ethical analysis of tax avoidance based on Kant's deontological approach and demonstrated that "aggressive tax avoidance as a special case of operating on the edge of legal boundaries is potentially immoral" (p. 681).

Koverman and Velte (2019) found that "various aspects of corporate governance, such as incentive alignment between management and shareholders, board composition, ownership structure, capital market monitoring, audit, enforcement and government relations, and other stakeholders' pressure have a strong influence on corporate tax avoidance" (p. 1). They also demonstrate that "corporate governance institutions not only have the potential to increase tax avoidance, making firms more profitable but also to limit tax avoidance to a level where the arising risks do not outweigh the benefits" (Koverman & Velte, 2019, p. 1) Amberger et al. (2015) found that behavioral aspects of corporate managers affect tax planning activities.

Vitols (2023) found a correlation between tax avoidance and employee representation at the board level.

Although we do not underestimate the importance of those environmental factors on tax avoidance in our analysis, our analysis is based on the idea of public enterprises' specific determinants of tax avoidance. Mocanu et al. (2021) found that larger companies with better financial performance are less inclined toward tax avoidance. "The link between financial performance (ROA) and scaled BTD is significant but negative. In other words, the more profitable a company is (namely, the higher its ROA), the less inclined towards tax avoidance that company is (the lower its scaled BTD)" (p. 2013).

On a sample of Indonesia's listed companies, Pattiasina et al. (2019) examined the capital intensity effect on tax avoidance. They found that capital intensity does not influence tax avoidance, while audit committee composition and institutional ownership have influenced it. Koverman (2018, p. 683) found that "tax avoidance has a negative effect on the cost of debt and that tax risk increases the cost of debt." On a sample of Indonesian manufacturing firms, Ann and Manurung (2019) showed "that liquidity, profitability, and firm size have a negative and significant effect on the level of tax aggressiveness, while inventory intensity has a positive and significant effect, but related party debt has no significant effect on the level of tax aggressiveness" (p. 105).

Mohd and Saad (2019) found "that a firm's size, profitability, the extensiveness of a foreign operation, capital intensity and leverage are the determinants of the tax avoidance of multinational companies in Malaysia" (p. 74).

Knežević and Pavlović (2023) showed "that state-owned companies in Serbia owned by local municipalities and cities use tax planning to obtain lower effective tax rates than the statutory rate, therefore using their preferential tax status from size and ownership" (p. 503).

Barbera, Merello and Molina (2020) "contributed to the current debate on the need for harmonization of corporate income tax in the European Union (EU)" (p. 427). The same authors found a "significantly positive relationship with leverage and a negative with size and financial profitability." They also "found that ETR have different determinants depending on the countries analyzed. The European authorities must consider the differences in the ETR determinants because they hinder taking measures limiting tax competition" (Barbera et al., 2020, p. 427).

McClure (2018) uses a structural dynamic model and finds that average non-tax costs decrease pre-tax earnings, and tax risk disclosure decreases tax avoidance. He states that "the cross-sectional dispersion in effective tax

rates primarily arises from differences in the ability to avoid taxes rather than differences in non-tax costs". Delgado, Fernandez-Rodrıguez and Martınez-Arias (2018) investigated the "relationship between ETR and company size in Germany to test tax planning-political power versus political cost theories" and found that "leverage, inventory intensity and return on assets are significant determinants of the ETR".

Other studies presented in the following paragraphs explain the determinants of effective tax rates for commercial entities.

Kraft (2014) found that "larger companies and growth firms with higher free cash flow appear to have higher ETR" (p. 1). "Leverage and operating lease expenses tend to be negatively correlated with the ETR", underlines Kraft (2014, p. 1). Wang, Wu, Yang, Li and Liu (2019) examined the effect of ownership concentration and state ownership on tax reporting practices in China's listed firms and found that "firms with concentrated share ownership have lower effective tax rates and that firms whose largest shareholders are government-related have higher effective tax rates compared to firms whose largest shareholders are non-government related." Fernández-Rodríguez, García-Fernández & Martínez-Arias (2021) explored effective tax rates in emerging economies and found that "both business variables (size, leverage, asset composition, and profitability) and institutional factors (statutory tax rate, level of development, index of economic freedom, GDP growth, and institutional quality) have a significant effect on the tax burden." Yinka and Uchenna (2018) examine the the tax rate of Nigerian listed firms and found that "effective tax rates were lower than the statutory tax rate during the period and that there are differences in ETR from one sector of the economy to the other" (p. 19). Yinka and Uchenna (2018) further reveal that "larger and more profitable firms face a high tax burden, while firms with high leverage, capital intensity, and tax expert (auditor type) face lower ETR" (p. 19). Yahaya and Yusuf (2020) revealed that "firm size and leverage have a positive and significant impact on aggressive tax avoidance, while a firm's profitability and age have a negative and significant impact on tax avoidance" (p. 101). Kusbandiyah and Norwani (2018) indicated in their paper that "size and family ownership have no negative influence on aggressive tax avoidance." Meanwhile, "foreign ownership positively influences aggressive tax avoidance" (p. 132).

Other aspects of tax avoidance, such as corporate social responsibility and hypocrisy, dominate the academic sphere of research on this topic (Alsaadi, 2020). Alsaadi (2020) shows "a positive association between firms' CRS activities and tax avoidance, and firms headquartered in low financial-tax

reporting conformity jurisdictions are more likely to engage in CSR to hedge against the potential negative impact of tax avoidance" (p. 639). Abid and Dammak's (2022) results show that "firms with high CSR scores are more likely to engage in aggressive tax avoidance. The findings also show that firms audited by high-quality auditors are more likely to get involved in CSR to hedge against the potential consequences of aggressive tax avoidance practices" (p. 618).

Huang and Zhang (2020) find that "financial expert CEOs are associated with a more aggressive tax avoidance policy", while Wen et al. (2020) find "that there is a negative association between directors with foreign experience and tax avoidance, suggesting that these directors can help constrain their firms' tax aggressiveness." "The negative relation between directors with foreign experience and tax avoidance only holds when directors' foreign experiences are derived from countries or regions with higher investor protections." García-Meca, Ramón-Llorens and Martínez-Ferrero (2021) examined "the effect of chief executive officers (CEOs) narcissistic tendencies regarding corporate tax avoidance and found that firms with larger audit committees help to control the consequences of CEO narcissism on tax avoidance" (p. 223). Jihene and Moez (2019) examined "the effect of CEO compensation on corporate tax avoidance". They found "a negative association between CEO compensation and tax avoidance in well-audited firms, supporting the moderating effect of audit quality on the relation between CEO compensation and tax avoidance" (p. 131).

According to all of the above-presented studies, we have chosen 4 determinants of the effective tax rates for public enterprises: a) leverage, b) capital intensity, c) profitability and d) level of inventory and several different measures of tax avoidance (ETR – effective tax rate – ETR acr accounting based effective tax rates and ETRZ and ETRc are cash flow based effective tax rates).

Based on all the above presented, the following relationships are expected:

Table 1. Determinants of the effective tax rates for public enterprises and expected relationships

Dependent variable	Independent variable	Expected relationship
ETR (effective tax rates)	Leverage measured by Debt to equity ratio	Negative, firms are expected to use tax planning to avoid taxes
ETR (effective tax rates)	Capital intensity	Negative, firms are expected to use tax planning to avoid taxes
ETR (effective tax rates)	Profitability measured by ROA and ROE	Positive, firms are not expected to avoid taxes
ETR (effective tax rates)	Inventory level	Positive, firms are not expected to avoid taxes

Source: Authors'

3. Methodology

Effective tax rates are of various kinds (Zimmermann, 1983), and many researchers use different rates in order to formulate better whether companies apply tax planning or not. In our case, accounting and cash-flow-based rates are used. Accounting effective tax rate is the ratio of total tax expense divided by the accounting pre-tax profit, while Cash flow-based effective tax rate is a ratio of cash outflow for taxes divided by the net cash flow from operations. Zimmerman's (1983) effective tax rate uses total tax expense minus deferred taxes as the numerator and operating cash flow as the ordinator.

All those rates reach different results in terms of firms' tax planning activities and measure differences in public enterprises' tax avoidance. Effective tax rates described as ETRa (ETR accounting-based), ETRc (ETR cash flow-based) and ETRz (ETR based on Zimmerman's 1983 paper) are used as dependent variables.

The sample consists of the 49 largest Serbian public enterprises, and variables are taken from the PKS Partner database (https://pkspartner.rs/sr/). The ETR and their various modalities are calculated for 2020 and not compared with other years to eliminate the possibility of changes in accounting policies after Covid 19 and its effects on the tax rate**.**

Table 2 shows the industry sample distribution. Most of the firms in the sample are in the oil and gas sector, water supply and city hygiene firms, community firms and energy production and distribution firms.

Table 2. Sample distribution per industry

Industry	Number of firms	%
Electrical industry	3	6,1%
Oil and Gas and Coal	7	14,2
Road industry	4	8,1
Production and distribution of heat energy	5	10,2
Postal services	1	2,04
City travel services	2	4,0
Water supply and city hygiene company	7	14,2
Foreign trade in armaments and defense equipment	1	2,04
Forrest management	2	4,0
Community Company	5	10,2
Parking lot	1	2,04
Funeral services	1	2,04
Ski management	1	2,04
Technics and connections	1	2,04
City land	1	2,04
City green market	1	2,04
Other	6	12,2
Total	49	100%

Source: Authors' own calculations

4. Results

The study results are presented in two sections: descriptive statistics and correlation analysis.

4.1. Descriptive statistics

Table 3 shows the dependent and independent variables (effective tax rates, debt to equity, ROA, ROE, capital intensity, and inventory variable) at their minimum and maximum with the respective mean and standard deviation.

Table 3. Descriptive statistics of main variables in the research

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ETRa	49	.0000	.9911	.192422	.2466914
ETRc	49	.0000	.7719	.119402	.1867692
ETRZ	49	.0000	.4777	.074818	.1094766
DE	49	.0000	16.2000	1.442857	3.0755081
ROA	49	-.2940	.7150	.025143	.1219423
ROE	49	-.1460	1.0960	.059388	.1853427
INVA	49	.0000	.2323	.052876	.0638795
CAPITINT	49	.0000	.3478	.017279	.0508769
Valid N (listwise)	49				

Source: Authors' own calculations

According to the statistics, ETRa has a minimum of 0 and a maximum of .9911, while ETRc has a minimum of 0 and a maximum of .7719. Zimmermann ETR labeled in the table as ETRZ has a maximum of .4777. This shows that different tax rate formulas reach different results for the same sample of companies, therefore affecting the effective tax rate results. Debt The debt-to-equity ratio maximum is 16.2 while the minimum is 0, meaning that some companies do not use long-term debt in business while others show huge indebtedness. ROA minimum is negative -.2940 while the maximum is .7150 with a mean of .025143. In the same period, companies' ROE minimum was also negative -.1460, while the maximum was 1.0960, with a mean of .059388. The inventory ratio has a minimum of 0 and a max. of .2323 with a mean of .052876. The capital intensity ratio has a minimum of 0 and a max. of .3478 with a mean of .017279.

4.2. Correlation analysis

When testing and answering the research questions, we prepared a Pearson Correlation analysis shown in Table 4.

Table 4. Pearson correlation between effective tax rate modalities and ratios of intensity and profitability

		ETRa	ETRc	ETRacr	DE	ROA	ROE	INVA	CAPITINT
ETRa	Pearson Correlation	1	-.084	.195	.170	-.033	.034	-.110	.039
	Sig. (2-tailed)		.565	.180	.243	.823	.819	.452	.792
	N	49	49	49	49	49	49	49	49
ETRc	Pearson Correlation	-.084	1	-.064	.028	-.008	.082	.029	.056
	Sig. (2-tailed)	.565		.663	.850	.954	.576	.846	.701
	N	49	49	49	49	49	49	49	49
ETRz	Pearson Correlation	.195	-.064	1	-.135	.117	**.377****	.092	.033
	Sig. (2-tailed)	.180	.663		.356	.423	**.008**	.530	.824
	N	49	49	49	49	49	**49**	49	49
DE	Pearson Correlation	.170	.028	-.135	1	-.017	.219	-.261	.036
	Sig. (2-tailed)	.243	.850	.356		.905	.131	.070	.808
	N	49	49	49	49	49	49	49	49
ROA	Pearson Correlation	-.033	-.008	.117	-.017	1	.252	.168	.082
	Sig. (2-tailed)	.823	.954	.423	.905		.080	.249	.573
	N	49	49	49	49	49	49	49	49
ROE	Pearson Correlation	.034	.082	.377**	.219	.252	1	-.147	.228
	Sig. (2-tailed)	.819	.576	.008	.131	.080		.315	.115
	N	49	49	49	49	49	49	49	49
INVA	Pearson Correlation	-.110	.029	.092	-.261	.168	-.147	1	-.070
	Sig. (2-tailed)	.452	.846	.530	.070	.249	.315		.633
	N	49	49	49	49	49	49	49	49
CAPITINT	Pearson Correlation	.039	.056	.033	.036	.082	.228	-.070	1
	Sig. (2-tailed)	.792	.701	.824	.808	.573	.115	.633	
	N	49	49	49	49	49	49	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' own calculations

When ETRa is correlated with ROA and inventory level, it is shown that the relationship is negative but not statistically significant. All other correlations between ETRa, capital intensity, and debt-to-equity ratios have shown a positive relationship, although not statistically significant.

When ETRc is correlated with the independent variables, only one negative correlation is evident, and this is a correlation between ROA and ETRc. All other correlations are positive. None is statistically significant.

When ETRz is correlated with debt to equity (leverage), this relationship is shown to be negative, while all other correlations are positive. The correlation between ETRz and ROE is statistically significant and positive (corr. .377 with the sign. .008)

5. Discussion

Various studies find that profitability correlates with no tax avoidance, meaning profitable firms have higher effective tax rates (Ann & Manurung, 2019; Barbera et al., 2020; Yahaya & Yusuf, 2020). Our findings suggest that ETRz, ETRa and ETRc are higher for firms with higher profitability (higher ROE). These variables are all positively correlated, but ROE and ETRz show a significant correlation at the level of .377 with the sign. of .008. This means that public enterprises with huge equity and higher return on equity in Serbia are those that pay higher income taxes. However, in other countries, such as Germany and France, profitability and effective tax rates are shown to be negative (Barbera et al., 2020). So, country-specific positions and tax rates influence the relationship between profitability and effective tax rates. So, our results are country-specific and cannot be extended beyond our research.

Regarding capital intensity ratio and ETR, our results show that ETRa, ETRc, and ETRz are all positively correlated with capital intensity. Firms that are capital-intensive pay higher taxes. Our results are in line with Barbera et al. (2020), who found that "when focusing on the economic structure, CAPINT is only significant in Germany and Italy but opposes the expected direction." Pattiasina et al. (2019) find no relationship between capital intensity and tax avoidance. So, we can conclude that in Serbia public enterprises, capital intensity and tax avoidance are positively associated, and Serbian public enterprises pay higher taxes if they purchase more fixed assets.

Barbera et al. (2020) explained "the positive significant effect of leverage by the tax particularities of each country, specifically the introduction of temporary limitations to the deductibility of interests in response to the crisis period and for budgetary reasons." Mocanu et al. (2021) claim that the leverage

ratio seems to significantly and positively impact the book-tax differences for the sample of companies accused of tax avoidance. The influence of leverage on the effective tax rate should be negative because firms in debt avoid tax payments, but we did not find any conclusive evidence about that. The same holds true for the inventory variables and effective tax rates.

In the case of Serbian public enterprises, only one relationship has been found to be statistically significant (ETRZ and ROE). The correlation between ETRz and ROE is statistically significant and positive (corr. .377 with the sign. .008), meaning that 37.7% of ETRZ variations could be explained by the ROE profitability variable.

6. Conclusion

Regarding our expected relationships between ETR and capital intensity, if the capital intensity is higher, public enterprises will pay lower effective tax rates, meaning they will have a better possibility of avoiding taxes. This does hold true in our research. For all three variables of ETR, the capital intensity relationship is positive. So, we found conclusive evidence that public enterprises with more fixed assets do not avoid taxes in Serbia.

When the relationship between leverage or debts and ETR is considered, our results confirm that public enterprises with higher debts pay lower taxes only when the effective tax rate is measured by the ETRZ, but not for other measures. So, there is no conclusive evidence about this relationship in our case.

We have expected a positive relationship between profitability and ETR, and this holds true for the one measure of profitability, such as ROE, and all three measures of effective tax rates (ETRa, ETRc, ETRZ). So, only this fact could be considered conclusive evidence about profitability (measured by ROE) and effective tax rates.

We have expected a positive relationship between inventory and effective tax rates, which holds true for the ETRc and ETRZ measures but not when ETRa is used. Again, no conclusive evidence is found in Serbia.

In conclusion, we can add that profitable public enterprises (when profitability is measured by ROE) do not avoid taxes, as well as public enterprises that engage many fixed assets (capital intensity is high). For public enterprises having huge leverage (debts) and huge levels of inventory, we cannot find conclusive evidence about the relationship with the effective tax rates.

Some of our results are in line with expectations, but many of them are not. So, we advise future researchers to investigate public enterprises

individually on a case study basis because it seems that Serbian public enterprises are involved in tax management and tax planning, but determinant factors (besides profitability ROE measured and capital intensity) cannot be found. It is evident that each public enterprise follows its individual tax planning policy and avoids payment of taxes wherever possible and in line with the tax laws. Although large public enterprises in Serbia have political power, they do not use it to avoid taxes. Our analysis does not consider small and medium-sized public enterprises. Future research should be done to gain a better understanding of this problem and should take into analysis public enterprises of all sizes.

Knežević Goranka
Univerzitet Singidunum, Beograd, Srbija

Ristanović Vladimir
Institut za evropske studije, Beograd, Srbija

Pavlović Vladan
Univerzitet u Prištini sa sedištem u Kosovskoj Mitrovici, Ekonomski fakultet, Kosovska Mitrovica, Srbija

DETERMINANTE EFEKTIVNE PORESKE STOPE JAVNIH PREDUZEĆA KAO INDICIJA IZBEGAVANJA POREZA NA DOBIT

APSTRAKT: Naučna istraživanja vezana za izbegavanje obračunavanja i plaćanja poreza na dobit u javnim preduzećima su veoma retka, a to se duguje činjenici da za javna preduzeća postoji jasno ubeđenje da ona ne izbegavaju plaćanje poreza na dobit jer im je vlasnik država, grad ili jedinica lokalne samouprave. Istraživanje obavljeno u ovom radu pokazalo je da najveća javna preduzeća u Srbiji koja imaju visoku stopu profitabilnosti, kao i da kapitalno intenzivna preduzeća imaju višu efektivnu poresku stopu, ne koriste tehnike poreskog planiranja u svrhu izbegavanja poreza. Ovi dokazi se mogu smatrati naučno adekvatnim. Sve ostale determinante korišćene u ovom radu nisu pokazale statistički značajan uticaj na efektivnu

poresku stopu. Kada se odlučuje i donosi politika stope poreza na dobit, kao i kod poreskih oslobođenja, država mora da uzme u obzir specifičnosti poslovanja javnih preduzeća i da vidi efekte tih politika i na ovaj sektor privrede.

Ključne reči: *javna preduzeća, efektivna poreska stopa, izbegavanje poreza na dobit.*

References

1. Abid, S., & Dammak, S. (2022). Corporate social responsibility and tax avoidance: the case of French companies. *Journal of Financial Reporting and Accounting*, *20*(3/4), pp. 618-638. https://doi.org/10.1108/JFRA-04-2020-0119
2. Adhikari, A., Derashid, C., & Zhang, H. (2006). Public policy, political connections, and effective tax rates: Longitudinal evidence from Malaysia. *Journal of Accounting and Public Policy*, *25*(5), pp. 574-595
3. Alsaadi, A. (2020). Financial-tax reporting conformity, tax avoidance and corporate social responsibility. *Journal of Financial Reporting and Accounting*, *18*(3), pp. 639-659. https://doi.org/10.1108/JFRA-10-2019-0133
4. Amberger, H., Eberhartinger, E., & Kasper, M. (2015). Tax-rate biases in tax-planning decisions: experimental evidence. In: *Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association* (Vol. 108, pp. 1-54). National Tax Association
5. Ann, S., & Manurung, A. H. (2019). The influence of liquidity, profitability, intensity inventory, related party debt, and company size to aggressive tax rate. *Archives of Business Research*, *7*(3), pp. 105-115. DOI: 10.14738/abr.73.6319
6. Barbera, A., Merello, P., & Molina, R. (2020). Determinants of corporate effective tax rates: Evidence from the Euro area. *Academia Revista Latinoamericana de Administración*, *33*(3/4), pp. 427-444. https://doi.org/10.1108/ARLA-12-2019-0238
7. Bradshaw, M., Liao, G., & Ma, M. S. (2019). Agency costs and tax planning when the government is a major shareholder. *Journal of Accounting and Economics*, *67*(2-3), pp. 255-277
8. Delgado, F., Fernandez-Rodrıguez, E., & Martınez-Arias, A. (2018). Corporation effective tax rates and company size: evidence from Germany. *Economic research – Ekonomska istraživanja*, *31*(1), pp. 2081-2099

9. Eberhartinger, E., & Samuel, D. M. (2021). Monitoring and Tax Planning–Evidence from State-Owned Enterprises. *WU International Taxation Research Paper Series*, (2020-08).
10. Eurofast (2020). *Corporate tax matrix*, Downloaded 2024, April 5 from https://eurofast.eu/wp-content/uploads/2020/01/Corporate-Tax-Matrix_Final.pdf
11. Fernández-Rodríguez, E., García-Fernández, R., & Martínez-Arias, A. (2021). Business and institutional determinants of Effective Tax Rate in emerging economies. *Economic Modelling*, *94*, pp. 692-702
12. García-Meca, E., Ramón-Llorens, M. C., & Martínez-Ferrero, J. (2021). Are narcissistic CEOs more tax aggressive? The moderating role of internal audit committees. *Journal of Business Research*, *129*, pp. 223-235
13. Huang, H., & Zhang, W. (2020). Financial expertise and corporate tax avoidance. *Asia-Pacific Journal of Accounting & Economics*, *27*(3), pp. 312-326
14. Jihene, F., & Moez, D. (2019). The moderating effect of audit quality on CEO compensation and tax avoidance: Evidence from Tunisian context. *International Journal of Economics and Financial Issues*, *9*(1), pp. 131-139. DOI: https://doi.org/10.32479/ijefi.7355
15. Knežević, G., & Pavlović, V. (2023). Accounting and Non-accounting Concepts of Effective Tax Rates and their Effects on Tax Planning in State-owned Companies, *Lex Localis – Journal of Local self-government*, *21*(2), doi.org/10.4335/21.2.323-341(2023)
16. Kovermann, J. H. (2018). Tax avoidance, tax risk and the cost of debt in a bank-dominated economy. *Managerial Auditing Journal*, *33*(8/9), pp. 683-699. https://doi.org/10.1108/MAJ-12-2017-1734
17. Kovermann, J., & Velte, P. (2019). The impact of corporate governance on corporate tax avoidance – A literature review. *Journal of International Accounting, Auditing and Taxation*, *36*, 100270. https://doi.org/10.1016/j.intaccaudtax.2019.100270
18. Kraft, A. (2014). What really affects German firms' effective tax rate? *International Journal of Financial Research*, *5*(3), pp. 1-19. http://dx.doi.org/10.5430/ijfr.v5n3p1
19. Kusbandiyah, A., & Norwani, N. M. (2018, July). The influence of size firm and ownership structure toward aggressive tax avoidance of manufacture companies listed in Indonesia Stock Exchange. In: *2018 3rd International Conference on Education, Sports, Arts and Management Engineering (ICESAME 2018)* (pp. 132-135). Atlantis Press

20. Ladjevac, I. (2021). Serbia economy briefing: The status quo of Serbia's state-owned enterprises and its representative enterprises China CEE Insitute. *Weekly Briefing, 37*(2), Downloaded 2024, March 29 from https://china-cee.eu/2021/06/03/serbia-economy-briefing-the-status-quo-of-serbias-state-owned-enterprises-and-its-representative-enterprises/
21. Zakon o javnim preduzećima [Law on Public Enterprises], *Službeni glasnik RS*, br. 15/16 i 88/19
22. Lenz, H. (2020). Aggressive tax avoidance by managers of multinational companies as a violation of their moral duty to obey the law: A Kantian rationale. *Journal of Business Ethics*, *165*(4), pp. 681-697. https://doi.org/10.1007/s10551-018-4087-8
23. Li, H., Meng, L., Wang, Q., & Zhou, L. A. (2008). Political connections, financing and firm performance: Evidence from Chinese private firms. *Journal of Development Economics*, *87*(2), pp. 283-299.
24. McClure, C. (2018). *Determinants of tax avoidance*. Working Paper, Stanford University.
25. Mocanu, M., Constantin, S. B., & Răileanu, V. (2021). Determinants of tax avoidance–evidence on profit tax-paying companies in Romania. *Economic Research-Ekonomska istraživanja*, *34*(1), pp. 2013-2033. https://doi.org/10.1080/1331677X.2020.1860794
26. Mohd, F., & Saad, N. (2019). Determinants of corporate tax avoidance strategies among multinational corporations in Malaysia. *International Journal of Public Policy and Administration Research*, *6*(2), pp. 74-81. DOI: 10.18488/journal.74.2019.62.74.81
27. Pattiasina, V., Tammubua, M. H., Numberi, A., Patiran, A., & Temalagi, S. (2019). Capital Intensity and tax avoidance: An Indonesian case. *International journal of social sciences and humanities*, *3*(1), pp. 58-71
28. Pavlović, V., Knežević, G., & Bojičić, R. (2022). The impact of gender and age on earnings management practices of public enterprises: A case study of Belgrade, *Economic Studies (Ikonomicheski Izsledvania)*, *31*(3), pp. 130-148
29. Payne, D. M., & Raiborn, C. A. (2018). Aggressive tax avoidance: A conundrum for stakeholders, governments, and morality. *Journal of Business Ethics*, *147*(3), pp. 469-487. https://doi.org/10.1007/s10551-015-2978-5
30. PWC and WB (2014). *Paying Taxes 2014: The global picture A comparison of tax systems in 189 economies worldwide.* Downloaded 2024, March 29 from https://www.pwc.com/gx/en/paying-taxes/assets/pwc-paying-taxes-2014.pdf

31. Rijkers, B., Arouri, H., & Baghdadi, L. (2017). Are politically connected firms more likely to evade taxes? Evidence from Tunisia. *The World Bank Economic Review*, *30*(Supplement_1), S166-S175.
32. Tang, T. Y. (2020). A review of tax avoidance in China. *China Journal of Accounting Research*, *13*(4), pp. 327-338. https://doi.org/10.1016/j.cjar.2020.10.001
33. Wang, F., Xu, S., Sun, J., & Cullinan, C. P. (2020). Corporate tax avoidance: A literature review and research agenda. *Journal of Economic Surveys*, *34*(4), pp. 793-811. doi: 10.1111/joes.12347
34. Vitols, S. (2023) Board Level Employee Representation and Tax Avoidance in Europe, Accounting, *Economics and Law*, *13*(4), pp. 457-478
35. Wang, H., Wu, J., Yang, Y., Li, R., & Liu, Y. (2019). Ownership concentration, identity and firm performance: Evidence from China's listed firms. *Emerging Markets Finance and Trade*, *55*(15), pp. 3653-3666
36. Wen, W., Cui, H., & Ke, Y. (2020). Directors with foreign experience and corporate tax avoidance. *Journal of Corporate Finance*, *62*, 101624. https://doi.org/10.1016/j.jcorpfin.2020.101624
37. Yahaya, K. A., & Yusuf, K. (2020). Impact of company characteristics on aggressive tax avoidance in Nigerian listed insurance companies. *Journal Administrasi Bisnis*, *9*(2), pp. 101-111
38. Yinka, M. S., & Uchenna, C. E. (2018). Firm specific determinants of corporate effective tax rate of listed firms in Nigeria. *Journal of Accounting and Taxation*, *10*(2), pp. 19-28
39. Zimmerman, J. L. (1983). Taxes and firm size. *Journal of accounting and economics*, *5*, pp. 119-149. https://doi.org/10.1016/0165-4101(83)90008-3