

ANNEX 2. Effective tax rates on labour and capital

Effective tax rates allow assessing the tax burden that falls on labour and capital and the comparison of the tax burden in different countries as well as its development. Statutory tax rates are not suitable for such comparison due to tax base differences, whereas effective tax rates make it possible to take into consideration not only the statutory tax rate, but also tax credits and the application of the non-taxable minimum. This Annex compares effective tax rates on labour and capital in Lithuania and the EU states and examines the main reasons that determine their differences.

There is no general agreement on how much labour and capital should be taxed and how the tax burden should be divided among them. Some theoretical models show that the optimum capital income tax rate is zero, i.e. that capital income should not be taxed (e.g. Chamley, 1986). In practice, the main argument for lower capital taxation is the fact that capital is more mobile and it is easier to avoid its taxation, therefore, more favourable rates are established for it with the aim of containing capital in the country (for example, the Scandinavian countries apply the dual income taxation system, i.e. progressive and higher taxation is applied to labour income and proportional and lower taxation is applied to capital income). A further argument is that countries compete to attract investment, whereas higher profit taxation could determine its outflow from the country and lower investment (Crivelli et al. 2015). Moreover, according to the data of the OECD research, the corporate income tax is the most harmful to economic growth (Brys et al. 2016), whereas the highest corporate income tax burden still falls on employees (Fuest et al. 2017). However, there are other arguments stating that effective labour and capital income tax rates should be similar, since lower capital income taxation creates income shifting possibilities for the self-employed and small enterprises, i.e. the choice is made to receive remuneration as dividends (i.e. as income from capital) instead of wages (Pirttilä, Selin 2011). Capital income is distributed less evenly than labour income and a faster income growth among those earning the largest income has been determined by capital income since 2000 (Piketty et al. 2016). Thus, higher capital income taxation would reduce income inequality (Farhi, Werning 2008). Lower tax burden falling on labour has a positive effect on labour market indicators, such as activity and unemployment rate. To add, various institutions usually recommend reducing labour taxation and increasing taxes that are less harmful to economic growth, such as real estate, environmental and other taxes, to stimulate economic growth (European Commission 2017b).

Effective tax rate on labour indicates the average tax burden that falls on employees, whereas the effective capital tax rate shows the average tax burden falling on enterprises, the self-employed and households (capital income, property, etc.). The first rate (referred to as labour tax rate in this Annex) is calculated by dividing the personal income tax (PIT) and social security contributions (SSC) paid by employees or for them by the respective tax base – the wage fund, by including employment expenses incurred by the employer (this corresponds to the total labour costs). Capital taxes cover taxation of dividends, wealth, profit, capital gains, interest and similar taxation. Effective capital tax rates may be calculated at the macro-level, i.e. by including the whole economy, using the tax revenue and national accounts data, or at the micro-level, using corporate statistics and financial statements. They may also be calculated as theoretical effective rates (Gorter, de Mooij 2001). The first method will be used for the calculation of effective capital tax rates in this Annex. Definitions of effective tax rates are provided in Table A.

Table A. Definitions of effective tax rates

	Tax revenue [1]	Tax base [2]
Effective tax rate on labour [1] / [2]	D.51A + D.51C1 (PIT paid by employees) + D.29C (wage bill and payroll taxes) + D.611C (compulsory employers' actual SSC) + D.613CE (compulsory employees' actual SSC)	GRS_A1_100 (AW) * lfsa_emppaid (number of employees) + D.29C (wage bill and payroll taxes) + D.611C (compulsory employers' actual SSC)*
Effective tax rate on capital [1] / [2]	D.51A + D.51C1 (share of PIT received from capital income and income of self-employed) + D.51B + D.51C2 (corporate income tax including holding gains) + D.51D (taxes on winnings from lottery and gambling) + D.51E (other taxes on income n.e.c.) + D.613CS (compulsory actual SSC by self-employed) + D.214B (stamp taxes) + D.214C (taxes on financial and capital transactions) + D.29A (taxes on land, buildings or other structures) + D.29B (taxes on the use of fixed assets) + D.29E (business and professional licences) + D.29H (other taxes on production n.e.c.) + D.59A (current taxes on capital) + D.59F (other current taxes on capital n.e.c.) + D.91 (capital taxes)	B.2n_S.11–12 (net operating surplus of corporations) + B.2n_S.14–15 + B.3n_S.14 (net operating surplus and mixed income of households and non-profit institutions serving households) + D.41_S.11–12rec (interest received by corporations) – D.41_S.11–12pay (interest paid by corporations) + D.44_S.11–12rec (insurance property income attributed to policy holders received by corporations) – D.44_S.11–12pay (insurance property income attributed to policy holders paid by corporations) + D.45_S.11–12rec (rents received by corporations) – D.45_S.11–12pay (rents paid by corporations) + D.42_S.11–12rec (dividends received by corporations) – D.42_S.11–12pay (dividends paid by corporations) + D.42_S.13rec (dividends received by general government) + D.42_S.2rec (dividends received by rest of the world) + D.41_S.14–S15rec (interest received by households and non-profit institutions serving households) – D.41_S.14–S15pay (interest paid by households and non-profit institutions serving households) + D.45_S.14–S15rec (rents received by households and non-profit institutions serving households) – D.45_S.14–S15pay (rents paid by households and non-profit institutions serving households) + D.42_S.14–15rec (dividends received by households and non-profit institutions serving households) + D.44_S.14–15rec (insurance property income attributed to policyholders received by households and non-profit institutions serving households)
Effective corporate income tax rate [1] / [2]	D.51b + D.51c2 (corporate income tax including holding gains)	B.2n_S.11–12 (net operating surplus of corporations) + D.41_S.11–12rec (interest received by corporations) – D.41_S.11–12pay (interest paid by corporations) + D.45_S.11–12rec (rents received by corporations) – D.45_S.11–12pay (rents paid by corporations) + D.42_S.11–12rec (dividends received by corporations) – D.42_S.11–12pay (dividends paid by corporations) + D.42_S.13rec (dividends received by general government) + D.42_S.2rec (dividends received by rest of the world) + D.42_S.14–15rec (dividends received by households and non-profit institutions serving households) + D.44_S.11–12rec (insurance property income attributed to policy holders received by corporations) – D.44_S.11–12pay (insurance property income attributed to policy holders paid by corporations)

Table A. Definitions of effective tax rates

	Tax revenue [1]	Tax base [2]
Effective tax rate on capital and business income of households [1] / [2]	D.51A + D.51C1 (share of PIT received from capital income and income of self-employed) + D.51D (taxes on winnings from lottery or gambling) + D.51E (other taxes on income n.e.c.) + D.613CS (compulsory actual SSC of self-employed)	B.2n_S.14–15 + B.3n_S.14 (net operating surplus and mixed income of households and non-profit institutions serving households) + D.41_S.14–S15rec (interest received by households and non-profit institutions serving households) – D.41_S.14–S15pay (interest paid by households and non-profit institutions serving households) + D.45_S.14–S15rec (rents received by households and non-profit institutions serving households) – D.45_S.14–S15pay (rents paid by households and non-profit institutions serving households) + D.42_S.14–15rec (dividends received by households and non-profit institutions serving households) + D.44_S.14–15rec (insurance property income attributed to policyholders received by households and non-profit institutions serving households)

Sources: European Commission (2017a).

Note: Markings beside indicator names correspond to markings in national accounts and government finance statistics.

* In other sources (e.g. Mendoza et al. 1994; European Commission 2017a), the data from national accounts on compensation of employees are used as an equivalent of wage fund. A decision was made not to use such data in this publication, since each country includes different shadow economy estimates in national accounts. Therefore, effective tax rates of countries with larger shadow economies would be lower (shadow economy is not included in tax revenue, however, it would be included in the tax base and would artificially increase it).

The average taxation of employees in Lithuania is close to the EU average – the effective labour tax rate stands at 38.6%. This rate may be divided into the effective PIT rate and the effective SSC rate. Such division shows that the effective PIT rate in Lithuania is lower than the EU average, whereas the SSC rate is significantly higher (see Chart A). Effective tax rates are slightly lower in Latvia and Estonia than in Lithuania. Nevertheless, the effective tax rate, which shows the average tax burden, does not allow to assess progressiveness of the tax system, differences in the tax burden falling on a person and a family, etc. Such differences may be assessed by using the tax wedge, which is calculated not from macroeconomic data, but at the level of an individual household, taking into account the legislation of each country. The numerator of the tax wedge is the PIT paid by the person, SSC paid by the employer and the employee and other wage bill and payroll taxes after subtracting cash benefits paid to families, whereas its denominator is the labour costs. The tax burden of a person receiving the average wage (AW) who does not have children in Lithuania, after taking into consideration the latest data and the legislative amendments made in 2018, is close to the EU average, but slightly lower¹¹. The tax wedge stands at around 40% in Lithuania and around 42% in the EU on average. If we compared the tax wedge of a household consisting of one person, it would become evident that both the tax wedge of a person earning less than the AW and that of a person earning more than the AW is lower than the EU average, however, a larger gap is observed among higher earners. This is underpinned by relatively low progressiveness: a single 15% PIT rate is applied in Lithuania, whereas there are no progressive tax rates applicable to higher earners (progressiveness generated by the size of non-taxable minimum is not high as well). When calculating the tax wedge of persons with children, i.e. by including not only taxes paid, but also benefits paid to families, it is shown that the tax wedge is higher than the EU average in all cases indicated in Chart B. The largest difference, compared to the EU, is observed among persons with lowest wages raising two children: the tax wedge of a person earning 67% of the AW and raising two children in Lithuania is around 5 percentage points higher than the EU average. As family income increases, the tax wedge increases and becomes closer to the EU average. When comparing the tax wedge with the OECD countries' average instead of the EU average, it becomes evident that Lithuania has higher taxation than the OECD average in all cases demonstrated in Chart B. However, the tax wedge calculation does not include transfers by employers and employees to private pension funds. In some countries, these transfers are quite significant (e.g. in the US and the UK).

Chart A. Effective tax rate on labour in the EU states in 2015

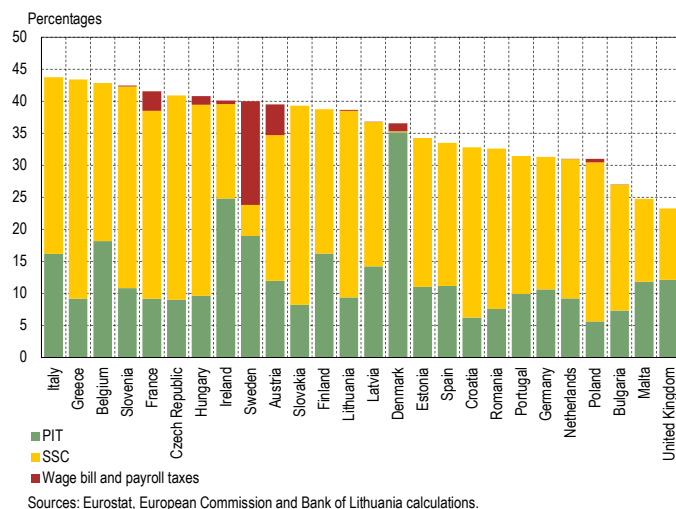
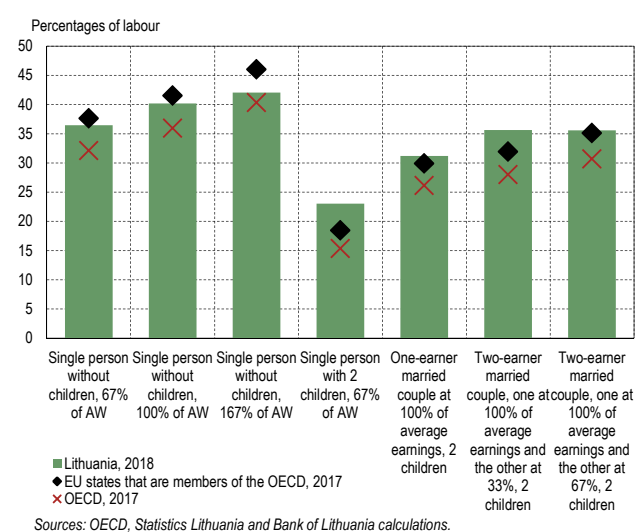


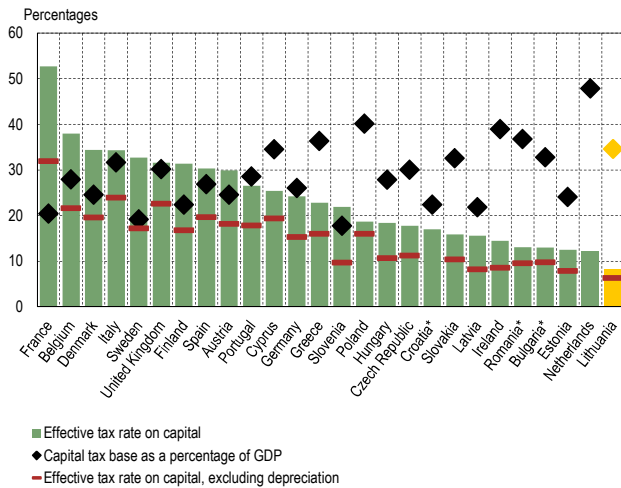
Chart B. Tax wedge by household composition



¹¹ Here the EU average corresponds to the average of EU states belonging to the OECD. This indicator is used because the latest data published by the Eurostat are from 2015, whereas the OECD data are from 2017.

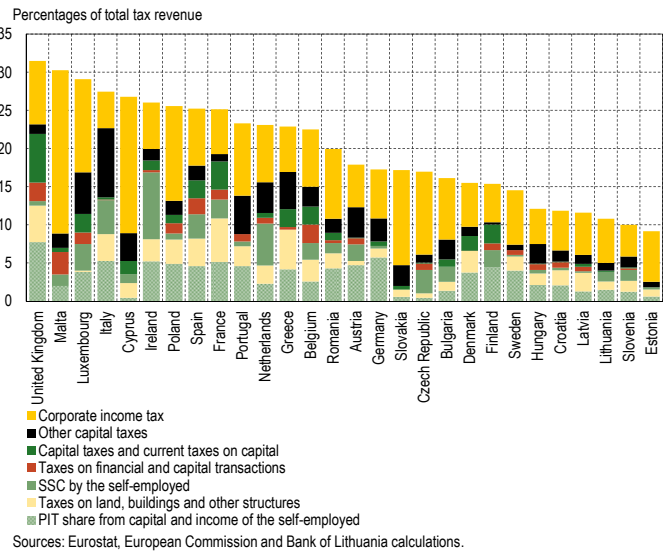
The average effective tax rate on capital in Lithuania is the lowest in the EU – it stood at 8.3% in 2015.¹² The corresponding rates of other Baltic countries, Latvia and Estonia, were slightly higher and stood at 15.6% and 12.5% respectively. Although the effective capital tax rate in Lithuania is not high, the capital base (as a percentage of GDP) is one of the larger in the EU (see Chart C). Low tax revenues, compared to the tax base, may indicate that the rates in Lithuania are lower than in other EU states, since many exemptions or reliefs are applied, tax compliance is not ensured, etc. Tax revenues from capital in Lithuania comprises around 11% of total tax revenue. According to this indicator, Lithuania is the third from last in the EU (see Chart D). In Lithuania, as in most other EU states, the largest part of capital taxes consist of tax revenues from the corporate income tax, however, a comparatively small part consists of tax revenue from the PIT, which is collected from capital income and income received by the self-employed, taxes on land and buildings as well as various other taxes on capital.

Chart C. Effective tax rate on capital in the EU states in 2015



Sources: European Commission, Eurostat and Bank of Lithuania calculations.
* Data for 2014.

Chart D. Capital tax revenue structure in the EU states in 2015



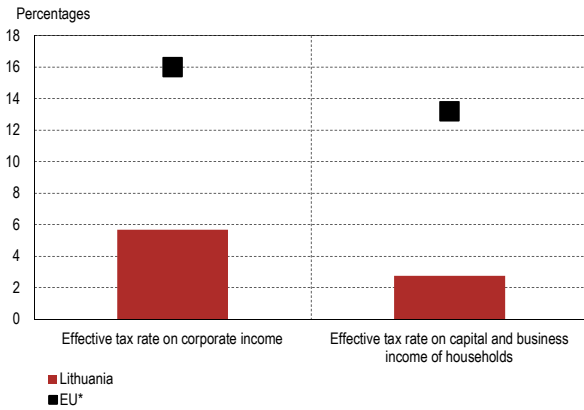
Sources: Eurostat, European Commission and Bank of Lithuania calculations.

Particularly low overall capital tax burden in Lithuania is determined by both relatively low effective corporate income tax rate and low effective tax rate on capital and business income of households (this category also includes income of the self-employed). The effective corporate income tax rate in Lithuania stands at around 6% (see Chart E). Lower than the EU average rate is determined by the low statutory corporate income tax rate and the application of various preferential rates and exemptions. The statutory corporate income tax rate in Lithuania stands at 15% and is the fifth lowest in the EU (see Chart F). Moreover, Lithuania applied the preferential rate of 5% to small enterprises (with up to 10 employees and the annual turnover of up to €300 thousand) as well as various reliefs (for example, to those engaged in scientific research, experimental development, investment projects, for cinema, etc.). Since 2015 (effective rates are calculated for this year) the corporate income tax law was amended: some previous reliefs were abandoned, for example, for sea port and air navigation services fees, social enterprises, etc. However, new reliefs were introduced, for example, for newly registered entities, investment incentive was expanded, etc.¹³ Although the application of preferential rates and exemptions is also characteristic of other countries, higher standard corporate income tax rates are usually applied there. Moreover, only a small number of countries apply a preferential rate to enterprises according to an enterprise's size. It is considered inexpedient, since it reduces incentives for enterprises to grow, contributes to market distortions, expands tax arbitrage possibilities, etc. Still, when the taxable profit is calculated from the national accounts data, the calculated effective rates may be not fully accurate, since each country includes different shadow economy estimates in the national accounts. The effective corporate income tax rate in Lithuania calculated from the statistical data of enterprises is slightly higher – it made up around 10.5% in 2016.

¹² Effective capital tax rates are usually calculated by including net operating surplus in the tax base, i.e. by subtracting depreciation, which corresponds to consumption of fixed capital in national accounts. Nevertheless, this indicator is highly different from depreciation calculated in enterprises. Thus, gross operating surplus may also be included in the tax base, i.e. without subtracting depreciation. The Lithuanian effective capital tax rate calculated in this way would comprise 6.4%.

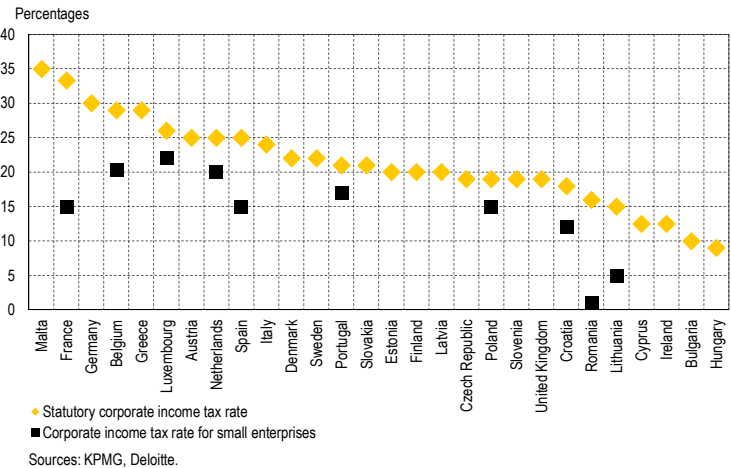
¹³ For details on amendments, see http://www.vmi.lt/cms/web/kmdb/1.13.0/-/asset_publisher/OtufxF8GISPM/content/pelno-mokescio-istatymo-pakeitimai-nuo-2018-metu/10174.

Chart E. Effective corporate and household tax rates



Sources: European Commission, Eurostat, Statistics Lithuania and Bank of Lithuania calculations.
* Non-weighted average.

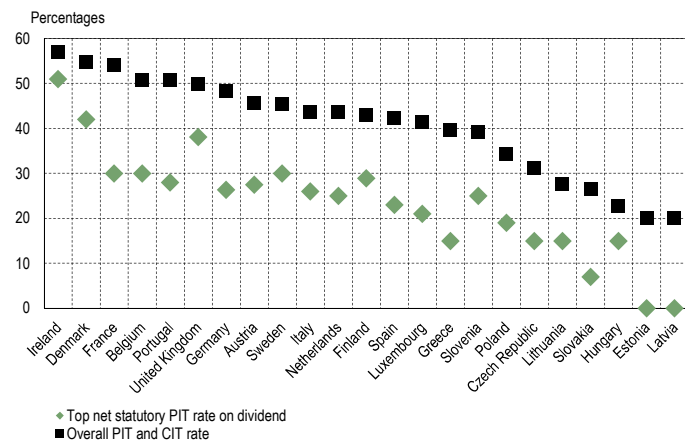
Chart F. Corporate income tax rates in the EU states in 2018



Sources: KPMG, Deloitte.

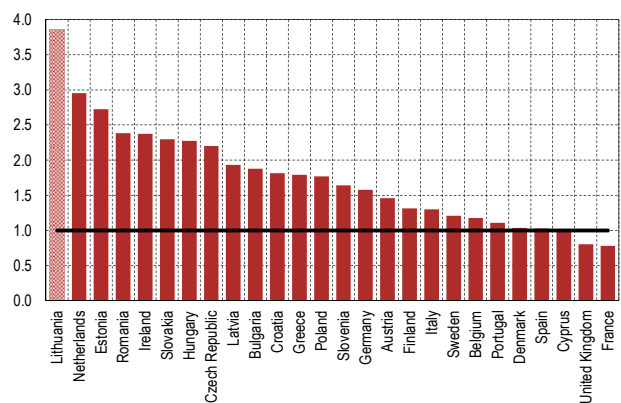
According to the data of 2015, the effective tax rate on capital and business income of households stood at around 2.8% and was also lower than the EU average. This effective rate includes both income of the self-employed and household property income. Both these factors determine the low overall rate. The procedure of taxation of self-employed persons changed in Lithuania since 2015, however, their taxation remains lower than that of persons with employment contracts. This is determined by the fact that self-employed persons are not insured by all types of social insurance: the SSC base is comprised of 50% of taxable income or the minimum wage and the SSC ceiling is applied, contrary to persons with employment contracts. Moreover, some types of self-employed persons (owners of sole proprietorships, members of small partnerships) are not obliged to receive income related to labour relations, so they can avoid paying the SSC. Tax credit is applied to persons engaged in individual activities¹⁴ (the application was started in 2018; in 2015, the PIT rates of 5% and 15% were applied to them, depending on the type of activity). Due to such system the effective tax rate of persons earning very low income is higher than that of persons with employment contracts, however, progressiveness is significantly lower: the effective PIT rate of persons with employment contracts is 15% when earning around 1.3 AW, whereas that of the persons engaged in individual activities – when earning from 3.3 AW (i.e. if their taxable income corresponds to 3.3 AW). On the other hand, the taxation of self-employed persons is lower than that of employees in other EU states as well and the difference may amount to more than ten times. The lower taxation of household income from capital than in other EU states is also determined by a lower PIT rate. For example, the 15% PIT rate is applied to income from dividends in Lithuania. When the corporate income tax paid is included as well, the rate comprises 27.8% (or 19.3%, if the enterprise is small). This is one of the lowest rates in the EU (see Chart G). The PIT paid is also determined by the application of the non-taxable minimum to income from securities (it comprised €3,000 in 2015 and declined to €500 in 2016) and the possibility to reduce the tax liability for certain income (life assurance, contributions to third pillar pension funds).

Chart G. The highest standard PIT rate on dividends, taking into account the corporate income tax paid



Sources: OECD and Bank of Lithuania calculations.

Chart H. Ratio of effective labour and capital tax rates



Sources: European Commission, Eurostat and Bank of Lithuania calculations.

Note: Here effective tax rates on capital and labour are calculated on the basis of the national accounts data.

¹⁴ The concept of self-employed persons is broader – it covers both persons engaged in individual activities and owners of sole proprietorships, members of partnerships and small partnerships. The concepts are separated, since the PIT payment procedure applied to owners of sole proprietorships and members of partnerships and small partnerships is the same as that applied to employees (if income is attributed to income related to labour relations), whereas tax credit is applied to persons engaged in individual activities.

In almost all EU states, the effective tax rate on capital is lower than the tax rate on income from employment, however, in Lithuania this gap is the largest in the EU (see Chart H). In 2015, the effective capital tax rate in Lithuania was 3.9 times lower than that of labour income. Moreover, Lithuania is one of the small number of countries, where this gap had been increasing (at least until 2015). Although, as previously mentioned, there is no common opinion regarding the equal taxation of capital and labour, still such a large imbalance is not characteristic of most other EU states. Better alignment of labour and capital tax burden would help solving some current shortcomings of the tax system. If taxation differences encourage the income shifting to a less taxed base (i.e. from labour to capital) in turn creating possibilities for the tax arbitrage, they would be eliminated if effective capital and labour income tax rates were more aligned. This would also help strengthen horizontal and vertical equity (Brys et al. 2016).

The analysis of effective labour and capital tax rates shows that the tax burden on labour in Lithuania, compared to other EU states, is average, whereas the tax burden on capital is the lowest in the EU. Although the effective labour tax rate shows that Lithuania is not distinguished from other EU states by excessively high or low taxation, attention should be paid to the fact that the average effective rate does not take into account the person's family situation or household composition. If not only taxes paid, but also benefits to families were included in the calculations, the average tax burden falling on employees in Lithuania would become higher than the EU average. Furthermore, the effective capital tax rate is the lowest in the EU. It is low both due to the effective corporate income tax rate, which is lower than the EU average and due to lower than average effective tax rates on capital and business income of households. The effective capital tax rate is around four times lower than the effective labour tax rate and this difference is the highest in the EU.

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