Quantifying the Fiscal Pressure in the Emerging States of the European Union, Starting from Indirect Taxes

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Abstract
The degree of development of an economy is determined significantly by the structure of the fiscal system. It exercises its functions and ensures the collection of the necessary resources for the state. Given the acceptability of fiscal provisions, it is an ideal condition for any tax system. The quantification of the tax burden in the Member States of the European Union highlights a wide range of tax rates. We consider that the policies of the emerging states from the European Union are analyzed based on some essential economic indicators that need to be taken into account. Therefore, this article analyses the influence of some of the priority economic indicators of emerging states, such as fiscal pressure, indirect taxes, the growth rate of gross domestic product, and corruption indices. Regarding the taxation system, we emphasize that taxation is a crucial part of the fiscal policy of any economy; whether the state is developed or developing, it is the primary source of income of a nation, being used for the benefit of society through public spending. Taxes are levied on the beneficiary's income and are called direct taxes or are indirectly levied through taxes such as value-added tax. Failure to pay taxes is an important issue that reduces the efficiency of tax administration and leads to increased tax pressure while reducing tax revenues at the level of all countries. The paper provides a comparative analysis of the degree of taxation in emerging countries, members of the European Union. It also provides an overview of the selected developing countries' economic growth under the concept of fiscal pressure in the last three decades. Public debt, indirect taxes, and corruption indices are elements that have been analyzed compared to the European Union average level. At the same time, the paper provides an economic analysis of the factors influencing the fiscal pressure in emerging EU countries during 1995-2019. The study includes several econometric analyzes.

Introduction

According to the literature, the scientific and conceptual approaches to taxation and pressure are explained as economic measures designed to counteract the negative effects of a high level of tax, fee, or more taxes. The study of fiscal pressure has been and still is of particular interest for many theorists of economics. Renowned theorists define this concept as "how overwhelming taxes are or, in other words, how heavy the tax burden is on the taxpayer's shoulders." The fiscal policy is one of the most critical levers for regulating the various imbalances between states, caused by a high level of public debt and subsequently a high level of fiscal pressure, which brings negative aspects on the standard of living of each population. Regarding the measures adopted through different fiscal policies, the specialized literature shows us that the developing states depend on rigorous fiscal policies for economic and financial stabilization at the microeconomic level.

In the present study, we aimed to show the general level of fiscal pressure and indirect taxation in emerging countries, compared with the average level of the European Union, the level of public debt, the level of the annual growth rate of the gross domestic product per state, starting with 1995 up to 2019, and the relationship between economic factors with the corruption index. We also studied the correlation between fiscal pressure and indirect taxes, public debt, the rate of annual growth of the gross domestic product, and the index on corruption. The study is realized for several 13 emerging states for the period 1995-2019.

At the European Union level, there are different coordination tendencies regarding fiscal policies between member states, with a higher level of convergence on indirect taxation. Each member state of the European Union adopts various policies regarding the taxation system. These measures are a priority for emerging countries since public debt volatility has reached substantial levels, increasing budget expenditures in the last period. The emergent states' ignorance of this economic indicator creates negative effects and is recognized mainly by the rise in the indirect tax quotas (value-added tax and excises).

These aspects contribute to the reflection of the governments on the fiscal policies adopted by the developing states to establish the relevance between specific essential economic indicators. The taxation through indirect taxes (value-added tax, excise duties, taxes for imports and exports), the0 public debt, the annual growth rate of gross domestic product, corruption indices influence different fiscal policies that follow or are already adopted.

Literature review

In support of the feasibility of the article, the literature (Overesch, 2005) argues that internationally, establishing the coefficient of fiscal pressure is a measure of economic attractiveness by the state for various multinational companies wishing to invest in that state. He analyzed the level of taxation felt by companies through the comparative analysis of European countries. According to his study, developed countries showed a tax rate above the average level of fiscal pressure, and emerging counries were below

the average level, with a few exceptions. Therefore, emerging markets are still attractive to multinationals with above-average profits. However, they want to know the correlations between fiscal pressure, tax rates, public debt, the annual growth rate of gross domestic product, corruption indicators. All these elements are essential in establishing the economic relations that influence the fiscal pressure coefficient.

At the same time, several scientific and empirical studies support the importance of these indicators regarding the economic status of states. The authors (Chaney, 2002; Eaton, 2004; Chen, 2021) concluded that when governments observe a very high level of these indicators, they tend to reduce the tax burden.

The rate of fiscal pressure has a relative value and is still the subject of many specialists. The most common indicator used is the ratio of total taxes (direct, indirect taxes, and social contributions) to gross domestic product, which measures the percentage of GDP transferred to the general government in mandatory, undivided payments (Kiss, 2009). One of the most debated topics by economists lately refers to how different budgetary or fiscal policies affect macroeconomic indicators. By the impact of fiscal policies, we implicitly refer to the effect of public debt on economic growth. The budget deficit has justified the interest of economists in the literature on this topic in recent years.

Dzingirai and Tambudzai (2014) define it as a conceptual introduction on fiscal policies "the set of financial decisions that the state adopts to ensure the necessary financial resources to perform its duties. The literature presents the fiscal policies adopted to limit the increase of public debts as priority economic instruments that "involve the use of public expenditures, taxation, and loans to influence both economic activity and production and employment (Mara, 2011). These policies have the role of reducing fluctuations and various economic instabilities and are defined as an integral part of the economic policy of the state that includes the set of methods, techniques, principles regarding operations, reports, institutions, and specific regulations for establishing and collecting taxes, fees and contributions, materializing the options of the state, at some point, in this field (Inceu, 2003).

Other researchers have shown through their work (Nautet, 2001) that the impact of fiscal policy, in various forms, on economic activity depends very much on specific circumstances, which vary over time from one country to another. European tax authorities, especially in developing countries, focus on fiscal prudence, not on excessive deficits. The high level of fiscal pressure is an important indicator to take into account in any fiscal policy.

In support of the assessment of economic growth, (Arnold, 2008) conducted an empirical study on a sample of 21 states, where he specified that fiscal systems and economic growth have a more adverse correlation. However, the empirical study concluded that an increase with a unit of the different tax rates of the different taxes (direct, indirect) can positively influence the gross domestic product, implicitly the economic growth, this only if the progressive tax rates are used in productive time domains or investments. Also, a high level of annual GDP growth may allow tax rates to rise. Vasiliauskaitė and Stankevičius (2009) also found a strong and positive

interaction between these two variables in the study they conducted with tax systems and growth data. According to Igor Chugunov (2019), developing a fiscal strategy is only a precondition, in emerging countries, for ensuring macroeconomic stability and accelerating economic growth.

In another study, we note that the authors (Sconac, 2021) analyzed the econometric relationship between Lesotho's tax burden and economic growth and established a co-integration relationship between the growth rate and the tax burden, with a one-way causality from economic growth to fiscal burden. These were consistent with other results in the literature, such as those written by (Dzingirai & Tambudzai, 2014) for Zimbabwe and (Matloja, 2016) for South Africa. Several aspects have been registered in the specialized literature regarding the importance of corruption indications on fiscal pressure. Corruption may also play an important role to enhance economic and financial crime (Dumitriu, 2017).

Dreher (2005) econometrically analyzed the relationship between corruption and capital account restrictions, with a sample of 112 countries in the period 1984-1999. They reported that stringent capital account restrictions had led to a higher level of corruption until 1993. However, these restrictions also managed to reduce the level of corruption in the following years. Subsequently, Dreher (2009) also analyzed the relationship of corruption indicators with the tax system on a sample of 120 countries for 1994-2002. They indicated that the level of corruption is higher in developing countries with a lower level of fiscal pressure, concluding that the hidden economy reduces corruption in high-income countries but increases corruption in low-income countries.

McGee (2008) concluded in his scientific paper that Danish citizens consider tax evasion very harmful for the proper functioning of the state, even though they have a very high level of tax pressure. At the same time, McGee (2012) concluded an economic analysis for a developing state presenting that a lower level of fiscal pressure does not always offer a lower degree of corruption. In his scientific paper, he analyzed Armenia and showed that those citizens do not drastically oppose the phenomenon of tax evasion.

Recently, several Chinese researchers (Huang, 2016; Jiang, 2014) concluded empirically about the increased growth power of gross domestic product (GDP), as well as the level of government corruption. Kumar (2011) also reported the anomaly of gross domestic product growth and the high level of corruption. Kéïta(2021), Achim (2018), Dreher (2005, 2009), and McGee (2008, 2012) concluded that there is a negative influence of the tax pressure level on the level of corruption. They suggest that specific tax policies may work in some countries but not in others.

The main issue discussed in this research is how and to what extent certain macroeconomic variables influence fiscal pressure in emerging countries. The emerging countries analyzed in this article are Romania, Greece, Bulgaria, Estonia, Croatia, Cyprus, Hungary, Malta, Poland, Slovenia, Slovakia, Lithuania, and the Czech Republic. The research is based on economic data from 1995 to 2019.

The level of general pressure of the developing states of the European Union

The concept of fiscal pressure is essentially a macroeconomic concept, which we find in all states and should not be confused with tax. This concept is a purely quantitative aspect, which can be both macroeconomic (corresponds to the measure of fiscal pressure) and microeconomic: related to the income of each individual.
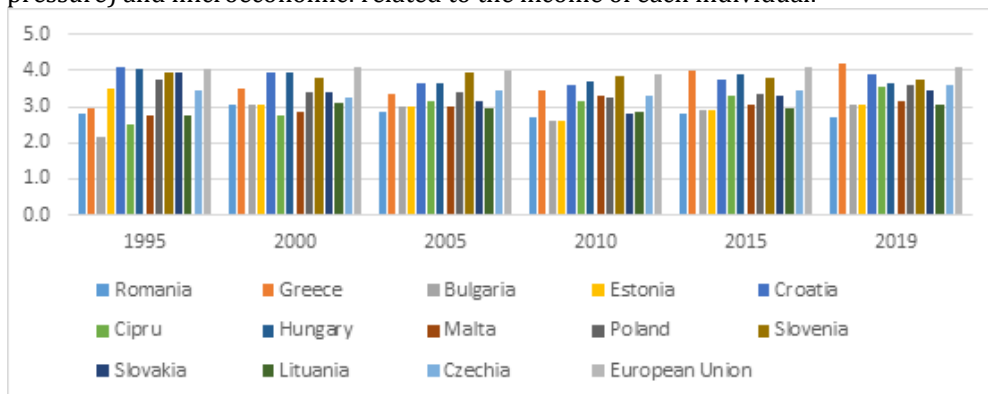

Figure 1. Level of fiscal pressure
(own calculation based on AMECO data accessed on 19.05.2021)

In Figure 1, we presented the average level of fiscal pressure in the European Union and the level of fiscal pressure in the states analyzed in this article. The presentation's timeline is made every five years since 1995, after the conclusion of the Maastricht Treaty in 1990, when European states signed an agreement on specific fiscal policies to be addressed with priority to reduce or redistribute levels of fiscal pressure. In 1995 the coefficient given by the European Union was 40.5%, noting that most emerging countries are below the level of fiscal pressure generated by the European Union. The only country that exceeds this level in 1995 is Croatia with 41.1%, being followed by Hungary with 40.4%, slightly below the EU level; the emerging states that recorded at that time the lowest level are Bulgaria (21.4) Cyprus (24.9%) Malta (27.3) Lithuania (27.7%) and Romania (27.8).

In 2000 all the analyzed states managed to fall below 41.1% given by the EU average level. In 2000-2010, Slovakia makes its presence felt at a relatively high level of public fiscal pressure of about 38.3%. Greece had a stable coefficient of approximately 33.5% in the period 1995-2015. However, since 2015, it occupies first place in our ranking, registering a relatively high coefficient of 39.8%, with about 1 percent lower than the level the average of the European Union. In 2019 it exceeded the average level of the European Union and registered a record percentage of the fiscal pressure in the analyzed period of approximately 41.9%. For the entire analyzed period, it managed to decrease its coefficient of fiscal pressure from 27.8% in 1995 to 26.8% in 2019, in the last year analyzed being the state with the lowest registered percentage of fiscal pressure.

In Figure 1, it can be seen what many economists have presented in various articles, that developing countries have lower values of public fiscal pressure. However,

compared to their gross domestic product, these values do not show that fiscal pressure borne by the taxpayer is a little.

The level of indirect taxes on gross domestic product for developing countries compared to the average level of the European Union

Regarding indirect taxes, Brezeanu (2018) presents these taxes in an empirical study as more volatile because they are components of the final selling price, and the dissatisfaction is directed more towards economic agencies than for states collecting taxes and fees. The central indirect tax is the value-added tax (VAT), which applies indirectly to goods and services in general because it adds value to the added value of each participant in the transit circuit of products (Florescu et al., 2010). Another tax in this category, not as well-known as the value-added tax, is the excise duties which, unlike VAT, are paid to the state budget only once in the economic circuit.

In terms of the benefits of the European Union, the treaties of the European Union have facilitated economic transactions between states (Daianu, 2017). An example would be intra-Community acquisitions that do not involve VAT, which is 0a financial benefit for the member states within the European Union, ensured based on the fiscal policies adopted by the Council of the European Union.
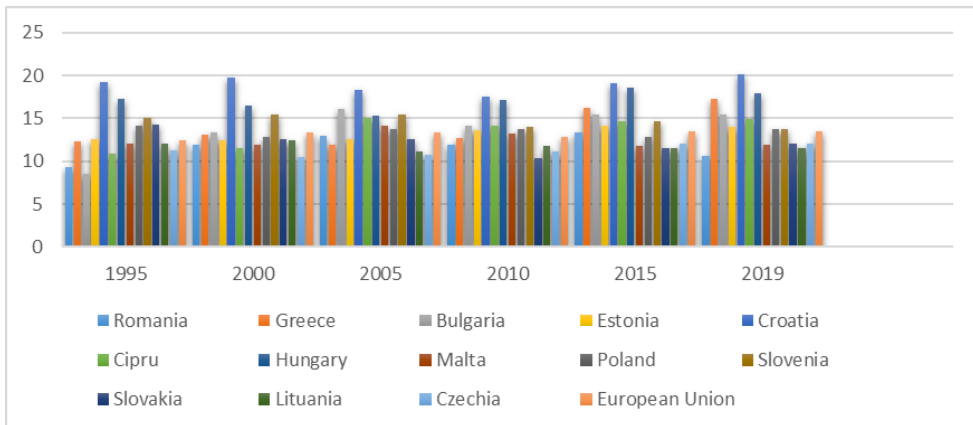

Figure 2. Level of indirect taxes
(own calculation based on AMECO data accessed on 19.05.2021)

Regarding the fiscal pressure concerning indirect tax rates, we can observe in Figure 2 the levels registered by the states analyzed in this paper for the period 1995-2019, represented approximately every five years. In 1995, the average level of the European Union was about 12.5%. The highest level leader was Croatia with about 19.2%, followed by Hungary with 17.3% Slovenia with 15.1%, Slovakia with 14.3%, Poland with 14.2%, Estonia with 12.6%. The following country below the average level of the European Union was Greece with a percentage of 12.3%, Lithuania with 12%, the Czech Republic with 11.3% Cyprus with 10.9%. The emerging countries with the lowest pressure level were Romania with 9.3% and Bulgaria with 8.5%. We further note that, over the years, the states that exceeded in 1995 the level of fiscal pressure of the European Union have remained constant and above the level of the European

Union. Surprisingly, we see in 2015 a vast evolution caused by the Bulgarian state by increasing the coefficient by 7 percent, thus exceeding the average level of the European Union. Slovakia managed to lower the coefficient of fiscal pressure, quickly reaching the threshold below the European Union average, which is an important criterion to adopt in their fiscal policies. Romania surprised unpleasantly in 2015, reaching a coefficient of fiscal pressure of 13.3%, very close to 13.5% of the European Union. Also, for the last year analyzed, Greece jumps above the average level of the UE and is the leader on the chart of the states with the highest level of fiscal pressure of indirect taxes after Croatia and Hungary. Romania returns to a low level of fiscal pressure of indirect taxes of 10.6% due to the value-added tax standard rate decrease from 24% in 2015 to 20% in 2016.

The level of public debt registered by the analyzed states

On the occasion of the Maastricht Treaty, *government debt* is defined as the total gross debt of each government state, with nominal values, at the end of each fiscal year.

The magnitude of the short, medium, or long-term impact of public debt depends on economic and monetary conditions in each state. The literature has shown over time that emerging markets have a higher degree of public debt. That is why we analyzed only the emerging states of the European Union and briefly detailed the fluctuations of government debts starting with 1995, which are presented in Figure 3.
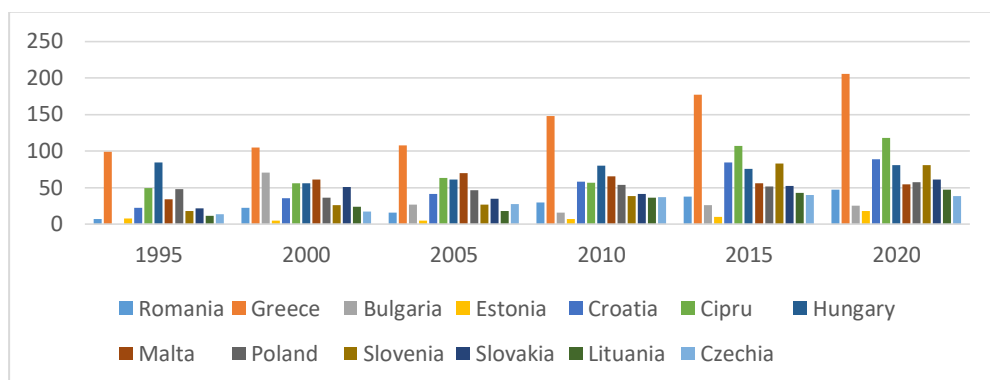

Figure 3. Level of public debt
(own calculation based on AMECO data accessed on 19.05.2021)

From Figure 3, we can see that since 1995 Greece has had a rather worrying public debt, followed by Hungary (84%) and the Maltese state. During the analyzed period (1995-2020), the states that registered a high level of debt public, over the 60% indicated by the Maastricht Treaty and by the recommendations of the Council of Europe, were Greece, Hungary, Malta, Cyprus, and Slovenia.

The level of the growth rate registered by the analyzed states

Economic growth is evident at a country level through the rate of GDP increase. Rule 72 is used for approximate estimates - the empirical method of estimating the period

in which the value doubles for a constant increase by a certain percentage. From the perspectives of the literature, we know that economic prosperity and sustainable economic growth is recent achievement for humanity. In Figure 4, we can observe the economic prosperity of emerging states, compared to the average level of the European Union. However, we must remember that inflation plays an essential role in measuring the coefficient.
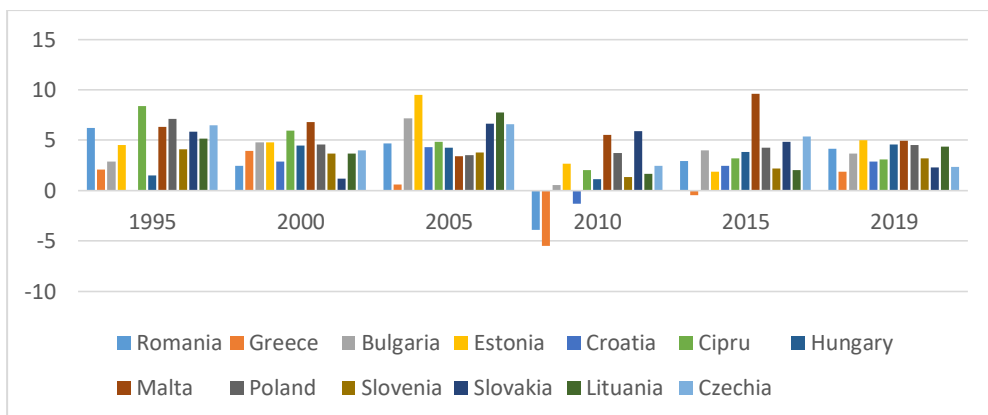

Figure 4. Level of GDP growth
(own calculation based on AMECO data accessed on 19.05.2021)

Regarding the economic growth rate, we see in Figure 4 that, during the analyzed period, the states did not register negative coefficients regarding the growth rate of the gross domestic product, except Romania and Greece, which recorded negative values in 2010 (Romania -3.9% and Greece - 5.47%). The countries with the best indicators of the annual growth rate of the gross domestic product are represented in 1995 by Cyprus (+ 8.365%), in 2000 by Malta (+ 6.77%), in 2005 by Estonia (+ 9.47%), in 2010 by Slovakia (+ 5.87%), in 2015 again by the Maltese state (+ 9.68%). In 2019 we observed a decrease in the annual growth rates of gross domestic product for all the emerging states, the best indicators being obtained by Estonia (+ 4.99%) and Malta (+ 4.91%).

The level of corruption index registered by emerging states

Corruption is a vulnerability turned into a threat to the rule of law with direct implications for national security, damaging the economy and affecting the country's development potential and good governance. It compromises government projects, undermining the real economy by facilitating the underground economy, poor management of funds (external and internal) and investments, as well as fraudulent public procurement. The Corruption Perceptions Index reflects the views of business people and analysts around the world, including experts in the countries evaluated. Corruption rates are significant to limit corruption and for the rulers of any state to generate fiscal policies, significantly impacting the economic environment. According to the data we have, the emerging states within the European Union obtain the lowest indicators in this respect. Many experts believe that these indicators are directly related to fiscal performance in any state.

In Figure 5, called the "corruption index", we see the analysis every five years, in the last 20 years. The index shows the perception of the economic environment about the degree of corruption in the public sector; the ranking is made on a scale from 0 ("very corrupt") up to 100 points ("not corrupt at all").
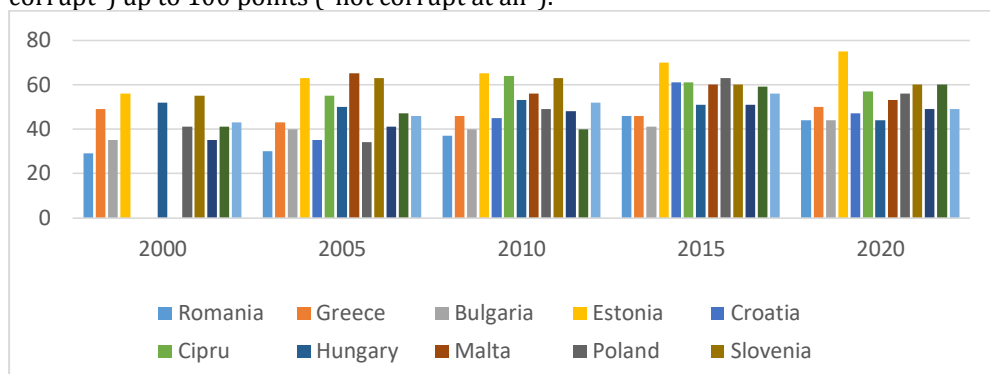

Figure 5. Level of corruption index
(own calculation based on AMECO data accessed on 19.05.2021)

According to data presented in Figure 5, in 2000, the least corrupt state was Estonia, but with a relatively weak indicator of 56 points, and the most corrupt state was Romania (29 points). In 2005, Malta (65p) and Slovenia (63p) registered the best indicators, while Romania and Poland registered the weakest index. In 2010 there is a positive fluctuation of the indicator, which shows that the emerging states have taken into account the recommendations of the European Union on stopping the phenomena of corruption, with Estonia, Cyprus, and Slovenia being the states that recorded above-average values. Romania remained the most corrupt state but registered an evolution: from 29p in 2000 to 37p in 2010. Between 2015-2010, Estonia is ranked number one in the ranking, being the least corrupt state in the emerging states, with the most corrupt states being Romania (44p), Bulgaria (44p), Greece (50p), Malta (53p), and Cyprus (57p).

Case study. Analysis of the factors influencing the fiscal pressure at the level of emerging EU countries

Research methodology

Panel regression is a modeling method adapted to panel data, also called longitudinal data or cross-sectional data. This type of regression is widely used in econometrics, where the behavior of statistical units (i.e. panel units) is tracked over time. These units can be companies, countries, states, etc. Panel regression allows control for both the unit's effect and time's effect when estimating the regression coefficient.

The statistical form of the regression model with panel data has the following representation:

$$y = a_{1i} + a_{2it} \cdot x_{2it} + a_3 \cdot x_{3it} + a_4 \cdot x_{4it} + a_5 \cdot x_{5it} + \ldots\ldots a_n \cdot x_{nit} + \varepsilon$$

In this study, we decided to use the multiple regression model with panel data, considering as a dependent variable the level of fiscal pressure. We chose the public debt (% of gross domestic product), the level of indirect taxes (% of gross domestic product), the rate of GDP growth, and the Corruption Perceptions Index as independent variables.

The analysis was performed over developing countries in the European Union, namely Romania, Greece, Bulgaria, Estonia, Croatia, Cyprus, Hungary, Malta, Poland, Slovenia, Slovakia, Lithuania, and the Czech Republic. The period considered in the analysis is from 1995 to 2019, with an annual frequency of data analyzed. The data was taken from AMECO, Transparency International, and the World Bank.

Research results

The analysis begins by highlighting the descriptive statistics calculated for the data series. We calculated the maximum value, the minimum value, the median, the quartiles, and the average value.

Table 1. Descriptive statistics

	Fiscal pressure	Public debt	Indirect taxes	Rate of GDP growth	Corruption Perceptions Index
Average value	33.2	49.8	13.7	3.1	49.9
Median	33.0	43.4	13.3	3.7	50.0
Maximum value	42.7	186.2	20.2	13.0	74.0
Minimum value	23.9	3.8	9.1	-14.8	26.0
Quartile 1	30.35	26.1	11.9	1.89	43
Quartile 2	33	43.4	13.3	3.69	50
Quartile 3	36.45	64.5	14.95	5.11	57

Own processing in Excel

On average, the fiscal pressure was 33.2%, its maximum value standing at 42.7%. Quartile 1 indicates that 25% of the values are less than 30.35% and 75% of the values exceed this level. The highest level of public debt (as a percentage of GDP) was 186.2% of GDP, while the minimum value was 3.8%. The median shows that half of the values are less than 33% of GDP, and half of the values exceed this level. The average level of indirect taxes (as a percentage of GDP) was 13.7%, the minimum value being 9.1%. Quartile 3 indicates that 75% of the analyzed data are below the threshold of 14.95%, and 25% of the data exceed this value. The lowest GDP growth rate at the level of emerging countries was -14.8, the maximum value reaching the threshold of 13. The average value of the GDP growth rate was around 3.1.

Regarding the corruption perceptions index, its average value was 49.9 points, the maximum being 74 points. Quartile 1 points out that 25% of the data analyzed are less than 43 points, and 75% exceed this level.

Table 2. Stationary data series

	A.D.F.	
	I(0)	I(1)
Public debt	0,7237	0,0052
Corruption index	0,5063	0,0000
Indirect taxes	0,1620	0,0000
GDP growth rate	0,0001	0,0000
Fiscal pressure	0,0001	0,0000

Own processing in Eviews 7.1

At level, the GDP growth rate and the fiscal pressure are stationary data series, with the attached probability lower than the significance threshold of 1%. The other three variables needed to make the first difference to see if they become stationary. Following the stagnation, the probabilities decreased, and the data series represented by the public debt, the corruption perception index, and the level of indirect taxes became stationary. The integration order for the financial pressure and the GDP growth rate is 0, and for the public debt, the corruption perception index and the level of indirect taxes are 1. At the same time, it is essential to check whether the data series have a strong correlation through the correlation matrix of the independent variables.

Table 3. Correlation between independent variables

	Rate of GDP growth	**Public debt**	**Corruption index**	**Indirect taxes**
Rate of GDP growth	1.000000	-0.278743	-0.023770	-0.073431
Public debt	-0.278743	1.000000	-0.008397	0.339721
Corruption index	-0.023770	-0.008397	1.000000	0.073475
Indirect taxes	-0.073431	0.339721	0.073475	1.000000

O*wn processing in Eviews 7.1*

There is an inverse, low-intensity relationship between the growth rate of GDP and the level of public debt. The exact relationship is maintained between the corruption perception index and the GDP growth rate. At the same time, there is a direct relationship of low intensity between the level of indirect taxes and public debt. Since there are no strong intensity relationships at the level of the independent variables, I will include them all in the regression model with panel data. In the regression model with panel data, we considered as a dependent variable the level of fiscal pressure. As independent variables, we chose the level of indirect taxes (% GDP), GDP growth rate, public debt level (% GDP), and the Corruption Perceptions Index.

Dependent Variable: TOTAL_TAX_BURDEN
Method: Panel Least Squares
Sample: 1997 - 2019
Periods included: 23
Cross-sections included: 13
Total panel (unbalanced) observations: 273

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INDIRECT_TAXES	0.795671	0.073600	10.81079	0.0000

GROSS_PUBLIC_DEBT	0.031846	0.004842	6.577517	0.0000
GDP_GROWTH	-0.032191	0.043604	-0.738257	0.4610
CORRUPTION_INDEX	0.081438	0.016043	5.076189	0.0000
C	16.81684	1.221722	13.76487	0.0000

R-squared	0.512834	Mean dependent var	33.27729
Adjusted R-squared	0.505563	S.D. dependent var	3.658983
S.E. of regression	2.572858	Akaike info criterion	4.746057
Sum squared resid	1774.053	Schwarz criterion	4.812165
Log likelihood	-642.8368	Hannan-Quinn criter.	4.772594
F-statistic	70.53020	Durbin-Watson stat	0.109884
Prob(F-statistic)	0.000000		

Figure 6. Results of the regression model with panel data
(own processing in Eviews 7.1)

The model equation can be written as:

Total tax burden = 16.81 + 0.79 * Indirect taxes + 0.031 * Gross public debt + 0.08 * Corruption index

As can be seen, the level of indirect taxes (% of GDP), public debt (% of GDP), and the corruption perception index have a substantial impact on the evolution of fiscal pressure in emerging countries in the European Union, with the associated probability below the threshold of significance of 1%. The value of the determination ratio suggests that 51.28% of the fiscal pressure variance is explained by the regression model performed. Considering the Fisher test probability value, we can conclude that the econometric model performed is correctly specified, at a confidence level of 99%. When the public debt (% of GDP) increases by one percentage point, the level of fiscal pressure will increase by 0.031 percentage points if the other factors remain constant. When indirect taxes (% of GDP) increase by one percentage point, the level of fiscal pressure will increase by 0.79 percentage points if the other factors remain constant. As the one-point increase in the corruption perception index increases, the level of fiscal pressure will increase by 0.08 percentage points if the other factors remain constant.

Next, we tested whether or not the perturbations belong to a normal distribution using the Jarque-Bera test. Under the null hypothesis, the errors belong to a normal distribution, while the alternative hypothesis suggests that the errors are not part of a normal distribution.
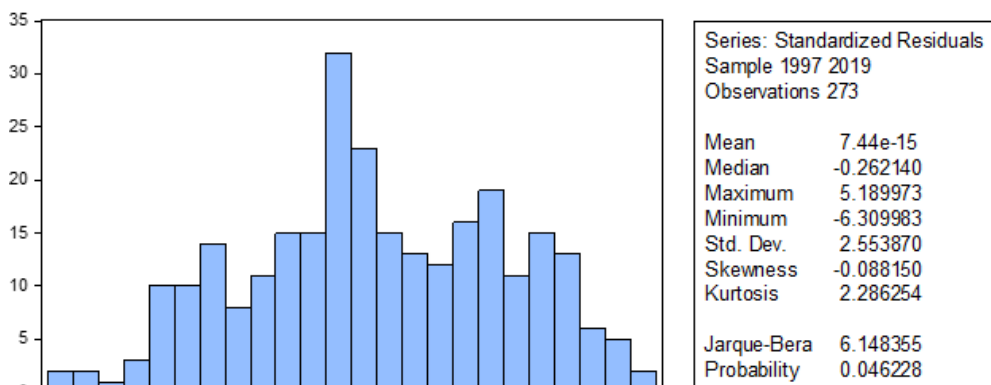
Figure 7. Error normality testing
(*own processing in Eviews 7.1*)

The values recorded by skewness and kurtosis are close to traditional values of 0 and 3. Considering the probability of the Jarque-Bera test, we can conclude that the null hypothesis is accepted, so the errors belong to a normal distribution.

We also wanted to capture the long-term causal relationships between the variables analyzed through the Granger test.

Table 4. Pairwise Granger Causality Tests

Lag(s)	1		2		3	
Null Hypothesis	F-Stat	Prob	F-Stat	Prob	F-Stat	Prob
GDP_GROWTH does not Granger Cause CORRUPTION_INDEX	0.29801	0.5856	0.09393	0.9104	0.72626	0.5373
CORRUPTION_INDEX does not Granger Cause GDP_GROWTH	0.44819	0.5038	1.06073	0.3478	0.60241	0.6141
GROSS_PUBLIC_DEBT does not Granger Cause CORRUPTION_INDEX	2.38024	0.1241	1.43130	0.2410	1.18111	0.3177
CORRUPTION_INDEX does not Granger Cause GROSS_PUBLIC_DEBT	0.36653	0.5454	0.88834	0.4127	0.80789	0.4906
INDIRECT_TAXES does not Granger Cause CORRUPTION_INDEX	0.01579	0.9001	1.13688	0.3225	1.15853	0.3264
CORRUPTION_INDEX does not Granger Cause INDIRECT_TAXES	0.13886	0.7097	1.19595	0.3042	0.44669	0.7199
TOTAL_TAX_BURDEN does not Granger Cause CORRUPTION_INDEX	0.08996	0.7645	1.45273	0.2360	1.44591	0.2302
CORRUPTION_INDEX does not Granger Cause TOTAL_TAX_BURDEN	3.62188	0.0581	2.77529	0.0643	1.49308	0.2172
GROSS_PUBLIC_DEBT does not Granger Cause GDP_GROWTH	2.56399	0.1104	2.03309	0.1329	6.99632	0.0002
GDP_GROWTH does not Granger Cause GROSS_PUBLIC_DEBT	14.9038	0.0001	5.28921	0.0056	3.96112	0.0087
INDIRECT_TAXES does not Granger Cause GDP_GROWTH	0.58084	0.4466	0.44034	0.6443	1.26496	0.2869
GDP_GROWTH does not Granger	24.6603	1.E-06	7.85987	0.0005	5.49333	0.0011

Cause INDIRECT_TAXES						
TOTAL_TAX_BURDEN does not Granger Cause GDP_GROWTH	2.66499	0.1037	0.60270	0.5481	1.44988	0.2288
GDP_GROWTH does not Granger Cause TOTAL_TAX_BURDEN	1.93075	0.1658	0.55869	0.5726	1.39570	0.2446
INDIRECT_TAXES does not Granger Cause GROSS_PUBLIC_DEBT	0.37793	0.5392	0.72776	0.4839	2.31658	0.0762
GROSS_PUBLIC_DEBT does not Granger Cause INDIRECT_TAXES	11.0839	0.0010	7.27635	0.0008	5.59073	0.0010
TOTAL_TAX_BURDEN does not Granger Cause GROSS_PUBLIC_DEBT	0.93586	0.3342	0.37766	0.6858	0.90762	0.4379
GROSS_PUBLIC_DEBT does not Granger Cause TOTAL_TAX_BURDEN	22.5101	3.E-06	10.6229	4.E-05	7.30728	0.0001
TOTAL_TAX_BURDEN does not Granger Cause INDIRECT_TAXES	0.60065	0.4390	0.14772	0.8627	1.15145	0.3289
INDIRECT_TAXES does not Granger Cause TOTAL_TAX_BURDEN	0.15397	0.6951	0.14973	0.8610	1.06502	0.3645

Own processing in Eviews 7.1

The GDP growth rate influences the long-term public debt, the exact relationship being visible in the case of the GDP growth rate and the level of indirect taxes. At the same time, there is a one-way relationship from public debt to fiscal pressure. Within fiscal policies, an important goal for developing countries is their ability to accelerate the rate of economic growth through various tax systems. However, it is essential to distinguish between the use of sources of taxation and the use of deficit financing in a positive way to foster economic growth.

The argument of developing countries, according to several specialists, is to create additional resources by increasing taxes and duties, and in the emerging states we discuss in this article, progressive taxation takes place mainly on indirect taxes, but many of these arguments lost their power with the policies adopted by the developed states around them.

Conclusions

In this paper, we showed that developing countries have lower values of public fiscal pressure. However, compared to their gross domestic product, these values do not reveal a little fiscal pressure borne by the taxpayer. We also argued that emergent countries face higher levels of public debt and corruption (as perception), with the latter compromising government projects, undermining the real economy by facilitating the underground economy, poor management of funds (external and internal), and investments, as well as fraudulent public procurement.

In the case study conducted in this article, we used the multiple regression model with panel data, for the period 1995-2019, with an annual frequency of data used. The analysis was performed for developing countries in the European Union, namely Romania, Greece, Bulgaria, Estonia, Croatia, Cyprus, Hungary, Malta, Poland, Slovenia, Slovakia, Lithuania, and the Czech Republic. For each country and year of observation, we considered the level of fiscal pressure as the dependent variable and four explicative variables: the corruption perception index, the GDP growth rate, the level of public debt (% of GDP), and indirect taxes (% of GDP).

The obtained results indicate that the level of public debt, the level of indirect taxes, and the index of perception of corruption have a strong and, at the same time, significant influence on the evolution of the fiscal pressure within the analyzed period. There is a direct relationship between the fiscal pressure and these three variables, which leads to an increase in the fiscal pressure when the authorities owe too much when the level of indirect taxes increases, and when the corruption in the economy increases. Thus, governments and policymakers must recognize that the fight against corruption requires sound fiscal policies and the best way to implement these policies.

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