DOI: 10.5281/zenodo.6396339

AN OVERVIEW OF FISCAL PRESSURE IN THE EUROPEAN UNION

Ileana Iulia ISTUDOR, PhD Lecturer
Valahia University, Targoviste, Romania
iulia_32@yahoo.com

Florina MOCANU, PhD Lecturer
Valahia University, Targoviste, Romania
florinamocanu78@yahoo.com

Marinela Daniela MANEA, PhD Associate Professor
Valahia University, Targoviste, Romania
m_manea7@yahoo.com

Abstract: *An important part of the Gross Domestic Product is available to the state through taxes, fees and contributions. In the literature, there are many meanings of the fiscal pressure, also known as the rate of fiscality. Most of the meanings define this indicator as a ratio between revenue received from taxes (including social contributions) over a given period and Gross Domestic Product realized over the same period. This research paper focuses on analyzing the fiscal pressure in European Union, starting from the structure of mandatory levies, direct and indirect taxes, and social contributions. Theoretical research provides input on the current state of knowledge on the subject. The data are provided by Eurostat based on the European system of national and regional accounts (ESA 2010). Taxes and social contributions, according to European System Accounting (ESA 2010), are recorded on an accrual basis.*

Keywords: *fiscal pressure, direct taxes, indirect taxes, Gross Domestic Product*

JEL Classification: *H24, H25, H29*

1. Introduction

This paper shows a research which has as its main objective to highlight an analysis of the evolution of the fiscal pressure in the European Union area. The data are provided by Eurostat based on the European system of national and regional accounts (ESA 2010). Taxes and social contributions, according to European System Accounting (ESA 2010), are recorded on an accrual basis.

Theoretical research provides contributions as regards the current state of knowledge on the subject and clarifies certain aspects necessary for the subsequent application. The following research hypothesis is attached to the proposed research objective: between the fiscal revenues, Gross Domestic Product (GDP), economic development there is a direct relationship. Starting from this assertion, taxes represent a critical measure both of a good governance and economic development. Thus, as incomes rise, economies become more developed. In this sense, according to the World Bank, fiscal revenues above 15% of a country's Gross Domestic Product represent a key ingredient for poverty reduction and economic growth. For example, in 2019, the average tax-to-GDP ratio, among the state members of the European Union was 41.4% and in the member states of Organisation for Economic Co-operation and Development was 33.8%. (Kagan & Uradu, 2021)

Creating a performing fiscal system through designing taxes that satisfy the requirements of the principle of fiscal equity and the objective of obtaining sufficient revenues is very important for the state. (Bird & Wilkie, 2012). The criteria of efficiency and fairness are at the top of the list in the design and selection of sources of income. Taxes are used as a competitive tool by states, having different competitive effects (Ulbrich, 2011).

Each type of tax has both negative and positive characteristics. Some taxes create fewer distortions in business decisions, are more stable than others, and are easily perceived to taxpayers (in the case of direct taxes). Other taxes are hidden (in the case of indirect taxes). Some taxes are sensitive to economic growth and/or inflation, other taxes are not. The different revenue sources have different impact on taxpayers' economic decisions and on the distribution of income and wealth.

2. A short review of the literature about fiscal pressure

The study of fiscal pressure is of particular interest to many theorists of economics, existing a lot of opinions in the literature regarding the term fiscal pressure. The link between the rate of fiscal pressure and the flow of fiscal revenues was first noticed in 1776 by Adam Smith. Fiscal pressure on its optimal level was the concern of the economist Laffer in the ‘80s, which through the curve that bears his name, known as the “Laffer Curve”, expressed the idea that too high fiscal rates could destroy the basis of taxation (Trandafir & Brezeanu, 2011). In this sense, the fiscal pressure is seen as “*a relative expression of the tax burden borne by the taxpayer*” (Brezeanu, 2009). In case of the corporates, tax burden can be appreciated by utilizing the effective tax rate. The effective tax rate is considered more relevant than the legal tax rate because it considers the fiscal incentives, providing a true reflection of the tax burden borne by companies (Teodorescu & Istudor, 2017).The increase or decrease of the fiscal pressure over a certain period “*is closely linked to the economic and social role of the state, its intervention in order to ensure the coverage of public expenditures*” (Trandafir & Brezeanu, 2011).

Another opinion reveals that “*the fiscal pressure is generally given by the fiscal rate, which is calculated as the ratio between fiscal revenues including the contribution to state social insurance in a certain period, usually one year, and the value of Gross Domestic Product, achieved at the same time, of a national economy*” (Văcărel and others, 2008).

To achieve the goal of fiscal policy, fiscal pressure must consider the conciliation of two diametrically opposed tendencies: the trend of the state that wants it to be increasing to cover public expenditure and the trend of the taxpayer who seeking a fiscal pressure as low as possible (Dobrotă & Chirculescu, 2010). In close relation with the concept of fiscal pressure, the concept of fiscal levy is necessary to use. In contemporary times, the fiscal levy is carried out by means of tax, the reference element in fiscal theory and practice, and the most important means of financing public needs.

In the analysis of fiscal pressure there are two approaches, one approach in terms of flow and another in terms of indices (Corduneanu, 1998). The information provided by the analysis in terms of flow is necessary to perform the analysis in terms of indices. The fiscal pressure in flow terms, is the monetary amount of the fiscal obligation, borne by the income at individual, sectoral and overall level. Fiscal pressure should not only be seen as a state pressure on the economy, but also as a redistribution of collected revenues, as they return to the economic circuit through public expenditures.

“*The fiscal pressure rate measures the part of fiscal proceeds that undergoes a compulsory and public distribution process instead of being left to the discretion of private initiative*” (Petric, 2019 p. 189).

3. Methodology and methods for determining the fiscal pressure

As a research method, the analysis is performed based on quantitative empirical research. To highlight the fiscal pressure at the level of the European Union member states, we considered that it is opportune to structure the data by regrouping them according to the size of the fiscal pressure. In this sense, we classified the countries by intervals of analysis of the fiscal pressure according to the Table 1.

Table 1. Intervals of analysis of the Fiscal Pressure

Analysis interval	The size of the Fiscal Pressure (deviations +/- from the EU 28/ EU 27 average) - percentage points	
	Minimum	Maximum
I	>= 5	
II	>= 0	<5
III	>= - 5	< 0
IV		< - 5

Methods for determining the fiscal pressure at the macroeconomic level:

- **The overall tax-to-GDP ratio** (*Fiscal pressure in the broad sense – The Overall fiscal pressure or the Rate of taxation*) is calculated according to the relationship 1.

$$Rot = \frac{CL}{GDP} \times 100 \qquad (1)$$

in wich:

Rot = The rate of taxation, which shows the percent of the Gross Domestic Product available for the state by means the taxes and social contributions

CL = Compulsory Levies, respectively the total of the receipts realized in a year from compulsory taxes and social contributions

GDP = Gross Domestic Product

Also, partial rates of taxation can be calculated, by reporting the taxes (fiscal revenues in the strict sense) and social contributions to the Gross Domestic Product.

- **Fiscal pressure** (*Fiscal pressure in a narrow sense* - the Rate of Fiscality) is calculated as a ratio between the total of the Fiscal Revenues and the Gross Domestic Product, according to the relationship 2.

$$FP = \frac{FR}{GDP} \times 100 \qquad (2)$$

in which: FP = Fiscal pressure or the Rate of Fiscality, which shows the percent of the Gross Domestic Product available for the state by means the taxes; FR = Fiscal Revenues

GDP = Gross Domestic Product

- **Rate of social contributions** is calculated according to the relationship 3.

$$Rsc = \frac{SC}{GDP} \times 100 \qquad (3)$$

in which:

Rsc = Rate of social contributions
SC = Social Contributions
GDP = Gross Domestic Product

4. Analysis of the fiscal pressure in the member states of the European Union

4.1. The overall tax-to-GDP ratio

The tax-to-GDP ratio is usually used to determine how well directs its economic resources the government of a country.

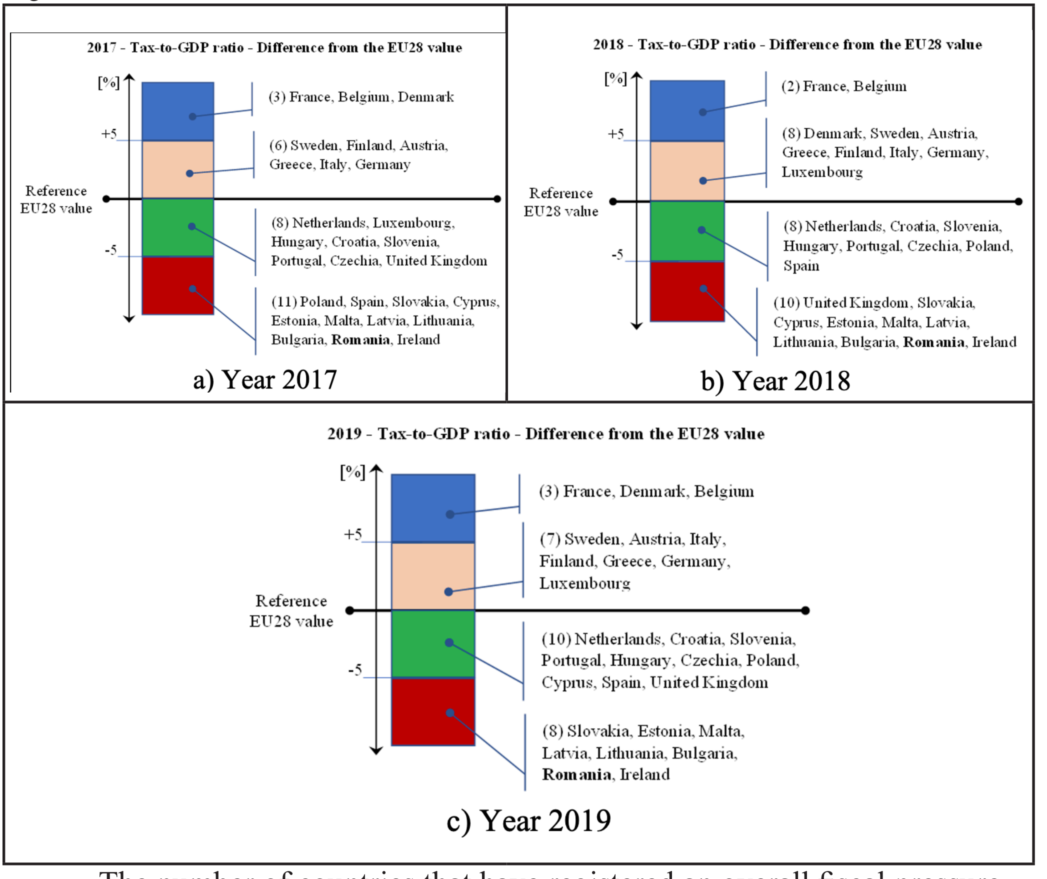
The overall tax-to-GDP ratio presented corresponds to the total amount of taxes and social contributions, including voluntary contributions, expressed as a percentage of Gross Domestic Product. This is one measure of the tax burden.

The processing of the data provided by the EU reports from 2017 to 2019 (Annex 1) allowed Member States to be grouped according to the deviation from the EU average of the value of the overall fiscal pressure (Annex 2 and Figure 1).

The number of countries in which the overall fiscal pressure exceeds by at least 5 p.p. (percentage points) the European Union average of the overall fiscal pressure, is very low. Thus, in 2017 (Figure 1a) in this situation were France (48.3%), Belgium (47.1%), Denmark (46.5%); in 2018 (Figure 1b) France (48.2%) and Belgium (47.1%), and in 2019 (Figure 1c) France (47.4%), Denmark (46.9%) and Belgium (45.9%).

Countries where the overall fiscal pressure was greater than or equal to the European Union average but not more than 5 p.p. there were six in 2017 (Figure 1a): Sweden (44.7%), Finland (43.1%), Austria (42.5%), Greece (42.2%), Italy (42, 1%), Germany (40.8%). In 2018 (Figure 1b), the number of countries that had this indicator in the mentioned range was eight: Denmark (45,1 %), Sweden (44.4%), Austria (42.9%), Greece (42.7%), Finland (42.5%), Italy (41.9%), Germany (41.3%), Luxembourg (41,0 %), and in 2019 (Figure 1c), there were a number of seven countries: Sweden (43.6%), Austria (43.1%), Italy (42.6%), Finland (42.3%), Greece (41.9%), Germany (41.7%), Luxembourg (40.5%).

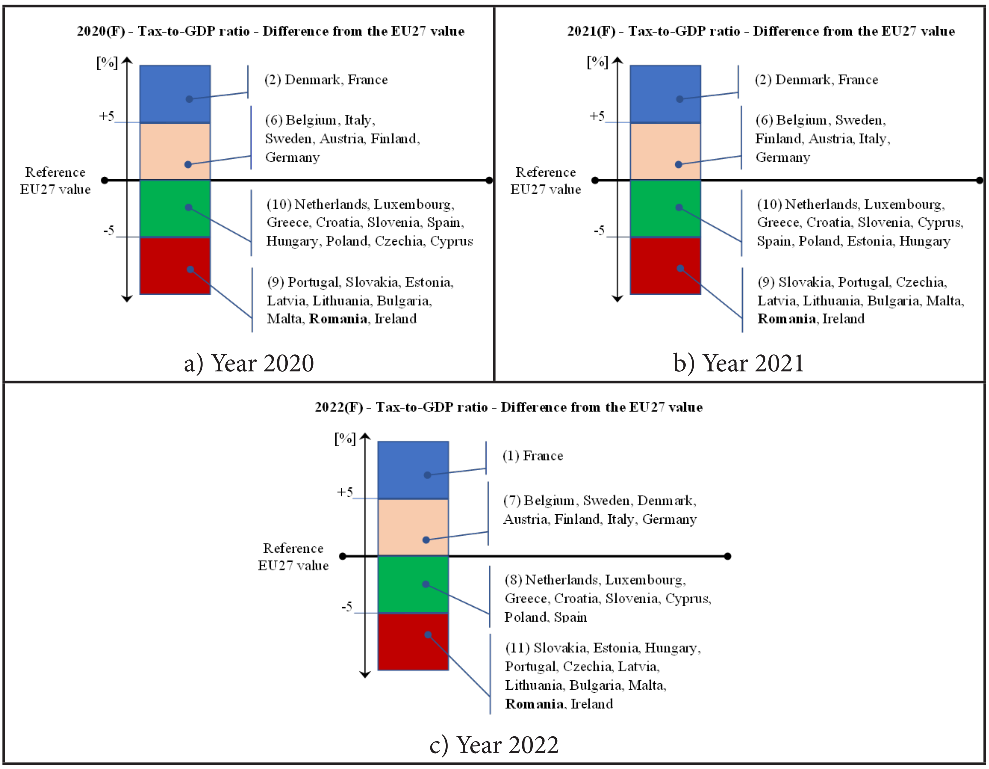
Figure 1. Tax-to-GDP ratio - Difference from the EU28 value 2017-2019



The number of countries that have registered an overall fiscal pressure below the EU28 average up to 5 p.p. was constant in the period 2017 - 2018, respectively eight countries. In 2017 (Figure 1a): Netherlands (39.2%), Luxembourg (38.9%), Hungary (38.0%), Croatia (37.7%), Slovenia (37.6%), Portugal (36.5%), Czechia (35.4%), United Kingdom (35.2%). In 2018 (Figure 1b): Netherlands (39.3%), Croatia (38.3%), Slovenia (37.8%), Hungary (37.0%), Portugal (37.0%), Czechia (36.0%), Poland (36.0%), Spain (35.4%). The situation was different in 2019 (Figure 1c) when ten countries were in the mentioned range: Netherlands (39.8%), Croatia (38.7%), Slovenia (37.7%), Portugal (36.8%), Hungary (36.5%), Czechia (36.1%), Poland (36.0%), Cyprus (35.6%), Spain (35.4%), United Kingdom (35.3%) %).

Countries that have registered an overall fiscal pressure below the EU28 average by more than 5 p.p. there were eleven in 2017, ten in 2018, and eight in 2019. In 2017 (Figure 1a): Poland (35.0%), Spain (34.7%), Slovakia (34.2%), Cyprus (33.2%), Estonia (32.8%), Malta (31.9%), Latvia (31.4%), Lithuania (29.8%), Bulgaria (29.4%), Romania (25.8%), Ireland (23.3%). In 2018 (Figure 1b): United Kingdom (35,2 %), Slovakia (34.3%), Cyprus (33.5%), Estonia (33.1%), Malta (32.3%), Latvia (31.4%), Lithuania (30.3%), Bulgaria (30.0%), Romania (26.8%), Ireland (23.2%). In 2019 (Figure 1c): Slovakia (34.6%), Estonia (33.3%), Malta (32.1%), Latvia (31.3%), Lithuania (30.4%), Bulgaria (30.3%), Romania (26.8%), Ireland (22.7%).

Figure 2. Tax-to-GDP ratio - Difference from the EU27 value 2020-2022 (forecast)



The analysis of the forecasted data regarding the evolution of the overall fiscal pressure (Annex 1) for the period 2020-2022 reveals that the number of countries exceeding by 5 p.p. the European Union average remains low (France and Denmark). It can be seen that the forecasted data reveals a decreasing trend in the overall fiscal pressure in both countries.

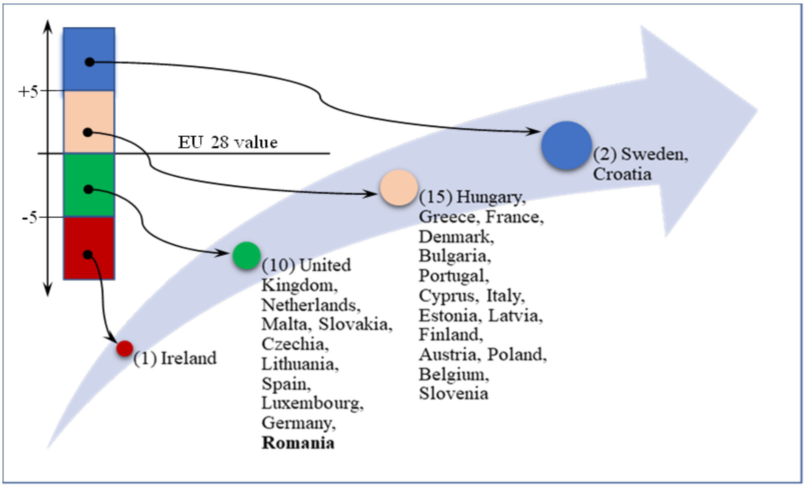
The number of countries in which the overall fiscal pressure has been forecast to be greater than or equal to the European Union average but not more than 5 p.p. was relatively constant in the period 2020-2022 (Figure 2a, 2b, 2c).The same trend was also observed for the other two analyzed intervals.

In the case of Romania, the forecasts regarding the evolution of the overall fiscal pressure in the period 2020-2022 place it in the group of countries that have registered an overall fiscal pressure below the EU27 average by more than 5 p.p. (25,9% in 2020; 25,8% in 2021; 25,7% in 2022 – see Annex 1).

4.2. Fiscal pressure at the level of indirect taxes

In accordance with the European System of National and Regional Accounts, indirect taxes are those related to imports and production. The fiscal pressure at the level of indirect taxes is determined as the ratio between the total fiscal revenues resulting from these types of taxes and the Gross Domestic Product in a well-defined period.

Figure 3. Indirect taxes in EU state members (as % of GDP)
Difference from EU28 value – Year 2019



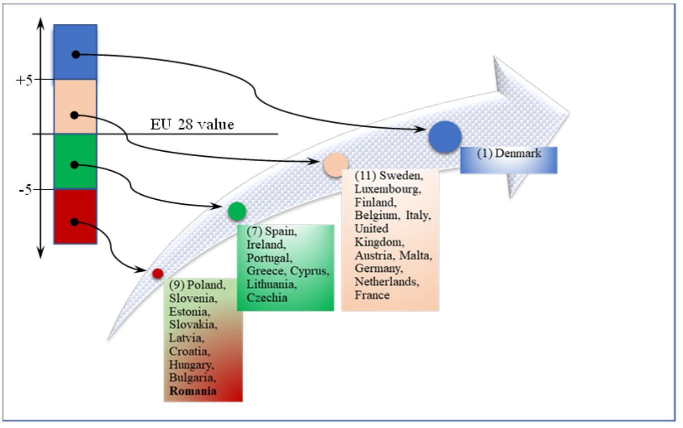
Significant differences are observed between the member states of the European Union. The new Member States are showing an upward trend in consumption taxes. As an example, Croatia stands out through high consumption taxation. Lower shares of the fiscal pressure related to indirect taxes were registered by the Netherlands, Spain, Germany, economically developed countries. Significant values of the fiscal pressure related to indirect taxes were registered in the analysis period in countries such as Estonia, Lithuania, and Latvia, with values close to the EU27 average (Figure 3).

Romania is in the group of countries that have registered a fiscal pressure at the indirect taxes below the EU28 average up to 5 p.p. (Figure 3).

4.3. Fiscal pressure at the level of direct taxes

In the case of direct taxes (Figure 4) the level of fiscal pressure was higher in countries such as Denmark, Sweden, Italy, Belgium.
The explanation is that in these countries, revenue redistribution is one of the main objectives of government authorities.

Figure 4. Direct tax in EU state members (as % of GDP)
Difference from EU28 value – Year 2019

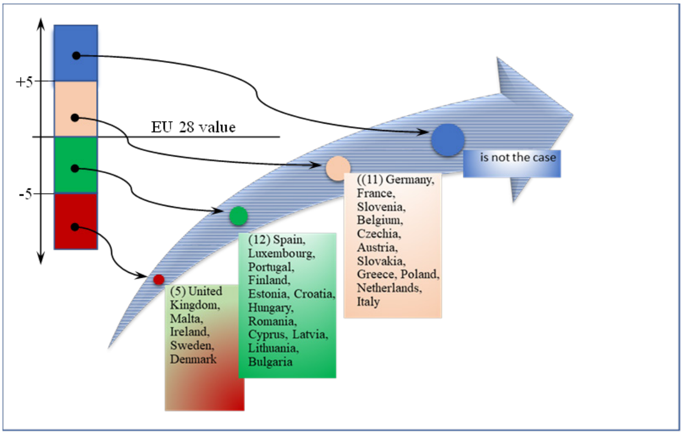


Regarding the fiscal pressure related to direct taxes, Romania (4.8 %) is in the group of countries that have registered values below the EU28 average with more than 5 pp, along with Poland, Slovenia, Hungary, Bulgaria, Croatia, and others. The reduced fiscal pressure at the level of direct taxes in the case of Romania is explained by the modification of the fiscal legislation (started in 2018) at the level of taxation of the income of natural persons (reduction of the tax rate from 16% to 10%).

4.4. Fiscal pressure at the level of social contributions

As shown in Figure 5, in conjunction with the data in Annexes 8 and 9, there was a much higher level of fiscal pressure related to social contributions in developed countries. From the group of developed countries, the highest levels of fiscal pressure at the level of social contributions are found in countries such as Germany (17.3%), France (16.8%), Belgium (15,7 %). Some emerging countries have exceeded the EU 28 average but no more than 5 p.p., such as Czechia (15.6%) and Slovenia (16%). However, in 2019, there was no country that exceeded the EU 28 average by 5%.

Figure 5. Social contributions in EU state members (as % of GDP)
Difference from EU28 value – Year 2019



Romania was in the group of countries whose fiscal pressure related to social contributions was below the EU 28 average but not more than 5 p.p. (11,3 %).

5. Conclusions

Following the analysis performed on the level of overall fiscal pressure, we noticed that the lowest levels (less than or equal to 30%) are registered in developing countries, such as Bulgaria and Romania. From the group of developed countries, we find the highest shares of the overall fiscal pressure (over 45%) in France, Denmark, and Belgium.

From the structural analysis of the fiscal pressure, we found the following:

- At the level of direct taxes, the fiscal pressure tends to be high in those countries where government authorities attach greater importance to income redistribution. The highest value of the fiscal pressure exerted by direct taxes was recorded in Denmark (29,7 % in 2017; 28,9 % in 2018; 30,7% in 2019) and Sweden (18,9 % in 2017; 18,6 % in 2018; 18,0% in 2019). In these countries, direct taxes have an important contribution to the formation of budget revenues.
- At the level of indirect taxes, there is no significant difference between developed and emerging countries. As an example, Croatia (19.6% in 2017; 20.1% in 2018; 20.3% in 2019) versus Sweden (22.7% in 2017; 22.4% in 2018; 22.2% in 2019).

- At the level of social contributions, the fiscal pressure registered the highest values in France (18.8% in 2017; 18.0% in 2018; 16.8% in 2019) and Germany (16.7% in 2017; 17.1% in 2018; 17.3% in 2019), developed countries, founders of the European Union.

Currently, fiscal pressure is a concept that arouses the interest of both researchers and private practitioners. Numerous researches are carried out on the relationship between economic growth and fiscal policy of a state. Establishing a maximum ceiling of fiscal pressure is difficult to achieve because this indicator differs depending on the country, period, economic, social, and political context.

References

Bird, R. and Wilkie, S. (2012). Designing Tax Policy: Constraints and Objectives in an Open Economy, *International Center for public policy,* Working Paper 12-24, April 2012, p. 11.

Brezeanu, P. (2009). *Fiscalitate: Concepte, teorii, politici şi abordări practice,* Bucharest: Wolters Kluwer Publishing House.

Corduneanu, C. (1998). *Sistemul fiscal în ştiinţa finanţelor,* Bucureşti, Editura Codecs, pp. 74-75.

Dobrotă, G. and Chirculescu M. F. (2010). Analiza presiunii fiscale şi parafiscale în România şi în Uniunea Europeană, *Analele Universităţii "Constantin Brâncuşi" din Târgu Jiu, Seria Economie,* Nr. 4/2010, p. 301.

Eurostat (2018). Taxation in 2017. Newsrelease 182/2018, available at: https://ec.europa.eu/eurostat/documents/2995521/9409920/2-28112018-AP-EN.pdf/54409e5e-6800-4019-b7c1-580797a67001, [Accessed August 2021]

Eurostat (2019). Taxation in 2018. Newsrelease 166/2019, available at: https://ec.europa.eu/eurostat/documents/2995521/10190755/2-30102019-AP-EN.pdf/68739572-f06a-51e4-3a5b-86e660a23376, [Accessed August 2021]

Eurostat (2020). Taxation in 2019. Newsrelease 160/2020, available at: https://ec.europa.eu/eurostat/documents/2995521/11469100/2-29102020-BP-EN.pdf/059a7672-ed6d-f12c-2b0e-10ab4b34ed07, [Accessed August 2021]

Kagan, J. and Uradu, L. (2021). *What Is the Tax-to-GDP Ratio?* [Online] Available at: https://www.investopedia.com/terms/t/tax-to-gdp-ratio.asp [Accessed August 2021].

Petric, N. (2019). Fiscal pressure in the EU: an econometric approach, *The Annals of the University of Oradea. Economic Sciences*, Tom XXVIII, Issue 2 (December 2019), available at http://anale.steconomiceuoradea.ro/wp-content/uploads/2021/02/Anale-AUOES_Issue-2-din-2020.pdf, [Accessed August 2021], pp. 189-199.

Publications Office of the European Union (2021). Taxation Trends in the European Union, 2021 edition, Directorate-General for Taxation and Customs Union, European Commission, Luxembourg, available at https://ec.europa.eu/

taxation_customs/ taxation-1/economic-analysis-taxation/taxation-trends-european-union_en, [Accessed August 2021] p. 19.

Teodorescu, M. and Istudor, I.I. (2017). Effective Tax Rate of Corporate Income Tax in the Post-Crisis Period: The Case of Non-Financial Companies Listed on the Bucharest Stock Exchange, *Ovidius University Annals Economic Sciences,* series volume XVII, 2017, issue 2, pp. 655, ISSN 2393 – 3119, available at https://stec.univ-ovidius.ro/html/anale/ENG/ovidius-university-annals-economic-sciences-series-volume-xvii-issue-2/ [Accessed August 2021]

Trandafir, A. and Brezeanu, P. (2011). Optimalitatea politicii fiscale în România din perspectiva curbei Laffer. *Economie teoretică şi aplicată.* Vol. XVIII, No. 8(561), pp. 53-61.

Ulbrich, H. (2011). Public Finance in Theory and Practice. Second edition. Routledge 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN, pp. 163, 186.

Văcărel, I. and others (2008). *Finanţe Publice*, Ediţia a VI–a, Bucharest: Didactica and Pedagogica Publishing House.

Annexes

Annex 1. Tax-to-GDP ratio in EU state members

Country/ Region	Tax-to-GDP ratio [%]					
2017		2018	2019	2020 (F)	2021 (F)	2022 (F)
EU27	41.0	41.2	41.1	40.4	39.5	39.2
EU28	40.1	40.3	40.2	-	-	-
Euro area	41.4	41.6	41.6	40.8	39.9	39.6
Belgium	47.1	47.1	45.9	44.0	43.4	43.4
Bulgaria	29.4	30.0	30.3	31.0	30.1	29.8
Czechia	35.4	36.0	36.1	35.7	33.6	33.2
Denmark	46.5	45.1	46.9	46.5	44.6	42.8
Germany	40.8	41.3	41.7	40.5	39.7	39.8
Estonia	32.8	33.1	33.3	34.2	35.2	33.5
Ireland	23.3	23.2	22.7	20.8	20.1	19.8
Greece	42.2	42.7	41.9	38.2	37.8	37.7
Spain	34.7	35.4	35.4	36.7	35.9	35.0
France	48.3	48.2	47.4	45.8	44.6	44.5
Croatia	37.7	38.3	38.7	37.9	37.7	36.8
Italy	42.1	41.9	42.6	42.9	41.8	41.4
Cyprus	33.2	33.5	35.6	35.7	36.7	36.2
Latvia	31.4	31.4	31.3	31.7	31.6	31.3
Lithuania	29.8	30.3	30.4	31.2	30.6	30.9

Country/ Region	Tax-to-GDP ratio [%]					
	2017	2018	2019	2020 (F)	2021 (F)	2022 (F)
Luxembourg	38.9	41.0	40.5	38.3	38.3	37.9
Hungary	38.0	37.0	36.5	36.4	34.7	33.4
Malta	31.9	32.3	32.1	30.0	29.5	29.8
Netherlands	39.2	39.3	39.8	39.7	39.4	38.0
Austria	42.5	42.9	43.1	42.5	41.9	42.1
Poland	35.0	36.0	36.0	35.9	35.9	35.3
Portugal	36.5	37.0	36.8	34.7	33.8	33.3
Romania	25.8	26.8	26.8	25.9	25.8	25.7
Slovenia	37.6	37.8	37.7	37.5	36.8	36.6
Slovakia	34.2	34.3	34.6	34.6	34.2	33.7
Finland	43.1	42.5	42.3	41.8	42.0	41.7
Sweden	44.7	44.4	43.6	42.9	42.7	43.2
United Kingdom	35.2	35.2	35.3	No forecast data available		

Sources: 1. Years 2017-2019 (Eurostat, 2020 p. 4);
2. Forecast for years 2020-2022 (Publications Office of the European Union, 2021 p. 19)

Annex 2. Tax-to-GDP ratio - Difference from EU28 value

No.	2017		2018		2019	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
1	France	8.2	France	7.9	France	7.2
2	Belgium	7.0	Belgium	6.8	Denmark	6.7
3	Denmark	6.4	Denmark	4.8	Belgium	5.7
4	Sweden	4.6	Sweden	4.1	Sweden	3.4
5	Finland	3.0	Austria	2.6	Austria	2.9
6	Austria	2.4	Greece	2.4	Italy	2.4
7	Greece	2.1	Finland	2.2	Finland	2.1
8	Italy	2.0	Italy	1.6	Greece	1.7
9	Euro area	1.3	Euro area	1.3	Germany	1.5
10	Germany	0.7	Germany	1.0	Euro area	1.4
11	Netherlands	-0.9	Luxembourg	0.7	Luxembourg	0.3
12	Luxembourg	-1.2	Netherlands	-1.0	Netherlands	-0.4
13	Hungary	-2.1	Croatia	-2.0	Croatia	-1.5
14	Croatia	-2.4	Slovenia	-2.5	Slovenia	-2.5
15	Slovenia	-2.5	Hungary	-3.3	Portugal	-3.4
16	Portugal	-3.6	Portugal	-3.3	Hungary	-3.7
17	Czechia	-4.7	Czechia	-4.3	Czechia	-4.1
18	United Kingdom	-4.9	Poland	-4.3	Poland	-4.2
19	Poland	-5.1	Spain	-4.9	Cyprus	-4.6

No.	2017		2018		2019	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
20	Spain	-5.4	United Kingdom	-5.1	Spain	-4.8
21	Slovakia	-5.9	Slovakia	-6.0	United Kingdom	-4.9
22	Cyprus	-6.9	Cyprus	-6.8	Slovakia	-5.6
23	Estonia	-7.3	Estonia	-7.2	Estonia	-6.9
24	Malta	-8.2	Malta	-8.0	Malta	-8.1
25	Latvia	-8.7	Latvia	-8.9	Latvia	-8.9
26	Lithuania	-10.3	Lithuania	-10.0	Lithuania	-9.8
27	Bulgaria	-10.7	Bulgaria	-10.3	Bulgaria	-9.9
28	Romania	-14.3	Romania	-13.5	Romania	-13.4
29	Ireland	-16.8	Ireland	-17.1	Ireland	-17.5

DIFF [%] - Difference from the EU28 value

Annex 3. Tax-to-GDP ratio - Difference from EU27 value

No.	2020 (Forecast)		2021 (Forecast)		2022 (Forecast)	
	Country / Region	DIFF [%]	Country / Region	DIFF [%]	Country / Region	DIFF [%]
1	Denmark	6.1	Denmark	5.1	France	5.3
2	France	5.4	France	5.0	Belgium	4.2
3	Belgium	3.6	Belgium	3.9	Sweden	4.0
4	Italy	2.5	Sweden	3.2	Denmark	3.6
5	Sweden	2.5	Finland	2.5	Austria	2.9
6	Austria	2.1	Austria	2.4	Finland	2.5
7	Finland	1.4	Italy	2.3	Italy	2.2
8	Euro area	0.4	Euro area	0.4	Germany	0.6
9	Germany	0.1	Germany	0.1	Euro area	0.4
10	Netherlands	-0.7	Netherlands	-0.2	Netherlands	-1.2
11	Luxembourg	-2.1	Luxembourg	-1.3	Luxembourg	-1.3
12	Greece	-2.2	Greece	-1.8	Greece	-1.5
13	Croatia	-2.5	Croatia	-1.9	Croatia	-2.4
14	Slovenia	-2.9	Slovenia	-2.7	Slovenia	-2.6
15	Spain	-3.7	Cyprus	-2.8	Cyprus	-3.0
16	Hungary	-4.0	Spain	-3.6	Poland	-3.9
17	Poland	-4.5	Poland	-3.6	Spain	-4.2
18	Czechia	-4.7	Estonia	-4.4	Slovakia	-5.5
19	Cyprus	-4.7	Hungary	-4.8	Estonia	-5.8
20	Portugal	-5.7	Slovakia	-5.3	Hungary	-5.8
21	Slovakia	-5.8	Portugal	-5.7	Portugal	-5.9
22	Estonia	-6.2	Czechia	-5.9	Czechia	-6.0
23	Latvia	-8.7	Latvia	-8.0	Latvia	-7.9
24	Lithuania	-9.2	Lithuania	-8.9	Lithuania	-8.3
25	Bulgaria	-9.4	Bulgaria	-9.5	Bulgaria	-9.4
26	Malta	-10.4	Malta	-10.0	Malta	-9.4
27	Romania	-14.5	Romania	-13.8	Romania	-13.5
28	Ireland	-19.6	Ireland	-19.5	Ireland	-19.4
29	United Kingdom	No data	United Kingdom	No data	United Kingdom	No data

DIFF [%] - Difference from the EU27 value

Annex 4. Indirect tax in EU state members, structured by main tax category (as % of GDP)

Country	Structure of indirect tax, by main tax category (as % of GDP)					
	2017		2018		2019	
	Taxes on production and imports	Of which: VAT	Taxes on production and imports	Of which: VAT	Taxes on production and imports	Of which: VAT
EU28	13.6	7.1	13.6	7.1	13.6	7.2
Euro area	13.2	6.9	13.3	6.9	13.3	6.9
Belgium	13.5	6.8	13.9	6.9	13.9	6.8
Bulgaria	15.1	9.0	15.2	9.1	15.6	9.2
Czechia	12.6	7.7	12.5	7.7	12.1	7.6
Denmark	16.1	9.5	16.4	9.8	15.7	9.5
Germany	10.7	6.9	10.8	7.0	10.9	7.1
Estonia	14.4	9.1	13.9	9.0	14.2	8.8
Ireland	8.5	4.5	8.0	4.4	7.8	4.3
Greece	17.3	8.1	17.1	8.3	17.5	8.4
Spain	11.8	6.5	11.9	6.6	11.7	6.5
France	16.4	7.1	16.7	7.2	17.0	7.2
Croatia	19.6	13.2	20.1	13.5	20.3	13.7
Italy	14.6	6.3	14.5	6.2	14.6	6.2
Cyprus	15.9	9.5	16.0	9.9	15.1	9.3
Latvia	14.1	8.0	14.5	8.4	14.2	8.6
Lithuania	11.9	7.8	11.8	7.8	11.8	7.9
Luxembourg	12.1	6.3	12.0	6.2	11.6	6.0
Hungary	18.2	9.5	18.6	9.7	18.1	9.5
Malta	12.8	7.3	12.9	7.5	12.2	7.0
Netherlands	12.0	6.8	12.1	6.8	12.5	7.2
Austria	14.3	7.7	14.0	7.6	14.1	7.6
Poland	14.0	7.8	14.3	8.1	14.0	8.0
Portugal	15.1	8.6	15.4	8.8	15.2	8.8
Romania	10.3	6.2	10.7	6.4	10.7	6.2
Slovenia	14.4	8.1	14.3	8.2	13.8	8.0
Slovakia	11.1	7.0	12.1	7.0	12.2	7.3
Finland	14.2	9.1	14.2	9.1	14.2	9.1
Sweden	22.7	9.3	22.4	9.2	22.2	9.2
United Kingdom	13.1	6.8	13.1	7.0	13.0	7.0

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018; 3. (Eurostat, 2020 p. 5) for year 2019

Annex 5. Indirect tax in EU state members (as % of GDP) Difference from EU28 value

No.	2017		2018		2019	
	Country	DIFF (%)	Country	DIFF (%)	Country	DIFF (%)
1	Sweden	9.1	Sweden	8.8	Sweden	8.6
2	Croatia	6.0	Croatia	6.5	Croatia	6.7
3	Hungary	4.6	Hungary	5.0	Hungary	4.5
4	Greece	3.7	Greece	3.5	Greece	3.9
5	France	2.8	France	3.1	France	3.4
6	Denmark	2.5	Denmark	2.8	Denmark	2.1
7	Cyprus	2.3	Cyprus	2.4	Bulgaria	2.0
8	Bulgaria	1.5	Portugal	1.8	Portugal	1.6
9	Portugal	1.5	Bulgaria	1.6	Cyprus	1.5
10	Italy	1.0	Italy	0.9	Italy	1.0
11	Estonia	0.8	Latvia	0.9	Estonia	0.6
12	Slovenia	0.8	Poland	0.7	Latvia	0.6
13	Austria	0.7	Slovenia	0.7	Finland	0.6
14	Finland	0.6	Finland	0.6	Austria	0.5
15	Latvia	0.5	Austria	0.4	Poland	0.4
16	Poland	0.4	Belgium	0.3	Belgium	0.3
17	Belgium	-0.1	Estonia	0.3	Slovenia	0.2
18	Euro area	-0.4	Euro area	-0.3	Euro area	-0.3
19	United Kingdom	-0.5	United Kingdom	-0.5	United Kingdom	-0.6
20	Malta	-0.8	Malta	-0.7	Netherlands	-1.1
21	Czechia	-1.0	Czechia	-1.1	Malta	-1.4
22	Luxembourg	-1.5	Netherlands	-1.5	Slovakia	-1.4
23	Netherlands	-1.6	Slovakia	-1.5	Czechia	-1.5
24	Lithuania	-1.7	Luxembourg	-1.6	Lithuania	-1.8
25	Spain	-1.8	Spain	-1.7	Spain	-1.9
26	Slovakia	-2.5	Lithuania	-1.8	Luxembourg	-2.0
27	Germany	-2.9	Germany	-2.8	Germany	-2.7
28	Romania	-3.3	Romania	-2.9	Romania	-2.9
29	Ireland	-5.1	Ireland	-5.6	Ireland	-5.8

DIFF [%] - Difference from the EU28 value

Annex 6. Direct tax in EU state members, structured by main tax category (as % of GDP)

Country	Structure of direct tax, by main tax category (as % of GDP)								
	2017			2018			2019		
	Taxes on income, wealth, etc	Of which: Taxes on individual or household income	Of which: Taxes on the income or profits of corporations	Taxes on income, wealth, etc	Of which: Taxes on individual or household income	Of which: Taxes on the income or profits of corporations	Taxes on income, wealth, etc	Of which: Taxes on individual or household income	Of which: Taxes on the income or profits of corporations
EU28	13.1	9.4	2.7	13.2	9.5	2.7	13.1	9.6	2.6
Euro area	12.8	9.2	2.7	13.0	9.5	2.7	13.0	9.5	2.7
Belgium	16.9	12.1	4.1	16.8	11.8	4.3	15.8	11.4	3.7
Bulgaria	5.7	3.3	2.3	5.8	3.3	2.2	5.5	3.3	2.0
Czechia	7.7	4.0	3.5	8.0	4.3	3.5	8.4	4.9	3.3
Denmark	29.7	25.4	3.0	28.9	24.7	2.9	30.7	26.5	3.1
Germany	12.9	9.4	2.7	13.3	9.7	2.9	13.3	9.8	2.7
Estonia	7.2	5.7	1.5	7.4	5.4	2.0	7.3	5.4	1.8
Ireland	10.5	7.3	2.8	10.7	7.1	3.2	10.3	6.9	3.1
Greece	10.0	6.2	1.9	10.1	6.2	2.2	9.7	5.9	2.2
Spain	10.2	7.5	2.3	10.6	7.8	2.5	10.4	8.0	2.1
France	12.8	8.7	2.9	13.3	9.6	2.7	13.1	9.5	2.8
Croatia	6.3	3.3	2.3	6.5	3.6	2.3	6.6	3.6	2.4
Italy	14.5	11.8	2.1	14.1	11.6	1.9	14.4	11.8	1.9
Cyprus	9.4	3.1	5.7	9.1	3.2	5.5	9.7	3.3	5.9
Latvia	8.5	6.6	1.6	7.4	6.0	1.1	7.0	6.5	0.2
Lithuania	5.4	3.9	1.5	5.7	4.1	1.5	8.7	7.1	1.6
Luxembourg	15.4	9.1	5.2	16.4	9.3	5.8	16.5	9.3	5.9
Hungary	7.4	5.1	1.9	6.7	5.2	1.2	6.6	5.1	1.2
Malta	14.1	7.0	6.6	13.4	7.3	5.6	13.6	7.4	5.7
Netherlands	12.7	8.3	3.3	12.5	8.0	3.5	13.2	8.5	3.7
Austria	13.0	9.3	2.5	13.5	9.6	2.8	13.7	9.8	2.8
Poland	7.3	5.0	1.9	7.8	5.3	2.1	7.9	5.3	2.2
Portugal	10.1	6.5	3.2	10.1	6.5	3.3	9.8	6.4	3.1
Romania	6.1	3.5	2.0	4.9	2.4	2.1	4.8	2.3	2.1
Slovenia	7.5	5.1	1.8	7.8	5.3	1.9	7.9	5.3	2.0
Slovakia	7.4	3.4	3.5	7.3	3.6	3.3	7.2	3.8	3.0
Finland	16.6	12.6	2.7	15.9	12.2	2.5	15.9	12.2	2.5
Sweden	18.9	15.8	2.9	18.6	15.1	3.1	18.0	14.7	3.0
United Kingdom	14.2	9.2	2.9	14.0	9.1	2.7	13.9	9.2	2.4

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018; 3. (Eurostat, 2020 p. 5) for year 2019

Annex 7. Direct tax in EU state members (as % of GDP) Difference from EU28 value

No.	2017 Country	2017 DIFF (%)	2018 Country	2018 DIFF (%)	2019 Country	2019 DIFF (%)
1	Denmark	16.6	Denmark	15.7	Denmark	17.6
2	Sweden	5.8	Sweden	5.4	Sweden	4.9
3	Belgium	3.8	Belgium	3.6	Luxembourg	3.4
4	Finland	3.5	Luxembourg	3.2	Finland	2.8
5	Luxembourg	2.3	Finland	2.7	Belgium	2.7
6	Italy	1.4	Italy	0.9	Italy	1.3
7	United Kingdom	1.1	United Kingdom	0.8	United Kingdom	0.8
8	Malta	1.0	Austria	0.3	Austria	0.6
9	Austria	-0.1	Malta	0.2	Malta	0.5
10	Germany	-0.2	Germany	0.1	Germany	0.2
11	Euro area	-0.3	France	0.1	Netherlands	0.1
12	France	-0.3	Euro area	-0.2	France	0.0
13	Netherlands	-0.4	Netherlands	-0.7	Euro area	-0.1
14	Ireland	-2.6	Ireland	-2.5	Spain	-2.7
15	Spain	-2.9	Spain	-2.6	Ireland	-2.8
16	Portugal	-3.0	Greece	-3.1	Portugal	-3.3
17	Greece	-3.1	Portugal	-3.1	Greece	-3.4
18	Cyprus	-3.7	Cyprus	-4.1	Cyprus	-3.4
19	Latvia	-4.6	Czechia	-5.2	Lithuania	-4.4
20	Czechia	-5.4	Poland	-5.4	Czechia	-4.7
21	Slovenia	-5.6	Slovenia	-5.4	Poland	-5.2
22	Hungary	-5.7	Estonia	-5.8	Slovenia	-5.2
23	Slovakia	-5.7	Latvia	-5.8	Estonia	-5.8
24	Poland	-5.8	Slovakia	-5.9	Slovakia	-5.9
25	Estonia	-5.9	Hungary	-6.5	Latvia	-6.1
26	Croatia	-6.8	Croatia	-6.7	Croatia	-6.5
27	Romania	-7.0	Bulgaria	-7.4	Hungary	-6.5
28	Bulgaria	-7.4	Lithuania	-7.5	Bulgaria	-7.6
29	Lithuania	-7.7	Romania	-8.3	Romania	-8.3

DIFF [%] - Difference from the EU28 value

Annex 8. Social contributions (as % of GDP)

Country	Net social contributions (as % of GDP)		
	2017	2018	2019
EU28	13.3	13.3	13.3
Euro area	15.2	15.2	15.1
Belgium	16.1	15.7	15.7
Bulgaria	8.4	8.7	8.9
Czechia	15.1	15.6	15.6
Denmark	0.9	0.9	0.8
Germany	16.7	17.1	17.3
Estonia	11.4	11.7	11.8
Ireland	4.3	4.2	4.5
Greece	14.4	14.2	14.6
Spain	12.3	12.4	12.9
France	18.8	18.0	16.8
Croatia	11.9	12.0	11.8
Italy	13.1	13.3	13.5
Cyprus	8.7	8.7	10.7
Latvia	8.7	9.5	10.0
Lithuania	12.6	13.0	10.0
Luxembourg	12.5	12.2	12.1
Hungary	12.8	12.3	11.8
Malta	6.3	6.2	6.0
Netherlands	14.3	14.4	14.0
Austria	15.1	15.2	15.4
Poland	13.9	14.1	14.2
Portugal	11.7	11.7	11.9
Romania	9.3	11.5	11.3
Slovenia	14.8	15.8	16.0
Slovakia	14.8	15.0	15.3
Finland	12.2	11.9	11.9
Sweden	3.3	3.4	3.4
United Kingdom	7.9	7.8	8.1

Sources: 1. (Eurostat, 2018 p. 5) for year 2017; 2. (Eurostat, 2019 p. 5) for year 2018; 3. (Eurostat, 2020 p. 5) for year 2019

Annex 9. Social contributions in EU state members (as % of GDP)
Difference from EU28 value

No.	2017		2018		2019	
	Country	DIFF (%)	Country	DIFF (%)	Country	DIFF (%)
1	France	5.5	France	4.7	Germany	4.0
2	Germany	3.4	Germany	3.8	France	3.5
3	Belgium	2.8	Slovenia	2.5	Slovenia	2.7
4	Euro area	1.9	Belgium	2.4	Belgium	2.4
5	Czechia	1.8	Czechia	2.3	Czechia	2.3
6	Austria	1.8	Euro area	1.9	Austria	2.1
7	Slovenia	1.5	Austria	1.9	Slovakia	2.0
8	Slovakia	1.5	Slovakia	1.7	Euro area	1.8
9	Greece	1.1	Netherlands	1.1	Greece	1.3
10	Netherlands	1.0	Greece	0.9	Poland	0.9
11	Poland	0.6	Poland	0.8	Netherlands	0.7
12	Italy	-0.2	Italy	0.0	Italy	0.2
13	Hungary	-0.5	Lithuania	-0.3	Spain	-0.4
14	Lithuania	-0.7	Spain	-0.9	Luxembourg	-1.2
15	Luxembourg	-0.8	Hungary	-1.0	Portugal	-1.4
16	Spain	-1.0	Luxembourg	-1.1	Finland	-1.4
17	Finland	-1.1	Croatia	-1.3	Estonia	-1.5
18	Croatia	-1.4	Finland	-1.4	Croatia	-1.5
19	Portugal	-1.6	Estonia	-1.6	Hungary	-1.5
20	Estonia	-1.9	Portugal	-1.6	Romania	-2.0
21	Romania	-4.0	Romania	-1.8	Cyprus	-2.6
22	Cyprus	-4.6	Latvia	-3.8	Latvia	-3.3
23	Latvia	-4.6	Bulgaria	-4.6	Lithuania	-3.3
24	Bulgaria	-4.9	Cyprus	-4.6	Bulgaria	-4.4
25	United Kingdom	-5.4	United Kingdom	-5.5	United Kingdom	-5.2
26	Malta	-7.0	Malta	-7.1	Malta	-7.3
27	Ireland	-9.0	Ireland	-9.1	Ireland	-8.8
28	Sweden	-10.0	Sweden	-9.9	Sweden	-9.9
29	Denmark	-12.4	Denmark	-12.4	Denmark	-12.5

DIFF [%] - Difference from the EU28 value

Remarks:

1. *at the time of writing this paper there were no data published by Eurostat for all Member States for 2020 (regarding fiscal pressure). To complete the approach, we used forecast data.*
2. *in order to frame the size of this paper within a limit of 20 pages, in chapters 4.2, 4.3 and 4.4 the results obtained and their interpretation were presented only for 2019.*