Fiscal pressure in the European Union (2010–2023) Comparative analysis

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ABSTRACT

The tax burden (total taxes and social contributions as a percentage of GDP) varied significantly across EU Member States over the period 2010–2023. The overall trend was of a moderate increase in the tax-to-GDP ratio until 2019, followed by fluctuations due to the COVID-19 pandemic (decline in 2020, recovery in 2021–2022 and slight decline in 2023). Countries such as France, Belgium, Denmark and the Nordic countries maintained high levels of tax burden (around 40–45% of GDP), while others such as Ireland, Romania and Bulgaria had significantly lower levels (below 30% of GDP). This study presents the dynamics of direct taxes, indirect taxes and total taxes and social contributions separately, with annual comparative data, illustrative graphs and discussions on the economic and social implications of the level of tax burden.

Key terms: *fiscal pressure, direct taxes, indirect taxes, social contributions*
JEL Classification: *H87, K34*

INTRODUCTION

The study of fiscal pressure at the international level is marked by some difficulties determined by the particularities regarding the way in which total revenues from taxes and social contributions, as a percentage of gross domestic product, are decided, at the executive level, to be achieved. Some countries may opt to have lower fiscal obligations, for limited periods of time, without also operating a corresponding reduction in expenditures, but in this case, they agree to an increase in budget deficits and consequently to accumulate public debts.

The specialized literature defines public debt as a debt that the state has towards third parties, namely towards private individuals, legal entities, but also banks or enterprises, both national and international, that have purchased bonds issued by the state in order to cover its financial needs.

In this study, we propose to carry out an analysis of the total fiscal pressure, determined as the ratio between fiscal revenues formed by direct taxes and indirect taxes - including social contributions and gross domestic product. The total fiscal pressure reflects the intensity with which income is collected from individuals and legal entities or at the level of the entire society through taxation. This show how burdensome taxes are or, so to speak, how great the fiscal burden is that weighs on the shoulders of taxpayers.

States with relatively high public debt may need to increase their tax burden in the future or reduce their expenditure relative to their income in order to finance or repay those debts. The consequences of excessive and irrational government indebtedness can affect macroeconomic balances: "In the long term, as borrowing generates an increase in fiscal pressure, influencing fiscal policy"[1].

Periods of strong economic growth can also contribute to improving the fiscal position. Large fiscal imbalances or high levels of debt may not be sustainable over long periods, and choices may need to be made to reduce expenditure or increase revenue. The literature in the field appreciates the existence of a negative relationship between public debt and economic growth[2].

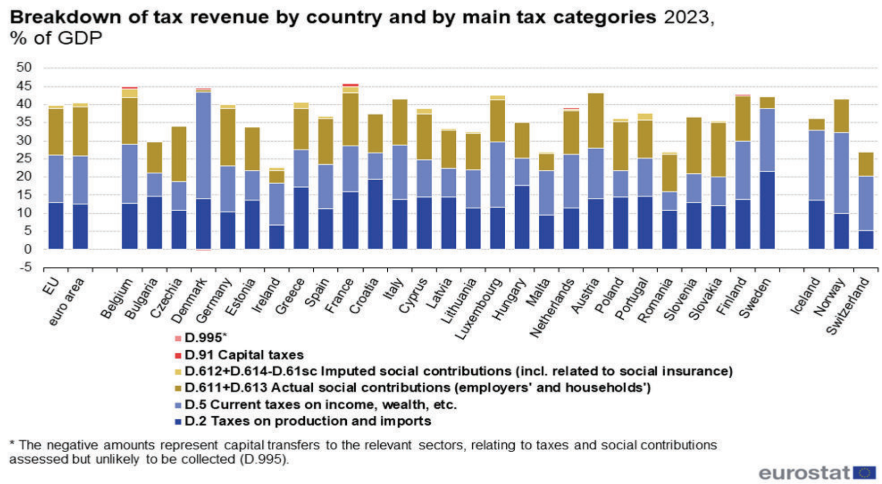
An overall picture of the structure of tax revenues and social contributions as a proportion of gross domestic product, with reference to the states that form the European Union and as an average for the 27 states, is presented in Figure 1.

1. Bunescu, L. (2011), *International Financing Alternatives for Romanian Central Government*, Studies in Business and Economics, vol. 6, no. 3.

2. Kumar, M., Woo, J. (2010), *Public Debt and Growth*, IMF Working Paper, no. 10/174.

Structure of tax revenues by country in 2023 (percentage of GDP)

Figure 1



The graph illustrates the differences between countries both in terms of the total level of tax pressure (total height of the columns) and in terms of structure – indirect taxes (blue), direct taxes (grey/light blue) and social contributions (yellow) in GDP.

Data sources: This analysis used Eurostat data (indicators gov_10a_taxag – tax and contribution revenues as % of GDP, and structure by type of tax) and OECD/European Commission reports, updated up to 2023 taxation-customs.ec.europa.euec.europa.eu. The data are mainly taken from *Taxation Trends* 2025 (DG TAXUD) and Eurostat, last updated February 2025. Point quotes indicate key figures or statements extracted from the sources mentioned.

DIRECT TAXES AS A SHARE OF GDP (TAXES ON INCOME, PROFIT, WEALTH)

Direct taxes mainly include taxes on personal income and corporate profits, as well as other taxes on wealth. As an EU average, the share of direct taxes in GDP increased slightly from ~12% in 2010 to ~13% in 2023. This modest increase was partly due to the economic recovery after the financial crisis and tax reforms in the Member States. However, there are very large variations between countries.

Denmark stands out by far with the highest share of direct taxes: ~29.5% of GDP in 2023. This exceptional level is explained by the Danish model of financing social protection – most social benefits are financed directly from income taxes, not from contributions, which artificially increases the share of direct taxes. Next in the ranking are **Luxembourg** (~18% of GDP), **Sweden** (~17% of GDP), **Belgium** (~16% of GDP) and **Finland** (~16% of GDP) – countries that combine high tax revenues with progressive tax systems. In contrast, eastern EU states have the lowest shares of direct taxes.

In **Romania**, direct taxes represented only ~5.3% of GDP in 2023 – the lowest level in the EU. Low values were also recorded in **Bulgaria** (~6.4% of GDP), **Croatia** (~7.3%), **Hungary** (~7.4%), **Poland** (~7.4%), **Slovenia** (~7.9%) and **Slovakia** (~7.9%). These differences partly reflect tax policies: countries with low flat rates on income/profit tax (e.g. 10% in Bulgaria and Romania) and narrower tax bases obtain much lower direct revenues as a share of the economy.

If we formulate a general assessment of the dynamics of the share of direct taxes in gross domestic product, we find that in most countries, the share of direct taxes in GDP increased slightly until 2019, amid the growth of population incomes and corporate profits. For example, Germany rose from ~11.3% of GDP in 2011 to ~13.0% in 2023. On the other hand, some countries made tax cuts: in Romania, the reduced flat rate and minimum wage exemptions led the share of income taxes down (example: decrease from 6.6% of GDP in 2015 to ~4.7% in 2020 in direct taxes). The COVID-19 pandemic has not severely affected direct taxes – income tax revenues remained relatively stable in 2020 due to wage maintenance schemes (technical unemployment, etc.), unlike the 2009 crisis when corporate taxes collapsed. Overall, countries with high direct taxes have progressive tax regimes that contribute to social equity through a higher burden on high incomes, while countries with low direct taxes rely more on low rates and narrow tax bases, which limits the progressivity of the system.

INDIRECT TAXES AS A SHARE OF GDP (VAT, EXCISE DUTIES, CONSUMPTION AND PRODUCTION TAXES)

Indirect taxes mainly include VAT, excise duties and other taxes on production and consumption. At EU-27 level, revenues from such taxes have been relatively stable as a share – ~13–14% of GDP over the decade, with a slight decrease to 13.0% of GDP in 2023 (from 13.8% in 2013). The share of indirect taxes depends on domestic consumption and VAT rates. Some countries with high VAT and robust private consumption have recorded very high shares of indirect taxes. **Sweden** had the highest share of taxes on production and imports (mainly VAT and excise duties) in 2023 – **21.5% of GDP**. This level reflects both the high standard VAT rate (25%) and the high consumption and other environmental/sectoral taxes. Croatia follows with

~19.3% of GDP, **Hungary** ~17.7% (Hungary has the highest VAT rate in the EU, 27%), and **Greece** ~17.3%.

Among the large economies, **France** also has significant indirect taxes (~15.9% of GDP in 2023) due to high VAT and excise duties on consumption. At the opposite end, **Ireland** collects extremely little from indirect taxes relative to GDP – only ~6.7% of GDP in 2023. This situation is atypical, however, caused by the Irish GDP being inflated by multinationals (the very high GDP denominator makes any tax revenue seem small; for example, domestic consumption in Ireland is much lower than GDP, leading to a low VAT/GDP ratio). The lowest shares of consumption taxes also include **Malta** (~9.6% of GDP), **Germany** (~10.3%), the **Czech Republic** (~10.7%) and **Romania** (~10.7%). Germany and the Czech Republic, although having standard VAT rates close to the EU average, benefit from export-oriented industries (not taxed domestically) and a preference for financing social spending through contributions, not VAT, which leaves consumption taxes at relatively low shares.

An overview of the period 2010–2023 highlights the following aspects regarding the dynamics of the indirect tax share. Until 2019, the indirect tax share remained relatively constant or increased slightly in most countries, supported by increasing consumption. Some Eastern European countries have significantly increased VAT collection by improving compliance – for example, Bulgaria and Romania increased VAT revenues as a % of GDP in the first part of the decade 2010–2020, before reducing VAT rates (Romania reduced the standard VAT from 24% to 19% in 2016, which explains the decrease in the indirect tax share from 13.4% of GDP in 2015 to ~11.6% in 2016).

2020 was a year of major disruptions to consumption taxes: all countries saw declines in the share of indirect taxes in GDP, amid the temporary collapse in consumption (lockdowns) and deferrals/late payments for VAT and excise duties. For example, the EU average fell from 13.8% in 2019 to ~13.5% in 2020. In 2021–2022, with demand recovering and prices rising (inflation), VAT revenues increased again, bringing the ratio close to pre-pandemic levels. However, in 2023 a slight decrease in the share of consumption taxes was observed (13.0% of GDP at EU level, compared to 13.5% in 2022), as nominal GDP grew faster than VAT revenues in the context of inflation (price increases increased nominal GDP and “diluted” the percentage of taxes).

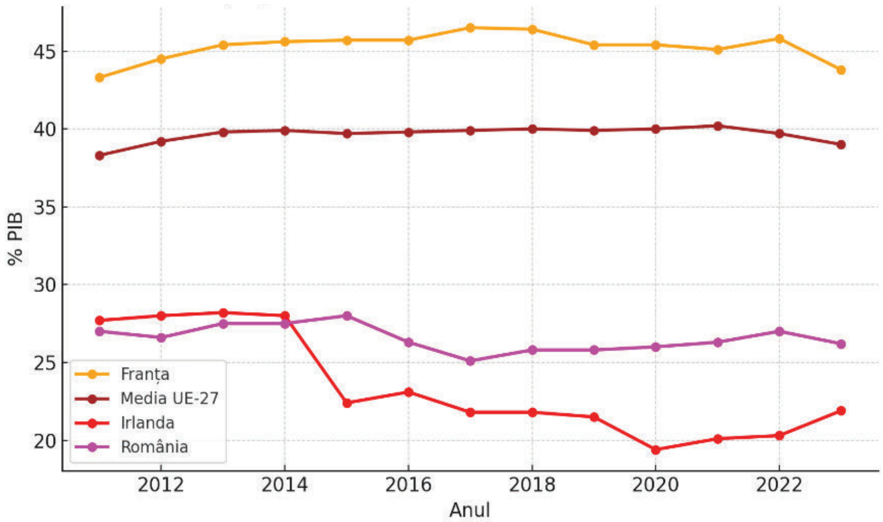
These developments show the importance of VAT collection efficiency: for example, Romania continues to have the lowest efficiency in VAT collection in the EU – in 2022 it had a gap of ~30% (potential uncollected VAT revenues), a sign that although the rates are not very low, VAT evasion and fraud severely reduce the real fiscal pressure.

TOTAL TAX BURDEN (TAXES + SOCIAL CONTRIBUTIONS) AS A SHARE OF GDP

The total tax and social contribution indicator expresses the overall tax burden in the economy. It includes all tax revenues (indirect and direct) and compulsory social contributions. At EU-27 level, the total tax burden increased from ~38% of GDP in 2010 to a **post-1997 historical high of ~40.2% in 2021, after which it decreased slightly to 40.0% in 2022 and 39.0% in 2023.** The decrease in 2023 brought the indicator to its lowest level in the last decade (practically the minimum since 2011). The chart below (Figure 2) shows the evolution of the total tax burden for the EU and some examples of countries with high vs. low levels:

Evolution of total tax burden (% GDP) over the period 2011–2023

Figure 2



Evolution of total tax burden (% GDP) over the period 2011–2023, comparing – France (highest level in the EU), EU-27 average, Ireland (low level, influenced by atypical GDP) and Romania (level among the lowest in the EU). The upward trend until 2019, the sharp decrease of the indicator in Ireland in 2015 (caused by the GDP jump) and the impact of the pandemic in 2020 (temporary decrease in the share of taxes in GDP, followed by a recovery) are observed.

The differences between countries are notable and persistent. Western and Northern European countries, with mature economies and extensive welfare states, record the highest levels of taxation. **France** has consistently had the highest tax burden in the EU in recent years (approx. 43–46% of GDP annually), closely followed by **Belgium** (~44–45%) and **Denmark** (~44%). In 2023, the top was completed by **Austria** (~43.5%), **Luxembourg** (~42.8%), **Finland** (~42.7%) and **Sweden** (~42.3%). These countries combine relatively high direct taxes and significant social contributions, financing generous public services.

On the other hand, the lowest tax burdens were recorded in Member States with smaller economies or more liberal tax policies: **Ireland** (only ~22–23% of GDP, due to the oversized GDP effect) and **Romania** (~26–27% of GDP) were often in the last places. **Malta** (~27% of GDP) and **Bulgaria** (~29–30%) also have low tax levels. In most years of the analyzed interval, **France and Denmark** alternated in the first position (with ~44–46% of GDP), and Romania and Ireland in the last position (below 28% of GDP, with Ireland becoming the extreme one since 2015 for methodological reasons). **The United Kingdom**, which was part of the EU until 2020, had a total tax pressure of around 32–33% of GDP towards the end of its period in the EU, thus below the EU average (approx. 40%) and close to the levels in **Ireland** and **Cyprus**. In 2020 (the UK's last full year in the EU), the UK's tax burden was ~32.1% of GDP – highlighting the Anglo-Saxon model of moderate taxes, below the level of major European economies.

Dynamics and influencing factors: The total tax burden of each country is the result of tax policies, the structure of the economy and the efficiency of collection. Between 2010 and 2019, many countries experienced gradual increases in the tax-to-GDP ratio due to economic growth (which increased the tax base) and measures to improve collection. For example, **Greece** increased the tax burden from ~34% in 2010 to ~39% in 2019 through tax increases and base broadening, as part of austerity measures and tax reform. On the other hand, **Ireland** illustrates how much the indicator can be influenced by GDP: in 2015, a recalculation of GDP (~25% increase due to the relocation of assets of some multinationals) caused the tax share to artificially decrease from ~28% to ~22% of GDP, although the budget revenues actually collected did not decrease – an example of the indicator's limitation in reflecting reality on the ground.

The COVID-19 pandemic had a temporary effect of reducing the fiscal pressure in 2020 in almost all countries. Although governments kept tax revenues close to the expected level through deferral measures (taxes were counted as income for 2020, but actually paid later), the sharp drop in nominal GDP in 2020 caused the tax/GDP ratio to fall. Examples: **Italy** went from

~42.6% in 2019 to 42.2% in 2020, **Spain** from 34.5% to 36.6% (here tax revenues fell less than GDP, so the percentage increased slightly). In 2021–2022, the recovery of economies and rising inflation pushed tax revenues up again – 2021 even marking a record for the tax share in GDP at the EU level (~40.2%). However, in 2022–2023 many countries applied temporary tax cuts or exemptions (e.g. reducing excise duties on energy to combat high prices), which slightly mitigated the tax pressure. Thus, 2023 brought a decline in the tax share to 39.0% of GDP in the EU (compared to 39.7% in 2022), despite the fact that budget revenues increased in absolute terms – the explanation being the even faster growth of nominal GDP (due to inflation).

COUNTRIES WITH THE HIGHEST VS. LOWEST LEVELS OF TAX PRESSURE (ANNUALLY)

Over the period 2010–2023, **France** has been the top country in total tax burden most of the time, closely followed by **Denmark** and **Belgium**. For example, in 2022, France collected ~45.8% of GDP in taxes and contributions, compared to 42.0% in **Denmark** and ~42.4% in **Belgium**. In 2023, **France** (43.8%) remained the leader, followed by **Denmark** (43.4%), Belgium (42.5%), **Austria** (~41.4%), Italy (41.4%), **Finland** (~41%) and **Sweden** (~41%) – with developed Western economies dominating the top spot.

At the other extreme, **Ireland** has had the lowest level every year since 2015 (falling as low as ~19% in 2020, then ~21.9% in 2023). **Romania** and **Bulgaria** competed for the next lowest level: for example, in 2022 **Romania** ~27.0% of GDP and **Bulgaria** ~31.1% of GDP, and in 2023 both ~26–30%. **Malta** and **Latvia/Lithuania** also maintained values below the EU average, around 30% of GDP. **The United Kingdom**, before its withdrawal, had a modest fiscal pressure (approx. 33% in 2019–2020, ranking in the bottom third of the annual ranking). These annual extremes highlight persistent divergences: northern and western European states have high fiscal pressures, while south-eastern European states have low pressures, reflecting differences in economic models and fiscal policy choices.

ECONOMIC AND SOCIAL IMPLICATIONS OF THE LEVEL OF TAX PRESSURE

Differences in tax pressure generate debates about collection efficiency, economic competitiveness and social equity:

• **Collection efficiency**: A high level of theoretical tax pressure does not guarantee high actual revenues if there are collection problems. Countries with less efficient tax systems or high evasion may have lower tax pressure than the tax rates would indicate. For example, Romania has one of the lowest tax burdens in the EU and, at the same time, the largest VAT gap (approx. 35% of VAT revenues are lost through non-collection) – a sign of tax administration problems. Improving collection (digitalization of ANAF, combating evasion, simplifying the tax base) can increase revenues without increasing rates, thus increasing the effective tax pressure. At the same time, efficiency also matters when spending public money: in the Nordic countries, taxpayers more easily accept a high tax burden because they perceive a high degree of transparency and effectiveness in the use of funds (quality public services). In contrast, in countries where tax evasion is tolerated or tax administration is weak, a vicious circle is created - inefficient collection, small budgets, poor public services, low payment compliance.

• **Economic competitiveness**: The overall level of taxation influences the business environment and investment decisions. A consensus among economists is that very high taxes can discourage investment and work, especially if combined with complex tax bureaucracy. Capital and skilled labor may migrate to lower-tax jurisdictions to maximize net gains. “If a country’s tax rate is too high, investment will be directed elsewhere, leading to slower economic growth; at the same time, high marginal rates can discourage domestic investment and encourage tax avoidance.” This is one reason why countries with high tax burdens (France, Belgium) have in recent years initiated targeted cuts in corporate or labor taxes, trying to improve their competitiveness.

On the other hand, a low tax burden does not automatically guarantee competitiveness – if low taxes are accompanied by weak infrastructure, low human capital or legislative instability, the advantage can be nullified. For example, **the Baltic countries** and **Ireland** have attracted investments with friendly tax regimes (low corporate taxes, facilities for companies), while countries like **Bulgaria** or **Romania** – despite having low taxes – have not achieved the same performance due to other factors (corruption, poor infrastructure). Tax competition is also evident in the EU: countries try to keep certain taxes below the EU average (e.g. corporate tax in **Ireland** 12.5%, or “flat taxes” in the East) in order to attract business, which puts pressure on countries with high taxes to reform (the discourse about *“race to the bottom”* vs. tax harmonization).

• **Social equity**: Tax pressure is closely linked to the social model of each country. Countries with high total taxes usually have extensive social protection and redistribution systems (free education, health and public services, generous social transfers). This leads to **a reduction in inequalities**

– for example, the Nordic countries, despite having high taxes on labour, use the revenues for policies that promote equality (public education, access to health, social benefits), thus having one of the lowest Gini coefficients. “The Nordic countries are deeply committed to reducing income inequality by applying progressive tax rates that impose higher burdens on those with higher incomes”. By contrast, countries with low tax pressure generally provide fewer public services and need higher private co-financing (e.g. in pension or health systems). Social equity can suffer if the low tax burden limits resources for redistribution or if the tax structure is regressive.

We observe that states with low tax burden (e.g. **Ireland**, **Romania**) rely relatively more on **indirect taxes and proportional contributions**, which tend to put a higher percentage pressure on low incomes, while states with high tax burden also have progressive income/wealth taxes that increase the vertical equity of the system. On the other hand, efficiency in the use of public money matters a lot for equity: a country may have high taxes, but if the funds are not returned to quality public services for all, then taxpayers may perceive the system as unfair. Ideally, an optimal level of tax burden is one that ensures sufficient resources for public goods and social protection, but **without excessively discouraging private initiative**. This balance differs from one society to another, with the EU currently offering both examples of states with “high taxes and high benefits” (e.g. France, the Nordic states) and states with “low taxes and a reduced role of the state” (e.g. **Ireland**, the **Baltic states**).

CONCLUSIONS

The comparative study of the period 2010–2023 highlights that the fiscal pressure in the EU depends on national choices regarding taxation and the social model. The highest levels are found in economies that have opted for a robust welfare state financed by high taxes, and the lowest in smaller economies or those oriented towards fiscal competitiveness. The trend in recent years has been one of slow convergence: countries with low taxes have tried to increase their revenues (fighting evasion, quota adjustments), and those with high taxes have tempered them more (pro-business reforms), but the differences remain notable. For the future, the challenge is for each country to optimize its tax mix – maximizing collection (efficiency) and ensuring fairness, while maintaining a competitive environment for the economy. This balance is essential for the sustainability of public finances and social well-being in the enlarged EU.

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