

Increasing progressivity in flat-tax countries: potential positive equity and efficiency impacts*

Headlines

- From the 1990s onwards several countries in Central and Eastern Europe introduced flat personal income tax schedules to improve economic efficiency and tax compliance. However, flat tax systems raise concerns regarding their redistributive capacity.
- A recent JRC study shows that moving from flat to more progressive personal income tax schedules can have positive effects on both equity and efficiency, leading to reductions in income inequality and even to modest increases in employment and GDP.
- As there seems to be no strong trade-off between efficiency and equity, significant improvements could be achieved in income equality without hindering economic performance.

Flat tax systems: simplicity versus fairness

In the 1990s and the 2000s many developing and transition economies, including several Central and Eastern European (CEE) countries, moved away from progressive personal income tax (PIT) systems to simpler schedules, typically featuring a flat rate (or single tax rate) system. In most of these economies the flat tax was introduced in order to simplify the tax system, reduce tax evasion and improve economic efficiency (through milder tax-induced distortions in growth and employment). To date, however, the

evidence on the fiscal and redistributive impact of these reforms remains unclear [1].

In 2017 six EU Member States featured a flat PIT system: Bulgaria, Estonia, Hungary, Latvia, Lithuania and Romania.¹ These countries differ greatly in terms of the PIT rate (ranging from 10% in Bulgaria to 23% in Latvia) and regarding the existence and design of basic tax allowances.

Existing evidence shows that, since flat tax systems mainly benefit the highest-income households, they lead to an increased polarisation of the income distribution and, consequently, greater after-tax income inequality. Furthermore, flat tax systems have a lower absorptive capacity compared to progressive ones. In the case of negative income shock, a slower recovery in household consumption can be expected, due to a lower degree of automatic macroeconomic stabilisation [2].

A recent JRC study analysed **the equity and efficiency effects of increasing progressivity in the flat-tax EU countries through budget-neutral policy reform scenarios** (i.e. reform scenarios that do not alter the government budget balance). In order to be able to compare the results across Member States and to accommodate for country specificities, the study considered **two** relatively standard policy **reform options**:

I. **Scenario I** assumes an increase in the basic tax-free allowance which is compensated for by an increase in the flat PIT rate. A tapered allowance is introduced in Estonia, while a phasing-out of the allowance is applied in Bulgaria and Hungary. The

*This brief is based on the JRC Report Progressive tax reforms in flat tax countries, Salvador Barrios, Viginta Ivaškaitė-Tamošiūnė, Anamaria Maftעי, Edlira Narazani and Janos Varga, JRC Working Papers on Taxation and Structural Reforms, 2018/02. The brief can be downloaded from: <https://ec.europa.eu/jrc/en/research/crosscutting-activities/fairness>. The views expressed in this policy brief are those of the authors and do not necessarily reflect the official views of the European Commission.

¹The Czech Republic also has a flat tax schedule, but is excluded from the analysis due to the fact that it applies an additional 7% solidarity tax on gross income exceeding a certain threshold.

Quick Guide

All policy reform scenarios are analysed using **EUROMOD**, the tax–benefit microsimulation model for the European Union (see <https://www.euromod.ac.uk/>). The model is static and delivers the **first-round effects** (‘the overnight effect’) of a **policy change**. This gives useful insights into the redistributive and budgetary impact of the simulation.

In order to capture the interaction between these tax reforms and the induced changes in the economy, the study uses the dynamic scoring framework described in Barrios, S., M. Dolls, A. Maftei, A. Peichl, S. Riscado, J. Varga, and C. Wittneben (2018), Dynamic scoring of tax reforms in the European Union, *Journal of Policy Analysis and Management* (forthcoming). The second-round effects of the tax reforms are modelled by accounting for individual behavioural effects (through a labour supply model) and general equilibrium macroeconomic feedback effects (through the macroeconomic model QUEST).

amount of the basic tax allowance is set at the minimum gross wage;

II. **Scenario II** assumes a progressive PIT schedule with three income tax brackets. The gain in revenues is used to introduce a refundable in-work tax credit for employees and the self-employed.² An eligible worker can benefit from the maximum amount of the tax credit if their gross earnings are between 10% and 20% of the average.

These scenarios were chosen for both theoretical and policy reasons. First, many countries with flat tax systems feature a universal basic tax allowance, introducing de facto some degree of progressivity. The increase of an existing basic tax allowance (or the introduction of a new allowance) can be seen as an alternative way of mitigating the adverse redistributive impact of flat tax systems. Second, the literature has also highlighted the disincentive effects of progressive tax systems on labour supply, advocating for the introduction of a working tax credit in order to curb these effects [3].

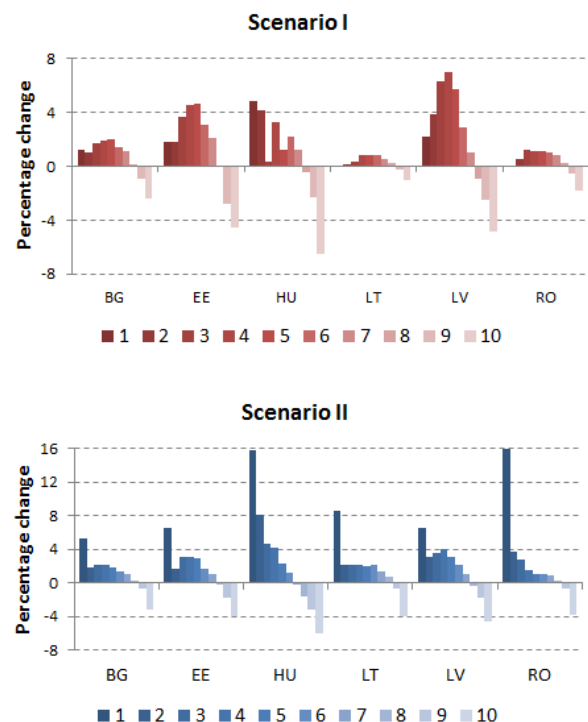
The equity and macroeconomic effects of progressive taxation

Overall, the empirical analysis shows that **both scenarios have a positive redistributive impact** (see Figure 1), **although the effect depends on country specificities** (socio-demographic characteristics, labour market regulations, data quality, etc.) **and the characteristics of the existing tax systems.**

In Scenario I, country specificities play an important role, given the heterogeneity of the basic tax-free allowance across the six Member States’ existing systems. The tapered allowance has the largest impact in countries that do not apply such a

scheme (Bulgaria and Hungary) and in those where the allowance was in place, but increased considerably in the reform scenario (Latvia and Estonia). In Scenario II, the introduction of a progressive PIT schedule is a revenue-increasing reform that reduces the average disposable income of the richest households. The additional refundable in-work tax credit – which makes the overall reform budget-neutral – redistributes from the higher- to the lower-income groups, by decreasing the tax burden of low-wage earners.

Figure 1. Impact on annual equivalised disposable income, by income decile (percentage change from 2017 baseline)



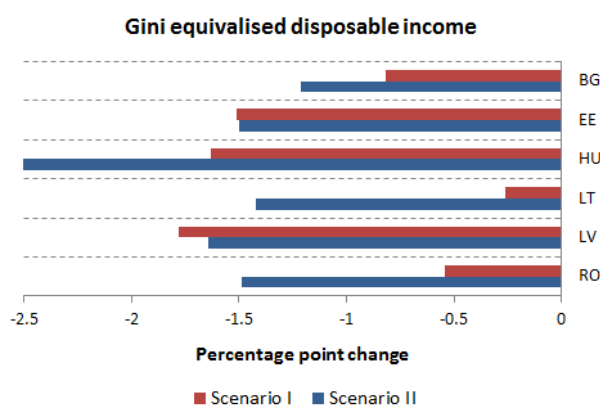
Source: EUROMOD simulations.

²The working tax credit is a benefit designed to top up the earnings of low-income workers, with means-tested pay-outs.

Income inequality

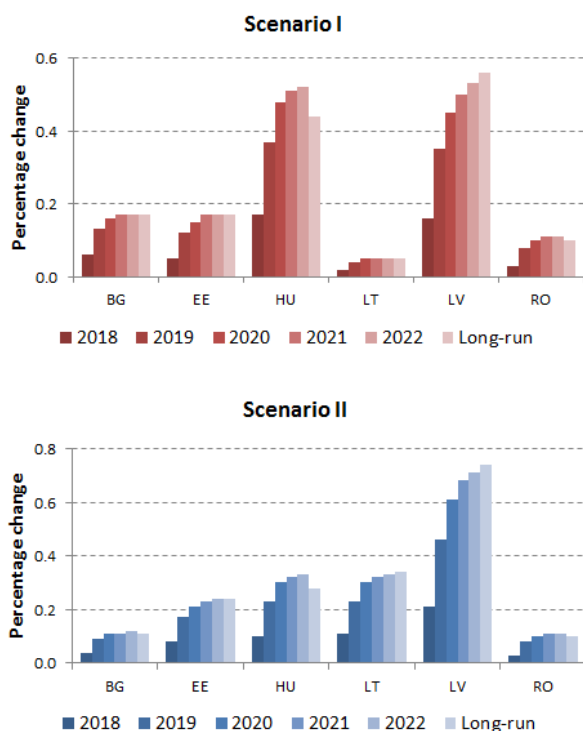
The empirical results also show that **making the tax system more progressive can address equity concerns** (see Figure 2). In Scenario I, all countries experience a decline in the Gini coefficient, but the impact is limited (particularly in Member States that already had a tapered basic tax-free allowance, i.e. Lithuania and Romania). The largest fall in inequality occurs, for most countries, in Scenario II, due to the strong progressive nature of this policy reform.

Figure 2. Impact on inequality (percentage point change from 2017 baseline)



Source: EUROMOD simulations.

Figure 3. Medium- and long-term impact on employment (percentage change from 2017 baseline)



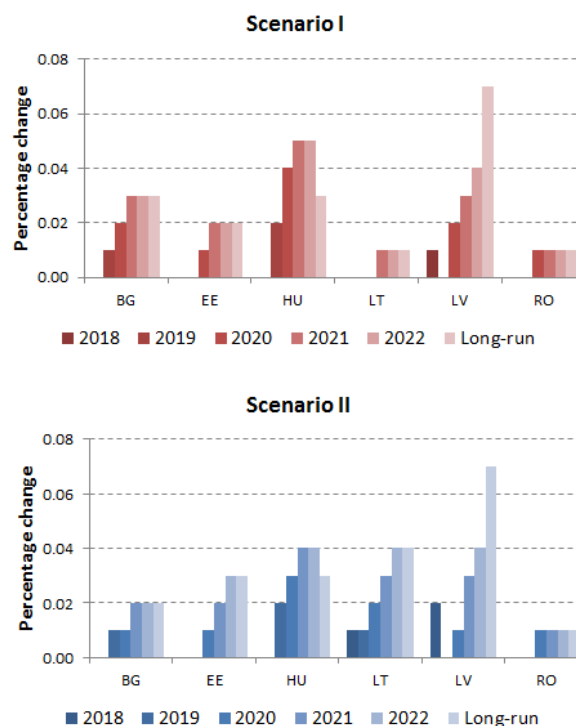
Source: QUEST simulations.

³The positive macroeconomic effects depend crucially on the assumed productivity differences across skills and their labour supply elasticities. A small gap in productivity and a large gap in elasticity will lead to a broad positive effect on the economy. Consequently, the results should be interpreted with caution.

Employment and GDP growth

In the medium term, the budget-neutral reforms have a positive impact on aggregate employment (Figure 3) and GDP (Figure 4) in all countries.³ However, there is a trade-off between the higher employment rate of low-skilled workers (as their net real wages increase) and the loss in labour market participation of the highly skilled (given that their net real wages decline). These counteracting forces lead to a relatively modest impact on employment and GDP.

Figure 4. Medium- and long-term impact on GDP (percentage change from 2017 baseline)



Source: QUEST simulations.

The impact of reforms is most pronounced for Lithuania under Scenario I and for Latvia and Hungary under both scenarios. The macroeconomic results are mainly channelled through labour market effects, reflecting potential distortionary effects of these reforms. Generally speaking, these results can be explained by a strong positive effect of the progressive tax reforms on the low-skilled, which compensates for the negative impact on the highly skilled. The positive employment effect also generates a positive feedback loop on GDP. These results should, however, be considered against the potentially adverse long-term impact of disincentive effects. Increasing the progressivity

of the tax system can lead to lower investment in human capital and, therefore, hamper long-term growth. In order to mitigate these detrimental effects, progressive tax reforms might call for complementary public policies in other areas, such as education or on-the-job training.

Related and future JRC work

Achieving fairer income distributions (through equitable and efficient tax systems) is an important component of the medium- and long-term objectives underpinning European policies. By assessing the impact of tax reforms on inequality, fairness, employment and growth, this work contributes to the European Commission agenda for a more inclusive and cohesive Europe, while boosting jobs, growth and investment.

This policy brief is one of a **series of science for policy briefs** discussing various aspects of fairness. **A comprehensive report on fairness**

will be published in 2019.

References

- [1] See in particular Keen, M., Y. Kim and R. Varsano (2008), The flat tax(es): Principles and experience, *International Tax and Public Finance*, 15(6): 712-751.
- [2] See European Commission (2017) *Report on Public Finances in EMU*, Directorate-General for Economic and Financial Affairs, Brussels, and Buti, M. and V. Gaspar (2015), Designing fiscal policy for steady, enduring growth, <https://voxeu.org/article/fiscal-policy-enduring-growth>.
- [3] See in particular Diamond, P. and E. Saez (2011), The Case for Progressive Tax: From the Basic Research to Policy Recommendations, *Journal of Economic Perspectives*, 25(4):165-90.

Contact:

Mailbox of the Community of Practice on Fairness
EC-FAIRNESS-COP@ec.europa.eu