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CORPORATE INCOME TAX AND THE RACE TO THE BOTTOM PHENOMENON

Abstract

The taxation of business profits has recently garnered considerable attention, not only in developing countries but also among the member states of the European Union (EU). Significant changes in tax rates, the definition of taxable income, tax benefits, and legislation to avoid double taxation, driven by competition in this tax area, have resulted in significant consequences for the economic growth of countries. Although the balance sheet importance of corporate income tax (CIT) is limited, its significance is directly attributed to its impact on economic activities. The focus of this study is the competition within the area of CIT and the examination of the phenomenon related to the "race to the bottom" that arises as a result of this competitiveness. The main goal of the paper is to examine the repercussions of CIT competitiveness on economic growth in the EU and Serbia in the specified time frame from 2007 to 2023. The research results show that CIT competitiveness has a positive and statistically significant impact on economic growth in most of the analysed countries. Based on the obtained results, the authors make recommendations for increasing revenue from CIT.

Keywords: standard rate, race to the bottom, CIT, EU, Serbia.

JEL classification: E62, H20, O23

ПОРЕЗ НА ДОБИТ ПРЕДУЗЕЊА И ФЕНОМЕН „ТРКА КА ДНУ“

Апстракт

Опорезивање добити је у последње време изазвало значајну пажњу, не само у земљама у развоју, већ и међу државама чланицама Европске уније. Битне промене у погледу висине пореских стопа, начина дефинисања пореске основице, пореских олакшица, правила за избегавање двоструког опорезивања, изазване конкуренцијом пореза на добит предузећа, имале су за резултат последице на привредни раст земаља. Иако је билансни значај пореза на добит предузећа ограничен, његов значај приписује се, управо, његовим ефектима на економске токове. У фокусу анализе овог рада је конкурентност пореза на добит

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предузећа и испитивање феномена „трке ка дну” који је последица његове конкурентности. Основни циљ рада је да испита ефекте конкурентности пореза на добит предузећа на привредни раст земаља Европске уније (ЕУ) и Србије у периоду од 2007. до 2023. године. Резултати истраживања показали су да конкурентност пореза на добит предузећа има позитиван и статистички значајан ефекат на привредни раст, у већини анализираних земаља. Ослањајући се на добијене резултате, аутори дају препоруке за повећање прихода од пореза на добит предузећа.

Кључне речи: законска пореска стопа, трка ка дну, порез на добит предузећа, ЕУ, Србија.

Introduction

The inception of CIT occurred in 1913 when it was initially levied as an independent tax category in the United States. Since that point, it has been extensively employed as a tax form in other countries. Simultaneously, both tax collections and tax rates started to rise. CIT was implemented and expanded following World War II, leading to tax rates above 50% (Arsić & Randelović, 2017, p. 101). CIT rates have experienced a substantial decline since the early 1980s as a result of tax reforms.

This type of tax serves as the fundamental method for directly taxing legal entities. Its primary purpose, aside from generating fiscal income, is to fulfil its economic and social role. CIT is prevalent in many jurisdictions, yet continuous arguments persist questioning its justification. The prevailing argument in the literature is that companies are artificial legal entities, distinct from their owners, with independent assets, income, and liabilities. However, despite ongoing disagreements over its validity, several scholars consider CIT significant and influential in the current tax structures of modern nations (Djurović Todorović et al., 2019, p. 156). While it may not generate substantial revenue, this tax form serves a crucial function in stabilizing and fostering the economy. The imposition of CIT can exert a significant influence on the economic expansion and advancement of a nation. Hence, the research seeks to examine and evaluate the competitiveness of CIT by focusing on its nature and characteristics. In addition to the great importance of CIT for the tax system of most countries, the effects of this tax can possess detrimental or adverse repercussions on the economy. Some of the negative reflections of CIT are due to its competitiveness. Namely, the competitiveness of CIT has initiated the emergence of several phenomena, among which is the phenomenon often referred to in the literature as the “race to the bottom.” The “race to the bottom” phenomenon is a consequence of tax competitiveness caused precisely by CIT instruments. The negative effects of this phenomenon are due to the tax competition that is undoubtedly present everywhere in the world. CIT competitiveness is also present in the EU, where, to date, no significant results have been achieved in the field of direct tax harmonization. Member States apply different methods for calculating taxable profit, which differ in many aspects. Tax competition occurs when individuals may minimize their tax obligations by relocating factors of production from countries with high tax burdens to jurisdictions where tax rates are not high (Mitchell & Foundation, 2004). This scenario exists everywhere in the globe, not only in the EU. So, the competitiveness of CIT has led to four decades of CIT

reform. Multinational companies had too much power in the market, making it harder for local businesses to make new investments (Grubišić & Marčetić, 2013). This phenomenon, known as the “race to the bottom,” led to the paradox of “collecting.” Specifically, tax rates have been declining while revenues have remained stable or, in some countries, increased. Changes in the taxation system are taking place in an environment riddled with numerous contradictions, as a direct reflection of current socio-political, economic, and social trends. Transformations of tax structures have been accomplished in a way that indicates that the direction and priorities of tax policy of each state individually change substantially and that numerous tax issues, as an important part of the political procedures for making choices, gradually move from the national to the supranational level (Dimitrijević, 2015, p. 278).

1. The literature on corporate tax revenues

The fiscal impact of CIT on economic expansion is the primary focus in many books that delve into business tax. Đurović Todorović et al. (2020) scrutinized the influence of Serbia’s CIT on the country’s economic growth. They concluded that an increase in CIT positively affects the economy’s growth (Đurović Todorović et al., 2020, p. 321). In the context of global tax competition, countries are reshaping their tax structures to enhance competitiveness. Each nation’s economic policy should significantly incorporate various tax forms (Đurović Todorović et al., 2019). To ensure the economy functions optimally, tax levels and shares must be defined in alignment with growth. Any tax increase has the potential to negatively impact key economic indicators. Thus, information on the adverse effects of different taxes has become crucial for designing optimal tax systems (Dackehag & Hansson, 2012).

There is a vast body of literature investigating the link between tax revenues and economic expansion (e.g., Arnold, 2008; Plosser, 1992). The results of various research differ, depending on the fact that in some studies, the CIT has a positive impact, while in others, this tax is shown to harm economic growth. Koester & Kormendi (1989) examined the impact of income tax across over sixty countries and found results that confirm the negative effect of CIT. Slemrod (1995) emphasizes the dilemma of the impact of CIT on economic activities. However, several studies point out that reducing taxes and tax rates increases economic growth.

On the other hand, evidence of negative effects is also found in the investigation of Padovano & Galli (2001). According to some research, CIT has a considerable detrimental economic impact. Using panel data from 70 countries, Lee & Gordon (2005) analyse the influence of legally mandated rates for corporate taxes on the rate of economic expansion. Their analysis revealed that the only tax rates that statistically and adversely affect economic growth are those on corporations. Since the impact of taxes on economic development probably differs substantially across wealthy and poor countries, they concentrate on the more prosperous members of the OECD. Romer and Romer’s (2010) study examines how taxes affect the economy as a whole. Their analysis revealed how tax hikes hurt the actual national income. Using a similar methodology, Mertens & Ravn (2013) investigate the effect of corporate taxation on economic expansion. Their research demonstrates how the CIT hinders economic expansion. Veronika & Lenka (2012) examined data from 1998

to 2010 and found that CIT has a detrimental effect on economic development over time. Also, Etale et al. (2016) examined the influence of the same factors in Nigeria between 2005 and 2014. Their research points out the considerable effect of CIT on the economy. The authors have found a link between CIT and economic development. In a study conducted by Macek (2004), the author investigated the influence of CIT on the economic development of OECD nations throughout the time frame of eleven years. A statistical model based on multiple regression was used to represent the linear correlation between the parameters under examination. The parameters, according to the relevant categorization, include CIT. Macek uncovered that CIT produced a negative influence on the economy. The author recommended that OECD nations minimize CIT rates. Dackehag and Hansson (2012) conducted a study of the countries of the OECD spanning the years 1976 to 2010. Through their investigation of twenty-five economies, they discovered a robust link between corporation tax and economic expansion. The study investigates the influence of CIT on the economy. Scientists specifically examine the effects of statutory tax rates on economic development. They use data collected on panels from some countries of the OECD. It was shown that both the taxes on corporate and personal income had a detrimental impact on economic development.

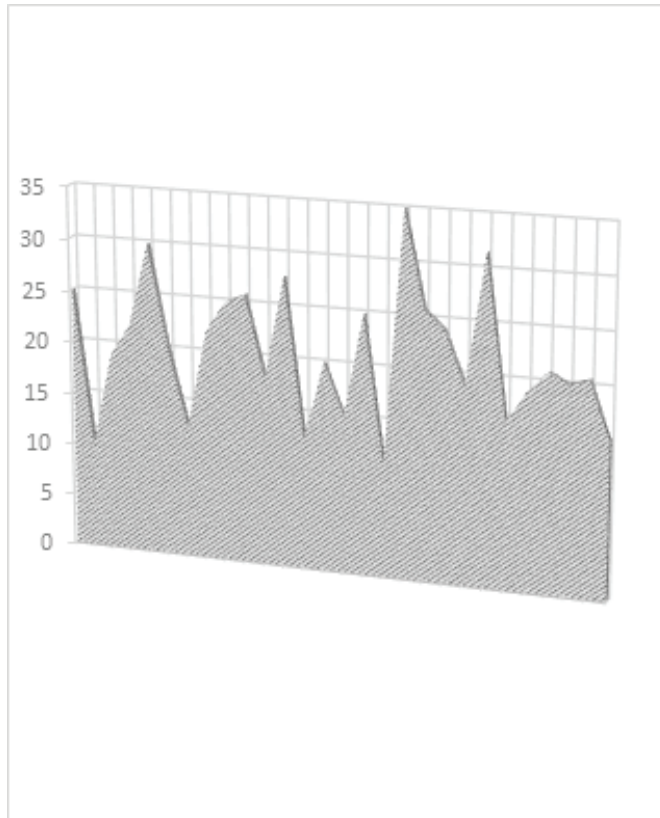
Additionally, the beneficial impact of CIT on economic development was ascertained. From 1995 to 2010, Stoilova & Patonov (2012) examined how taxes affected economic development in 27 EU member states. Regression analysis was conducted, along with a comparative cross-country study. The research discovered that direct taxation had a stronger effect on the economic development of EU countries than indirect taxes. Using two independent variables and a proxy for taxes, Ihenyen & Mieseigha (2014) investigated taxation, where CIT served as an explanatory factor. The effects of CIT on gross domestic product were shown to be positive, according to data collected using the Ordinary Least Squares approach (OLS).

2. The puzzling reductions in corporate statutory tax rates as the result of corporate tax competitiveness

Significant changes to CIT have been made in the main developed economies over the last forty years. By the end of the 1990s, the average statutory rate had dropped from 35% to 23.7%, and this decline continues to persist today. The situation among the 27 EU members is similar; while the median legal rates stood at 27.9% at the beginning of the 2000s, they have already decreased to 21.12% during the 2023s.

Very few tax regimes that exist today levy CIT at statutory rates higher than 35 percent. The CIT rates in 28 countries (EU, Serbia) are distributed in the following figure for 2023. Many nations enforce a rate in the range of 20 to 30 percent.

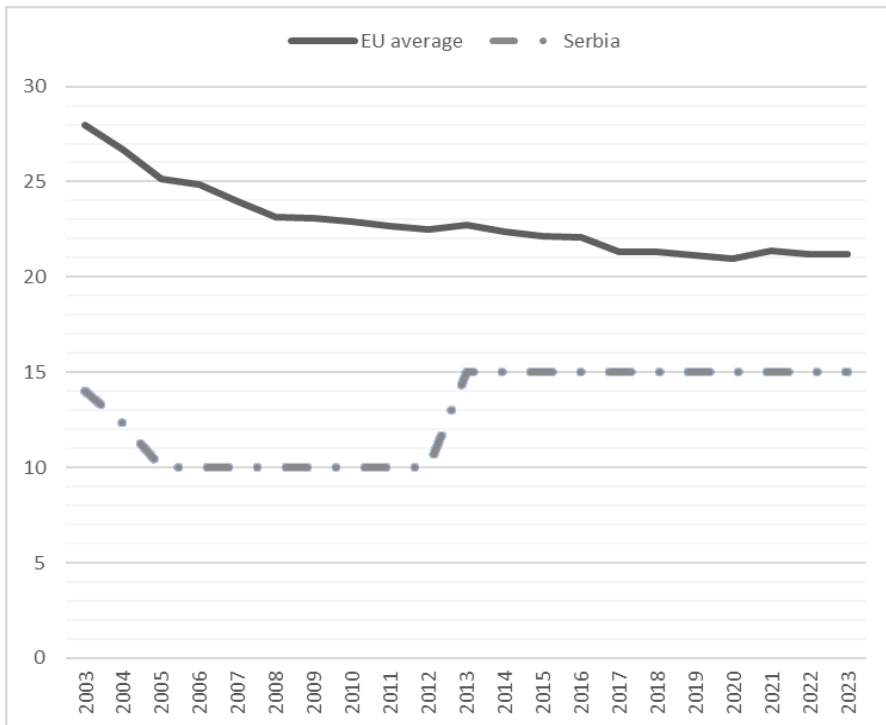
Figure 1: Distribution of Corporate Tax Rates in EU and Serbia (in %), 2023



Source: European Commission (2023). *Taxation Trends in the European Union: Data for the EU Member States, Iceland and Norway*

A country might choose to tax at the same rate or establish minimum tax rates, which is known as explicit tax harmonization. For example, the EU mandates a minimum value-added tax of fifteen percent for its member states. It is essential to note that EU member states have different CIT rates. In essence, a satisfactory level of harmonization has not yet been achieved. Figure 1 shows corporate tax rates in the EU and Serbia in 2023. It can be explicitly observed that there is a presence of tax competition and a lack of harmonized tax rates. Competition in taxes helps the economy grow by pushing lawmakers to make smart tax decisions. On the other hand, tax uniformity is often linked to heavier financial loads (Mitchell & Foundation, 2004, p. 10).

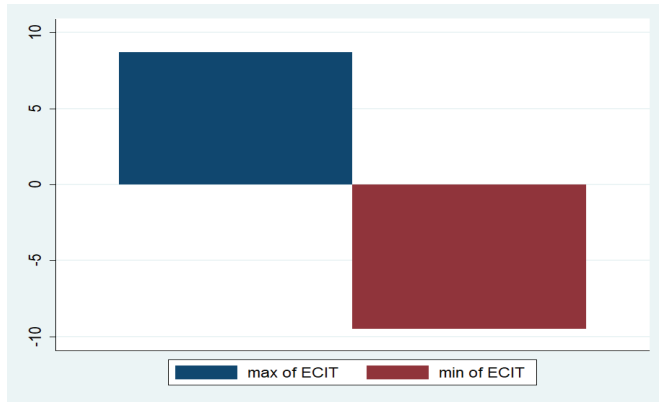
Figure 2: Modifications in the average CIT rates (in %), 2003-2023



Source: European Commission (2023). *Taxation Trends in the European Union: Data for the EU Member States*

In EU countries, the average tax rate is still declining. The contrary trend is being continued with the latest modifications to Serbia’s business taxation. The company tax rate in Serbia is now closer to the average in the EU. EU countries aim to stimulate company spending and make the tax system more advantageous by lowering their CIT rates (Tax Foundation, 2023). Nonetheless, corporate tax receipts have not decreased. This situation, sometimes referred to as the CIT problem or the tax rate-revenue contradiction, has been the focus of previous academic research (Nicodeme et al., 2018). This issue was first described as “the paradox of collection” (Albi, 2010) and was explained by the fact that two strategies included in the budget reforms—lowering tax rates and changing the tax base—had opposite consequences.

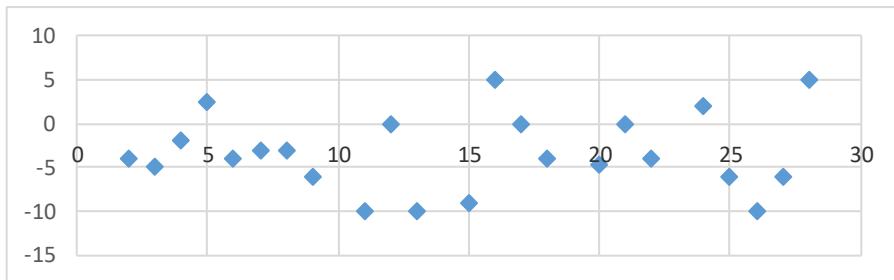
Figure 3: Minimum and maximum in the change of the corporate effective tax rate (%), 2007-2023



Source: Authors

Figure 3 represents the minimum and maximum of ECIT. In the period from 2007 to 2023, the most substantial reduction in the effective CIT rate was -9.5%, while the maximum increase in this rate was +8%. The most significant decrease was recorded in Greece in 2010. The maximum increase in the effective CIT rate was also recorded in Greece in 2009. Such changes followed the Great Economic Crisis (Financial Crisis of 2007-2008).

Figure 4: Change in the standard tax rate, 2007-2023.



Source: Authors

Figure 4 is a cut-off of the great tax rivalry and illustrates the regular fluctuations in the lawful tax rate. The largest total change in the standard CIT rate was recorded in Germany, Hungary, and Spain, in the analysed period.

3. Corporate income tax and Economic growth: An Empirical Analysis of EU and Serbia

This research looked at how Serbian and EU country's CIT affected economic development, as measured by GDP per capita. Table 1 below displays the linear regression analysis's findings.

Table 1: Results of the regression analysis

C	1.	2.	3.	4.	5.	6.	7.
R ²	.772	.017	.006	.653	.038	.550	.709
B ₁	.449	.452	.182	1.823	4.499	.911	.768
Sig.	(.000)**	(.701)	(.815)	(.003)	(.567)	(.009)	(.001)
C	8.	9.	10.	11.	12.	13.	14.
R ²	.696	.892	.805	.822	.645	.281	.896
B ₁	11.352	1.003	.058	.105	1.427	.517	3.807
Sig.	(.001)	(.000)**	(.000)**	(.000)**	(.003)	(.093)	(.000)**
C	15.	16.	17.	18.	19.	20.	21.
R ²	.679	.211	.105	.002	.979	.835	.002
B ₁	.162	2.965	2.174	-.202	14.509	.175	-.055
Sig.	(.002)	(.155)	(.332)	(.896)	(.000)**	(.000)**	(.889)
C	22.	23.	24.	25.	26.	27.	28.
R ²	.451	.230	.702	.561	.432	.814	.826
B ₁	.546	.569	1.468	.2865	.070	.793	1.102
Sig.	(.024)	(.136)	(.016)	(.008)	(.000)**	(.000)**	(.000)**

** $p < .001$ (2-tailed).

Note: 1-Austria, 2-Belgium, 3-Bulgaria, 4- Croatia; 5-Cyprus, 6-Czech Republic, 7-Denmark, 8-Estonia, 9-Finland, 10-France, 11-Germany, 12-Greece, 13-Hungary, 14-Ireland, 15-Italy, 16-Latvia, 17-Lithuania, 18-Luxembourg, 19-Malta, 20-Netherlands, 21-Poland, 22-Portugal, 23-Romania, 24-Slovakia, 25-Slovenia, 26-Spain, 27-Sweden, 28-Serbia.

Source: Authors' calculation, SPSS output

CIT is expressed as a percentage of GDP (CIT-to-GDP). The results demonstrate a highly positive influence on economic growth, assessed through GDP per capita, and prove to be highly significant. Each regression equation has a high R-squared value, indicating that a significant portion of the variance in GDP can be explained by CIT. For the period from 2007 to 2023, Table 1 shows the results of regression analysis for Serbia and EU member states. The explanatory ability of a predictor variable is assessed by its R². The positive correlation between GDP per capita and CIT-to-GDP is evident in Table 1. There is only a weak, non-statistically significant negative connection in Luxembourg (-0.202) and Poland (-0.055). It is clear from the findings of the regression studies that the influence of the CIT-to-GDP ratio on economic growth varies significantly across governments. The countries with the greatest correlation include Ireland, the Netherlands, Slovakia, Greece, Italy, Denmark, Finland, Austria, Estonia, France, Croatia, Germany, and Serbia.

At the one percent significance level, a statistically significant link between the analysed variables (p less than 0.001) is observed in the following countries: France, Austria,

Malta, Spain, Finland, Germany, the Netherlands, Serbia, Ireland, Spain, and Sweden. Based on Pearson's coefficient, there is a beneficial relationship in Estonia, Portugal, Denmark, Slovenia, Croatia, Greece, and Italy at the five percent statistical significance level (p less than 0.05). Estonia, Malta, and Ireland have the largest absolute value of the beta coefficient ($B1$), indicating that the independent variable in these cases significantly contributes to explaining the dependent factor.

Twenty governments had statistically significant findings, according to Table 1. We may infer that, in the countries mentioned above, economic development is positively correlated with a rise in the independent factor. We may infer that CIT-to-GDP is not a reliable predictor for whole countries. Malta F provides the best explanation for this model [$(97.9) = 97.9$, p less than 0.001].

Even though the creators of fiscal policy in the examined economies recognize this circumstance, the majority of them have enacted several CIT revisions in recent decades. In order to improve the efficiency of CIT and save revenue, these tax changes were primarily characterized by a decrease in the CIT rate. However, other nations, like Malta, maintained very high tax rates despite the global trend and tax competitiveness. Germany, which holds the top spot on the Global Competitiveness Index, has seen two significant changes between 2001 and 2008. Specifically, the CIT rate decreased by an average of 20.8 percent for the analysed period. Germany held the highest statutory CIT rate in the EU up until 2008 (Delgado et al., 2018).

Conclusion

We have compiled various pieces of information, formulated several facts, and generated a multitude of insights. The primary observation indicates a decrease in CIT rates from the years 2007 to 2023. The second aspect underscores the broadening of the tax base during this time span. Since 2009, CIT receipts have exhibited a predominantly constant pattern.

One of the main goals of many economic development programs is to determine how tax competition influences the placement of production and employment globally. According to Mutti's (2003) results, small, open, and middle-income countries achieved more tax reductions. The effective rates display notable variances across governments. The effective tax burden on investors may be significantly impacted by differences in how tax bases are defined across nations, as well as other considerations.

This research studied how CIT in Serbia and EU member states impacts economic growth, as measured by GDP per capita. Twenty nations were found to have statistically significant findings, as presented in the research. We can conclude that, given the greater prevalence of the positive correlation economic growth, in a large number of countries that are part of the sample, is a direct result of a higher CIT contribution to GDP.

The worldwide competitiveness of CIT is evident. The CIT is often reformed due to competition. Governments often draw in foreign investment, which lowers CIT rates and improves the size of the taxable base. When the issue transcends national borders, it becomes even more significant. Our study's findings indicate that, in twenty of the twenty-eight nations examined, there is a close connection between CIT and economic expansion. Depending on

the circumstances in a given nation, CIT and competitiveness have different effects. The significant negative correlations found are in Luxembourg (-0.202) and Poland (-0.055).

According to the findings, the study recommends that tax authorities in the examined countries enhance their tax administration systems, as tax revenue has proven to be a substantial contributor to government income for sustained economic development in the long run. Competition in the CIT domain contributes to the advancement of nations' economic expansion and may be seen as an option to promote economic upturn and progress, as long as it is perceived as non-detrimental. The reduction in CIT rates, as the primary outcome of tax competition in CIT, could hold distinctive significance for the endeavours of global investors, which is why their consideration is granted extraordinary attention. Decision-makers must establish standards for recognizing spending and income. Tax authorities should improve the tax administration system to a comprehensive tax base and raise tax revenue. The study introduces the issue by investigating the implications of tax rates and establishing optimum tax rates in a competitive setting.

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