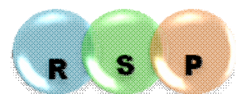

ORIGINAL PAPER

Comparative analysis of the tax burden in EEC countries

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Abstract:
This article deals with an analysis of the total tax burden, determined as the ratio of tax revenue to gross domestic product in the CEE countries. The total tax burden reflects the intensity with which revenue is collected from both individuals and corporations or from society as a whole through taxation. It shows how heavy the tax burden is on taxpayers. The tax burden indicator, measuring the total tax load on an economy as a percentage of the gross domestic product (GDP), is a crucial parameter in evaluating the fiscal performance and sustainability of nations. This study presents an analysis of the tax burden in 11 countries over a 10-year period, aiming to assess its implications on national economies. The data reveals that the tax burden varies significantly over time and between different countries, with no single country consistently bearing the highest burden. The study emphasizes the critical role of the tax burden in assessing fiscal efficiency and its significant impact on public finances and the overall economy. In conclusion, this study offers perspectives on the tax burden's dynamic nature and its implications for different economies.

Keywords: *tax burden, tax revenue, gross domestic product, tax, fiscal performance.*
JEL Classifications: G40, H21, H30.

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Introduction

The tax burden indicator is a crucial measure that assesses the total fiscal load on an economy, expressed as a percentage of its Gross Domestic Product (GDP). It plays a fundamental role in understanding a country's economic performance and fiscal policies. The tax burden is calculated by considering the total tax revenues, including direct and indirect taxes, social contributions, and other sources of income, in relation to the GDP.

This indicator serves as a vital tool for economists, policymakers, and international organizations to monitor and analyze fiscal performance over time and across different countries. By examining the tax burden, one can gain insights into the efficiency of tax collection, a government's ability to finance its programs and public policies, and the overall health of public finances. However, maintaining an optimal tax burden is a delicate balance. While a higher tax burden may indicate a government's capability to meet its financial responsibilities, an excessive burden can have adverse effects on economic activity, growth potential, and investment attractiveness. It is crucial to consider concepts like tax equity, tax efficiency, and fiscal sustainability when analyzing the tax burden.

Tax equity ensures that the tax burden is fairly distributed based on taxpayers' capacity, while tax efficiency aims to optimize tax revenue collection and minimize tax evasion. Fiscal sustainability, on the other hand, focuses on the government's ability to strike a long-term balance between revenue and expenditure, avoiding excessive accumulation of public debt.

The tax burden is primarily determined by the compulsory tax components, which include taxes, duties, and contributions, relative to the GDP. Within this context, two types of tax burdens emerge: the imposed tax burden, influenced by tax rates, contribution levels, and GDP, and the accepted tax burden, driven by the actual taxes, levies, contributions collected, and GDP.

Although the tax burden is widely monitored in various countries, in Romania, the statistical and fiscal tracking of this indicator is not carried out by the Ministry of Finance. Instead, specialists often assess the tax burden by considering tax components at the level of the consolidated state budget. The issue of fiscal pressure gained significance in Romania after 1989, with the transition to a market economy, necessitating a continuous modernization of the tax system to align with economic developments.

Overall, the tax burden indicator serves as a vital tool in evaluating fiscal performance and understanding the interplay between taxation and economic growth. By analyzing the tax burden, policymakers and economists can make informed decisions to ensure the sustainability and efficiency of a country's fiscal policies.

Literature review

According to Celikay's perspective in (2020), taxes play a significant role in today's globalized world as the main source of revenue for the state, and they have a profound impact on various socio-economic aspects. Calculating the tax burden is a primary method used in the literature to assess the effects of taxes, both at the national and international levels. The tax burden is defined as the ratio of collected taxes in a specific period to the total product, and it can increase when tax revenue grows faster than income. Smith (1776) argued that a continuously rising tax burden could negatively affect economic activities, particularly taxable resources, while Ricardo (1871)

emphasized the potential displacement of capital due to high tax rates. Keynes (1936) explored the influence of the tax burden on investment and savings.

Mosteanu (2005) indicated that the tax burden, represented by the relationship between collected taxes and gross domestic product (GDP), is influenced by various economic components. The need for fiscal requirements is one of the significant factors driving the increase in the tax burden. This phenomenon has been examined in the literature from different perspectives. Wagner (1890) attributed the rise in state intervention to emerging social demands, while Musgrave (1959) argued that the state can provide new goods and services beyond its conventional responsibilities when the market mechanism is inadequate. Rostow (1960) viewed state-provided services as a driving force behind economic development. Peacock and Wiseman (1961) proposed that asymmetric events can exert pressure on public expenditure in the medium and long term, and Downs (1957) and Buchanan and Tullock (1962, 1977) suggested that public spending and the financial sector can expand through a "populist approach" in the political process. Niskanen (1979) pointed out that the behavior of bureaucrats contributes to the expansion of public spending.

These views, explaining the increase of public expenditures in the realm of public finance, can also be linked to the growth of the public sector and the subsequent need for financing. In the medium and long term, the escalation of public expenditures and the increase in the tax burden may coexist. This perspective aligns with the political financing approach proposed by Buchanan and Wagner (1977).

In the modern world, taxes represent the most significant financial resource for the state, and the state's fiscal governance has been continuously evolving to meet new functions and services expected by individuals. The expansion of the modern state, driven by factors like social needs, maximizing social welfare, and political processes, has resulted in increased public spending and diversified taxes. As a result, the tax burden has increased as an outcome rather than being the cause. During the 1980s, discussions on minimizing the state were spurred by accelerated globalization and neoliberal policies, leading to efforts to reduce the tax burden and create a minimal state. However, increased welfare, regional or international crises, and employment challenges necessitated state intervention.

In conclusion, the tax burden's complexity is influenced by various economic factors and the continuous evolution of the modern state. It serves as a vital tool to assess the fiscal effectiveness and sustainability of tax systems and has a significant impact on public finances and the overall economy.In the modern era, taxes have become the most crucial financial resource for the state. Through its fiscal instruments, such as taxes, spending and regulation, the state maintains its effectiveness in shaping the socio-economic structure. Fiscal governance has shown an increasing trend of effectiveness, although it also experiences cyclical fluctuations. This trend can be attributed to the state continuously assuming new functions throughout its existence.
Indeed, the expectations of individuals from the state have risen in nearly all countries (Wagner, 1890), and in some cases, the failure of the market to provide certain goods and services necessitated public intervention (Musgrave, 1959). Additionally, various factors such as diverse social needs, the pursuit of social welfare maximization and autonomous returns of the political process, have contributed to the expansion of the modern state. As a consequence, public spending has increased and taxes have diversified. Hence, the rise in the tax burden is not a cause but rather a result of these developments.

During the 1980s, the acceleration of globalization and the implementation of neoliberal policies triggered discfussions on the minimization of the state. Efforts were made to reduce the tax burden and create a minimal state during this period. However, challenges like increased welfare demands, regional or international crises affecting multiple countries and employment issues made state intervention indispensable. In conclusion, the modern state's financial foundation lies in taxes and its fiscal governance has seen an upward trend in effectiveness. Various factors have led to the expansion of the state and an increase in the tax burden, while attempts to minimize the state have encountered challenges due to changing socio-economic conditions and demands.

The calculation of the tax burden has become increasingly important in comparing tax systems and assessing the optimal utilization of taxation sources. As a result, numerous studies have been conducted to explore the extent and direction to which different socio-economic indicators influence the tax burden (Friedman, 1978; Rosen, 1978; Atkinson, 1980; Beal-Hodges et al., 2016; Browning and Johnson, 1979; Colm and Wald; etc.). Some studies have delved into the factors affecting the tax burden, while others have explored the impact of the tax burden on macroeconomic indicators or have investigated the causal relationship between these indicators and the tax burden. These investigations have provided valuable insights into the functioning of tax systems and their implications on various socioeconomic aspects. By understanding the dynamics of the tax burden and its interactions with different indicators, policymakers and researchers can make informed decisions and design effective fiscal policies for sustainable economic development.

The varying levels of development among states can lead to differences in the productivity of tax systems and their potential tax burdens. As a country's income per capita increases due to economic development, individuals generally possess a stronger capacity to fulfill their tax obligations and actively participate in the taxation process. Additionally, economic factors, such as the intensity of foreign trade transactions in a state, can also influence the actual tax burden (Adam and Kammas, 2007; Adam et al., 2015; Tanzi and Zee, 2000).

For instance, in a study encompassing data from 72 states, Lotz and Morss (1967) found that gross national product per capita and the level of openness in a country positively impact the tax burden. Similarly, Shin (1969) and Bahl (1971) observed that indicators such as import and export capacity and income per capita have a discernible, albeit weak, influence on the tax burden. These findings emphasize the importance of considering a country's economic development and trade activities when analyzing the dynamics of its tax system and evaluating the tax burden it imposes on its citizens. Taxes play a crucial role in fiscal policy, and measures such as raising tax rates or introducing new taxes are often employed to mitigate inflationary pressures. These actions can lead to an increase in the tax burden (Brasoveanu et al., 2008; Feldstein, 1980a; Feldstein, 1980b; Lucinda and Arvate, 2007; Purohit, 2006). Stotsky and Asegedech (1997) conducted a study on 43 African countries and found a significant relationship between strict financial policies aimed at eliminating budget imbalances and the tax burden. They also identified variables like export size and income per capita as positively affecting the tax burden, while the size of the agriculture and mining sectors had an adverse impact.

Eltony (2002) conducted a panel data analysis on 16 African countries and concluded that GDP per capita and the size of the agriculture and mining sectors directly influence the tax burden. Purohit (2006) developed a taxation capacity index using total

tax revenue, GDP, population, and trade balance data for 34 developing countries. According to this index, the tax burden tends to increase in countries with higher GDP per capita and a strong foreign trade balance. Similarly, Kong and Hoek (2008) identified GDP growth as the most significant factor driving current tax revenue and the increase in the tax burden in their studies specific to China from 1984 to 2004. According to Celikay (2020), external factors, such as economic structure, taxation policies, and financial management efficiency, can lead to situations where the growth in the tax burden outpaces the growth in GDP. This highlights the dynamic nature of the tax burden and the need to consider various factors in understanding its evolution.

Tax burden analysis and its implications on national econimies: a comparative study in EEC

The tax burden indicator is a measure of the total tax burden on the economy, expressed as a percentage of the gross domestic product (GDP). Tax burden is calculated by relating total tax revenues to the GDP of a country and reflects the degree of fiscal load on the economy. The tax burden indicator is used to compare the tax burden over time and between different countries. The formula for calculating the tax burden indicator is as follows.

TB=TTR/GDPx100,

Where: TB - Tax burden;

TTR - Total Tax Revenue, which is the sum of all taxes collected by the government, including direct and indirect taxes, social contributions and other sources of revenue;

GDP - Gross Domestic Product, is an economic indicator used to measure the total value of goods and services produced in an economy in a given time period. It is often regarded as one of the most important indicators of a country's economic performance.

The tax burden indicator can be calculated for a single year or over a period of several years to track trends and changes in the tax burden(incarcatura fiscală). It is commonly used by economists, policy makers and international organisations to monitor fiscal policies and assess the sustainability of public finances.

The tax burden is perhaps the most significant indicator of fiscal performance. A high tax burden can indicate efficient tax collection and a government's ability to finance its programmes and public policies. However, excessive tax burden can have a negative impact on economic activity, growth potential and investment attractiveness. In addition, fiscal performance is closely linked to concepts such as tax equity, tax efficiency and fiscal sustainability. Tax equity refers to the fair distribution of the tax burden according to taxpayers' capacity, while tax efficiency aims at optimising tax revenue collection and minimising tax evasion. Fiscal sustainability refers to the government's ability to maintain a balance between revenue and expenditure in the long run and to avoid excessive accumulation of public debt.

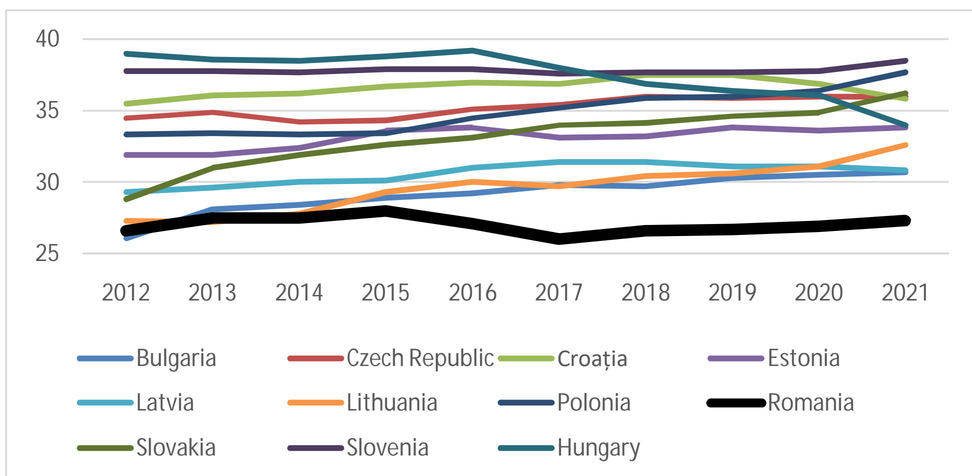
The tax burden is generally determined by the total of the compulsory tax components, which are calculated by relating the total amount of taxes, duties and contributions in a given period (usually a year) to the size of the gross domestic product generated by a national economy in the same period. By distinguishing between the compulsory collection of tax components, reflected by the state's right to impose taxes on taxpayers, and the compulsory components collected, we can identify two types of tax burden:

- The imposed tax burden, determined by tax rates, the level of contributions and GDP.
- Accepted tax burden, determined by the level of taxes, levies, contributions collected and GDP.

This version clarifies the concepts of imposed tax burden and accepted tax burden and relates them to tax rates, contributions, taxes collected and GDP.

In Romania, the tax burden indicator is not tracked statistically or fiscally by the Ministry of Finance. Some specialists when calculating the tax burden, they take into account the tax components at the level of the consolidated state budget. In Romania, the issue of fiscal pressure became topical after 1989, with the first signs that Romania's economy would become a market economy, in which case the modernisation of the tax system was strongly imposed, and this modernisation is still continuing after all these years of transition.

Figure 1. Tax Burden in EEC



Source: Own adaptation according to Eurostat

These data represent the tax burden in 11 countries over a 10-year period. Tax burden refers to the level of taxes and social contributions levied by the government on people and businesses. In general, the higher the tax burden, the greater the tax burden on taxpayers. In order to determine which country is most affected based on these data, we can look at the general trends. It can be seen that the tax burden varies from year to year and differences between countries can be significant. In this case, there is no specific country that is always the most affected. The tax burden in each country varies over time. For example, in some periods, Bulgaria or Slovenia may have a higher tax burden, while in other periods, other countries such as the Czech Republic or Croatia may have higher tax burdens. Bulgaria and the Czech Republic have seen relatively constant tax burden over this period, with values close to the average of the other countries. Croatia, Estonia and Latvia had slightly higher tax burden than the overall average, with a slight increase in some cases. Lithuania and Poland had moderate tax burden, but with a slight upward trend in recent years.

Romania and Slovakia had relatively low tax burden, below the overall average. Slovenia and Hungary had a tax burden above the overall average, with higher values and an increasing trend in some cases.

This data can be used to compare the level of total tax burden between different countries and to assess the evolution of tax burden over time. However, it is important to analyze other aspects of the tax systems and the economic context of each country to better understand the overall fiscal situation.

The tax burden therefore differs from year to year and from country to country depending on tax policy, legislation and other specific factors. However, some general trends can be observed, namely that the tax burden in Romania is generally in a medium range compared to the other countries included in the analysis. It is not the highest tax burden, but neither the lowest.

In conclusion, based on the data, Romania seems to be in an intermediate position in terms of tax burden compared to the other countries included in the analysis. Tax burden and tax performance are crucial issues in assessing and monitoring the efficiency and sustainability of tax systems and have a significant impact on public finances and the economy as a whole. In Romania and in whole Europe actually, local governments under fiscal burden face the same basic choices: to increase locally collected revenues to maintain existing services or to reduce local services.

TABLE 1. THE MEAN, MEDIAN, STANDARD DEVIATION AND MOT IN EEC

	Bulgaria	Czech Republic	Croatia	Estonia	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia	Hungary
THE MEAN	29,17	35,23	36,61	33,11	30,58	29,60	34,91	27,02	33,12	37,84	37,55
MEDIAN	29,45	35,25	36,80	33,40	30,90	29,85	34,85	27,00	33,55	37,80	38,25
STANDARD DEVIATION	1,39	0,73	0,69	0,77	0,77	1,75	1,57	0,58	2,15	0,25	1,67
MODE	#N/A	36	36,9	33,8	31,4	#N/A	33,3	26,6	#N/A	37,8	#N/A

Source: Own conception

The tax burden is represented by the data shown in the table provided, which reflects the arithmetic mean, median, standard deviation and mode of the tax burden in different countries. According to the data, Romania has an average tax burden of 27.02 and a median of 27.00, indicating a relatively moderate level of taxes levied by the state in relation to GDP. The standard deviation of 0.58 suggests little variation in the tax burden within the country.

Compared to the other countries in the table, Romania is in an intermediate position. There are countries with a higher average tax burden, such as Hungary (37.84) and Bulgaria (29.17), and countries with a lower average tax burden, such as Estonia (33.11) and Latvia (30.58).

It is important to note that the level of the tax burden can vary depending on fiscal policy, economic structure, available resources and other country-specific factors. Romania is on an intermediate position in terms of tax burden compared to the other countries presented in the table. The average tax burden in Romania is 27.02 and the median is 27.00. These values indicate that Romania has a moderate level of taxes levied by the state relative to GDP. Compared to other countries, such as Hungary and Bulgaria, the tax burden in Romania is lower. However, there are other countries, such as the Czech Republic and Slovenia, which have a lower tax burden than Romania.

Reducing the tax burden can be a complex objective and needs to be approached carefully to avoid negative impacts on public services and infrastructure. However, here are some steps Romania could take to reduce its tax burden:

Simplify the tax system: A complex tax system can bring an additional burden for both taxpayers and the tax administration. Simplifying tax rules and eliminating excess taxes could reduce the tax burden. Reducing taxes: The government could explore the possibility of reducing taxes in order to provide more financial flexibility for taxpayers and businesses.
Improving the efficiency of tax collection: More efficient tax collection can help reduce tax evasion and lead to a better distribution of the tax burden. Stimulating investment and economic growth: A stronger economy and increased investment can lead to a larger tax revenue base, allowing the government to reduce taxes without affecting public services.

Promoting fiscal transparency and accountability: Greater transparency in how public funds are collected and spent can increase taxpayers' confidence and contribute to better management of public finances.
Evaluate public spending: Government should carefully examine public spending to identify opportunities for efficiency and savings.
It is important to take into account Romania's specific economic, social and political context when making such decisions and to carry out a broad analysis of the impact of such measures on the economy and society as a whole.

Conclusions

Tax Burden Variation - the data analysis shows that the tax burden varies from year to year and differs significantly between the 11 countries examined. No single country consistently holds the highest tax burden, as it fluctuates over time in each country. Romania's Position: Romania is positioned in an intermediate position in terms of tax burden compared to the other countries in the analysis. It does not have the highest tax burden but is also not the lowest. Importance of Tax Burden - the tax burden is a crucial indicator in assessing the efficiency and sustainability of tax systems. It significantly impacts public finances and the overall economy, making it an essential consideration for policymakers and economists. Fiscal Policy and Economic Context - the variations in tax burden among countries underscore the importance of individual fiscal policies and country-specific factors in shaping the tax landscape. Policymakers need to consider economic context and tailor tax policies accordingly.
Room for Exploration - Romania's moderate tax burden suggests that there is potential for further exploration of fiscal policies to optimize economic growth and welfare. Careful adjustments to the tax system could lead to positive economic outcomes. Comparative Analysis -data on tax burdens in different countries over a 10-year period allows for comparative analysis. Policymakers, economists, and international organizations can use this data to monitor fiscal policies and assess the sustainability of public finances. Impact on Local Governments - the issue of tax burden extends to local governments, which face choices between increasing locally collected revenues to maintain services or reducing services due to fiscal constraints.

In conclusion, the data analysis offers valuable insights into the tax burden and its implications for various countries' economies. Understanding the dynamics of tax burdens can help governments make informed decisions to strike a balance between fiscal sustainability and economic growth. Further research and policy analysis are essential to optimize tax systems and ensure economic prosperity in each country.

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Tables and Figures

Figure 1. Tax Burden in EEC
Table 1. The Mean, Median, Standard Deviation and Mot in EEC

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