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Áron Kiss, Alexander Leodolter,
Alessandro Turrini and István Ványolós

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European Commission

Directorate-General for Economic and Financial Affairs

Growth-Friendly Taxation in a High-Inflation Environment

By Áron Kiss, Alexander Leodolter, Alessandro Turrini and István Ványolós

Abstract

Recent EU country-specific recommendations to make taxation more growth-friendly have advocated a stronger use of recurrent taxes on immovable property and a shift of the tax burden from labour income, including a reduction of the labour tax burden of low-income taxpayers. This Economic Brief focuses on challenges related to these two types of tax reforms during periods of high inflation. The challenges linked to immovable property taxation include the update of the property values as well as issues relating to liquidity problems for households with property but relatively low income. Regarding reforms aimed at reducing the labour tax burden on low-income taxpayers, their impact may be challenged by the so-called bracket creep (or fiscal drag) phenomenon, i.e., the shift of taxpayers into higher tax brackets due to an increase of nominal incomes. The present paper highlights the relevance of these issues on the basis of recent empirical evidence and discusses current practices and possible solutions.

JEL Classification: D1, H2, H21, H24, H3, H31.

Keywords: Tax, taxation, tax policy, inflation, immovable property, housing, property value, cadastral value, property valuation, asset-rich cash-poor, liquidity, personal income tax, bracket creep, fiscal drag, indexation.

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Contact: Alexander Leodolter, alexander.leodolter@ec.europa.eu, European Commission, Directorate-General for Economic and Financial Affairs, Unit B.2 - Economics of Structural Reforms and Investment.

INTRODUCTION[1]

European Commission's country-specific recommendations (CSRs) to Member States in the taxation domain have focused on promoting growth-friendly taxation systems. Recent recommendations have included, among other things, raising more revenue from recurrent property taxation and lowering the labour tax burden especially on low-income taxpayers. Recent country-specific recommendations in the domain of tax policy are reviewed in Box 1.[2] In addition to promoting growth-friendly taxation, CSRs have also pursued the objective of fostering the green transition, helping to cushion the economic impact of COVID-19 on vulnerable groups and sustaining the economic recovery, and addressing the impact of high energy prices on vulnerable households and corporations.

BOX 1: GROWTH-FRIENDLY TAXATION IN EU SURVEILLANCE

Issues related to the efficiency and revenue generated by labour and property taxation have been subjects to country-specific recommendations (CSRs) in recent years. In 2023, a number of countries (Belgium, Germany, Italy, Latvia, Austria, Slovenia, Slovakia) received CSRs that called for a reduction of labour taxes, an improved tax mix or a broadening of taxation. Recommendations also related to tax expenditures (Belgium, Italy) and the taxation of the self-employed (Greece). In the area of housing taxation, recommendations aimed to increase the weight of property taxation in the tax mix (Latvia, Slovakia), to implement the reform of a property tax system (Denmark), to align the property values to current market values (Italy) and to address risks related to household indebtedness and housing market imbalances (The Netherlands, Sweden). Also, some Member States received CSRs related to mortgage interest tax relief (Luxembourg, the Netherlands, Sweden). Other taxation-related CSRs aimed at simplifying the tax system (Belgium, Greece, Italy, Portugal), a stronger use of environmental taxation (Estonia, Slovenia, Slovakia) or capital taxation (Latvia), reforms of tax administration (Greece, Portugal, Slovakia), and measures to address aggressive tax planning (Luxembourg, Malta).

The EU's response to the pandemic, the Recovery and Resilience Facility (RRF), includes a number of key reforms in the area of taxation. These are meant to support the economic recovery, enhance fairness, and pave the road towards the green and digital transitions. The reforms also aim at improving tax compliance and administration, simplifying tax legislation which will also contribute to a better absorption of the funds. Several Member States have included measures to address aggressive tax planning. As of February 2024 (based on 27 Member State plans), there are 84 measures tagged as tax measures.

Regarding recent tax reforms enacted in Member States:

- A number of reforms were aimed at addressing the immediate challenges related to the pandemic and the energy crisis. These reforms primarily focused on reducing or postponing the tax burden on businesses and households affected by lockdowns and the resulting decline in economic activity. Measures included (temporary) reductions in corporate and personal income taxes, reduced VAT, deferrals and waivers of social security contributions, as well as digitalising tax administration.

- A second wave of tax measures were in response to higher commodity prices across the board but in particular of energy products. Almost all Member States adopted tax measures aiming to reduce the price of energy by lowering excise taxes, as well as relevant VAT rates.

[1] This Economic Brief is based on an analytical note presented at the Tax Dialogue at the 587th meeting of the Economic Policy Committee on 27 April 2023.

[2] As part of the European Semester, the European Union's framework for the coordination and surveillance of economic and social policies, the European Commission every year presents proposals for country-specific recommendations (CSRs) to Member States which are subsequently adopted by the Council. The CSRs aim to provide guidance on how to address key economic and social challenges that are not or only partially covered in Recovery and Resilience Plans.

Inflation affects the outcome of tax policies in multiple ways, with implications for both efficiency and distribution. The real value of so-called specific taxes (i.e. those defined as nominal amounts per unit) is eroded if they are not adjusted. At the same time, the personal income tax burden tends to rise when tax rates are set in a progressive fashion, as nominal incomes grow (the so-called bracket creep or fiscal drag). Also, since high-inflation periods generally correspond to periods with relevant changes in relative prices of goods and production factors, inflation affects taxation by altering the relative value of tax bases. Moreover, if the value of tax bases used by tax authorities is not adapted on a regular basis, high-inflation periods may correspond to periods of sudden and large swings in the tax burden. All in all, inflation affects taxation outcomes in multiple ways, partly because it affects relative incomes and partly because it affects the tax burden when tax parameters are not adapted to price level changes automatically or at sufficient frequency. Such effects may be only temporary (e.g., when they can be offset by an adaptation of tax parameters) or could be persistent, affecting both incentives and the distribution of real income net of taxes.

Reforms aimed at making the tax system growth-friendly may become more challenging in a high-inflation environment. In some cases, challenges may be associated with an increased resistance to growth-friendly taxation reforms. This happens whenever growth-friendly reforms would shift the tax burden to tax bases whose relative value is set to rise during high-inflation periods or to taxpayers with liquidity issues. At the same time, high inflation may also make growth-friendly tax reforms more challenging by offsetting some of their desirable effects, therefore requiring more decisive revisions in tax parameters.[3]

The present Economic Brief focuses on issues relating to recurrent taxation of immovable property and labour taxation during periods of high inflation.

- For what concerns the taxation of immovable property, two issues are discussed: tax base updates and difficulties of households with liquidity constraints to pay recurrent property taxes in the presence of large swings in property values.[4] The issue of tax base updates becomes more severe in times of high inflation, because updates may need to become more frequent exactly at times where those updates imply large tax payments. This implies strong resistance to reforms. The second issue discussed arises because complying with property taxation can become more difficult for taxpayers at times of high inflation, if savings and real incomes fall or do not keep up with the increase of the property tax base. This could lead to stronger resistance to tax reforms aimed at shifting the tax burden to immovable property.

- For what concerns labour taxation, the issue discussed is bracket creep. Bracket creep (also known as fiscal drag) appears in progressive labour taxation systems. It occurs when growth of taxpayers' nominal income moves them into higher tax brackets despite no corresponding growth in real incomes. Hence, by increasing the tax burden of households with relatively low incomes, bracket creep offsets part of the desired effects of tax reforms aimed at reducing the tax burden on labour for low-income workers, namely to increase work incentives and support inclusive growth.

Other issues arising in the context of high inflation are outside the scope of this Economic Brief.[5]

The Economic Brief discusses challenges and possible solutions. Both for the case of property taxation and for the one of progressive labour taxation the issues arising with high inflation are discussed on the basis of recent empirical evidence highlighting their potential relevance. For each case, possible solutions and best practices are discussed with reference to concrete country cases and recent experiences.

[3] Tax policies are usually considered to be growth-friendly if they rely on taxes which are less distortive of economic activity and are supportive of employment and investment. Theoretically, taxes levied on economic rents (e.g. on the benefits from owning land) are least distortive of economic activity. [4] The Economic Brief focuses on the taxation of residential property. The taxation of commercial buildings differs from the taxation of residential property, as commercial buildings are intermediate production inputs.

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[5] Notably, issues arising for corporate taxation or the taxation of capital other than immovable property. For a survey of the effects of inflation on tax systems with a focus on corporate and capital taxation see Beer et al. (2023).

UPDATING TAX BASES FOR IMMOVABLE PROPERTY TAX

Tax bases for recurrent property taxes on residential property are commonly determined on the basis of the capital value of property.[6] Such valuation principle is consistent with economic theory, which suggests that the valuation of property should be based on its capital value rather than taxes based on area-based values.[7] Such valuation would better reflect the economic value of property and its changes over time, and would promote equal treatment of taxpayers. Moreover, it is more easily available than alternative valuation methods such as the rental value. The capital value of the property contributes to the determination of property income in systems where this is the tax base for recurrent property taxation.

In the EU, the capital value is used as a tax base for recurrent property taxation in 19 Member States (Bulgaria, Denmark, Estonia, Ireland, Greece, Spain, France, Latvia, Lithuania, Luxembourg, Hungary, The Netherlands, Austria, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden). Five of these Member States however also use other tax bases in their recurrent property tax system: Four Member States (Greece, Romania, Slovenia, Slovakia) use both the capital value and the area as tax bases, and one Member State (France) uses the capital value and the rental value. Finally, one Member State (Hungary) leaves it open to municipalities to choose either a value- or an area-based tax.[8] Three Member States (Belgium, Germany and Italy) use the annual rental value of the property as the only tax base for recurrent property taxation, whereas three other Member States (Czechia, Croatia and Poland) use only the property area. Finally, Cyprus and Malta have no recurrent property tax.

Updating tax bases for recurrent property taxation implies non-negligible costs for the tax administration, implying that updates take place with time lags. Property valuations are complex, costly and require time. Tax administrations therefore need to balance the benefits from more frequent updates of property values for tax purposes with the costs that such updates involve for the administration.

Outdated property values imply losses of tax revenues and potential distortions in the taxation of properties with similar economic value. A growth-friendly tax system should make use of recurrent immovable property taxes, which have been found to be among the least harmful taxes to economic growth.[9] However, outdated property values will reduce the tax revenues from recurrent property taxation [10], create economic distortions and treat taxpayers unequally. For instance, recently built properties for example are - other things being equal - at risk of being taxed more heavily than older properties, as the assessment of their value is more recent. Conversely, properties located in areas that have been subject to large increases in value are likely to be favoured by infrequent value updates. More generally, infrequent updates imply that real estate is taxed less than other types of assets.[11] Updating property values is also important for inheritance and gift taxation, as immovable property often constitutes the bulk of inheritances. Practises concerning the frequency of updates vary across Member

[6] These are often the valuations used to determine cadastral values of properties in systems where the tax administration keeps such records in a cadastre. For a comparison of cadastral models across 14 EU countries see Comparetti and Raimondi (2019).

[7] Area-based systems calculate the tax owed by multiplying the measured area of land and buildings by a per-unit assessment rate, rather than collecting a percentage of the market value of property as tax.

[8] The information relates to the situation in 2019; see Leodolter et al. (2022).

[9] See for example Arnold et al. (2011) or Acosta-Ormaechea et al. (2019). Some studies however find no effect of the tax mix on growth.

[10] See European Commission (2022) for a rough estimate of the forgone revenues from municipal property taxes in Sweden due to lags in property value updates and a cap on the tax.

[11] This is particularly relevant for owner-occupied properties which often benefit from tax advantages compared to other assets. Recurrent property taxes correct this tax bias favouring homeownership only partially. See Fatica et al. (2018) and Figari et al. (2019).

States and issues with infrequent property value updates become more severe in a high-inflation context.

Sudden and large changes in the value of tax bases for recurrent property taxes can be overcome through frequent updates.[12] A number of valuation techniques can reduce the administrative costs of property value updates. In the past, the dominant approach to housing valuation was the approach of *single property appraisals*. Such an approach yields accurate assessments of the individual properties but is lengthy and costly. Less expensive alternatives are as follows:

- **Self-valuation by taxpayers can reduce the cost, but it can lead to undervaluation of properties.** In some countries such as Ireland, Slovenia or Sweden, taxpayers assess the value of their properties themselves. If a false declaration was made, a penalty may apply. Consultation of taxpayers or temporary self-assessments may help reduce the cost of valuation, but permanent self-valuation is likely to lead to under-valuation of properties.[13] Also, even if taxpayers aim to supply accurate and full information, they may not have the relevant expertise.
- ***Computer-assisted mass appraisals (CAMA),* where properties are evaluated on the basis of algorithms based on statistical regressions, are increasingly used**. CAMA requires data on relevant characteristics of the properties (e.g. physical attributes, location) and on certain characteristics related to the real estate market (e.g. the number of sales). Data from digital platforms advertising properties for sale may also enhance the ability of governments to accurately undertake regular property valuations.[14] CAMA, by reducing the cost of valuating properties, can increase the frequency of the updates of property values. A possible drawback with computer-assisted valuation methods is however the possibility of legal challenges associated with the fact that properties are not individually assessed.[15] An example of a recent tax reform in Denmark introducing statistical valuation methods is described in Box 2.

Property valuation updates may encounter resistance by property owners, especially in times of high inflation. Transitional compensatory measures such as a temporary tax rate reduction or the temporary provision of benefits may help overcoming this resistance. To minimise the risk that temporary relief measures become permanent, the legislation may include expiry dates for these temporary measures.

DEALING WITH THE LIQUIDITY PROBLEM IN HOUSING TAXATION

Households with limited income streams and savings may face a liquidity problem to pay their recurrent property taxes. This issue could be exacerbated after sudden jumps in nominal tax bases linked to updates or in periods of real income loss, such as the onset of the recent high-inflation period. In case of growing house prices, a revision of property values used for tax purposes can lead to large and sudden increases in property taxes. If the evolution of taxpayers' incomes and savings does not follow that of house prices, then some households might not be able to pay their property taxes without liquidating illiquid assets. The phenomenon has a life-cycle dimension as household income tends to fall after retirement, while the value of people's property may continue to increase.

[12] Increases of property values have not kept up with consumer price increases during the recent resurgence of inflation, mostly due to rising mortgage interest rates and more stringent mortgage conditions. Yet, they nevertheless require updates due to their surge despite low inflation until 2021/2022.

[13] See Slack and Bird (2014).

[14] See Franzsen and McCluskey (2013), Almy (2014), and OECD (2021).

[15] For instance, the introduction of a national-level property tax in Hungary has been blocked by the Constitutional Court on two occasions (in 2008 and 2010) based on concerns related to the fairness of formula-based tax assessment. See Elek and Kiss (2010).

BOX 2: USING STATISTICAL TOOLS IN THE EVALUATION OF PROPERTY VALUES IN DENMARK AS PART OF A PROPERTY TAX REFORM

Denmark has two recurrent taxes on residential immovable property: (i) a land value tax (grundskyld) collected by municipal authorities on land value only and (ii) a property value tax (ejendomsværdiskat) collected at national level on the overall value of land and structures built on the land. Currently, the country is in the process of implementing a new assessment methodology for property and land values for both taxes. The introduction of the new methodology takes place in the context of a major tax reform whose aim it is to bring property values used for tax purposes closer to property market values.

In the new system, the assessment procedure uses statistical valuation methods based upon property sales prices and individual housing characteristics. Re-evaluations are planned every second year. The tax authorities estimate the value of the land without buildings on it, and then separately estimate the value of the buildings. To estimate the value of the land, they use information on the value of nearby land plots that have been sold. If the number of transactions is too small, general sales data may be used. Current and optimal usage of the land are also taken into account. For the valuation of properties, information on nearby sales is used. Topographical data, pollution, and location (distance to highways, railways, malls, schools, ocean view etc.) are also taken into consideration for valuations.

The new tax rates for both the land value tax and the property value tax will be introduced starting from 1 January 2024. The new rates will be reduced in such a way as to compensate for the increase in the tax base associated with the update in land and property valuations. Existing homeowners who nevertheless face higher taxes under the new regime are eligible for a tax rebate until the time where they sell their property. Also, all homeowners will have the opportunity to "freeze" the additional tax burden resulting from biannual revaluation until ownership of the property changes. These measures help create a gradual phase-in of the reform's effects.

Sources: OECD (2021), OECD (2022), Website of the Danish Customs and Tax Administration (Skatteforvaltningen): https://skat.dk/data.aspx?oid=2244323 (last accessed on 29 March 2023), Danish authorities.

Liquidity problems may affect a significant share of property owners. It has been estimated that, among households in Germany, Spain, France, Italy, the United Kingdom, the United States, Canada and Australia, between 15% and 25% of households can be characterised as both wealthy and living "hand-to-mouth", i.e. households that hold sizable amounts of illiquid assets but save a relatively small fraction of their income.[16] These households tend to hold substantial wealth in the form of housing and retirement accounts and are often homeowners (with exceptions such as Germany). Simulations indicate that liquidity issues would arise already in correspondence with relatively small increases in tax parameters for property taxation. For instance, for the United Kingdom it has been estimated that 3% of potential taxpayers would experience liquidity problems from a 1% tax on net wealth above GBP 500.000.[17]

[16] See Kaplan et al. (2014). It should be noted that the "hand-to-mouth" status of wealthier households is more transient than that of poorer households.

[17] See Loutzenhiser and Mann (2021) who provide results for a tax rate of 1% on people's total net assets and a threshold of GBP 500.000. Liquidity problems are defined as a situation where the tax exceeds 10 per cent of individuals'/households' income plus 10 per cent of their liquid assets. Pension wealth is not included for the calculations. The authors find farmers and business owners to be overrepresented among people/households with liquidity problems, while single pensioners seem to be underrepresented.

Property taxes may face resistance due to their high visibility compared to other taxes. Property taxes are highly visible because they generally require direct payment by taxpayers to tax authorities. In contrast, labour taxes are usually deducted from workers' salaries by the employer and consumption taxes are paid to tax authorities by the companies that make the sales. This high visibility, combined with a looser link with current labour incomes, explain the resistance often encountered with this type of taxation despite its positive features related to economic efficiency.

Deferrals of property tax payments can be an option to address the liquidity problem. Full or partial deferrals are typically granted until the time of change of ownership, may be subject to interest payments, and are often targeted to low-income households or pensioners. Despite potentially helping to relieve liquidity issues, deferral programmes often show low take-up. This is in part because homeowners wish to leave property for their heirs without obligations.[18] Also, there are potential administrative complexities due to the challenges of identifying the taxpayers who qualify. Quite often, deferrals are strictly targeted to older homeowners, thereby having a relatively narrow set of potential beneficiaries.[19] As deferral programmes often include interest charged on unpaid tax liabilities, homeowners may also be discouraged from making use of deferrals due to the risk that tax obligations accumulate significantly, especially if interest rates increase.

Another possible solution to the liquidity problem is to offer means-tested tax relief for low-income households. The relief may be targeted to households below a certain level of income, wealth, or both.[20] The case for a condition related to wealth (means testing) aims at limiting protection to low-income households that have also little assets available to fulfil their tax obligations.[21] Relief could be made to increase with the size of the household, as it is currently the case in Belgium. In some Member States, relief is targeted to low-income households, pensioners and/or based on the socio-economic status of the taxpayer.[22]

Other measures can help address issues related to the high visibility of property taxes. There are ways to reduce the perceived high burden of property tax payments by paying taxes in more frequent but smaller instalments or by offering the possibility to automatically deduct the tax from payments by employers or social security contributions. Resistance stemming from the presumptive nature of property taxes can be addressed by means of a higher involvement of the taxpayer in the valuation process and an accessible appeal process. Finally, adequate communication on the necessity and benefits of property taxes may increase their acceptance by taxpayers.

PROGRESSIVE LABOUR TAXATION AND INCENTIVES

The progressivity of labour taxation has a redistributive effect and it can also serve economic efficiency. The distortive effects of labour taxation on work decisions can be twofold: taxation may induce people to work less (either working fewer hours or by choosing lower effort – the "intensive margin" of labour supply adjustment) or it may result in some people choosing not to work at all and drop from the labour force (the "extensive margin"). A significant part of the labour supply

[18] See Slack and Bird (2014). Some evidence shows that deferrals may not be taken up as much by income-poor households as by households with higher incomes who use the deferral to invest elsewhere.

[19] Granting deferrals until change of ownership to non-elderly homeowners would imply that loans are outstanding for a much longer time period, which would make deferrals more costly. Even for a deferral scheme limited to older households, the cost may be non-negligible (see Munnell et al. (2022)).

[20] For income-related support in Ireland, see for example simulation 7 in O'Connor et al. (2016).

[21] It should however be added that there is a trade-off between a better targeting of tax relief policies and their ease of administration. Relief that is not targeted will be easier to administrate and to roll out.

[22] See OECD (2021). In some cases, it is up to municipalities to decide on such relief.

decisions of low wage earners is about whether to work at all (i.e. related to the extensive margin).[23] Because of this, reducing the tax burden of low-wage earners has the potential to increase employment, reduce social benefits spending, and increase economic efficiency.[24] The cost of a lower tax burden on low earnings is lower tax revenue (especially if tax cuts apply across the board) and possibly increased marginal tax rates at intermediate income levels (if the tax reduction targeted to low earners is gradually withdrawn at higher income levels to limit foregone tax revenue).

Reducing the tax burden on labour, notably for low-wage earners, has been high on the EU economic policy agenda. In 2014, the Eurogroup adopted common principles guiding euro area Member States' reforms to reduce the tax wedge[25] on labour,[26] while in 2015 it followed up by agreeing to benchmark the tax wedge of euro area Member States, both at the average wage and at a low wage level (at 50% of the average wage).[27]

EU countries vary widely both regarding the overall level of the labour tax burden and the progressivity of its distribution. In 2022, the tax wedge for low earners (workers earning 50% of the average wage in their country) ranged from levels close to 20% in Cyprus, Ireland, Malta, and the Netherlands, to levels close to 40% in Germany, Hungary and Slovenia (Graph 1). In most countries, the labour tax burden is progressive: the tax wedge increases at progressively higher earnings levels. The degree of progressivity (i.e. the difference between the tax wedge at high and low earnings) is highest in countries such as France and Belgium while, on the other end of the spectrum, the tax burden is not progressive in countries with a flat personal income tax such as Bulgaria, Romania and Hungary (Graph 1). Consequently, the effect of inflation is heterogeneous across countries: bracket creep affects particularly countries with more progressive labour taxation systems, while it does not, or only barely, affect flat tax systems.[28]

A number of Member States have cut the tax wedge, including for low-wage earners, in recent years. About two-thirds of Member States have reduced the tax wedge at various earnings levels since 2007 (Graph 2). The median cut in the tax wedge was about 2.8 ppts at low earnings levels (at 50% and 67% of the average wage), about 1.7 ppts at the average wage and about 1.2 ppts at higher earnings levels (at 167% of the average wage). In some countries, recent reforms cutting the tax wedge, especially for low-wage earners, addressed country-specific recommendations in the European Semester (e.g. in Belgium, France, Latvia). Some countries adopting cuts to the tax wedge across the board (e.g. Belgium, Germany and Austria) still have comparatively high tax wedges in 2022. Conversely, some Member States adopting increases in the tax wedge across the board (e.g. Cyprus and Ireland) still have comparatively low tax wedges in 2022. Tax reforms have often increased the progressivity of the tax system, but in some cases they have reduced it (e.g. in Hungary, Romania, Slovenia).

[23] The elasticity of labour supply at the extensive margin appears to be higher in particular for married women, lone mothers and men with lower education. See: Meghir and Phillips (2010).

[24] For a detailed presentation of this argument, see Diamond and Saez (2011).

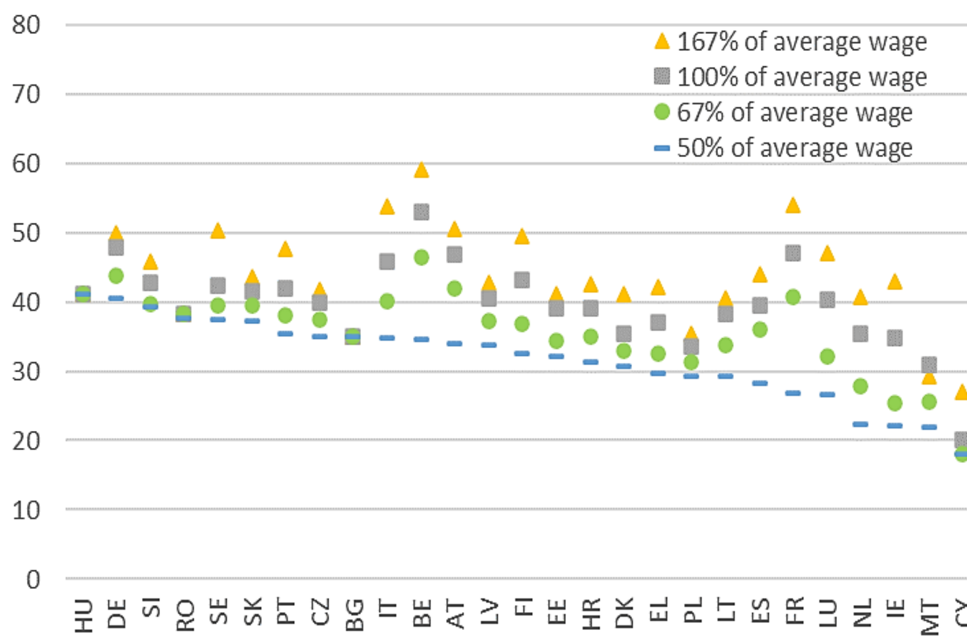
[25] The tax wedge is defined as the sum of personal income taxes and employee and employer social security contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social security contributions paid by the employer).

[26] Structural reform agenda - thematic discussions on growth and jobs - Reduction of the tax wedge (https://www.consilium.europa.eu/media/25687/143678.pdf).

[27] Eurogroup statement on structural reform agenda - thematic discussions on growth and jobs: benchmarking the tax burden on labour (https://www.consilium.europa.eu/en/press/press-releases/2015/09/12/eurogroup-statement-structural-reform).

[28] The bracket creep will affect the tax systems of flat-tax countries, if they have unindexed tax allowances or tax credits, such as for example the basic tax allowance in Estonia.

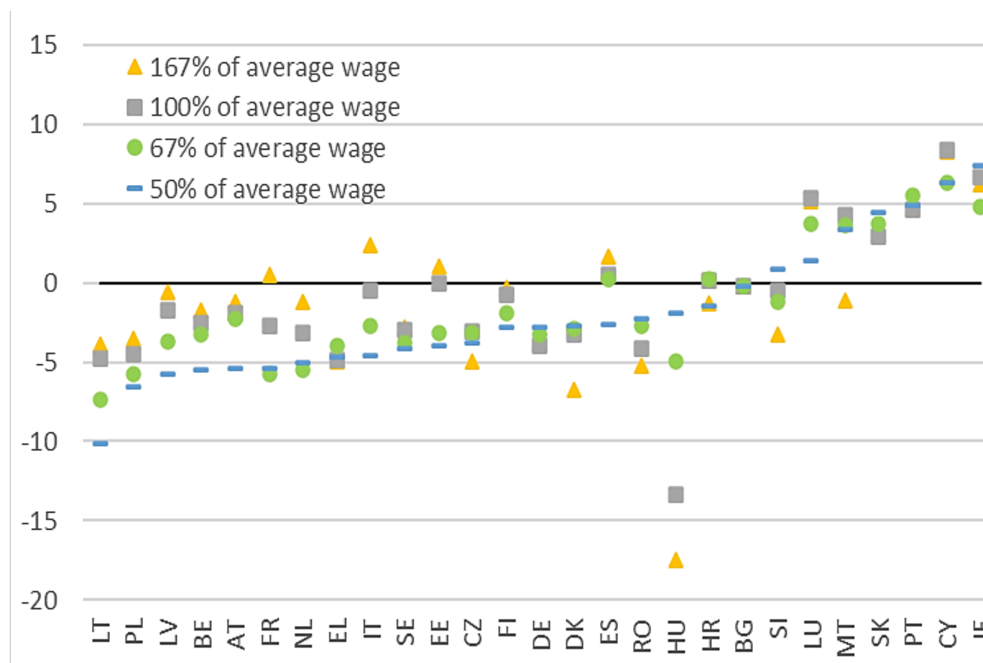
Graph 1: **Tax wedge in 2022, case of a single worker at various earnings levels, %**



Note: The tax wedge is defined as the sum of personal income taxes and employee and employer social security contributions net of family allowances, expressed as a percentage of total labour costs (the sum of the gross wage and social security contributions paid by the employer). Countries are ordered based on the tax wedge for workers at 50% of the average wage.

Source: European Commission Tax-Benefit database based on OECD data.

Graph 2: **Change in the tax wedge, 2007-2022, single worker at various earnings levels, ppts**



Note: For some countries, tax wedges for 2007 were not available. For these, 2022 data are compared to 2008 (BG, RO) or 2013 (HR). Countries are ordered based on the change in the tax wedge for workers at 50% of the average wage.

Source: European Commission Tax-Benefit database based on OECD data.

THE BRACKET CREEP PHENOMENON

Bracket creep occurs only in progressive personal income tax systems and implies an increased tax burden on labour. "Bracket creep" or "fiscal drag" occurs when inflation pushes taxpayers into higher income tax brackets or reduces the value of tax credits and allowances. It results in an increase in labour income taxes without an increase in real incomes.[29] The more progressive the personal income tax system, the more important the role bracket creep can play, in absence of corrective mechanisms.[30]

Existing analyses report a significant effect of inflation on the tax burden on labour. For the period between 1972 and 1996, a positive effect of inflation on personal income tax revenues as a share of GDP has been found in a panel data analysis across OECD countries. For every point of inflation, the share of personal income tax revenues in GDP is found to rise by almost 0.4 ppt.[31] Model-based estimations using EUROMOD report that a hypothetical 4% inflation rate, in absence of any adjustment in tax parameters, would increase personal income tax revenue in real terms by 3.1% in Germany, 5% in the Netherlands, and 2.4% in the UK, while it would have reduced revenue from social security contributions by 0.4% in Germany and the UK and by 0.8% in the Netherlands.[32]

Bracket creep has an impact on the financial incentives to work. By increasing the tax burden on labour, bracket creep may reduce the net financial gains from work and thereby negatively affect work incentives.[33] Overall, other things being equal this tends to make the structure of taxation less growth-friendly.

Bracket creep also affects income distribution and poverty outcomes. A priori, the impact of bracket creep on after-tax income distribution is ambiguous, as it depends on how tax rates are structured across income brackets and how income is distributed (how wage earners are situated across income brackets). The shifting of taxpayers into higher tax brackets has been estimated to reduce tax progressivity overall in Germany, the Netherlands and the UK.[34] However, the increase in the overall tax burden, due to the overall progressivity of the tax system, may dominate this effect, resulting in a more equally distributed household income than before inflation.[35] Nevertheless, the increase of the tax burden on low-income households, together with the more accelerated withdrawal of tax credits and other benefits, are likely to increase poverty. In fact, policy measures to uprate the monetary parameters of the tax and benefit system have been estimated to have gone beyond the avoidance of bracket creep, reducing poverty in seven EU countries over the period 2001-2011.[36]

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[29] The impact of bracket creep on public finances is not discussed as part of this Economic Brief. It will likely be positive in the short run, due to the resulting increase in tax revenues.

[30] Social security contributions (SSC) are frequently subject to contribution ceilings (or caps), whereby contributions are not due on income exceeding the ceiling. Thus, inflation would be expected to decrease the SSC to be paid by a taxpayer expressed as a share of their base (the taxpayer's income). However, most countries adjust contribution ceilings to wages annually in one way or the other, which tends to offset the effect of inflation. In some cases, SSC may also have progressive brackets like the personal income tax. This should increase SSC revenue with inflation but, as in the case of caps, the brackets are often either indexed to inflation or regularly updated.

[31] See Heinemann (2001).

[32] See Immervoll (2005, in particular Table 3). The study also analyses the effect of automatic adjustment mechanisms in place in the Netherlands and the UK.

[33] In the case of social benefits, it is their indexation to inflation that may, in a situation where wage developments lag behind the increase in the cost of living for a certain period, decrease work incentives.

[34] Immervoll (2005). For an analysis of the effect of bracket creep in the US with a DSGE model, that finds bracket creep to decrease inequality see Heer and Süssmuth (2013).

[35] More recent studies suggest that inflation's effect to reduce tax progressivity may become more important as compared to the revenue-increasing effect, as top income tax rates were reduced and as capital income is increasingly taxed at a flat rate. See: Zhu (2014).

[36] See Paulus et al. (2020).

There are several possible ways to address bracket creep:

- The most direct way is via the ***indexation*** of personal income tax (PIT) and social security contribution (SSC) brackets to inflation (for example indexation to the consumer price index to cover the nominal bracket creep) or to the total of inflation and real income growth (for example to nominal wages). The choice between indexation methods may have significant consequences for tax revenue and household income,[37] although discretionary measures may affect the overall outcomes (see below).

- Anther possible option is to leave the tax system altered by bracket creep but offer ***compensatory payments*** to taxpayers. If such payments are designed in such a way as to fully compensate for bracket creep, their effect will – if they are granted to taxpayers every year – be equal to the one of tax bracket indexation. However, compensatory payments may make the tax system less transparent and more cumbersome to administer, as they increase the difference between statutory and effective tax rates. As compensatory payments do not affect statutory tax rates, they might also be easier to remove again than an indexation of the tax brackets and therefore may imply less of a political commitment and provide more flexibility for policymakers. On the upside, they can also be targeted to specific groups of taxpayers, for example to those with low incomes, making them similar to targeted benefits.

- Finally, ***discretionary one-off tax reform measures*** may be adopted to address the cumulated effect of past inflation. One-off adjustments involve no commitment on whether the bracket creep building up after the reform will be addressed. Also, they may not compensate taxpayers for the higher tax burden incurred over the years between two such adjustments. Again, they are less transparent than indexation and even less transparent than reimbursement schemes in the case where they are marketed as tax reforms supporting objectives other than indexation and where the extent to which they simply compensate for the bracket creep is not communicated. Box 3 reviews some practices and plans to address bracket creep in Member States.

BOX 3: REVIEW OF PRACTICES IN MEMBER STATES TO ADDRESS THE BRACKET CREEP IN PERSONAL INCOME TAXATION

While indexation of SSC to wage developments is common in EU Member States, indexing the income brackets for the application of personal income tax is less common.[36]

Currently, eleven EU Member States have dealt with bracket creep by means of indexation of income brackets: Austria, Belgium, Czechia, Denmark, France, Germany, Lithuania, the Netherlands, Slovakia, Finland, Sweden. Germany indexes personal income tax biannually after the publication of a tax progression report.[37] In the remaining Member States, indexation takes place annually, but with some differences in the way the indexation is implemented. Annual indexation to price inflation is applied in Belgium[38] and the Netherlands. In Czechia, Denmark and Lithuania adjustment is based on wage developments.[39, 40, 41] In France, the adjustment of tax brackets takes place on the basis of forecast inflation.[42] In Austria, most tax brackets are, as of 2023, automatically adjusted annually based on two thirds of the change of the consumer price index, the rest of the adjustment taking the form of annual discretionary measures.[43] In Slovakia, the threshold between the two tax brackets as well as the basic tax allowance are defined as multiples of the minimum living standard, which is updated every year. In Finland, the adjustments are based on inflation and earnings levels.[44] In Sweden, the brackets of the national income tax are indexed with the consumer price index augmented by 2%.[45]

[37] For an example for the UK, see: Sutherland et al. (2008).

/CONTINUATION/

Other Member States do not index the brackets of their PIT systems for inflation but their discretionary reforms may adjust the tax system to bracket creep.[46]

Some Member States mainly adjusted the income thresholds for the determination of the income brackets (e.g., Portugal, Slovenia).[47, 48] Some Member States have made discretionary revisions in the magnitude of the tax allowances and tax credits (e.g., Estonia,[49] Czechia [50]). Few Member States carried out both revisions in income thresholds for the definition of the brackets and tax allowances and tax credits (e.g., Ireland,[51] Poland[52]). Some Member States (e.g., Spain, Luxembourg, Austria) had recently carried out personal income tax rate adjustments across most income brackets, this way at least partly correcting the effect of bracket creep.[53] Tax reforms in other Member States (Greece, Croatia, Italy, Latvia and Malta) were targeted to particular income brackets.

Bulgaria and Romania have flat tax systems with no general tax allowances or credits since 2012. Hungary has a flat tax system with a tax credit for families with children that has remained broadly unchanged for the relevant period.

[36] See Kalyva et al. (2018) for an overview of SSC ceilings in EU Member States.

[37] See Bloemer et al. (2023).

[38] The annual automatic adjustment has been in practice since at least the tax year 2013 (see: https://finances.belgium.be/fr/particuliers/declaration_impot/taux-revenus-imposables/indexation-automatique, last accessed on 3 April 2023).

[39] Czechia moved from a flat tax system to the progressive tax system with two brackets only in 2021. Its new tax system also features a basic tax credit that is however not indexed. Yet, discretionary adjustments in the tax credit following parliamentary decisions took place in in 2021 and 2022.

[40] Denmark also has a municipal income tax with a flat rate which may be adjusted annually.

[41] The information for Lithuania refers to the current tax system with two brackets and a basic allowance, which replaced a flat tax system and is in force since 2019.

[42] http://www.senat.fr/rap/l22-115-21/l22-115-212.html (last accessed on 3 April 2023)

[43] For 2023, these discretionary measures are a further increase of the thresholds of the first two tax brackets and a full indexation of tax allowances (instead of one limited to two thirds of inflation).

[44] There is no legal commitment to adjust the tax system. However, annual adjustment in line with earning and inflation increases is in practise and is mentioned in the government programme (https://valtioneuvosto.fi/en/marin/government-programme/taxation-in-a-changing-world [last accessed on 3 April 2023]).

[45] However, restrictions to the increases were applied in 2004, 2005, 2006, 2016 and 2017.

[46] The note reports some illustrative examples of reforms carried out between the tax years 2013 and 2022 that may be partly considered as contributing to address inflation effects on labour tax burden.

[47] Portugal's tax system saw a small increase of the thresholds for all 5 brackets in 2017 and for all 7 brackets in 2020, with increases amounting often to more than 20% per year, possibly going beyond compensating for bracket creep effects

[48] Slovenia's PIT system saw slight increases in the thresholds for all brackets in 2020 and 2022. It should be added that Slovenia introduced the indexation of personal income taxes to inflation for 2022, but abolished it again for 2023.

[49] Revisions took place in 2015, 2016 and 2017. In the year 2018 the basic tax allowance was almost tripled but its impact also started being tapered-off with increasing income levels.

[50] Czechia's tax credit is – contrary to the threshold between the two tax brackets - not indexed, but adjustments took place in 2021 and 2022 (i.e. since the flat tax was abolished).

[51] In Ireland, the threshold between the two tax brackets saw five increases between 2013 and 2022. In addition, the single person tax credit was slightly increased in 2022 and 2023.

[52] The threshold between the brackets, which had been unchanged since 2007, underwent a substantial upward revision in 2022. The basic allowance, which was unchanged since 2008, was more than doubled in the same year. The universal tax credit was increased from between 2017 and 2022.

[53] Luxembourg in 2017 introduced a reform that reduced the marginal tax rate for most wages levels, but also included two new top tax rates for high incomes. Similarly, Austria in 2016 saw a reform that decreased the marginal tax rate at all income levels except for incomes above EUR 1 mn. Spain in 2015 introduced a tax reform that reduced marginal rates for the national PIT for all income levels.

Note: The regulations, practices and reforms discussed in this box apply to the period between 2012 and 2022 and relate primarily to wage income and may be different for income from other sources. Also, they apply to personal income taxes at the national level and may be different for taxes on regional and municipal level. In case of different tax rules for different family types, they apply to a single person household.

Sources: OECD (2022), European Commission JRC-IPTS (2016 – 2022) and DG ECFIN unless additional sources are indicated in the footnotes.

CONCLUDING REMARKS

This Economic Brief discussed questions related to the recurrent taxation of immovable property and the taxation of labour in times of high inflation. Recurrent property taxes are among the taxes least detrimental to growth. If they are based on property values, then regular updates of the tax base are required to maintain their revenue potential and economic efficiency as well as the equal treatment of taxpayers. At the same time, the update of property values could lead to sudden and large upward revisions in tax liabilities when inflation is high, which may increase resistance against reforms aimed at shifting taxation towards immovable property. Practices aimed at increasing the frequency and reducing the cost of updating property values and temporary tax reliefs on property taxes can help overcome such increased resistance. Resistance can also be linked to liquidity issues for the non-negligible number of taxpayers that own property but have relatively low incomes. Resistance in these cases could be dealt with by the possibility of tax deferrals or by targeted and means-tested tax relief for low-income households. The design of labour taxation for low-wage earners is also important to support inclusive growth, as workers with low incomes react more sensitively to work incentives at the extensive margin (i.e. the decision to work or not). Bracket creep typically emerges during high inflation periods and may imply an increase of the labour tax burden of taxpayers with relatively low income. In some Member States, tax systems are designed in such a way to deal automatically with bracket creep via the indexation of income brackets. In other cases, discretionary measures may include compensatory measures or one-off reforms in tax parameters.

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