

Analyzing taxation's impact on economic growth: a comparative study across EU-27

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Abstract. The paper aims to: a) identify the relationship between the different types of taxes and economic growth, through the opinions of some specialists in the field; b) analyze the evolution of tax revenues, at the level of the EU-27 and Romania average, against the EU-27 average, by basic categories of taxation - labour, capital, consumption ; c) analysis of the evolution of each category of tax income (labour, consumption, capital) at EU-27 level and of Romania's tax revenues, respectively, in relation to the corresponding level of EU-27 and with that of the European Union countries. The data analysed as well as the results were expressed in relation to GDP, as well as a share of total tax revenues, over a period of thirteen years. (2009-2021) The motivation of the study is given by the interest it presents some aspects regarding: the impact of different types of tax revenues on growth and implications in the economy; the evolution of tax revenues of Romania and some countries, relevant by analysis data, compared to the EU-27 average, by categories of taxes - labour, consumption, capital - to know, depending on the level of tax revenues, the position of the different Member States against the EU-27 average, as well as that on which Romania is situated towards the EU countries. The method used in the study was research from foreign and domestic literature, processing of ideas through the author's own interpretation, collection of statistical databases, analysis of announced elements, in order to highlight the results obtained. The results obtained are reflected in the findings from the study on the distribution and evolution of tax revenues, depending on the type of tax base, for the EU-27 countries and Romania's position compared to the European Union countries (EU-27), respectively. The originality of the work is given by the very theme approached in the study and the results obtained.

Keywords: taxes, tax revenues, statistical data analysis, comparisons Romania - EU-27

JEL classification: E62; H20; H30, O11

1. Introduction

The need to conduct macroeconomic research and outline the concept of economic growth was imposed in the first half of the last century, against a background of the economic and social challenges and distortions generated by the economic crisis of the beginning of the last century, with effect on national economies. The results of economic growth are measured on the basis of some indicators relevant to the dynamics of the economy. Growth reflects the quantitative aspect of changes in the economy, which distinguishes it from the concept of economic development (Dobrota et al., 1995; Grellet, 1994; Jula et al., 1999). One of the determining elements of influence on the objectives of an economic policy, namely, economic growth and social welfare is taxation. Its effects on economic growth are manifested by the impact on growth variables, namely, accumulation of physical capital and accumulation of human capital (Macek, 2014a, Kotlán et al., 2015, quoted by Macek, 2018).

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In order to stabilize the public budget, policy decision-makers must, on the one hand, to reduce government spending and, on the other, to increase tax revenues. As such, taxes are the main source of public budget revenues, and governmental spending is its main expenditure (Macek, 2018). The disparities between countries regarding economic growth are determined by different fiscal policies, practiced by policy decision-makers (Jovanović and Klun, 2017, quoted by Macek, 2018). Fiscal policy can intervene in economic choices by influencing the size of the economy as a whole (Gale and Samwick, 2016).

Designing a tax system aims to fulfill the objectives of fiscal policy, its implementation efficiency in achieving economic growth and fiscal consolidation (Stoilova, 2017). The impact of tax changes on economic growth expressed in the form of changes in the actual Gross Domestic Product or its components is difficult, as there may be tax changes by reducing taxes consequent on economic growth or tax cuts during the recession period.

Tax reforms differ in their impact, stronger, on the long run against the short term; some taxes may be increased, others may decrease; the characterisation of reforms takes into account how taxes influence economic growth (Durante, 2021).

The scope of the paper concerns elements related to: identifying the relationship between different types of taxes and economic growth, in the light of the opinions of some specialists in the field, taking into account the effects on the economy; analyzing the evolution of Romanian tax revenues, compared to the EU-27 average, by categories of basic taxation - labour, capital, consumption - expressed as a share in GDP and total tax revenues, respectively analysis of the evolution of each category of income from tax (labour, consumption, capital), expressed both as a share in GDP and as a share in total tax revenues, at EU-27 and Romania levels, respectively, in relation to the countries of the European Union. A time interval of thirteen years was taken in the analysis.

The results of the paper reflect the ascertainments, following the study carried out on the theme of distribution and evolution of tax revenues, depending on the type of tax base, for EU-27 countries and, respectively, the position of Romania, compared with the countries of the European Union (EU -27). From the perspective of reviewing the specialty literature concerning the analysis of the link between labour income taxation and economic growth, it can be seen that not all tax changes have the same impact on economic growth, this being different, as the case may be. Changes made in the tax system, in the sense of tax reductions, can lead to economic growth by stimulating employment, saving and investment. From some studies, it turns out that property taxes have a positive effect on economic growth and labour taxation and consumption taxes, adverse effects. Property taxes can contribute to economic growth, but some analyses believe that this effect is only valid for high-income countries, and for low-income or middle-income countries, the effects on GDP growth may be limited. In the long term, personal income taxes and social security contributions are adverse to economic growth. The labour taxation system requires increased attention in ensuring a good structure so that it can ensure the achievement of the objectives related to economic growth, reducing inequalities.

From the analysis of the data regarding the distribution of tax revenues depending on the tax base, Romania compared with the European Union countries – EU-27, it can be seen that there is a distinction in the distribution of revenues, in the case of Romania compared with those in the European Union – EU-27.

At the EU-27 level, in the constitution of tax revenues, the highest contribution is held by the income from labour taxation, and in the case of Romania, the revenue constitution is made in close shares, both from labour and consumption taxation, with different evolutions in the interval. In the case of the analysis of revenue by type of basic taxation, comparison Romania – EU-27, some elements can be seen:

The level of Romanian tax revenues from labour taxes, as well as that from capital taxes (share in GDP, share in total tax revenues), in the entire interval, was below the level of EU-27 tax revenues. Romanian consumption tax revenues compared with EU-27., (% in total tax revenues) have evolved with higher levels in Romania, over the entire period, compared to the fiscal revenues related to consumption at EU-27 level, and those expressed as % in GDP have had a different evolution, in the interval.

2. Literature review

The theory of economic growth, object of the concerns of classical and contemporary economists, became a component part of economic science, both for developed and developing economies. (Dobrotă et al., 1995, pg.325). According to economic theory, growth in an economy is generated by three factors of production – labour, capital and technological progress, which are in relation to a function of production. However, taxes can disrupt the economic decisions of market participants on these factors and therefore negatively affect economic growth (Macek, 2014a, Kotlan et al., 2015, quoted by Macek, 2018).

A number of analysts have been looking at the effects of different tax categories on economic growth in their work, trying to determine to what extent they contribute to or may have an adverse influence on growth. The relationship between taxation and economic growth is pursued from two perspectives (Stoilova, 2017). A first perspective is about the impact of the level of taxation on growth. Agell, Ohlsson, & Thoursie, 2006; Barro, 1990, 1991; Easterly & Rebelo, 1993; Fölster & Henrekson, 2001; Koester & Kormendi; 1989; Levine & Renelt, 1992; Paparas et al., 2015 (quoted by Stoilova, 2017) considered that higher taxes had a negative impact on growth but, as they imply higher economic levels of public expenditure they can influence towards economic growth. Another perspective on the impact of tax structure on growth suggests that direct taxes may create a more growth-friendly environment than indirect taxes.

Other authors, such as Myles (2009), as cited by Stoilova (2017), consider the shift from income taxation to consumption taxation to be beneficial for growth, although the impact may vary depending on the specific elements of the tax structure. Acosta-Ormaechea and Yoo (2012) (quoted by McNabb, 2018), after examining the relationship between tax structures and growth rates, find that taxes on consumption or property are favorable to growth, compared to income tax (McNabb, 2018). Other authors, such as Myles (2009), as cited by Stoilova (2017), consider the shift from income taxation to consumption taxation to be beneficial for growth, although the impact may vary depending on the specific elements of the tax structure. There is no single relationship, for all situations, between the tax structure and growth.

Characteristics of the growth-friendly tax system

Economic growth depends on a number of factors, depending on which, taxes can affect the economic decisions of market participants and, implicitly, growth.

Personal income tax, social security contributions are part of income tax and together form labour taxation. Labour taxation is an important factor of influence for the labour market, capital accumulation, well-being and living standards of employees (Kaplow, 2008, quoted by Macek, 2018). Taxation of labour influences the decisions taken by economic operators as: it wrings the decision to participate in the labour market (number of working hours, number of staff employed); progressive taxation of income influences the decision of market participants to seek higher levels of qualification; may entail the reduction of entrepreneurial activity.

Capital taxation affects household decisions on investments and savings. Corporate tax influences the considerations regarding the profit localization, which can lead to the outflow of capital from countries, taken individually.

Property and legacies taxes that fall under this category, unlike those previously mentioned, are favourable to growth.

Consumption taxation is often considered to be more growth-friendly because it distorts the decisions of market participants (such as saving decisions, decisions between work and leisure) less than labour taxation (Zipfel et al., 2012). In an optimal design of a tax system, several factors intervene, different from one country to another. An important role is played by a number of aspects: a growth-friendly fiscal system is recommended that minimizes the distorting effects of taxation on growth factors (work, capital, technological progress). In principle, in economic theory, the tax system is conducive to growth if the tax burden is lighter on labour and capital and higher on consumption, property and

inheritance. As such, taxation systems should be designed in such a way that the tax burden on labour is reduced and that higher taxes are levied on consumption (Zipfel et al., 2012).

In the European Union, tax systems have been reconsidered, in a positive direction: consumption taxes have been increased, the tax burden on capital has been decreasing. The exception is the taxation of the labour factor, which continued its orientation in the opposite direction (Zipfel et al., 2012).

Income inequality and the relationship with economic growth

Income inequality and the impact on growth, which exists both in the Member States of the European Union and in other advanced economies, have called for a particular attention of the decision-making authorities, due to the negative economic consequences that may arise: weakening of aggregate demand, diminishing investments in human capital, reducing labor productivity. At the same time, aggregated policies, in order to mitigate these inequalities, can have negative effects on economic performance, with reference to incentives for work, education, investment, entrepreneurship. (European Commission, 2018, quoted by Kalyva et al., 2018).

The main tool that governments have in addressing income inequalities is to reform the system of taxes and benefits that must ensure a balance of considerations of growth and equity. Within the tax system, it notes that the labour taxation system, which has high potential in reducing inequalities, is a fiscal instrument that most Member States address. As such, personal income taxes are important in the tax structure, with a special role in reducing income inequality.

For most Member States, the tax structure focuses on labour taxes, with a significant role in ensuring revenue growth. There is a broad basis of the system of income tax and social security contributions.

The fiscal structure in which labour taxes are significant has the potential to diminish growth and employment. It is worth noting that high labour taxes can be an obstacle to boosting economic activity and increasing employment. The negative impact of these taxes is felt more strongly by vulnerable groups, which can be discouraged from integrating into work, resulting in a decline in labour market performance. The interaction of labour taxes with the wage setting method with the minimum wage should be taken into account. The reduction of the labour tax is an incentive for consumption, for the labour supply, the increase of the profitability of firms. This is why it is important to support job creation and increase in demand. As such, the structure of a country's tax system and the distribution of tax burden by revenue categories are of particular importance (Kalyva et al., 2018).

3. Methodology and data

The methodology used in the study was:

- review of foreign and domestic scientific literature, processing ideas by author's own interpretation, aimed at developing theoretical aspects, developed on two sub-points: Characteristics of the growth-friendly fiscal system and Inequality of income and the relationship with economic growth.
- collection and processing of the statistical database, including fiscal indicators analyzed in the material;
- commenting indicators reflecting the thirteen-year evolution, respectively, 2009-2021, of the Romanian tax revenues, compared to the EU-27 average and the 27 Member States, by category of tax base - labour, capital, consumption - expressed as a share in GDP and total tax revenues.
- representation of the analyzed data, through annexes and graphs, drawn up in Excel.

For the purpose of the analysis of economic indicators, data from the European Commission, Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data extracted December 2022, Tax revenue by tax base, Taxes on labour, taxes-on-labour.xlsx (live.com), Taxes on consumption, taxes-on-consumption.xlsx (live.com), Taxes on capital, taxes-on-capital.

The review of scientific literature follows issues signaled by theorists, developed on two sub-sections - Characteristics of the growth-friendly tax system and Inequality of income and the link with economic growth.

Some theorists present the relationship between taxation and economic growth in terms of the impact of taxation on growth, and others in terms of the impact of fiscal structure on growth (Agell, Ohlsson, & Thoursie, 2006; Barro, 1990, 1991; Easterly & Rebelo, 1993; Fölster & Henrekson, 2001; Koester & Kormendi; 1989; Levine & Renelt, 1992; Paparas et al., 2015, quoted in Stoilova, 2017).

The characteristics of the growth-friendly tax system relate to how income derived from taxes on labour, capital, consumption, property influences the decisions of economic agents on market participation, with more or less growth-friendly influences, as appropriate.

Income inequality and the relationship with economic growth refer to the impact that the phenomenon may have on growth, as well as the attention that must be paid to the engagement of fiscal policies, aiming at reducing income inequality which, in addition to the favorable effects, may have some negative consequences. The focus is on the impact of labour taxation, a fiscal instrument with a significant role in revenue growth. As such, the structure of a country's tax system and the way of distributing the tax burden by revenue categories are important.

For the analysis of the distribution of the tax burden according to the type of the tax base, there were commented data reflecting the evolution over a period of thirteen years, respectively, 2009-2021, of the fiscal revenues of Romania, compared to the EU-27 average and to the 27 Member States, based on the basic categories of taxation - labour, capital, consumption - expressed as a share in GDP and total tax revenues.

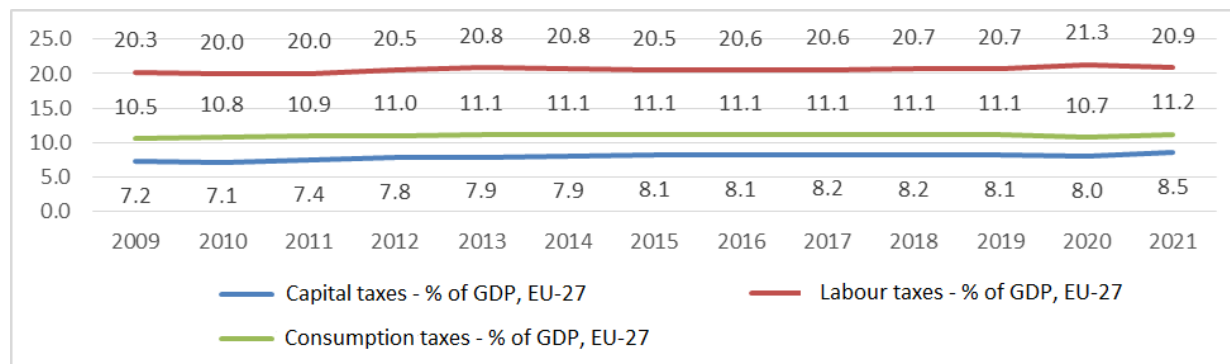
The paper is finalized with conclusions, in which it is presented synthetically, the results obtained, from the review of scientific literature and the analysis of statistical data. Data from the European Commission's Data on Taxation Trends (DG Taxation and Customs Union), based on Eurostat data extracted in December 2022 and sourced from the Excel files on taxes on labour, consumption, and capital (European Commission, 2022a; 2022b), were used in this analysis.

4. Research results and comments

This chapter examines the evolution of Romania's fiscal revenues over a thirteen-year period (2009-2021), in comparison with the EU-27 average and individual Member States, focusing on the main categories of taxation—labour, capital, and consumption—as a share of both GDP and total tax revenues.

At European Union level, the distribution of tax revenue at European Union level - EU-27, by type of tax base, share of GDP, for the period 2009-2021 shows the following development (Figure 1, Annex).

Figure 1. Evolution of EU-27 tax revenues by type of tax base (2009-2021) (% of GDP)

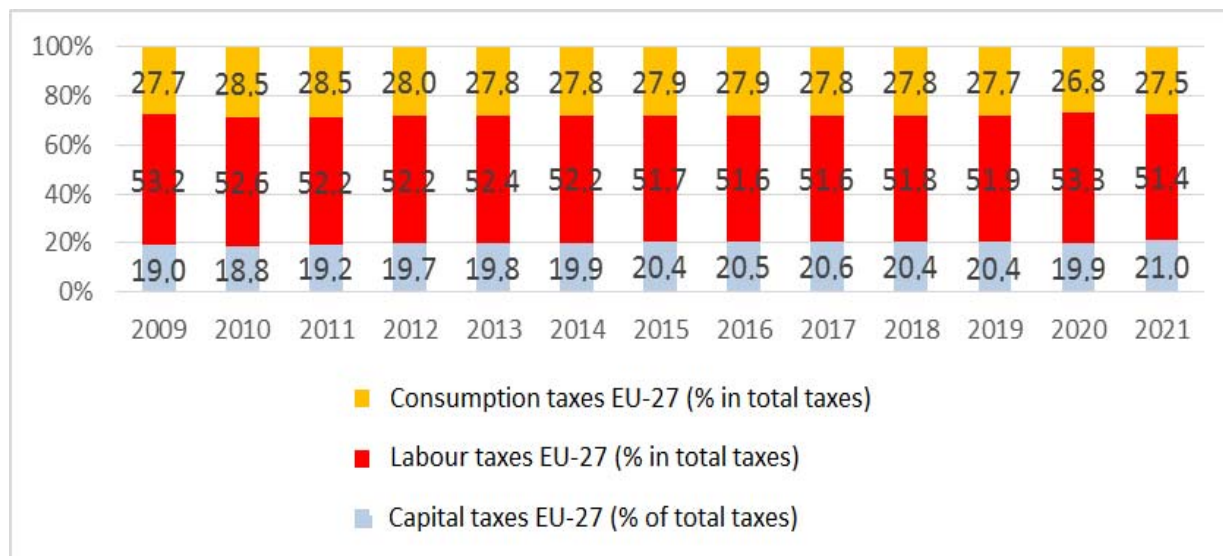


Source: Own compilation with data from European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

The analysis of the data in Figure 1 reveals that, within the overall tax structure, the highest proportion of revenues is consistently generated from labour taxes, followed by consumption and capital taxes. During the period between the two crises, labour taxes accounted for between 20.3% and 20.9% of total revenues, while consumption taxes ranged from 10.5% to 11.2%, and capital taxes from 7.2% to 8.5%.

At the level of the European Union, the distribution of tax revenues in structure according to the type of tax base, as a share of total tax revenues, presents in the period 2009-2021, the following development (Figure 2, Annex):

Figure 2. Evolution of EU-27 tax revenues by type of tax base, 2009–2021 (% of total tax revenues)



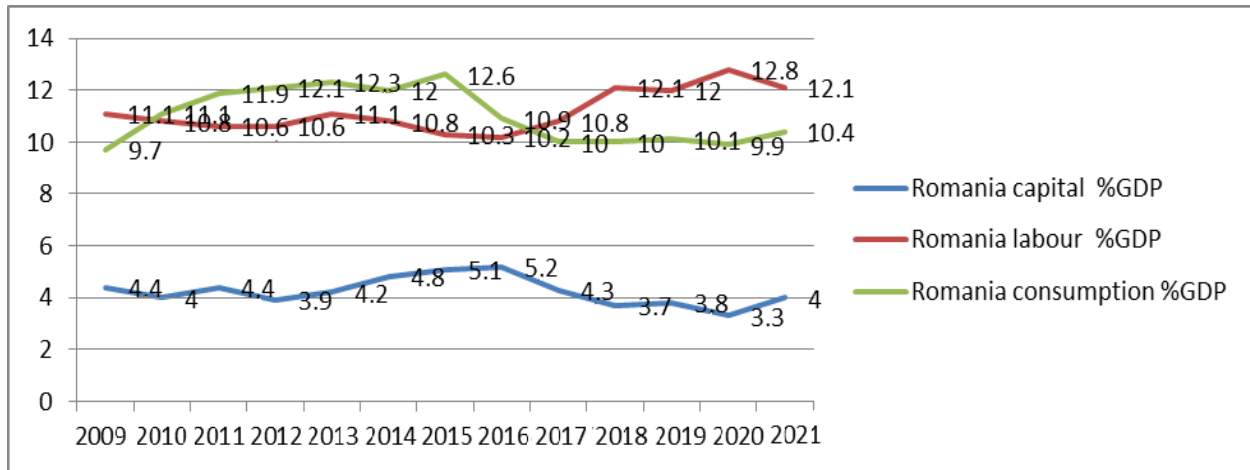
Source: Own compilation with data from European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

Following the distribution of tax revenues, it is noted that the high share is held by income from labour taxes. During the whole period analyzed, 2009-2021, their level was over 50%, in the total tax revenues, followed by the income from taxes on consumption and capital, respectively. The share of taxes related to labour has a much higher value compared to the share of taxes on consumption, indicating a strong focus on labour taxation, being considered a stable and predictable source of income.

Distribution of tax revenues by type of tax base in Romania. In Romania, the distribution of tax revenues, by type of tax base, as a share in GDP, presents, in the period 2009-2021, the following evolution (Figure 3, Annex 1).

As shown in the figure above (data presented in Annex 1), tax revenues resulting from labour and consumption taxes, respectively, in relation to GDP, are relatively close, with differences in levels recording differently over the period. Capital tax revenues were significant, below the first two categories, the highest rate of 5.2%, being in 2016 and the lowest one, in the year of the pandemic, 2020, of 3.3%, generated by the effects of the pandemic on the evolution of the economy. In Romania, the distribution of tax revenues, in structure, depending on the tax base, as a share in the total tax revenues presents in the period 2009-2021, the following evolution (Figure 4, Annex 2):

Figure 3. Romania - tax revenues by type of tax base % in GDP

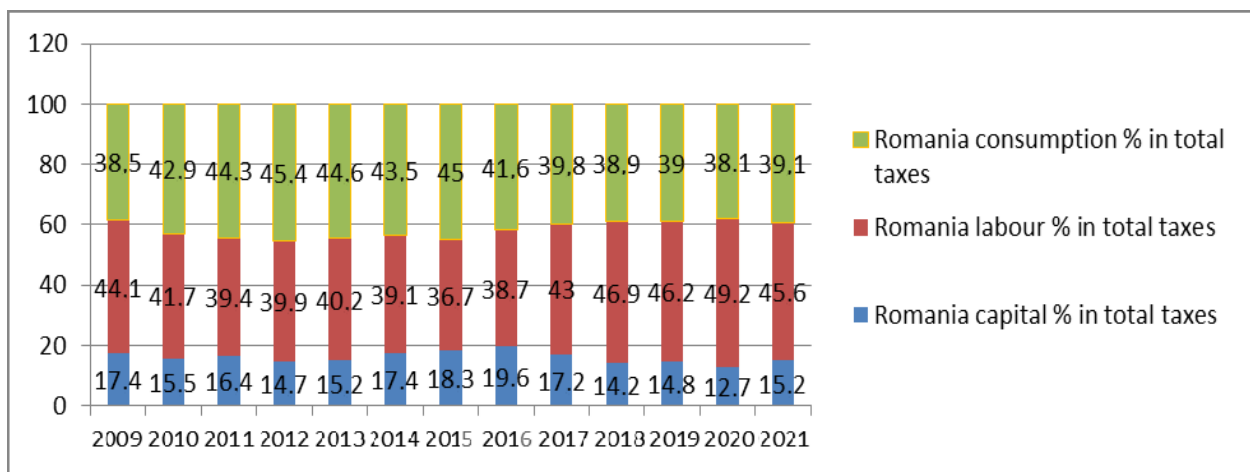


Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

Following the distribution of tax revenues, it is noted that the two categories of taxes related to labour and consumption, respectively, have close weightings in total, with different evolutions in the analyzed period; thus, in the first part of the interval, until 2016, the share of income related to consumption, exceeded the share of income related to labour income, after this date, the level of tax income from labour taxation being higher than those related to consumption, a similar situation to the tax revenues expressed in relation to GDP.

It can be considered that this different form of evolution of the two categories of income was influenced by some regulations in the related economic policies, such as: the level of salaries - decreases or increases, in the range, operated in the budgetary system; the VAT rates applied differently, by product category, which were diminished after 2016, as well as some fluctuations in consumption, occurred during the pandemic.

Figure 4. Romania - Tax revenues by type of tax base, 2009–2021 (% in total tax revenue)



Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

The smallest share in total income is held by those from capital taxation.

Regarding the position of Romania, in relation to the EU-27 average with regard to the level of tax revenues depending on the type of tax base, it is noted:

If the fiscal revenues of the European Union EU-27 and those of Romania, by type of tax base, are taken into account in evolution, a number of aspects can be signaled:

- Throughout the period, the level of fiscal labour income in Romania, expressed both as share of GDP and total tax revenue, was below that of the average EU-27 income. The finding is similar in the case of income from capital taxes.
- The situation is different in the case of income from consumption taxation, namely: those expressed as a share of total tax revenues are, throughout the range, higher than those of the EU-27 average, and those reported to GDP exceed the EU-27 average until 2015, after this date, being lower than the EU-27 average, until 2021.

It can be seen that in the case of Romania, the source of tax revenues is, at relatively close levels, both from labour and consumption taxation, while at the European Union (EU 27) average the highest contribution to tax revenues is held by the income from labour taxation.

Kalyva et al. (2018) consider that for most Member States, the tax structure emphasizes labour taxes, which have a significant role in ensuring revenue growth. At the same time, they believe that the side effect of the increase in the share of labour taxes is the decrease of economic growth and employment, with the negative impact being felt more strongly by vulnerable groups.

In the European Union, tax systems have been reconsidered, in a positive direction: consumption taxes have been increased, the tax burden on capital has been decreasing, with the exception of labour taxes (Zipfel et al., 2012). Zipfel et al. (2012) believe that the taxation of consumption is considered to be growth-friendly, because it distorts to a lesser extent than the taxation of labour, the decisions of market participants, such as those related to saving.

Romania's position is further examined in relation to the European Union Member States, with a focus on the level of tax revenues by type of tax base—labour, capital, and consumption. The two crises (financial and pandemic) influenced the level of tax revenues, the change in the level of GDP, as well as other elements, leading to the tax rates change.

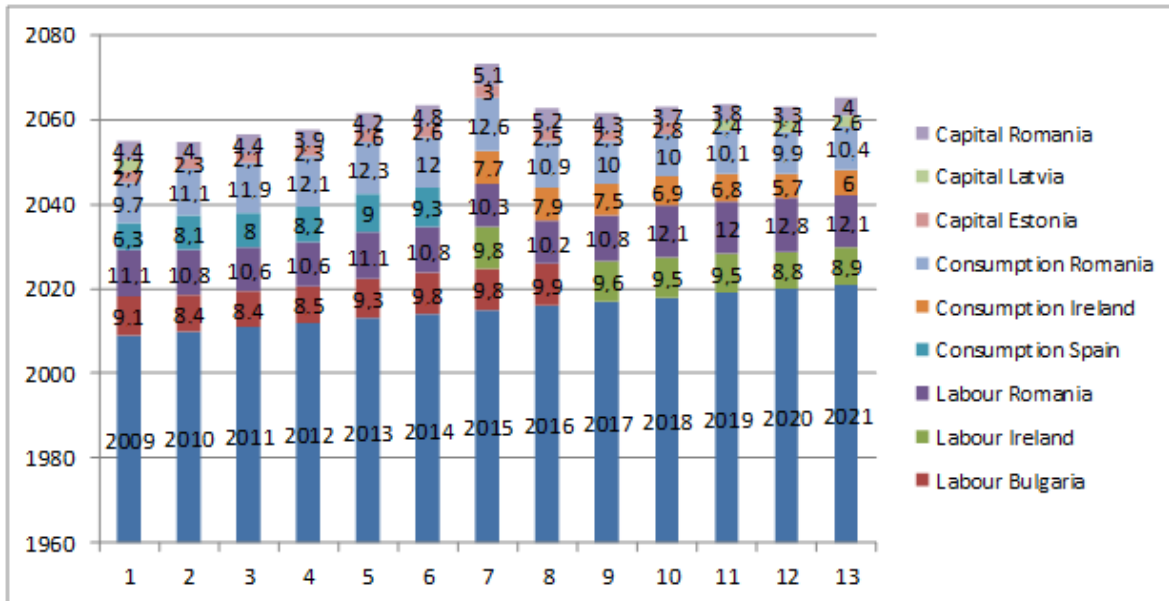
According to European Commission data, DG Taxation and Customs Union, based on Eurostat data Data extracted December 2022, the evolution of income from taxes related to labour, consumption and capital, (share in GDP; share in total tax revenues) in the period 2009-2021, observed in terms of percentage values is relevant for the position of Romania compared to the values recorded by the European Union countries, as reflected in the figures below and in the Annexes. Tax revenues from taxes related to labour, consumption, capital - Romania, in relation to the countries that have the lowest level of taxation (% in GDP) (Figure 5, Annex 3).

Based on the above data, in relation to the lowest level of taxation, the level of tax revenues from labour taxes (% in GDP) brings Romania closer to the countries with the lowest shares of tax revenues in the range, namely Bulgaria, 2009-2016; Ireland, 2015, 2017-2021. In the first part of the series, until 2016, when Romania has the lowest income share, it is very close to Bulgaria, the country with the lowest income level (hierarchically, between positions 2 and 4) and in the next stage, when the revenue share is higher, Romania's position is moving away from Ireland (position 5).

In the case of tax revenues related to consumption (% in GDP) in relation to the lowest level of taxation (Spain 2009 - 2014; Ireland 2015-2021), the hierarchical position of Romania in the 27 Member States shows sensitive oscillations, as a result of the change in percentage values, respectively:

It is noted that in the period 2011-2015, in which the tax rates are higher, the hierarchical position of Romania is further removed from the country with the lowest tax revenues from consumption – Spain (hierarchical positions 14-18) and between 2016-2021, in which the tax rates are decreasing, Romania is approaching Ireland, the country with the lowest shares of tax revenue in the range (positions 4-7) but this position is also influenced by changes in the tax rates of other countries in those periods.

Figure 5. Evolution of tax revenues from taxes related to labour, consumption and capital - Romania, compared to European Union countries - the lowest level of taxation (% in GDP)



Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

From the analysis of the tax revenues related to capital (% in GDP), in relation to the lowest level of taxation (Estonia 2009-2018; Latvia 2019 - 2021), it appears that the hierarchical position of Romania, within the 27 Member States, shows oscillations, as a result of the change in the percentage values of Romania and the other states it overtakes.

Low tax levels, between 3.3% (year 2020) and 5.2% (year 2016), put Romania in a position close to countries with a lower level of tax revenues from capital taxation – Estonia, Latvia - in the range with low hierarchical positions (between 3 and 8).

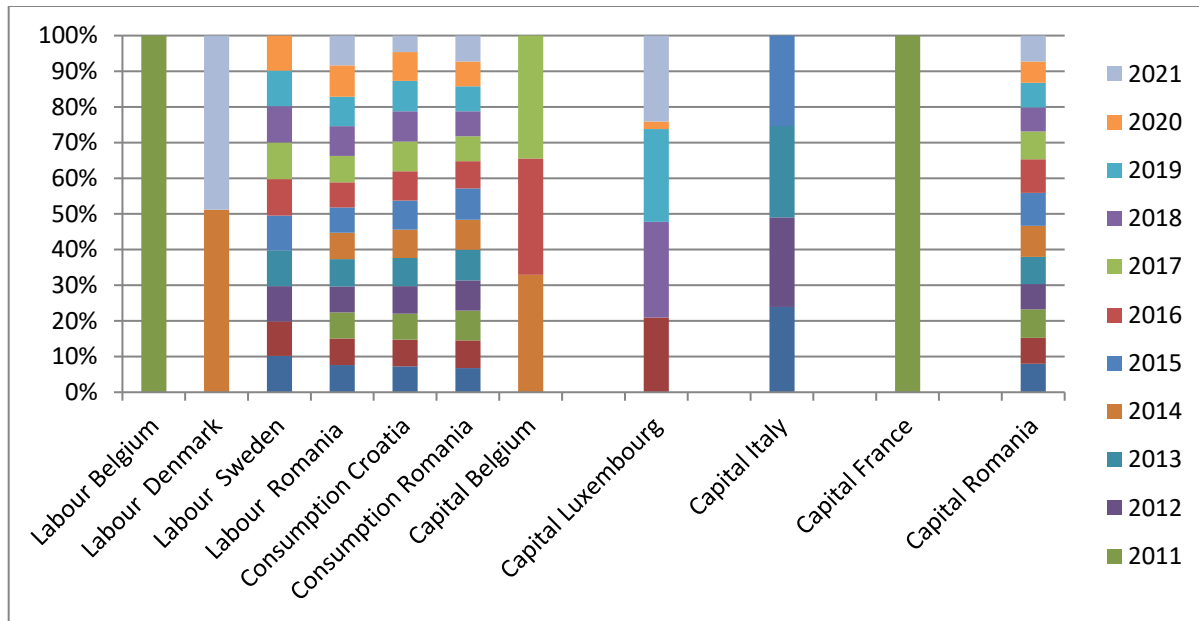
Tax revenues from taxes related to labour, consumption, capital, Romania, in relation to the countries that have the highest level of taxation (% in GDP) (Figure 6, Annex 6).

In relation to the highest level of taxation, the low share of tax revenues related to labour (% in GDP) places Romania in the last places of the hierarchy (23-26), compared to the countries with the highest taxation fees, Sweden, respectively, for a period of ten years, Belgium, one year, Denmark, two years.

Among the countries that Romania is close to, as a level of taxation and which are constantly maintained in the interval are: Poland, Ireland, Portugal, Greece, Lithuania, Slovakia, Cyprus, Malta, Croatia, Latvia. There are countries that usually register up to a level of taxation, 15%, with slight changes, from one year to another, of the percentage values.

Compared to Croatia, the country with the highest share of tax revenues related to consumption (% of GDP), Romania is positioned in the first half of the range, responsively until 2015, on an average position (range 11-14) and after 2016, when Romania's tax revenues from consumption are lower, Romania is moving away a lot, being among the last countries in the income hierarchy (21-24).

Figure 6. Evolution of tax revenues from taxes related to labour, consumption and capital - Romania, compared to European Union countries - the highest level of taxation (% in GDP)



Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

Among the countries with the highest level of taxation, which Romania is approaching, in the period 2012-2015, are constantly Greece, Finland, Denmark, Hungary, Slovenia and Bulgaria. In the period 2016 – 2021, when Romania has lower tax rates, it approaches countries such as: Germany, Belgium, Italy, Lithuania and Austria.

For capital tax revenues (% of GDP) in relation to the highest level of taxation, which is found in Belgium (2014; 2016 – 2017), Luxembourg (2010, 2018-2021), Italy (2009, 2012, 2013 and 2015), France (2011) - low capital taxation rates put Romania, in the last third, within the 27 Member States (range 20-25).

- a) Tax revenues from taxes related to labour, consumption, capital - Romania, in relation to the countries that have the lowest level of taxation (% in total tax revenues) (Figure 7, Annex 5)

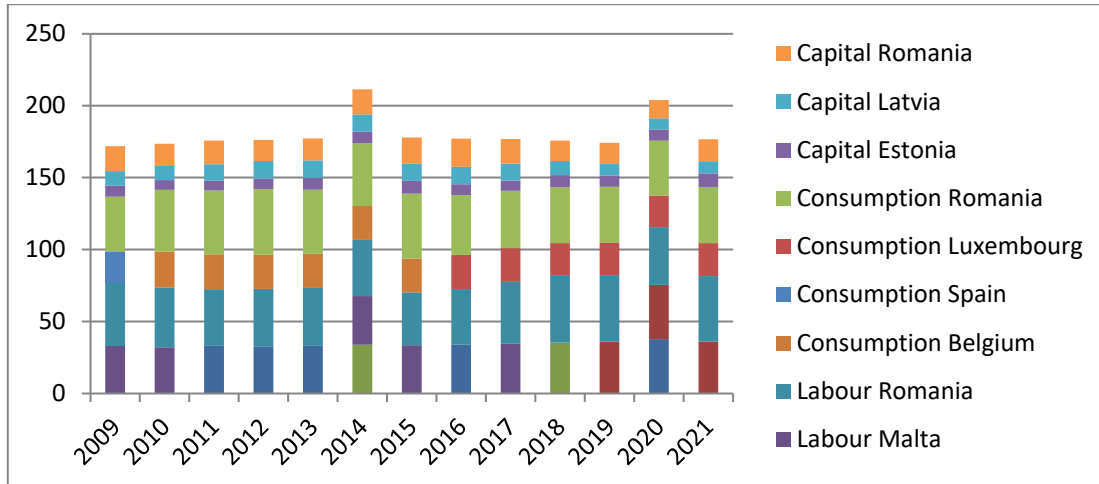
The evolution of income from labour taxation (% in total tax revenues), at the level of Romania showed oscillations, with a tendency of diminishing from 44.1% in 2009 to 38.7% in 2016; in the period that followed, the share of tax income from labour had an increasing trend, the highest level being in 2020, of 49.2%.

In relation to the lowest level of taxation (Bulgaria, 2011-2013, 2016, 2020; Croatia, 2019-2021, Cyprus 2014, 2018, Malta - 2009, 2010, 2014, 2015, 2017), the hierarchical position of Romania within the 27 Member States presents sensitive oscillations, as a result of the change of the percentage values, both at the level of Romania and of the other states, respectively: in one stage, until 2016, in which the trend was diminishing, Romania was in positions close to the countries with the lowest values (positions 4 and 5, less 2009, in which the share was higher); after 2016, when the tax revenues from labour increased as a share in the total income, Romania moved away from countries with the lowest income level – Malta, Cyprus, Croatia (positions 9 and 10).

Throughout the period, the share of tax revenues from consumption taxes (% in total tax revenues), places Romania in positions far away from EU countries EU 27, with the lowest level of taxation (Belgium, 2010-2015, Spain 2009, Luxembourg, 2016-2021), occupying the last positions in the

hierarchy of the 27 countries. In the first stage, until 2015, when the tax rates were higher, it was on the 25th place, after this date, corresponding to the tax reduction, oscillated between positions 22 and 23.

Figure 7. Evolution of tax revenues - Romania, compared to the European Union countries against the lowest level of taxation of labour, consumption and capital (% in tax revenues)

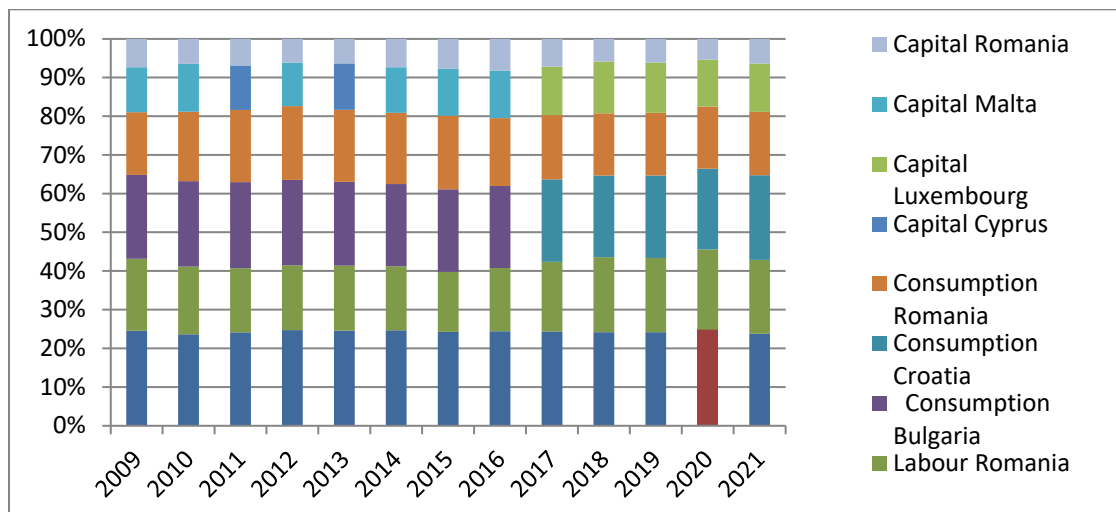


Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base

In the case of tax revenues related to capital (% in total tax revenues) in relation to the lowest level of taxation, Estonia (2009 – 2020), Latvia 2019 – 2021) the position of Romania within the 27 Member States exceeds, until 2017, with sensitive oscillations, the first half of the range (positions 11 and 16), as a result of the change in the percentage values of it and of the other states. In recent years (2018-2021), when the share of this category of income is lower. Romania approaches countries with the minimum level of taxation (6 to 9 items).

b) Tax revenues from taxes related to labour, consumption, capital - Romania, in relation to the countries that have the highest level of taxation (% in total tax revenues) (Figure 8, Annex 6).

Figure 8. Evolution of tax revenues - Romania compared to the European Union countries against the highest level of taxation of labour, consumption and capital (% in tax revenues)



Source: Own compilation with data from European Commission, (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat data 2022, Tax revenues by tax base.

In relation to the highest level of taxation, related to labour (% in total tax revenues) that are identified in Sweden (in the period 2009-2019; 2021), Germany - 2020, the hierarchical position of Romania, corresponding to the tax rates is found in the Annex 5.

The income levels related to labour taxes (% in total tax revenues), position Romania in the lower third of the hierarchy, compared to the two countries that have the highest tax rates – Sweden, Germany. Among the countries that Romania is close to, as a level of taxation and which remain in the range, are Greece, Lithuania, Luxembourg, Croatia, Ireland, Denmark, Spain, Finland, countries that usually register up to a level of 50% of the tax rate.

Related to the countries with the highest level of taxation related to consumption (% total tax revenues), which are identified in Bulgaria, in the range (2009 – 2016) and Croatia (years 2017 – 2021), the relatively high share of income from the consumption taxes of Romania, as well as the movement of the percentage rates to the other countries, places it among the top positions, in the hierarchy (position 3, ranking years 2010-2015; position 5, years 2016, 2017, 2019 and 2021; position 6, years 2009, 2018, 2020).

Among the countries that Romania is close to, as a level of taxation and which are maintained in the range, are identified: Bulgaria, Croatia, Cyprus, Hungary, Estonia, Latvia, countries that usually fall around the average level of the tax rate.

Compared to the countries with the highest level of taxation related to capital (% total tax revenue), respectively, Cyprus, Luxembourg, Malta, Romania is placed in the first half of the hierarchy (headings 12 and 13), in the years, 2009, 2014 – 2016, when the share of tax revenues from capital is higher and, in the other years in the series, when the level of income is lower, the Romania is moving away from the countries in the highest positions. The situation is due to the oscillation of the percentages of income from the capital taxes of Romania, as well as the movement of the percentage shares of other countries.

Among the countries that Romania is close to as a level of taxation and which are frequently maintained within the range, are: Bulgaria, Hungary, Ireland, Greece, Portugal, Belgium, Denmark, Spain.

Based on research into the trends in revenues from different types of taxes, it is worth noting that Szarowska (2013), as cited by Stoilova (2017), found that consumption taxes have a positive impact on GDP growth in EU Member States. Taxation on production and imports is in direct correlation with economic growth as are taxes on consumption that are, also, growth-friendly. Consumer tax, such as VAT, is considered to have a negative effect on economic growth, with the results of studies showing that the company does not obtain economic benefits through imposing VAT.

In a comparative analysis of the Member States on the nature of tax revenues, Stoilova (2017) shows that Eastern European countries are distinguished by a large share of total tax revenues, those from consumption taxes, and in central and northern countries, the large share of tax revenues is held by those derived from labour taxation.

Acosta-Ormaechea and Yoo (2012) (quoted by McNabb, 2018), also find that taxes on consumption or property are favorable for growth, compared to income tax following-up the examination of the relationship between tax structures and growth rates.

Gale and Samwick (2016) show that reductions in income taxes stimulate work, savings and investment interest, so they have a favorable impact on growth; at the same time, positive effects on income can reduce the need for engagement in productive activity and interest in new activities. The consequence of the reduction of taxes on growth is of an uncertain nature and depends on the structure of the tax reduction as well as the way of financing.

There is no single relationship, for all situations, between tax structure and growth. The analysts' findings reveal both the potential benefits and possible risks of income tax reform from a long-term economic growth perspective.

5. Conclusion

One finding is that not all tax changes have the same impact on economic growth, which is different, with some favourable effects, and others, unfriendly, as they were identified in the speciality literature. Changes operated in the tax system towards tax reductions can lead to economic growth, by stimulating employment, savings and investment.

From some studies, it is noted that property taxes have a positive effect on economic growth and labour taxation and consumption taxes, unfriendly effects. Property taxes contribute to economic growth, but some scholars consider that this effect is valid, only for high-income countries, and for low-income or middle-income countries, the effects on GDP growth may be limited.

In the long run, personal income taxes and social security contributions are unfriendly to economic growth. Labour taxation is the basic instrument used to reduce income inequality, with a focus on labour taxation being significant for revenue growth but, as has been shown, it can, also, lead to unfavourable effects. The labour taxation system requires increased attention in ensuring good structuring so that it can ensure that these objectives are achieved (economic growth, reduction of inequalities). The tax system is considered growth-friendly if the tax burden is easier on labour and capital and higher, on consumption and property.

Member States of the European Union have tax systems that focus on labour taxation, adversely affecting economic growth, as well as the supply and demand of the labour force. Even if economic, social objectives are justified as a necessity, tax expenditures are not an effective tool in relation to costs and can sometimes result in economic disruption.

Following the distribution of tax revenues according to tax base, Romania compared to the European Union – EU-27 countries, the analysis of the data leads to a number of issues, as follows. At the level of the European Union – EU - 27, for the entire period (2009-2021), in the formation of income on account of taxation, both as a share in GDP and in the total tax revenue, the highest contribution is held by the tax revenue from labour (over 50% of the total tax revenue), followed by income from consumption and capital tax. At the Romanian level, the data on tax revenues from labour and consumption, respectively, both those expressed in relation to GDP and those as a share in the total tax revenues, show that they have close taxation levels, but with different evolutions in the interval. Thus:

Capital tax revenues, both as a share of GDP and as a share of total tax revenues, have the lowest contribution, being below the level of the first two categories. As such, there is a distinction in income distribution, in the case of Romania compared to those in the European Union – EU-27. At the EU-27 level, in the constitution of tax revenues, the highest contribution is held by the income from labour taxation, followed by the income from consumption taxes and, respectively, capital, the latter holding the lowest share; in the case of Romania, the formation of income is made in close weightings, both from labour and consumption taxation and the incomes whose tax base is the capital have a lower level than that afferent to each of the other two categories.

Revenue by type of tax base, comparison Romania – EU-27. The level of Romanian tax revenues from taxes on labour, both as a share in GDP and as a share of total tax revenues, throughout the interval were below the level of EU-27 incomes and are relatively close to those on consumption, with certain peculiarities of evolution per interval.

The income from the consumption taxes of Romania compared to the EU-27 (% in GDP) was higher than those of the European Union, until 2015, inclusively, and from 2016 to 2021 were below the level of the EU-27. Consumption-related income (% of total tax revenues) has evolved with higher levels in Romania over the entire period, compared to the fiscal revenues related to consumption at EU-27 level.

Capital tax revenues both as a share of GDP and as a share of total tax revenues, over the entire period have evolved below capital tax revenues of the EU-27.

In the case of labour tax revenues (% in GDP), Member States, in different situations, are in relation to the level of taxation, compared to the EU-27 average. From the total of 27 Member States, only eight countries (Belgium, Denmark, Germany, France, Italy, Austria, Finland, Sweden) have,

throughout the interval, higher levels of labour tax rates than the EU-27 average, the other 19 countries, including Romania, have lower levels of taxation than those related to the EU average (EU-27). Romania is enrolling, throughout the interval, with values below the EU-27 average, with a decrease, in the first part of the series (2009-2015) and an increase after the year 2017. The minimum is observed in 2015 and 2016 and the closest level to the EU-27, in 2020.

Concerning the position of the Member States against the EU-27 average, in the case of labour tax (% in total tax revenues) it is noted that only four Member States are, throughout the interval, with higher levels of tax rates, Germany, Austria, Sweden and the Netherlands, the rest of 23 states, including Romania, with levels of taxation below the EU-27 average. Throughout the period, Romania is enrolling with income from labour taxes (% in taxes), below the EU average.

Following the level of taxation, at the consumption tax (% in GDP), in the case of Member States, compared to the EU-27 average, it follows that 12 countries are found with higher levels than the EU-27 average. Romania has oscillations in the interval, with periods exceeding the EU-27 average and others, below its level. The minimum is observed in 2009, under the EU-27 average and the maximum, in 2015, above the EU-27 average.

In the case of consumption tax (% in total tax revenues), compared to the EU-27 average, it is found that twenty countries have tax rates above the European Union average – EU-27, throughout the period, a group to which Romania also belongs.

Comparing the level of taxation of Member States with the EU-27 average, for capital tax (% in GDP), it follows that only five Member States have higher tax revenues, than the European Union average, the other states having lower levels, than the EU average – EU-27, throughout the interval or in shorter periods. Romania is enrolling in the group of countries with lower levels of capital tax revenues than the EU-27 average, throughout the interval.

Following the position of the Member States against the EU-27 average, the capital tax (% total tax revenues), related to the evolution of capital tax revenues, as a percentage of total tax revenues, it is noted that only 9 countries are, throughout the interval, with higher levels of tax rates. The rest of the countries in the total of 27 have levels, throughout the interval, or for shorter periods, below the European Union average, EU – 27. Romania is found, throughout the interval, with levels of capital tax rates (% in total tax revenue) below the EU-27 average. The evolution showed oscillations, throughout the period, the maximum level reached, being in the interval between the two crises - the year 2016, and the minimum one, during the pandemic period - 2020; the increase followed in 2021, marking the beginning of the post-pandemic recovery.

The oscillating evolution, over the analyzed period, as well as the different position of Romania, by income categories, both compared to the countries with maximum and minimum levels, respectively, of taxation, is due to the oscillation of the percentages of incomes by types of taxes, of Romania, as well as to the movement of the percentage shares of the other countries.

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Annexes

Annex 1. Evolution of Romania's tax revenues - by types of tax base (% in GDP)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania capital %GDP	4.4	4.0	4.4	3.9	4.2	4.8	5.1	5.2	4.3	3.7	3.8	3.3	4.0
Romania labour %GDP	11.1	10.8	10.6	10.6	11.1	10.8	10.3	10.2	10.8	12.1	12.0	12.8	12.1
Romania consumption %GDP	9.7	11.1	11.9	12.1	12.3	12.0	12.6	10.9	10.0	10.0	10.1	9.9	10.4

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.

Annex 2. Evolution of Romania's tax revenues - by types of tax base, 2009–2021 (% in total tax revenues)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Romania capital % in total taxes	17.4	15.5	16.4	14.7	15.2	17.4	18.3	19.6	17.2	14.2	14.8	12.7	15.2
Romania labour % in total taxes	44.1	41.7	39.4	39.9	40.2	39.1	36.7	38.7	43.0	46.9	46.2	49.2	45.6
Romania consumption % in total taxes	38.5	42.9	44.3	45.4	44.6	43.5	45.0	41.6	39.8	38.9	39.0	38.1	39.1

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.

Annex 3. Evolution of tax revenues from taxes related to labour, consumption and capital - Romania, compared to the countries of the European Union - the lowest level of taxation (% in GDP)

Tax base (% of GDP) country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Labour Bulgaria	9.1	8.4	8.4	8.5	9.3	9.8	9.8	9.9					
Labour Ireland							9.8		9.6	9.5	9.5	8.8	8.9
Labour Romania	11.1	10.8	10.6	10.6	11.1	10.8	10.3	10.2	10.8	12.1	12.0	12.8	12.1
Consumption Spain	6.3	8.1	8.0	8.2	9.0	9.3							
Consumption Ireland							7.7	7.9	7.5	6.9	6.8	5.7	6.0
Consumption Romania	9.7	11.1	11.9	12.1	12.3	12.0	12.6	10.9	10.0	10.0	10.1	9.9	10.4
Capital Estonia	2.7	2.3	2.1	2.3	2.6	2.6	3.0	2.5	2.3	2.8			
Capital Latvia	2.7										2.4	2.4	2.6
Capital Romania	4.4	4.0	4.4	3.9	4.2	4.8	5.1	5.2	4.3	3.7	3.8	3.3	4.0

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.

Annex 4. Evolution of tax revenues - Romania, compared to the countries of the European Union, compared to the highest level of taxation of labour, consumption and capital (% in GDP)

Tax base (% of GDP) country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Labour Belgium			24.2										
Labour Denmark						25.5							24.3
Labour Sweden	25.5	24.2		24.8	25.0		24.5	25.6	25.7	25.6	24.9	24.6	
<i>Labour Romania</i>	11.1	10.8	10.6	10.6	11.1	10.8	10.3	10.2	10.8	12.1	12.0	12.8	12.1
Consumption Croatia	16.3	16.8	16.3	17.3	17.7	17.8	18.3	18.5	18.7	19.0	19.1	18.1	10.4
<i>Consumption Romania</i>	9.7	11.1	11.9	12.1	12.3	12.0	12.6	10.9	10.0	10.0	10.0	9.9	10.4
Capital Belgium						10.6		10.5	11.1				
Capital Luxembourg		10.0								12.8	12.4	1.0	11.5
Capital Italy	10.0			10.5	10.7		10.6						
Capital France			10.0										
<i>Capital Romania</i>	4.4	4.0	4.4	3.9	4.2	4.8	5.1	5.2	4.3	3.7	3.8	3.3	4.0

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.

Annex 5. The hierarchical position of Romania in relation to the lowest level of taxation of labour, consumption and capital (% in total tax revenues)

Tax base (% of GDP) country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Labour Bulgaria			33.0	32.7	33.1			33.8				37.7	
Labour Croatia											36.0	37.7	35.9
Labour Cyprus						33.8				35.3			
Labour Malta	32.9	32.0				33.8	33.5		34.5				
<i>Labour Romania</i>	44.1	41.7	39.4	39.9	40.2	39.1	36.7	38.7	43.0	46.9	46.2	40.2	45.6
Consumption Belgium		24.9	24.3	23.9	23.7	23.6	23.6						
Consumption Spain	21.2												
Consumption Luxembourg								23.7	23.5	22.2	22.4	21.9	22.9
<i>Consumption Romania</i>	38.5	42.9	44.3	45.4	44.6	43.5	45.0	41.6	39.8	38.9	39.0	38.1	39.1
Capital Estonia	7.8	6.8	6.8	7.3	8.2	8.0	8.9	7.6	7.1	8.4	7.9	7.8	9.4
Capital Latvia	10.0	9.7	11.5	12.3	12.2	12.1	11.9	12.1	11.8	9.8	7.9	7.8	8.5
<i>Capital Romania</i>	17.4	15.5	16.4	14.7	15.2	17.4	18.3	19.6	17.2	14.2	14.8	12.7	15.2

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.

Annex 6. Evolution of tax revenues - Romania, compared to the countries of the European Union against the highest level of taxation of labour, consumption and capital (% in tax revenues)

Tax base (% of GDP) country	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Labour Sweden	58.3	56.4	57.3	58.9	58.9	58.3	57.4	58.0	58.3	58.4	58.1		56.6
Labour Germany												58.9	
<i>Labour Romania</i>	44.1	41.7	39.4	39.9	40.2	39.1	36.7	38.7	43.0	46.9	46.2	49.2	45.6
Consumption Bulgaria	51.5	52.6	52.9	52.7	51.9	50.2	50.5	50.4					
Consumption Croatia									50.9	51.0	51.2	49.5	52.1
<i>Consumption Romania</i>	38.5	42.9	44.3	45.4	44.6	43.5	45.0	41.6	39.8	38.9	39.0	38.1	39.1
Capital Cyprus			27.3		28.8								
Capital Luxembourg									29.9	32.4	31.2	28.9	29.8
Capital Malta	27.6	29.4		26.8		27.8	28.7	29.1					
<i>Capital Romania</i>	17.4	15.5	16.4	14.7	15.2	17.4	18.3	19.6	17.2	14.2	14.8	12.7	15.2

Source: European Commission (2022b), Data on Taxation Trends. DG Taxation and Customs Union, based on Eurostat Data extracted December 2022, *Tax revenues by tax base*.