TAX AND SOCIAL INSURANCE BURDEN ON LABOUR FORCE IN BULGARIA AND THE EUROPEAN UNION

Angel Angelov[1]
[1]University of National and World Economy – Sofia, Bulgaria
E-mail: *[1]angelov@unwe.bg*

Abstract: Labour and labour-generated income are the main objects of taxation in the modern world. This calls into question fiscal policy implement-tation with a view to ensuring sustainability of the labour market and achieving sustainable management of state budgets. To regulate the burden borne by labour as a factor of production is of particular importance for the compete-tiveness of the economy and providing incentives for the economic agents. The current research focuses on an analysis of the burden of tax and social security contributions in Bulgaria for the period 2007-2023 aiming to identify the trends that resulted from the changes made in the tax and social insurance legislation and the effects of these changes on market participants. The research also aims to compare the burden borne by economic agents in Bulgaria and in the other EU member states.

Keywords: Tax and social insurance burden, tax wedge, labour, income, Bulgaria.

This article shall be cited as follows: **Angelov, A.** (2024). Tax and Social Insurance Burden on Labour Force in Bulgaria and the European Union. Economic Archive, (2), pp. 21-46.

URL: nsarhiv.uni-svishtov.bg

DOI: https://doi.org/10.58861/tae.ea-nsa.2024.2.02.en

JEL: H20, H24, H31, J38.

* * *

Introduction

In modern public sector management, taxation is of primary importance for providing the necessary financial resources for fiscal policy implemen-tation. This is why, national governments worldwide have directed their efforts in recent decades to find approaches that would maximize the scope of taxation. The reforms carried out can be considered in two aspects - the tax base being broadened by including new objects of taxation on the one hand, and changes in the basic tax rates of the already existing taxes on the other. It should be borne in mind, however, that governments face the contradicting objectives not only to ensure the collection of the budget revenues they need, but also not to overburden the economic agents as the latter case can have rather a negative effect not only on households and businesses, but also on the expected budget revenues. A number of researchers have analysed in detail the effects of tax and social security burden on economic agents and processes. (Alesina and Peroti, 1996; Galabov, 2000; Heady, 2003; De Haan, Sturm and Volkerink, 2003; Dolenc and Laporšek, 2010; Brusarski, 2012; Gandullia, Iacobone and Thomas, 2012; Melguizo and González-Páramo, 2013; Catalano and Pezzolla, 2015; Popova, 2015; Deskar-Škrbić, Drezgić and Šimović, 2018; Giday and Mádi, 2018; Jousten et al., 2022). The topic is extremely relevant in view of finding a balance between taxation efficiency on the one hand, and fairness of taxation, on the other. The subject of this study is labour income taxation and its object of the study is an analysis of the tax and social security burden on labour force in Bulgaria and the EU member states.

Labour is the main factor of production in a national economy that contributes to achieving a sustainable economic growth over time. At the same time, labour has become the main object of taxation. Many of today's tax systems are defined as income-based, for which labour income forms the largest tax base. Excessive taxation of labour income can result in a reduction of incentives and thus reduce the supply of labour or an increase of the share of the shadow economy (e.g. undeclared income, partial declaration of income, undeclared employment, etc.). A lower tax burden, in turn, may have the opposite effect and stimulate labour supply, thus increasing the employment level and reducing the unemployment in the country (Melguizo and González-Páramo, 2013) but at the same time may not produce the expected result in terms of target budget revenue volume, which would limit the possibilities to finance public services.

Therefore, tax systems should be finely tuned in such a way that they ensure the provision of financial resources and at the same time do not affect negatively the incentive to work, the level of employment, and hence - the opportunities for achieving economic growth.

Approaches to measuring the tax and social security burden

There are various approaches to measuring the tax burden on labour income in scientific literature. The most commonly used valuation approach is based on marginal personal income tax rates. However, this approach is not always the most accurate one from a computational point of view, especially when tax rates are progressive as well as when the tax system offers a wide variety of preferences. In such cases the use of more accurate indicators, such as average and implicit tax rates, which are calculated as a ratio of the collected tax revenues to the corresponding tax bases (gross remuneration, employee compensation, etc.) are preferable. Generally, when the burden of taxation on labour income is measured, it includes not only the income tax but also the costs of any social security (healthcare) contributions. These contributions are usually as mandatory as the tax itself and are generally shared by the tax-liable person and/or their employer and thus increase the burden for the economic agents but, unlike the tax itself, entitle them to certain social/healthcare benefits (Jousten et al., 2022). Therefore, a higher tax and social security contributions burden can have a negative effect not only on the supply but also on the demand for labour since it is a burden for both the employee and the employer. In a number of countries, the burden of social security contributions is at levels even higher than that of the applicable income tax. Equations (1) and (2) below show how the average tax and social security contributions rate for the employee ($\mathrm{ATSR_{Employee}}$) and the employer ($\mathrm{ATSR_{Employer}}$) can be determined.

$$\mathrm{ATSR_{Employee}} = \frac{\mathrm{PIT} + \mathrm{SSC_{Employee}}}{\mathrm{GW}} \tag{1}$$

$$\mathrm{ATSR_{Employer}} = \frac{\mathrm{SSC_{Employer}}}{\mathrm{GW}} \tag{2}$$

where: PIT is personal income tax, $SSC_{Employee}$ is social security contributions paid by the employee, $SSC_{Employer}$ is social security contributions paid by the employer, and GW is gross wage.

The ratio of the collected personal income tax revenue (tax on labour income) and the size of the gross domestic product is assumed as an indicator of the tax burden on labour income at national level. Although this approach also has certain limitations in terms of its measurement accuracy, it can be used for a comparative analysis of different national tax systems. (Angelov and Nikolova, 2021).

The aim of this study is to evaluate the tax and social security contributions burden in the Republic of Bulgaria in the last 15 years, to trace the factors affecting economic agents over time, and to compare the burden on Bulgarian workers and employers compared to those in the other EU member states. The main approach used to estimate the tax and social security contributions burden is by calculating of the so-called tax wedge (TW) expressed by equation (3) below:

$$\mathrm{TW} = \mathrm{TLC}_{\mathrm{Employer}} - \mathrm{NW} \tag{3}$$

$$\mathrm{TLC}_{\mathrm{Employer}} = \mathrm{GW} + \mathrm{SSC}_{\mathrm{Employer}} \tag{4}$$ [1]

$$\mathrm{NW} = \mathrm{GW} - \mathrm{SSC}_{\mathrm{Employee}} - \mathrm{PIT} \tag{5}$$

where: $TLC_{Employer}$ – *total labour costs incurred by the employer for one employee,* $SSC_{Employee}$ – *social security contributions paid by the employee,* $SSC_{Employer}$ – *social security contributions paid by the employer, PIT – personal income tax,* GW – *gross wage, and* NW – *net wage.*

According to Heady (2003), the tax wedge comes closest to the standard definition of an effective tax rate. Tax wedge is the difference between the total labour cost (*the cost of labour from the supply-side point of view*) and the net amount employees actually get for their labour *(the cost of labour from the demand-side point of view*). Moreover, the tax wedge can be expressed as a percentage (%) of the total labour costs incurred by the employer for one employee (TW%) and decomposed further into "relative" tax burden as:

- the share of tax burden to the employee ($TW_{Employee}$) including personal income tax and social security contributions

$$\mathrm{TW}_{\mathrm{Employee}}(\%) = \frac{\mathrm{PIT} + \mathrm{SSC}_{\mathrm{Employee}}}{\mathrm{GW} + \mathrm{SSC}_{\mathrm{Employer}}} = \frac{\mathrm{PIT} + \mathrm{SSC}_{\mathrm{Employee}}}{\mathrm{TLC}_{\mathrm{Employer}}} \tag{6}$$

- the share of tax burden to the employer ($TW_{Employer}$) comprising the social security contribution paid for each worker

$$\mathrm{TW}_{\mathrm{Employer}}(\%) = \frac{\mathrm{SSC}_{\mathrm{Employee}}}{\mathrm{GW} + \mathrm{SSC}_{\mathrm{Employer}}} = \frac{\mathrm{SSC}_{\mathrm{Employee}}}{\mathrm{TLC}_{\mathrm{Employer}}} \tag{7}$$

where: *– personal income tax,* $SSC_{Employee}$ *– social security contributions paid by the employee,* $SSC_{Employer}$ *– social security contributions paid by the employer,* GW *– gross wage, and* $TLC_{Employer}$ *– total labour costs incurred by the employer for one employee.*

A more significant increase of the tax (and especially of social security contributions) burden to employers can result in both a decrease in the demand for labour and an incentive for the employers to indirectly transfer this burden to their employees (the so-called "backward" burden shifting) as well as reduce their wages, and this in turn may affect the supply of labour. A higher tax burden to employees, in addition to decreasing the supply of labour, may also incentivise them to shift part of this burden to their employer by demanding higher (net) wages.

---

[1] Some countries levy additional payroll taxes payable by employers, thereby increasing the total labour cost to the employer ($\mathrm{TLC}_{\mathrm{Employer}}$).

Note that equations (1) and (2) above (used to calculate the average tax to social security contributions insurance rate) and equations (3), (4), (5), (6) and (7) (used to calculate the tax wedge) reflect the basic approaches for mathematical assessment. These approaches can be modified by including certain types of tax relief that reduce the burden to employees and are used as a tool for fair redistribution of income (Aktaş, 2023). Such reliefs may have different grounds, such as the employee's family status, the number of employee's family members, certain social criteria, economic incentives of the legislator to reduce the burden on certain groups of workers, etc.

Tax and social security burden in Bulgaria

The tax system of the Republic of Bulgaria generally comprises various types of taxes, the marginal tax rates of which are relatively lower compared to the rates of the same types of taxes in other EU member states. With regard to personal income tax in Bulgaria, a more tangible reform was carried out in 2007 and since the beginning of 2008 a flat personal income tax rate of 10% has been levied.

The proportional income tax introduced in 2008 replaces the previously applicable progressive income tax with a maximum marginal tax rate for 2007 of 24% and even higher rates in the 1990s and the beginning of the 21st century, when it reached much higher values, e.g. 29% from 2002 to 2004, 38% in 2001, 40% from 1997 to 2000, and 50% from 1994 to 1996 (General Income Tax Act; Personal Income Tax Act). According to Brusarski (2012), the transition to proportional income taxation means that the tax in Bulgaria loses its redistributive capabilities. The progressive tax in force until 2007 had yet another specific feature - there was a certain tax-exempt minimum, which significantly lowered the average tax amount payable by the employees. On the other hand, according to Stefanov (2021), the lower tax rate introduced in 2008 limits the incentives for tax avoidance as well as contributes to limiting the outflow of highly qualified personnel from the country even after Bulgaria's accession to the EU. After the reforms in the second half of the first decade of the 21st century, the minimum tax relief threshold was abolished. This, however, is one of the most frequent criticisms of the proportional tax introduced in Bulgaria, since the same relative burden is put both on the low-income groups and on people with much higher average incomes[2].

[2] Assuming that all other conditions remain equal, and above all, that only the effect of taxation but not that of the social security contributions, is considered.

In the period 2005–2007, there was also a significant reduction in the social security burden at the expense of employers (Angelov, 2019). This reduction is about 5-6 p.p. (the decrease in the "Pensions" fund is even greater; mostly for employers, but it is partially compensated by changes in the remaining contributions in the first and second tiers of the pension insurance system, including health insurance), and in the following years, characterized in the country as crisis as a result of the Global Financial Crisis, the social insurance burden on employers was further reduced by nearly 2 percentage points. This trend persisted until 2011, when there was a minimal increase in the social security contributions to the "Pensions" fund, both at the expense of employers and employees and once again later on, in 2017 when a minimal increase (of 0.5 p.p. for both employers and employees) was reported.

Based on the dynamics of the main components of the tax and social insurance burden on labour in Bulgaria discussed above, let us consider a hypothetical case to provide a clearer explanation of what has been happening in the country in recent years. Figure 1 below shows the average tax and social security contributions rate for employees and employers in 2007 (*the last year in which the progressive income tax was levied*) for incomes ranging from BGN 500 to BGN 10,000.

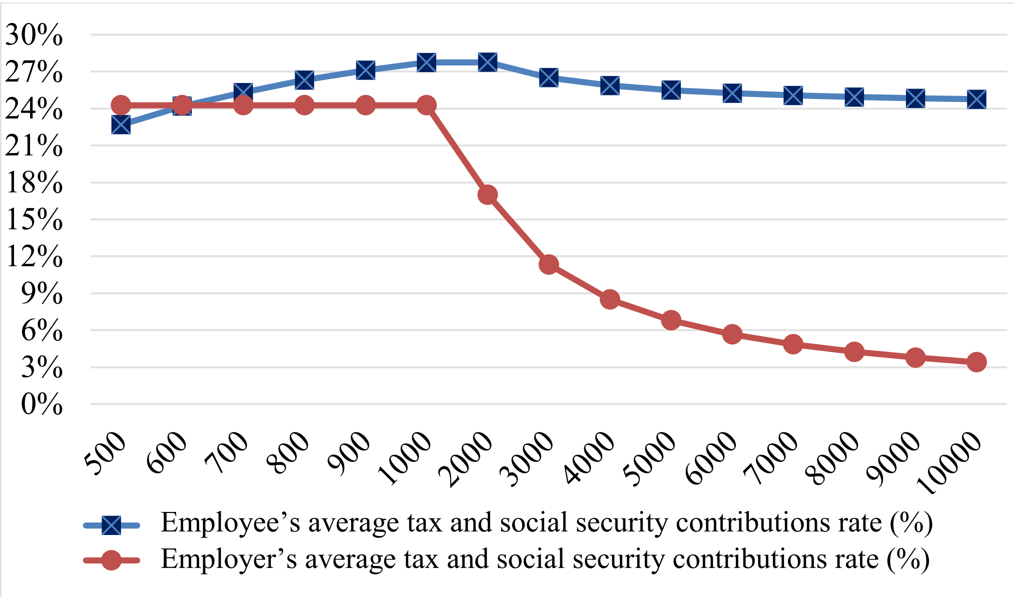


Figure 1. ***Employee’s and employer’s average tax and social security contributions rate in 2007 (%)***
Source: Author’s calculations

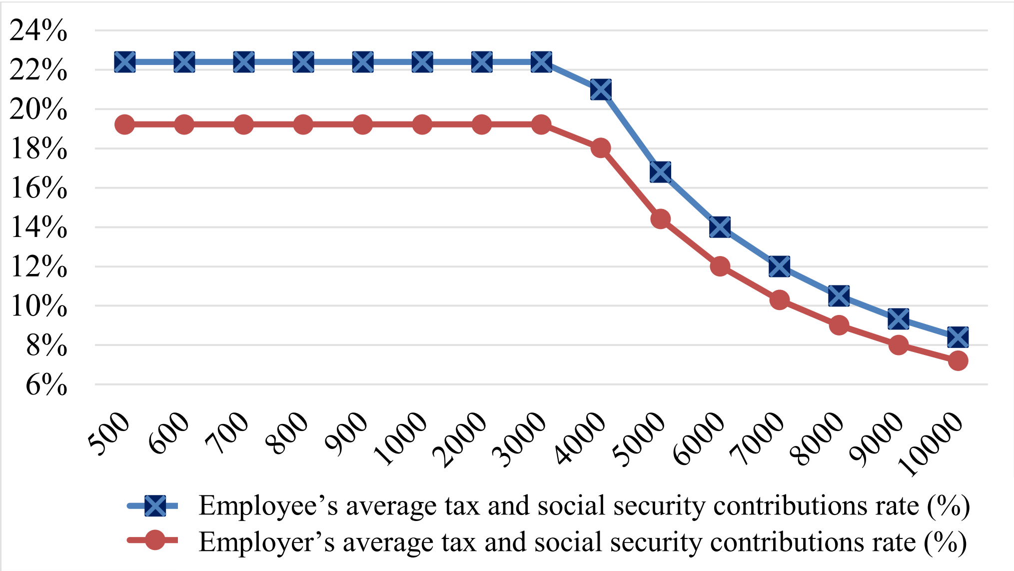
Note: The rates were calculated using the applicable rates of the personal income tax (according to the Personal Income Tax Act (PITA) and social security contributions (according to the Social Insurance Code)[3], the Law on the Budget of the National Social Security for 2007 (LBNSS)[4] and the Law on the budget of the National Health Insurance Fund for 2007 (LBNHIF)), as well as the amount of the maximum monthly insurance income for 2007 according to LBNHIF.

The above calculations clearly show that the progressivity of the income tax results in an increase in the burden on the employee's income (from 22.7% to 27.8%) as the tax base increases. This trend peaks in the interval from BGN 1,000 to BGN 2,000 due to the fact that, in 2007, the maximum insurance income in Bulgaria was BGN 1,400. Beyond this insurance ceiling, the tax and social insurance burden gradually decreases not only for the employee (to 24.8 %) but also more significantly for the employer (to 3.4 % for the highest incomes) and that in the part with additional costs for economic agents for insurance contributions. Ganchev (2005) points out that when it comes to taxation of labour incomes in Bulgaria (*including the respective social security contributions*), practice shows that the personal income tax could hardly be referred to as "flat" (*or proportional*). On the contrary, it has a rather regressive nature precisely because of the presence of a maximum insurance income. Similar conclusions can be drawn even in the years before the introduction of the proportional tax in Bulgaria, as can be seen in Figure 1. Progressivity is lost at a certain point when the income from labour exceeds the insurance ceiling. Penkova (2022) notes that in this way there is a redistribution of income from the poorer to the richer part of the population, and this further increases the degree of inequality in the country.

Following the same approach to calculate the tax and social insurance burden for 2023, we get the results shown in Figure 2.

[3] In 2007, the insurance burden for the period 01 Oct. 2007 – 31 Dec. 2007 was adjusted. The calculations take into account the social security contributions for the period 01 Jan – 30 Sept. 2007, as it covers the longer of the two subperiods. The calculations were made on the assumption that the employees were third-category workers in accordance with the provisions of the Ordinance on the categorization of work upon retirement.

[4] The rate of the contribution to Work Accidents at Work and Occupational Diseases Fund is 0.7 %.



Фигура 2. ***Employee’s and employer’s average tax and social security contributions rate in 2023(%)***
Source: Author’s calculations

Note: The rates were calculated using the applicable rates of the personal income tax (according to PITA) and social security contributions (acc. to the SIC and LBNSS for 2023[5] *and LBNHIF for 2023* [6]*) as well as the maximum monthly insurance base according to LBNSS for 2023.*

Obviously, a proportional tax implies that the tax burden should be the same for all employees regardless of their wage level, but the existence of a maximum monthly insurance base (for 2023 it was BGN 3,400) results in a situation where the tax and social insurance burden for the employees with wages above BGN 3,400 gradually decreases. Figures 1 and 2 clearly show that the fiscal changes introduced in 2008 reduce mostly the burden on employees with higher wages at the expense of those with lower wages. For the employees with monthly wages of about BGN 10,000 this reduction is nearly 3 times. At the same time, the increased maximum insurance income over time results in a higher insurance burden for the employers who pay wages above the insurance

[5] The calculations were made on the assumption that the employees were third-category workers in accordance with the provisions of the Ordinance on the categorization of work upon retirement.

[6] The rate of the contribution to Work Accidents at Work and Occupational Diseases Fund is 0.7 %.

ceiling (compared to 2007), while for the wages that are lower than the maximum insurance ceiling the trend is reversed.

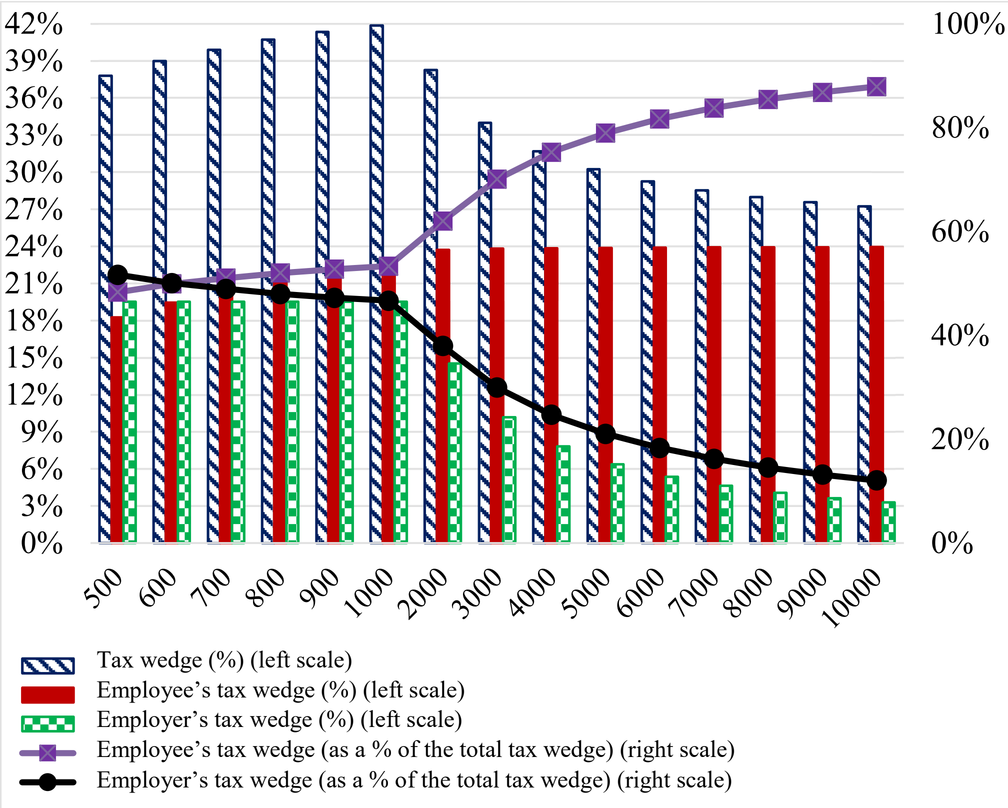


Figure 3. ***Tax and social insurance burden in 2007 (%)***
Source: Author's calculations

The tax wedge provides more detailed information about the distribution of the tax and social insurance burden between employers and employee in relation to employer's total labour cost (the sum of employee's gross wage and the social security contributions at the expense of the employer). The 2007 figures shown in Figure 3 above show that, initially, the total tax and social insurance burden rises from 37.8% to 41.9% and is almost equally distributed between employer and employee, but above the insurance ceiling of BGN 1,400 the employee's increases rapidly compared to that of the employer and although the total tax and social insurance burden decreases to 27.3% for the highest wage levels in the hypothetical example.

The calculated tax wedge for the same wage levels in 2023 is presented in Figure 4 below. A few distinctive features are particularly noticeable:

- In 2023, the total tax-insurance burden on labour for almost all wage levels was lower than that in 2007. The opposite trend is observed only for wages between BGN 3,000 and BGN 4,000 and this is due to the higher maximum monthly insurance base in 2023 compared to 2007, which resulted in a higher insurance burden for wages above the 2007 cap earned in 2023.
- The difference between the estimated tax wedge for 2007 and 2023 increases from 2.88 p.p. (for a wage of BGN 500) up to 6.95 p.p. (for a wage of BGN 1,000)[7] but at BGN 2,000 this difference is 3.34 p.p.
- For wages above the maximum insurance base, a significant change in the size of the tax wedge is observed, and in 2023 it sharply decreases. The difference between the size of the tax wedge in 2007 and 2023 for wages above BGN 4,000 increases from 6.04 p.p. for a wage of BGN 5,000 to 12.67 p.p. for a wage of BGN 10,000. This shows a significant reduction of the tax and insurance burden in 2023 compared to 2007 for the highest wage levels. Therefore, it can be concluded that the employees in the economic activity categories of "*Creating and disseminating information and creative products; Telecommunications*" and "*Manufacture of gas; distribution of gaseous fuels through mains*", where the average wage levels at the end of 2023 exceed the maximum insurance base, are burdened to a lesser extent compared to employees in other economic activities with lower average wage levels.

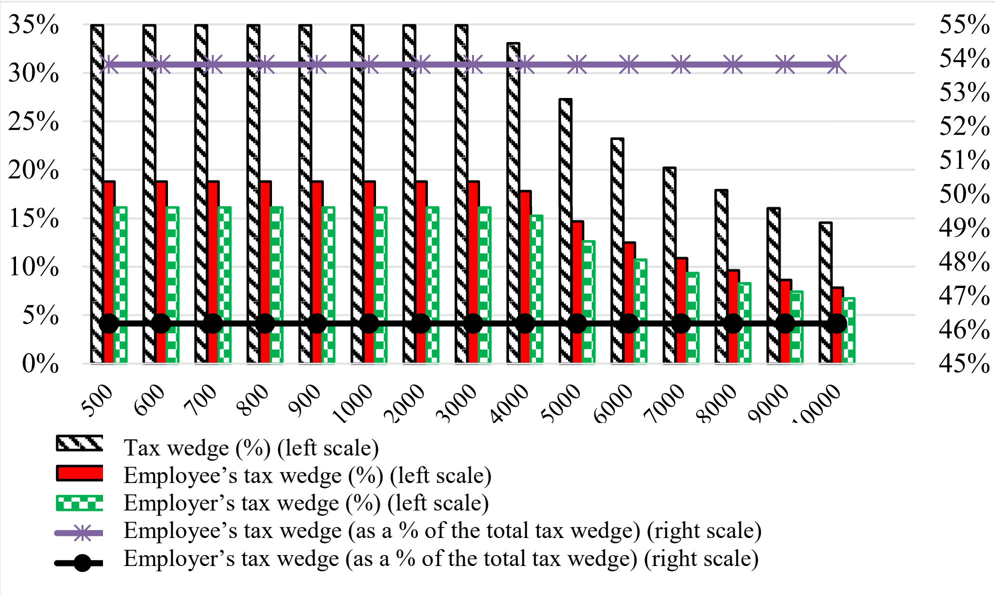


Figure 4. ***Tax and social insurance burden in 2023 (%)***
Source: Author's calculations

[7] Note that in 2007, the tax wedge was bigger than in 2023.

- Unlike 2007, when the relative shares of employer's and employee's tax wedge in the overall tax wedge varied, in 2023 they were constant for each of the economic agents across all wage levels. Thus, while in 2007, a much greater part of the burden was on the employee (and it was many times greater compared to the burden on the employer), in 2023 this difference was only a few percentage points.

The data reviewed so far are based on a hypothetical case with pre-determined wage levels to compare the tax and social insurance burden in the last year of a progressive tax in force and in 2023 as the last period with a complete set of observations. However, the focus only on these two years does not give a comprehensive picture of the dynamics in the tax and social insurance burden on labour in the years within the considered period and its distribution among the individual participants in the labour process. From a purely methodological point of view, most researchers studied the tax wedge on an average wage base or as a percentage (relative share) of the average wage. This is why the analysis in the present study also targets the tax and social insurance burden on the average wage in Bulgaria for the period from 2007 to 2023.

Table 1 shows that, after 2010, the size of the tax wedge increased, (for the period 2010 – 2023 this increase was about 2.4 p,p.) and it appears that the change in the tax burden is actually greater for employers than for employees.

Table 1

Trends in the tax and social insurance burden on labor incomes for the period 2007 – 2023

Year	Maximum social insurance base (BGN)	Average monthly wage (BGN)	Employee's burden (PIT + Social/health insurance contributions) (BGN)	Employee's average tax and social insurance rate (%)	Employer's average social/health insurance contributions (BGN)	Employer's average social/health insurance rate (%)	Employer's total labour costs (BGN)	Tax wedge (%)	Employee's tax wedge (%)	Employer's tax wedge (%)	Employee's tax wedge (as % of the total tax wedge)	Employer's tax wedge (as % of the total tax wedge)
2007	1400	431	91.59	21.25%	104.63	24.28%	535.63	36.63%	17.10%	19.53%	46.68%	53.32%
2008	2000	545	118.27	21.70%	112.82	20.70%	657.82	35.13%	17.98%	17.15%	51.18%	48.82%
2009	2000	609	132.15	21.70%	111.45	18.30%	720.45	33.81%	18.34%	15.47%	54.25%	45.75%
2010	2000	648	135.37	20.89%	111.46	17.20%	759.46	32.50%	17.82%	14.68%	54.84%	45.16%
2011	2000	686	148.24	21.61%	124.17	18.10%	810.17	33.62%	18.30%	15.33%	54.42%	45.58%
2012	2000	731	157.97	21.61%	132.31	18.10%	863.31	33.62%	18.30%	15.33%	54.42%	45.58%
2013	2200	775	167.48	21.61%	140.28	18.10%	915.28	33.62%	18.30%	15.33%	54.42%	45.58%
2014	2400	822	177.63	21.61%	148.78	18.10%	970.78	33.62%	18.30%	15.33%	54.42%	45.58%
2015	2600	878	189.74	21.61%	158.92	18.10%	1036.92	33.62%	18.30%	15.33%	54.42%	45.58%
2016	2600	948	204.86	21.61%	171.59	18.10%	1119.59	33.62%	18.30%	15.33%	54.42%	45.58%
2017	2600	1037	228.20	22.01%	193.50	18.66%	1230.50	34.27%	18.55%	15.73%	54.11%	45.89%
2018	2600	1146	256.73	22.40%	220.26	19.22%	1366.26	34.91%	18.79%	16.12%	53.82%	46.18%
2019	3000	1274	285.40	22.40%	244.86	19.22%	1518.86	34.91%	18.79%	16.12%	53.82%	46.18%
2020	3000	1387	310.72	22.40%	266.58	19.22%	1653.58	34.91%	18.79%	16.12%	53.82%	46.18%
2021	3000	1551	347.46	22.40%	298.10	19.22%	1849.10	34.91%	18.79%	16.12%	53.82%	46.18%
2022	3400	1761	394.50	22.40%	338.46	19.22%	2099.46	34.91%	18.79%	16.12%	53.82%	46.18%
2023	3400	1991	446.02	22.40%	382.67	19.22%	2373.67	34.91%	18.79%	16.12%	53.82%	46.18%

Note: the data on the average monthly wage were taken from the NII and NSI. The maximum insurance base for the first three months of 2022 was BGN 3,000 and from April to December 2022 – BGN 3,400.

Source: Author's calculations

Nevertheless, another important circumstance should not be disregarded and it is the fact that that if we consider the first years of the Global Financial Crisis, we shall observe an exactly opposite trend as the tax and social insurance burden on employers decreased in 2007 through 2009 by about 4 p.p. while employees' burden increased. The reduction of employers' social insurance burden in 2007 and 2008 is the actual cause for the lower tax and social insurance burden at the end of the analysed period (2023) compared to the years of reforms in Bulgaria's tax system and the transition from progressive to proportional income tax.

Comparative analysis of the tax and social insurance burden in the European Union member states

In recent years, the assessment of the burden on labour income has been one of the leading policy highlights of the European Union. We can still hardly say that there is a consensus on the harmonization of the applicable income taxes, the type of taxation, the applicable tax rates, reliefs, etc. across all EU member states. This is why there are significant differences in the way member states measure and track the burden on labour income. The European Commission evaluates annually employee's burden and the burden on households taking into account employee's family status and number of family members by means of various indicators including the already discussed tax wedge. The fiscal legislation in many EU member states provides for certain tax reliefs to reduce the tax burden on families and even greater reliefs for a certain number of children. This in certain cases can be seen not only as a financial incentive for taxpayers, but also as a social incentive to mitigate negative demographic trends.

According to the data published by the European Commission (EC) for 2023 (*Exhibit* 1), the highest tax and social insurance burden on labour income calculated using the tax wedge and assuming that the employee is unmarried and earns the average wage is reported for Belgium, where the tax wedge is 52.7%, followed by Germany (47.9%), Austria (47.2%), France (46.8%), Italy (45.1 %), etc. The average tax and social insurance burden across the EU for 2023 is around 40.2%, which is far higher than it levels in the USA (29.9%) and Japan (33%) and this can be considered a negative factor for the competitiveness of the European economies. Bulgaria is one of the 11 countries where the tax and social insurance burden on labour that is lower than the average EU level. In fact, Bulgaria ranks fourth among the member states with the lowest labour burden. The country with the lowest labour burden is Cyprus, with a tax wedge of 25.3%, which is mainly due to the low tax burden caused by the very large annual tax-exempt minimum wage (€19,500). Malta (31.8%), Poland (34.3%), Ireland (35.1%) and the Netherlands (35.1%) also have a low tax and insurance burden, but it is important to note that in 2023 these member states were among the countries with lower unemployment levels in the EU. Denmark is also a country that falls into the group of countries with a low tax and social insurance burden and although it has a highly progressive income tax,[8] the social insurance burden in the country is far lower than the average.

In most of the EU member states, the main part of the tax and social insurance burden is formed by the social insurance contributions at the expense of the employers. The situation in Bulgaria is quite similar. In some countries, such as Germany, the Netherlands, Hungary and Malta, the burden can tentatively be said to be distributed equally between the individual components of the tax and social insurance burden. In very few EU member states, i.e. in Denmark and Ireland, the burden is formed mostly by the income tax while in Croatia, Poland and Slovenia – by the social security contributions at the expense of employees. An interesting case is that of Lithuania, where until 2018 almost 60% of the tax wedge was formed at the expense of employers' social security contributions, but a reform both in the tax system and in the social security system replaced the proportional tax on labour with a progressive tax at a higher rate, and at the same time almost the entire social insurance burden was shifted from employers to employees. Thus, since 2019, only 4.6% of the tax wedge is formed by employer’s social security contributions.

If we compare the EC data for 2007 and 2023 regarding the tax-insurance burden on labour, we can see that the countries with a higher burden on labour income in 2023 have managed for the last 15 years (from 2007 to 2023[9]) to reduce this burden by several percentage points (Belgium -2.8 p.p., Germany -3.9 p.p., Austria -1.5 p.p. and France -2.9 p.p.). More significant changes of the burden on labour income are observed in Cyprus, although it is the country with the lowest tax and social insurance burden in 2023, compared to 2007 the burden increases by 13.4 p.p. (or more than 100%). The opposite trend is observed in Hungary, where the tax wedge decreases from 54.5% in 2007 to 41.2% in 2023, or by about 13.4 p.p. The main reason for this may seem

[8] Denmark is the only EU member state where the revenue from personal income tax forms more than 50% of the total tax revenue in the country (including social security contributions).

[9] The EC does not provide data for 2007 for Croatia, Romania and Bulgaria, as these are the last three countries to access the EU since 2007. Data for Romania is available from 2008 and shows a gradual decrease in the labour burden, and for Croatia data is available from 2013, when the country joined the EU, with a slightly higher labour burden in 2023 compared to 2013.

to be the reform of the tax system and the transition from progressive to proportional tax with a much lower marginal tax rate from 2011 and that from 2016 Hungary, along with Bulgaria, Romania and Estonia, have been the only EU member states that, as of the beginning of 2024, continue to apply proportional taxation of labour income. However, a deeper review of the country's tax policy shows that the tax and social insurance burden in Hungary is decreasing mainly at the expense of the burden formed by employer's social insurance contributions and this is a factor that increases the demand for labour in the country (not coincidentally its unemployment level has fallen dramatically over the last 10 years). The burden on labour for the considered period increased in Portugal (+4.9 p.p.), Luxembourg (+6.3 p.p.), Slovakia (+3 p.p.), Spain (+1.2 p.p. p.), Estonia (+0.3 p.p.), Ireland (+7.1 p.p.) and Malta (+5 p.p.).

The inclusion of regulatory tax reliefs in the analysis means that for some of the member states certain differences shall be observed, especially in the taxation of labour income. For example, in countries such as Luxembourg, Belgium, Germany, France, Ireland, Malta, Portugal, Slovakia, the Czech Republic, Denmark and Poland, the 2023 social security burden on labour income for single employees is at least 3.5 p.p. relative to the burden borne by the members of families in which at least one of the two spouses works and receives taxable income (Exhibit 2). In Luxembourg, this difference is over 10 p.p., which is due to the way in which married and non-married people are taxed in the country (separate "classes" of taxpayers). In about 1/3 of the EU member states, including Bulgaria, there is no difference in this burden, and the reason is that there are no tax reliefs related to employee's family status.

The analysis of the tax and social insurance burden can be supplemented by including the effects of the tax reliefs for employees with children (usually underage). In all EU member states, including in Bulgaria, legislation offers tax reliefs for workers with children, and usually the relief size depends on the number of children. Most often, analytical reports cover family employees with two children. While the 2023 EU average tax and social insurance burden for a single employee without children is 40.2%, the 2023 EU average tax and social insurance burden for a married employee without children (*where one family member receives an income, equal to the average wage in the country*) is 37.7%, the EU average burden of a married employee with two children (*where one of the family members receives an income equal to the average wage in the country*) is 29.1%. It is obvious that the burden in the last case is lower by more than 10 p.p. compared to the first and by about 8 to 9 p.p. compared to the second case.

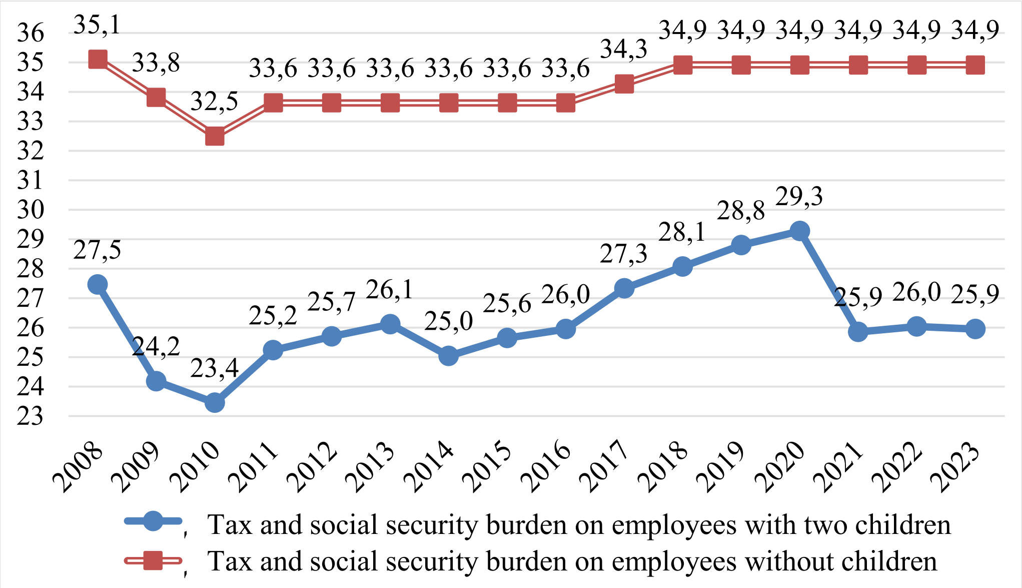


Figure 5. ***Tax and social security burden in Bulgaria according to the number of employee's underage children (%)***
Source: European Commission, Economic and Financial Affairs, Economic databases and indicators, Tax and benefits indicators

In Bulgaria, the burden does not depend on the family status, i.e. it is the same (34.9% in 2023) for single and married employees, but if the employee has two children, the burden can be reduced to 25.9%, or by 9 p.p. (Figure 5). This difference is present mostly in the last few budget years (from 2021 to 2023) given the additional reliefs provided for in the Law on the State Budget of the Republic of Bulgaria beyond those specified in the Personal Income Tax Act.

If we compare the burden on the labour income of employees with and without children by country within the EU (Exhibit 3), we shall see that, in 2023, the biggest difference is observed in Slovakia (-25.9 p.p.), followed by Luxembourg (-20 p.p.) and Poland (-18.5 p.p.). In fact, these are all three countries where an employee with two children bears the lowest tax and social insurance burden. Serious reliefs are also observed in the Czech Republic, Lithuania, Ireland, Austria, Germany and Belgium. Finland, France and Sweden are the three EU countries where employees with two children bear the highest labour burden, but also in these countries having children contributes to a reduction in the burden on labour income by between 3.7 and 7.8 p.p. On average over the period 2007–2023, the burden on workers with two children across the EU did not change much. There is rather a minimal decrease of around 1 p.p., with Lithuania, Poland, Hungary being among the countries with the most substantial reliefs related to the number of employee's children.

The cases discussed above cover a small part of the reliefs on the burden on labour income, but at the same time they form the basis of the theoretical and practical analyses of the effects of the applicable tax and social insurance systems. Undoubtedly, the number of reliefs that are allowed for certain taxpayers means that the tax on labour income does not fully meet the criterion for neutrality of taxation (Kalchev, 2011). The emphasis here is rather on taxation itself, and not so much on the social insurance burden, since it is taxation that shows a significant difference between the individual tax systems. Of course, the existence of a maximum social insurance base also gives rise to a discussion about the neutrality of the implemented insurance policy and the burdens on people with lower wages compared to those with higher wages. On the other hand, it should be borne in mind that such measures aim to achieve other (specific) goals set by the tax authorities, such as to increase the rate of collection of budget revenues (and thus reduce the share of the shadow economy), or to implement certain indirect (expenditure) policies through the tax system.

Conclusion

EU member states are to a certain degree heterogeneous with respect to their tax and social insurance policies regarding the burden on labour as a factor of production. This is due to differences in the priority (weight) of income taxes in their national tax systems on the one hand and to the chosen approach to taxation of labour income (including the type of taxation, the applicable marginal tax rates, the tax-exempt minimum base, etc.) on the other. The burden of social/health insurance contributions is also important. In most of the countries, employers bear quite a large part of the tax and social insurance burden, which can be seen as a negative aspect of employment seeking. In other countries, a highly progressive tax on labour income combined with additional social security contributions at the expense of employees can result in a deterrent to labour supply. The EU still lacks a common policy regarding the taxable unit (subject of taxation). The fiscal policy pursued in some countries is focused on the individual employee regardless of their family status, while in other countries single and married employees pay different tax rates. What is positive is an increasing number of EU member states are implementing measures to reduce the tax and social insurance burden (especially taxation) when the employee has a certain number of children. Bulgaria is one of the countries that, especially in the last few years, has focused a lot of attention on the reliefs for employees with children. The implemented measures literally change the type of taxation for some employees providing them with a significant relief on their income tax.

References

Alesina, A. and Peroti, R. (1996). Fiscal adjustments in OECD Countries: Composition And Macroeconomic Effects. *National Bureau Of Economic Research Working Paper 5730*, Massachusetts Avenue, Cambridge. https://www.nber.org/system/files/working_papers/w5730/w5730.pdf .

Aktaş, E. E. (2023). How Tax Wedge of Low and Upper-income Households Affects Income Distribution: Findings from OECD Countries. *Prague Economic Papers*, *32*(3), 246-272.

Angelov, A., Nikolova, V. (2021). The Impact of Tax Burden and Tax Structure on the Economic Growth of the Balkan Region. *Finance, Accounting and Business Analysis*, *3*(1), 31-40.

Catalano, M. and Pezzolla, E. (2015). The interaction between the labour tax wedge and structural reforms in Italy. *Revue de l'OFCE*, *141*, 185-223. https://doi.org/10.3917/reof.141.0185.

De Haan, J., Sturm, J. E., and Volkerink, B. (2003). How to Measure the Tax Burden on Labour at the Macro-level?. *CESifo Working Paper No. 963*.

Deskar-Škrbić, M., Drezgić, S., and Šimović, H. (2018). Tax policy and labour market in Croatia: effects of tax wedge on employment. *Economic research-Ekonomska istraživanja*, *31*(1), 1218-1227. DOI: 10.1080/1331677X.2018.1456359.

Dolenc, P., and Laporšek, S. (2010). Tax wedge on labour and its effect on employment growth in the European Union. *Prague Economic Papers*, *4*, 344-358.

European Commission, Economic and Financial Affairs, Economic databases and indicators, Tax and beneficits indicators. https://economy-finance.ec.europa.eu/economic-research-and-databases/economic-databases_en.

Gandullia, L., Iacobone, N., and Thomas, A. (2012). Modelling the tax burden on labour income in Brazil, China, India, Indonesia and South Africa. *OECD Taxation Working Papers No. 14*, OECD Publishing, Paris. http://dx.doi.org/10.1787/5k8x9b1sw437-en.

Giday, A., and Mádi, L. (2018). Tax Burden on Labour Income in the Visegrád Region. *Public Finance Quarterly, 63*(3), 376-401.

Heady, C. (2003). The Taxing Wages Approach to Measuring the Tax Burden on Labour. *CESifo Working Paper, No. 967*.

Jousten, A., Mansour, M., Suljagic, I. J., and Vellutini, C. 2022. Labor Taxation in the Western Balkan: Looking Back and Forward. *International Monetary Fund Working Paper WP/22/239*.

Melguizo, A., and González-Páramo, J. M. (2013). Who bears labour taxes and social contributions? A meta-analysis approach. *SERIEs*, *4*, 247-271. DOI 10.1007/s13209-012-0091-x.

Angelov, A. (2019). Sotsialnoto osiguryavane kato element na razhodnata politika na darzhavata. Kolektivna monografiya „Ikonomikata na Bulgaria i Evropeyskiya sayuz v digitalniya svyat“, UNWE PH, pp. 686-700 (in Bulgarian: Ангелов, А. (2019). Социалното осигуряване като елемент на разходната политика на държавата. *Колективна монография „Икономиката на България и Европейския съюз в дигиталния свят“*)

Brusarski, R. (2012). Danachno oblagane na trudoviya dohod v Bulgaria (1990–2008). Ikonomicheska misal, (4), 3-25 (in Bulgarian: Брусарски, Р. (2012). Данъчно облагане на трудовия доход в България (1990–2008 г.). *Икономическа мисъл*, (4), 3-25.)

Ganchev, G. (2005). Ploskite danatsi: Teoriya i praktika. Ikonomika i upravlenie, 1(3), 2-10 (in Bulgarian: Ганчев, Г. (2005). Плоските данъци: Теория и практика. *Икономика и управление*, *1*(3), 2-10.)

Galabov, N. (2000). Razshiryavane obhvata na oblagaemite dohodi s individualen podohoden danak i namalyavane na danachnata tezhest. Ikonomicheski izsledvaniya, (3), pp. 92-113 (in Bulgarian: Гълъбов, Н. (2000). Разширяване обхвата на облагаемите доходи с индивидуален подоходен данък и намаляване на данъчната тежест. *Икономически изследвания*, (3), 92-113.)

State Social Security Budget Act for 2007, enforced on 01 Jan. 2007, last amend. SG no. 77 of 25 Sept. 2007.

State Social Security Budget Act for 2023, enforced on 01 Jan. 2023. prom. SG no. 66 of 1 Aug. 2023.

National Health Insurance Budget Act for 2007, enforced on 01 Jan. 2007, last amend. SG no. 98 of 27 Nov. 2007

National Health Insurance Budget Act for 2023, enforced on 01 Jan. 2023, last amend. SG no. 13 of 13 Feb. 2024

Personal Income Tax Act, enforced on 01 Jan. 2007, last amend. and suppl. SG no. 106 of 22 Dec. 2023

Comprehensive Income Tax Act, prom. SG. no. 132 of 6 June 1950, rev. SG. no. 118 of 10 Dec. 1997

Law on Taxation of Personal Incomes, enforced on 1 Jan. 1998; rev. SG no. 95 of 24 Nov. 2006

Kalchev, E. (2011). Danachno oblagane na truda v Bulgaria. Panorama na truda: spisanie za trudovi i sotsialni otnosheniya, (6), pp. 43-56 (in Bulgarian: Калчев, Е. (2011). Данъчно облагане на труда в България. *Панорама на труда: списание за трудови и социални отношения,* (6), 43-56)

Ordinance on labour categorization upon Retirement, prom. by Decree of the Council of Minister No. 235 of 20 Oct. 1998, last amend. and supplem. SG no. 15 of 15 Feb. 2013

Penkova, D. (2022). Vliyanie na maksimalniya osiguritelen dohod varhu dohodnoto neravenstvo. Industrialni otnosheniya i obshtestveno razvitie, (1), pp. 15-39 (in Bulgarian: Пенкова, Д. (2022). Влияние на максималния осигурителен доход върху доходното неравенство. *Индустриални отношения и обществено развитие*, (1), 15-39.)

Popova, N. (2015). Izmeneniya v oblaganeto na trudovite dohodi v stranite ot Evropeyskiya sayuz prez perioda 1995-2014 g. Ikonomicheski izsledvaniya, (2), pp. 52-84 (in Bulgarian: Попова, Н. (2015). Изменения в облагането на трудовите доходи в страните от Европейския съюз през периода 1995-2014 г. *Икономически изследвания*, (2), 52-84.)

Stefanov, S. (2021). Need for Changes in the Tax Policy of Bulgaria. Yearly almanac "Scientific research of PhD Students", Vol. XIV, Book 17, Tsenov Academic Publishing House, p.p. 217-233

Angel G. Angelov, PhD is an Assistant Professor in the Department of Finance of the Faculty of Finance and Accounting of UNWE. **Scientific interests:** public finance, taxation, fiscal policy, social insurance

ORCID ID: 0000-0002-8578-3934

This work was financially supported by the UNWE Research Programme (Research Grant No.13/2024/A)

EXHIBIT 1

Tax and social insurance burden on the labour income of a single employee without children for the period 2007-2023

Member state	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Δ[2023-2007]
Belgium	55,6	55,9	55,7	55,9	56,1	56,0	55,7	55,6	55,3	53,9	53,8	52,7	52,3	52,2	52,4	53,0	52,7	-2,8
Germany	51,8	51,3	50,8	49,0	49,7	49,7	49,3	49,3	49,4	49,5	49,5	49,5	49,3	48,8	48,1	48,3	47,9	-3,9
Austria	48,8	49,0	47,9	48,2	48,5	48,8	49,2	49,4	49,6	47,3	47,4	47,6	47,9	47,5	47,8	46,9	47,2	-1,5
France	49,7	49,8	49,8	49,9	50,0	50,1	48,8	48,4	48,5	48,0	47,4	47,4	47,2	46,5	46,9	47,0	46,8	-2,9
Italy	46,4	46,6	46,8	47,2	47,6	47,7	47,8	47,8	47,8	47,8	47,7	47,7	47,9	46,9	45,4	45,0	45,1	-1,3
Finland	43,9	43,8	42,5	42,3	42,3	42,5	43,1	43,6	43,5	44,1	43,0	42,6	42,2	41,8	43,1	43,1	43,5	-0,3
Slovenia	43,3	42,9	42,2	42,5	42,6	42,5	42,4	42,5	42,6	42,7	42,9	43,2	43,5	43,1	43,5	42,9	43,3	0,0
Portugal	37,3	36,9	36,5	37,1	38,0	37,6	41,4	41,1	42,1	41,5	41,4	40,9	41,4	41,5	42,0	42,1	42,3	4,9
Sweden	45,3	44,8	43,2	42,8	42,8	42,9	43,0	42,5	42,6	42,8	42,9	43,0	42,6	42,7	42,5	42,4	42,1	-3,2
Slovakia	38,6	39,0	37,9	38,1	39,0	39,8	41,3	41,4	41,5	41,7	41,7	41,9	41,9	41,3	41,5	41,5	41,6	3,0
Luxembourg	35,0	34,7	34,9	35,3	37,3	37,1	38,2	38,6	39,5	39,6	37,8	38,2	38,5	39,5	39,8	39,9	41,3	6,3
Hungary	54,5	54,1	53,1	46,6	49,5	49,5	49,0	49,0	49,0	48,2	46,2	45,0	44,6	43,6	43,2	41,2	41,2	-13,4
Latvia	42,2	41,3	40,9	44,0	44,2	44,3	43,7	43,0	42,5	42,5	42,7	42,6	42,5	42,3	40,5	40,4	41,1	-1,2
Croatia							39,0	40,1	38,9	39,2	39,2	39,8	39,8	39,7	38,7	39,4	40,3	
Iceland	39,0	38,0	38,3	39,7	40,0	40,6	40,7	40,7	39,4	39,4	39,3	39,4	39,4	39,0	39,5	39,6	40,2	1,2
Czech Rep.	42,9	43,4	42,0	42,1	42,6	42,5	42,5	42,6	42,8	43,0	43,4	43,7	44,0	44,1	40,0	39,9	40,2	-2,7
EU-27	40,9	41,5	41,1	41,0	41,6	41,8	41,8	40,9	41,5	41,4	40,3	40,2	40,2	40,1	39,9	40,0	40,2	-0,7
Estonia	39,0	38,4	39,2	40,1	40,3	40,4	39,9	40,0	39,0	39,0	39,0	36,2	37,0	37,3	38,2	39,1	39,4	0,3
Lithuania	43,0	41,6	40,7	40,6	40,7	40,9	41,1	41,0	41,2	41,3	41,1	40,7	37,7	37,1	37,6	38,4	38,9	-4,1
Greece	42,0	41,4	41,2	40,0	42,9	42,8	41,1	40,2	38,8	40,0	40,2	40,4	40,4	38,9	37,4	38,0	38,5	-3,5
Romania		42,4	44,4	44,6	44,5	44,5	42,0	42,1	39,3	39,3	39,5	38,3	38,3	38,3	38,3	38,3	38,3	

Denmark	38,8	38,6	37,2	35,9	36,1	36,2	35,8	35,6	35,9	35,9	35,8	35,7	35,9	35,8	35,9	36,3	36,4	-2,4
Netherlands	38,7	39,2	38,0	38,1	38,0	38,6	40,6	39,0	37,0	37,2	37,4	37,8	36,9	36,1	35,0	35,8	35,1	-3,5
Ireland	28,1	28,2	29,8	30,9	32,6	33,0	33,9	34,0	33,2	32,7	32,6	32,9	34,8	35,2	35,9	35,6	35,1	7,1
Bulgaria		35,1	33,8	32,5	33,6	33,6	33,6	33,6	33,6	33,6	34,3	34,9	34,9	34,9	34,9	34,9	34,9	
Poland	38,2	34,7	34,1	34,2	34,3	35,5	35,6	35,7	35,7	35,6	35,7	35,8	35,6	34,9	34,9	33,8	34,3	-3,9
Malta	26,8	26,5	26,2	26,4	27,4	28,6	29,5	29,0	29,3	29,8	30,1	30,5	30,7	31,0	30,8	31,5	31,8	5,0
Cyprus	11,9							17,3			17,3	17,8	18,9	21,5	23,4	24,6	25,3	13,4

Source: European Commission, Economic and Financial Affairs, Economic databases and indicators, Tax and benefits indicators

EXHIBIT 2

Tax and social insurance burden on the labour income of a married employee (one working spouse in the family) without children for the period 2007-2023

Member state	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2023 [семеен работник – несемеен работник]
Austria	48,0	48,3	47,2	47,4	48,5	48,8	49,2	49,4	49,6	47,3	47,4	47,6	47,9	47,5	47,8	46,2	47,0	-0,2
Belgium	48,8	49,2	48,9	49,3	49,5	49,4	48,9	48,8	48,5	46,8	46,7	45,7	44,9	44,8	45,1	45,8	45,5	-7,2
Finland	43,9	43,8	42,5	42,3	42,3	42,5	43,1	43,6	43,5	44,1	43,0	42,6	42,2	41,8	43,1	43,1	43,5	0,0
Italy	44,4	44,7	44,9	45,3	45,8	45,9	46,1	46,1	46,1	46,1	46,0	46,0	46,2	45,3	43,8	43,3	43,5	-1,6
Sweden	45,3	44,8	43,2	42,8	42,8	42,9	43,0	42,5	42,6	42,8	42,9	43,0	42,6	42,7	42,5	42,4	42,1	0,0
France	46,9	46,8	47,1	47,2	47,3	47,5	44,8	44,1	43,6	43,0	42,4	42,4	42,1	41,9	42,1	42,2	42,0	-4,8
Germany	43,9	43,4	42,8	42,2	43,0	43,0	42,5	42,5	42,7	42,7	42,8	42,7	42,5	42,1	41,8	41,8	41,6	-6,2
Hungary	54,5	54,1	53,1	46,6	49,5	49,5	49,0	49,0	49,0	48,2	46,2	45,0	44,6	43,6	43,2	41,2	41,2	0,0
Latvia	42,2	41,3	40,9	44,0	44,2	44,3	43,7	43,0	42,5	42,5	42,7	42,6	42,5	42,3	40,5	40,4	41,1	0,0
Slovenia	40,2	39,7	39,1	39,4	39,5	39,3	39,2	39,3	39,4	39,6	39,9	40,3	40,7	40,6	41,1	40,5	41,1	-2,3
Greece	43,0	42,4	42,0	40,9	43,7	43,7	42,5	41,6	39,6	40,8	41,0	41,2	41,2	39,9	38,3	39,0	39,6	1,1
Lithuania	43,0	41,6	40,7	40,6	40,7	40,9	41,1	41,0	41,2	41,3	41,1	40,7	37,7	37,1	37,6	38,4	38,9	0,0
Portugal	32,7	32,5	32,2	32,6	32,7	33,0	35,1	35,0	37,0	37,1	37,1	37,4	37,8	37,9	38,3	38,8	38,8	-3,5
Romania		41,9	44,0	44,3	44,2	44,3	41,7	41,9	39,2	39,2	39,5	38,3	38,3	38,3	38,3	38,3	38,3	0,0
Estonia	36,2	35,7	36,3	37,3	37,7	38,0	37,6	37,8	36,9	36,8	36,9	34,1	35,1	35,4	36,4	37,5	37,9	-1,5
Spain	36,0	35,1	35,4	36,9	37,1	37,6	37,6	37,7	36,6	36,6	36,5	36,7	36,7	36,2	36,8	37,1	37,8	-2,4
Slovakia	32,9	33,6	31,4	31,8	33,6	34,4	36,0	36,3	36,5	36,8	37,0	37,4	37,5	36,9	37,3	37,5	37,7	-3,9
EU-27	37,9	38,4	38,1	38,0	38,7	38,9	38,8	38,0	38,5	38,4	37,5	37,4	37,5	37,4	37,3	37,4	37,7	-2,5
Croatia							35,0	36,2	34,9	35,1	33,8	34,6	34,8	34,8	34,8	35,9	37,1	-3,2
Czech Rep.	41,6	36,7	35,3	35,7	36,4	36,4	36,3	36,7	37,0	37,5	38,2	38,9	39,4	39,7	35,9	36,0	36,6	-3,6
Netherlands	34,3	34,8	34,2	34,6	34,9	35,7	38,1	36,6	34,8	35,4	35,8	36,4	35,8	35,3	34,4	35,5	35,1	0,0

Bulgaria		35,1	33,8	32,5	33,6	33,6	33,6	33,6	33,6	33,6	34,3	34,9	34,9	34,9	34,9	34,9	34,9	0,0
Denmark	33,6	33,4	32,8	31,4	31,7	31,8	31,5	31,3	31,6	31,6	31,5	28,7	29,1	29,1	29,3	32,6	32,8	-3,6
Poland	36,6	33,2	32,7	32,9	33,1	34,3	34,4	34,6	34,7	34,6	34,7	34,9	34,8	34,2	34,2	29,7	30,7	-3,6
Luxemburg	25,9	25,6	26,2	26,4	28,1	27,7	28,3	28,5	29,3	29,3	28,1	28,3	28,4	29,0	29,3	29,3	30,5	-10,8
Ireland	21,0	21,0	23,4	24,4	24,9	25,5	26,4	26,7	26,1	25,7	25,7	26,3	28,9	29,4	30,3	30,2	29,8	-5,4
Malta	23,0	22,4	22,0	22,0	22,5	23,3	24,0	23,9	24,3	24,4	24,8	25,4	26,0	26,4	25,8	27,0	27,4	-4,3
Cyprus	11,9							17,3			17,3	17,8	18,9	21,5	23,4	24,6	25,3	0,0

Source: European Commission, Economic and Financial Affairs, Economic databases and indicators, Tax and benefits indicators

EXHIBIT 3

Tax and social insurance burden on the labour income of a married employee (one working spouse in the family) with two children for the period 2007-2023

Member state	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	Δ[2023-2007]	2023 [single employee with 2 children]	2023 [married employee with 2 children]
Finland	38,2	38,4	37,2	37,0	37,2	37,3	38,1	38,6	38,9	39,6	38,5	38,2	37,9	37,6	39,1	38,9	39,8	1,7	-3,7	-3,7
France	42,5	42,5	42,7	42,9	43,0	43,1	41,1	40,5	40,5	40,0	39,4	39,3	38,6	37,5	39,0	39,2	39,1	-3,4	-7,8	-3,0
Sweden	39,4	39,2	37,7	37,2	37,4	37,6	37,9	37,4	37,7	38,0	38,2	37,7	37,3	37,4	37,4	37,5	37,4	-2,0	-4,7	-4,7
Belgium	40,3	40,6	40,4	41,2	41,4	41,3	40,7	40,6	40,3	38,5	38,4	37,4	36,6	36,4	36,5	37,6	37,3	-3,0	-15,4	-8,2
Greece	42,3	41,7	41,4	40,3	43,4	43,3	40,3	39,5	37,3	38,1	38,3	37,1	37,2	35,5	34,1	36,4	37,1	-5,2	-1,4	-2,5
Spain	32,9	32,0	32,4	34,0	34,3	34,7	34,8	34,9	33,7	33,7	33,7	33,9	34,0	33,4	34,2	34,6	35,5	2,6	-4,7	-2,3
Italy	35,7	36,6	36,9	37,8	38,5	38,8	38,4	38,5	38,6	38,6	38,4	38,6	39,0	37,3	35,8	33,4	33,2	-2,6	-11,9	-10,3
Germany	35,5	35,1	33,5	32,6	33,8	34,0	33,6	33,8	34,0	34,1	34,3	34,3	34,2	32,5	32,8	33,7	33,1	-2,4	-14,8	-8,6
Austria	37,7	38,2	36,0	36,4	37,3	37,9	38,6	38,9	39,2	36,8	37,0	37,3	33,7	32,2	34,1	30,5	32,8	-4,9	-14,4	-14,2
Portugal	27,7	26,3	25,4	26,3	27,3	27,9	30,2	29,8	30,7	28,2	28,8	29,3	30,1	30,3	31,1	31,9	32,3	4,6	-10,0	-6,5
Hungary	44,0	43,9	43,2	36,7	33,0	34,2	34,2	34,8	35,3	33,8	31,4	30,2	30,1	30,2	30,6	29,9	31,3	-12,8	-9,9	-9,9
Romania		37,9	37,0	37,7	38,4	40,6	35,8	36,5	28,7	29,7	35,1	34,3	34,7	32,3	30,3	30,3	31,1		-7,2	-7,2
Latvia	34,4	33,0	32,5	34,8	35,0	35,4	35,1	31,9	31,4	31,5	32,6	32,6	32,2	32,1	31,4	28,7	30,6	-3,8	-10,5	-10,5
Estonia	29,5	26,8	29,8	31,0	31,8	32,4	32,4	32,9	28,6	28,5	29,0	26,1	27,1	27,6	29,1	30,8	29,9	0,5	-9,4	-7,9
Slovenia	24,5	23,1	22,1	22,9	23,2	23,2	23,2	23,5	23,6	23,9	24,4	25,1	25,8	28,5	29,3	29,1	29,5	5,0	-13,8	-11,5
EU-27	30,2	30,9	30,3	30,4	31,3	31,8	31,5	30,8	31,0	30,2	29,6	29,5	29,5	29,0	29,0	29,1	29,1	-1,1	-11,1	-8,6
Netherlands	29,6	30,3	29,7	30,8	31,1	32,1	34,5	33,0	31,4	31,9	32,2	32,7	31,9	29,7	28,9	30,1	28,3	-1,2	-6,8	-6,8
Croatia							25,7	27,0	27,1	27,2	27,3	27,6	27,3	27,4	27,6	27,9	28,3		-12,0	-8,8
Denmark	27,2	27,0	26,4	24,9	25,3	25,5	25,1	24,9	25,3	25,2	25,2	22,6	23,0	23,1	23,5	27,0	27,2	0,0	-9,2	-5,6
Bulgaria		27,5	24,2	23,4	25,2	25,7	26,1	25,0	25,6	26,0	27,3	28,1	28,8	29,3	25,9	26,0	25,9		-9,0	-9,0

Lithuania	37,9	37,3	35,0	34,7	35,0	35,5	36,0	35,6	36,1	37,8	35,7	33,3	26,9	20,7	23,4	24,7	25,2	-12,7	-13,7	-13,7
Czech Rep.	21,3	20,8	20,7	21,2	26,8	26,2	26,1	26,7	26,8	25,2	25,9	25,5	26,7	27,2	22,1	22,9	23,5	2,2	-16,7	-13,1
Malta	17,8	16,7	16,6	17,3	19,1	20,2	20,2	19,9	20,4	20,6	21,2	21,9	22,7	23,3	21,0	21,9	21,9	4,1	-9,9	-5,5
Ireland	10,9	10,8	12,9	14,7	15,9	16,6	18,2	18,5	17,7	16,9	16,9	17,6	20,6	21,1	22,4	22,4	21,8	10,9	-13,3	-7,9
Cyprus	8,4							12,8			12,9	13,6	14,7	17,3	19,4	21,0	21,4	13,0	-3,9	-3,9
Luxemburg	10,9	11,2	12,4	12,9	15,1	15,1	16,0	16,5	17,5	17,7	16,6	17,1	17,4	18,6	19,0	19,5	21,4	10,4	-20,0	-9,2
Poland	32,4	28,4	28,4	28,4	28,4	29,6	29,9	30,3	30,6	14,4	10,8	15,1	17,4	15,1	15,3	13,0	15,8	-16,5	-18,5	-14,9
Slovakia	24,6	26,0	23,0	23,5	25,5	26,4	28,2	28,6	29,0	29,5	30,0	30,7	31,0	30,4	30,0	26,5	15,7	-8,9	-25,9	-22,0

Source: European Commission, Economic and Financial Affairs, Economic databases and indicators, Tax and benefits indicators

ISSN 0323-9004

Economic Archive

Svishtov, Year LXXVII, Issue 2 - 2024

D. A. TSENOV ACADEMY OF ECONOMICS
SVISHTOV

Народностопански архив година LXXVII книга 2 - 2024

Economic Archive Year LXXVII, Issue 2 - 2024

Editorial address:
2, Emanuil Chakarov street, Svishtov 5250
Prof. Andrey Zahariev, PhD – Editor-in-Chief
☎ (++359) 889 882 298
Rositsa Prodanova, PhD – technical secretary
☎ (++359) 631 66 309, e-mail: nsarhiv@uni-svishtov.bg
Blagovesta Borisova – computer graphic design
☎ (++359) 882 552 516, e-mail: b.borisova@uni-svishtov.bg

ECONOMIC ARCHIVE

YEAR LXXVII, BOOK 1 – 2024

CONTENTS