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Working Paper

Flat tax reform in Eastern Europe: Comparative analysis of alternative scenarios in Estonia, Hungary and Slovenia, using EUROMOD

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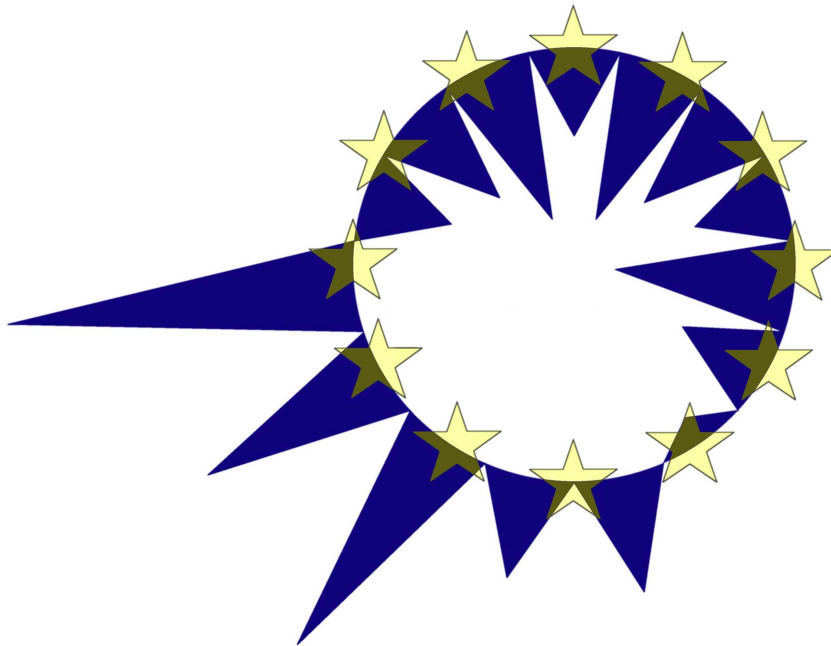
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EUROMOD

WORKING PAPER SERIES



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Alari Paulus, Orsolya Lelkes, Mitja Čok, Nataša Kump,
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April 2009

**FLAT TAX REFORM IN EASTERN EUROPE:
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Alari Paulus, Orsolya Lelkes, Mitja Čok, Nataša Kump,
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Abstract

Flat tax schemes are popular in Eastern Europe, with an ever increasing number of countries where it is introduced, and yet many other where it is recurrently discussed. Analysing three countries, we show that the design of such schemes largely determines their impact on fiscal revenues and on the redistribution of individuals' incomes. The impact, as expected, also largely depends on the characteristics of the existing income tax system. Three different flat tax systems (Estonian, already implemented; Slovenian and Hungarian, only proposals) are simulated in each of the three countries. The analysis is based on EUROMOD, the European tax-benefit microsimulation model, which now includes these countries, enabling cross-country comparisons. The results also confirm the value of EUROMOD which proves to be a valuable tool for international policy comparisons.

JEL Classification: C81, D31, I38

Keywords: redistribution, flat tax reform, Estonia, Hungary, Slovenia

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* This paper uses EUROMOD version D25. EUROMOD is continually being improved and updated and the results presented here represent the best available at the time of writing. Any remaining errors, results produced, interpretations or views presented are the authors' responsibility. This paper uses data from the EU Statistics in Incomes and Living Conditions (SILC) made available by Eurostat; the Estonian Household Budget Survey (HBS) made available by Statistics Estonia; a sub-sample of the Population Census merged with Personal Income Tax database, Pension database and Social Transfers database, made available by the Statistical Office of Slovenia. The data providers do not bear any responsibility for the analysis or interpretation of the data reported here.

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1. Introduction

Flat tax schemes are popular in Eastern Europe, with an ever increasing number of countries where it is introduced, and yet many other where it is recurrently discussed. The majority of Eastern European countries seem to have introduced such a scheme, starting with the Baltic States in the mid-1990s, followed by Russia, Ukraine, the Slovak Republic, Serbia, Romania, Macedonia, Montenegro, and then most recently by Albania, Bulgaria, the Czech Republic (2008), and Belarus and Bosnia and Herzegovina (2009). Poland and Greece are also considering such a move. In many of the countries it meant simplifying the tax scheme, e.g. eliminating tax allowances and tax deductions, but also lowering average tax burden, although not in all of them. Lithuania, for example, set the flat rate at the highest bracket of the existing regime: 33% (Keen, Kim and Varsano 2006).

What is actually meant by “flat (income) tax” varies a great deal by country. Very few countries have a flat rate tax scheme where all types of incomes are taxed with the same rate, including earnings, capital income and corporate income. In its “pure” form flat tax would impose one single rate on the whole population, irrespective of their income levels (and their abilities to conceal incomes, e.g. via transfers to foreign countries), thus giving up the role of the state in redistributing incomes via the tax system. This may save administrative costs, as all redistribution is costly. In all the flat tax countries but Georgia and Bulgaria, there is a basic allowance for people with low incomes, which is often supplemented by an allowance for families. Flat tax reform may have its appeal as an opportunity for simplifying the tax scheme, primarily from numerous tax allowances accumulated over long years due to interest groups rent-seeking. Simplicity in turn is likely to save administration costs and increase compliance. On the other hand, flat tax rates required to attain budget neutrality tend to benefit mainly those with high incomes at the expense of low and middle income households (Lelkes and Benedek 2007; Paulus and Peichl 2008). As Paulus and Peichl note, this may explain why flat taxes have not been politically successful in Western Europe.

Albeit the international popularity of the scheme, little is yet known on its impact on macro performance and tax compliance. One of the success stories is Russia, where tax revenues increased by 25% following the 2001 introduction of the scheme. However, according to Ivanova, Keen and Klemm (2005) it is not clear to what extent it is attributable to the parametric reform or to increased law enforcement. The authors also highlight that oil revenues increased massively in this period, resulting in fast economic growth and thus producing greater tax revenues. Nevertheless, the reform itself was associated with increased tax compliance rather than improved law enforcement as shown by Gorodnichenko et al. (2007). Another example, Slovakia, introduced flat taxes as part of an overall structural reform, including pensions, social transfers, education, health care and the tax system. They implemented a uniform 19% tax rate (replacing 18 different rates), widened the tax base, and decreased the progressivity of the tax system.¹ The reception of the reform was positive by the international financial market, reflected in the improved country credit rating. On the other hand, there has been no empirical evidence presented yet on the behavioral impact of the reform. The Slovakian reform was also an inspiration for the Slovenian debate on the flat-tax

¹ Note, that the employee social security contribution remained, thus the all-in tax rate (calculated as the combined central and sub-central government income tax plus employee social security contribution, as a percentage of gross wage earnings) equals 30%, which is not different from the pre-reform rate for those with average incomes. It was the distribution of the tax burden that has changed, increasing from 21.5% to 30% for those with low incomes (67% of average wage) and decreasing from 36.5% to 29% for those with high incomes (167% of average wage meaning the average annual gross wage earnings of adult, full-time manual and non manual workers in the industry) (OECD Tax Database)

idea in 2005, which was however finally rejected and instead their progressive personal income tax system was modified to some extent.²

Our aim with this paper is to contribute to the empirical literature on flat taxes by focusing on recent flat tax proposals in three Eastern European countries – Estonia, Hungary and Slovenia. Using microsimulation techniques we estimate the potential impact of these proposals on household incomes. We simulate each alternative scenario not only for the country of origin but also for the two other countries, thereby three in total for each country. These scenarios are compared to the existing tax system in 2005, focusing on the redistributive impact of the reforms. All scenarios assume full compliance, and as such, do not estimate potential changes in tax evasion. Also, these policy scenarios are not designed to be revenue neutral on the national level, and therefore, the total fiscal cost varies both across countries and scenarios.

We find that the most radical scenario with a flat tax rate of 20% and no tax concessions (apart from exempting pensions from tax) would have a dramatic effect on inequality and poverty, and most of the cost of the reform would be borne by lower income groups. The government budget and the richest fifth of the population appear to be the only beneficiaries. A less radical proposal, with a 20% tax rate, a basic allowance and a family allowance still has negative impact on the majority of the population, albeit to a much smaller extent, although the total budgetary effect is slightly negative. Another scenario with a slightly lower tax rate and an additional allowance for pensions (corresponding to the future Estonian flat tax scheme) would cost between 0.9-1.2% of the GDP, while having rather diverse effects on households across countries, depending on the original tax system.

In the following section we present methodology and data. This will be followed by the description of the existing tax and benefit schemes and the three alternative scenarios in section 3. Section 4 describes how these hypothetical flat tax schemes would affect inequality, poverty of the total population and that of specific age groups. We will then show in section 5 how the change of tax burden affects the budgetary balance and households at various income levels. Finally, section 6 concludes.

2. Methodology and data

The analysis is based on EUROMOD, the European tax-benefit microsimulation model, which covers all 15 pre-May 2004 Member States of the European Union and Estonia, Hungary, Poland and Slovenia, of which we focus on Estonia, Hungary and Slovenia. The model is designed to answer “what if” questions about different policy reforms at European level. EUROMOD is unique in being a research tool that is relevant both at the national and European level, offering infrastructure for comparing complex and often very different tax and benefit systems across countries.

EUROMOD, as other tax-benefit models, is a computer program which operates on household micro-data from representative sources (Immervoll, O'Donoghue and Sutherland 1999). It calculates disposable income for each household in the dataset. This calculation is made up of elements of income taken from the survey data combined with components that are simulated by the model (i.e. taxes and benefits). An evident advantage of such models is the possibility of evaluating the effects of hypothetical changes to tax- or benefit rules. As

² The proposition of a tax system similar to the Slovakian one, was included among government reform proposals (Odbor za reforme, 2005). However, this concept triggered a sharp response from labour unions in Slovenia, mainly due to the idea of a replacement of the existing double VAT rate system (with a reduced 8.5% and standard 20% rate) with a single VAT rate and thus ultimately was not regarded to be politically feasible.

Lietz and Mantovani (2007) note, it is a tool, which allows “laboratory experiments’ concerning tax-benefit systems, as by simulating reforms their potential effects can be studied before their actual implementation”.

EUROMOD focuses on cash benefits, social insurance contributions and personal direct taxes. It can simulate most of these instruments except where the underlying datasets lack of necessary background information, most notably benefits which entitlement is based on previous contribution history (e.g. pensions). EUROMOD calculations are carried out under the assumption of full benefit take-up and no tax evasion, therefore focusing on the intended effects of tax-benefit systems. EUROMOD concept of disposable income includes monetary incomes without capital gains and other lump-sum incomes, net of income tax and social insurance contributions. For further information on EUROMOD, see chapter 3 of Lelkes and Sutherland (2009) and Sutherland (2001, 2007).

Databases for all three countries studied here are derived from administrative sources or from household budget surveys (see the details in Table 1). There are two main modifications to the original datasets: (a) net-to-gross imputations and (b) income uprating. First, as tax-benefit calculations are applied to gross incomes, these were imputed where the original dataset only recorded incomes net of (withholding) taxes. Secondly, in order to match the baseline tax-benefit policy year and income data reference period, incomes which refer to year 2004 were uprated to 2005 using different uprating factors based on available statistics.

Table 1. Features of EUROMOD datasets: Estonia, Hungary, and Slovenia

<i>Country</i>	<i>Base Dataset</i>	<i>Year of collection</i>	<i>Income reference period</i>	<i>Sample size: individuals (households)</i>
Estonia	Household Budget Survey	2005	2005	9,201 (3,432)
Hungary	EU-SILC	2005	2004	17,958 (6,924)
Slovenia	A sub-sample of Population Census merged with Personal income tax database, Pension database and Social transfers database	2005 (2002)	2004	13,798 (4,777)

3. Description of existing and alternative policy scenarios

This section summarises the key parameters of the existing personal income tax (PIT) systems as of 2005 in the three countries as well as three alternative flat tax proposals and highlights the main changes.

The existing income tax systems in 2005 vary to a large extent (see Table A1 in the Appendix for the main tax parameters, also indicating the scope of simulation of the income tax systems in EUROMOD). All three countries have effectively progressive tax systems, although the structure of tax schedules (i.e. the number and level of tax brackets) varies widely and countries operate with rather different kind of tax allowances (or tax credits). One of the main differences across the three countries concerns the unit of assessment: while married couples can choose to be jointly taxed in Estonia, the income tax is solely levied on individuals in

Hungary and Slovenia. Finally, there are also differences in the underlying tax bases. It is broader in Estonia and Slovenia, where it includes capital gains, interests and dividends and pensions, in contrast to Hungary, where the personal income tax base excludes capital income and (part of) self-employment income, which are taxed under different schemes, not as part of the PIT system.

Estonia was the first Eastern-European country to introduce a flat income tax system in 1994, applying a single marginal tax rate (above a certain income threshold) initially at the level of 26%. In 2005, the income tax rate was reduced to 24%, and it is expected to be gradually reduced to 18% by 2011.³ The basic allowance component (1,303 EUR or 20,400 EEK annually per person) effectively induces progressivity in the personal income tax system in the sense that the average tax rate increases with the income level, even though the marginal tax rate remains constant. An additional allowance in the same amount is granted for every dependent child, starting from the third, and another allowance applies to pension incomes (2,300 EUR or 36,000 EEK per year in 2005). Some expenses are also deductible (e.g. mortgage interests), but usually are of less importance.

The actual (2005) Hungarian personal income tax system comprises of two tax brackets for all tax payers, supplemented with a tax credit on wages and salaries and with numerous other tax credits. The tax rates applied are 18% on the first 6,086 EUR (in annual terms) and 38% on the part of incomes exceeding that. There is a “targeted” basic allowance to employees, with a maximum amount of tax credit on wages and salaries of 438 EUR per year. Among other tax credits, family and disability tax credits can be simulated in EUROMOD (see Table A1). Other allowances, which relate to tuition fees and voluntary pension insurance and a large number of other expenditures cannot be simulated due to missing information in the income survey.

The Slovenian system may be called a “standard progressive” PIT scheme, which includes five tax brackets and marginal tax rates between 16% and 50%, the latter being rather high by international comparison. Pensioners benefit from an additional tax credit, which reduces their tax bill to the extent that only few pensioners effectively pay income tax. Similarly to Estonia and Hungary, there is a basic tax free threshold (2,355 EUR per year), and a tax concession for individuals with children. Simulations in EUROMOD cover a large number of special tax allowances, including those for disabled, self-employed journalists, student work, payments on voluntary private insurance etc, made possible by the rich original dataset, which includes a vast array of information from administrative data sources.

The actual tax systems (referred to as baselines) will be compared with three alternative scenarios reflecting flat tax policy proposals in these countries. In order to apply different scenarios in a consistent way across countries, we define the value of tax allowances relative to the average gross wage. All other tax-benefit policies in the reform scenarios remain the same as in the baseline, e.g. the eligibility and entitlement rules for cash benefits. Note that this does not imply that other taxes and benefits remain necessarily constant as their value might depend on some concept of net income which in turn is affected by the changes in income tax liability. For instance, in case of means-tested benefits, provided only if the personal or household net income is below a certain threshold, we consider the potential change of incomes due to the changes in the tax parameters. Therefore, some households may become eligible to benefits, others might lose eligibility and those who retain eligibility might

³ This was the situation in 2008. However, rapidly deteriorating economic conditions and declining tax revenues forced the government to postpone the final target by one year (i.e. to 2012) in the beginning of 2009.

see their entitlement change. The microsimulation technique used here allows us to take into account such interactions between taxes and benefits.

The simplest hypothetical scenario (referred as *Flat1*) represents the flat tax in its purest and “most radical” form, with a single 20% tax rate and no tax concessions (apart from exempting pension incomes from tax). Note that although this scenario is motivated by the general flat tax discussion in Hungary, we do not consider it as a realistic policy proposal (partly also due to its budgetary costs), but rather as a test and a further base of comparison for alternatives.

The second scenario (*Flat2*) applies also a 20% flat tax rate but additionally introduces two allowances that are expected to benefit low income households. A basic tax allowance which is equal to 20% of average gross annual wage and an additional family allowance, equal to 15% of the average gross annual wage for the first child and increased further 5 percentage points for each subsequent child. On the other hand, pension incomes in this scenario are fully taxable. This scenario follows the flat tax proposal which was seriously considered in Slovenia but eventually abandoned.

The third and the most complex scenario (*Flat3*) represents the future actual PIT system in Estonia, taking effect in 2011 (according to the legislation as of 2008). This scenario includes a 18% tax rate and a basic allowance equal to 17% of average gross annual wage, both being lower compared to the second alternative. A child allowance is available for families with children and compared to the 2005 system in Estonia, the allowance is extended also to the first two children. An additional allowance applies to pension incomes, however, given that the future level of this allowance is not agreed in Estonia yet, we assume in our calculations that it will be increased in proportion to income growth by 2011 and, therefore, remains equal to 37% of average gross annual wage (as it was in 2005).

Table 2. Flat tax scenarios (in EUR)

	Flat1	Flat2	Flat3
Income tax rate	20%	20%	18%
Basic allowance (annual)	No	20% of AGAW ^a	17% of AGAW ^b
Additional allowance per child	No	15% AGAW for the first, increasing by 5% points for each subsequent child	17% of AGAW ^b
Additional pension allowance	Pensions untaxed (i.e. effectively 100%)	No	37% of AGAW ^c
Tax base	Pensions excluded	Pensions included	Pensions included

^a AGAW = average gross annual wage. Its amount in 2005: Estonia: 6,192 EUR (96,884 EEK), Hungary: 7,709 EUR, Slovenia: 13,885 EUR.

^b Ratio to the average gross annual wage in 2011 (13,742 EUR or 215,016 EEK, estimated figure by the Estonian Ministry of Finance).

^c Ratio to the average gross annual wage in 2005 (i.e. assuming that the pension allowance will be increased in proportion to income growth).

The tax bases vary for the baseline systems (see Table A1 in the Appendix) and since we retain these differences across countries (with the exception of pensions) this affects the outcome of the alternative scenarios. The reason for adjusting tax bases with respect to pensions is that these are excluded from the tax base in Hungary, but taxable in Estonia and Slovenia while both have specific tax allowances for that. Therefore, in order to make these pension related tax concessions comparable, pensions were added to the Hungarian tax base

in the *Flat2* and *Flat3* scenario⁴ and removed from the tax base for Estonia and Slovenia under *Flat1*.

Tables 3 to 5 present the main changes compared to the existing tax systems. In all countries the marginal tax rate decreases in each alternative scenario. In case of the *Flat1* scenario all the allowances are eliminated (while exempting pensions from tax), which makes it much different from the baselines. The *Flat2* policy increases the value of family allowance for all countries, especially in case of households with larger number of children, while at the same time removing the allowance on pensions. The third scenario is somewhat less generous than the second one (in terms of general and family allowances) but includes an allowance for pension incomes.

Table 3. Estonia: Main changes in the tax system compared to the baseline

	Flat1	Flat2	Flat3
Marginal tax rate	Decreases	Decreases	Decreases
Basic tax allowance	Disappears (i.e. significant decrease)	Decreases (slightly)	Decreases (though increase in nominal terms)
Pension allowance	Pensions not taxable (i.e. significant increase)	Disappears (i.e. significant decrease)	No change (i.e. allowance retained)
Allowance for self-employment income from agriculture	Disappears (i.e. significant decrease)	Disappears (i.e. significant decrease)	No change (i.e. allowance retained)
Family allowance per children	Disappears (i.e. significant decrease)	Extends the coverage, increases the value for households with more than three children	Extends the coverage but decrease in real value (per child)

Notes:

Flat1: flat rate of 20%, no tax concessions (apart from exempting pensions from tax).

Flat2: flat rate of 20%, basic allowance and child allowance.

Flat3: flat rate of 18%, basic allowance, child allowance and pension allowance.

Table 4. Hungary: Main changes in the tax system compared to the baseline

	Flat1	Flat2	Flat3
Marginal tax rate	Decreases	Decreases	Decreases
Basic tax allowance	Disappears	Decreases	Decreases
Pension allowance	Pensions not taxable (i.e. no change)	All taxable without allowance (i.e. significant decrease)	All taxable with allowance (i.e. decrease)
Family allowance for children	Disappears (i.e. significant decrease)	Increases the value in all households with dependent child/ren	Increases in households with 1 or 2 dependent child/ren, decreases for those with 3+ children
Tax credit for serious disability	Disappears	Disappears	Disappears

Notes: see Table 3

⁴ Note that this was done without any compensation, e.g. grossing up of the pension benefits. The calibration of such compensation packages could be part of further, in-depth studies on this subject.

Table 5. Slovenia: Main changes in the tax system compared to the baseline

	Flat1	Flat2	Flat3
Marginal tax rate	Decreases	Decreases	Decreases
Basic tax allowance	Disappears	Increases	Increases
Pension allowance	Pensions not taxable (i.e. significant increase)	Disappears	Decreases
Family allowance for children	Disappears (i.e. significant decrease)	Increases the value, especially for households with more than 3 children	Decreases the value, especially for households with more children
Family allowance for other dependent family members	Disappears	Increases	Disappears
Other tax allowances (disabled person's allowance, seniority allowance, self- employed professionals' allowance, allowance for selected expenses)	Disappears	Disappears	Disappears

Notes: see Table 3

4. Effects of alternative scenarios on income distribution⁵

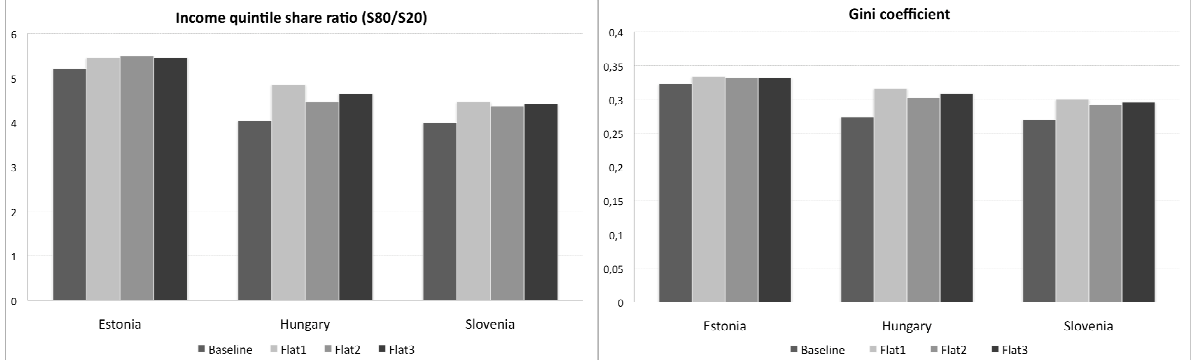
The introduction of a flat tax scheme (including all its alternative versions examined here) would have a substantial effect on inequality in Hungary and Slovenia, while less so in Estonia (see Figure 1). This is due to the fact that Estonia already has a functioning flat tax system as well as the highest income inequality in the baseline. The *Flat1* scenario would increase the Gini coefficient from 0.27 to 0.32 in Hungary and from 0.27 to 0.3 in Slovenia.

The current level of inequality in Hungary and Slovenia is below that of Estonia, as shown by the Gini coefficient and quintile ratio (S80/S20)⁶. The introduction of the 2011 Estonian scheme (*Flat3*) would retain inequality as the highest in Estonia. Note that under the current assumptions, inequality in Estonia would increase with the 2011 system (adjusted to 2005 prices) compared to the 2005 one, holding demographic characteristics and incomes constant. This is not particularly surprising, given that the distributional considerations were not on the agenda at the formulation of the tax changes.

⁵ All the following results for income distribution are computed for individuals according to their household disposable income equivalised by the modified OECD equivalence scale, i.e. weighing the first adult with 1, additional person aged 14+ with 0.5 and people under 14 with 0.3.

⁶ The ratio of the share in total income of those in the top quintile to those in the bottom quintile of the distribution.

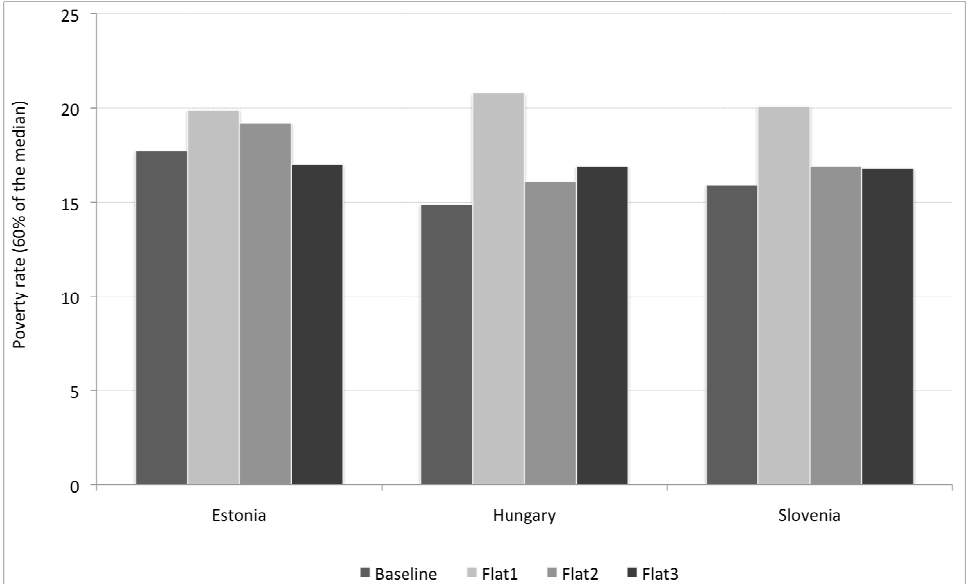
Figure 1. Income inequality under different policy scenarios in Estonia, Hungary and Slovenia



Source: own calculations using EUROMOD version D25
 For more details, see Tables A11-A13 in the Annex.

The alternative flat tax scenarios have a more profound effect on poverty. The risk of poverty, using a constant poverty line at 60% of the medium baseline equivalised income, increases significantly under *Flat1*, due to the abolition of tax allowances. The relative effect is the greatest in Hungary, a country with substantial tax concessions in the baseline system. Overall poverty somewhat increases in *Flat2* and *Flat3* compared to the baseline in all three countries, although the magnitude of change is much smaller than under *Flat1*. A marked difference is Estonia, where poverty under *Flat2* remains high. This is mainly due to the large increase in the poverty risk of elderly (see further below). Note that the estimated poverty rate in Estonia is smaller in *Flat3* (the future scenario) compared to the baseline, suggesting that the reform is likely to have a beneficial effect on low income groups.

Figure 2. Poverty rates under different policy scenarios in Estonia, Hungary and Slovenia, %



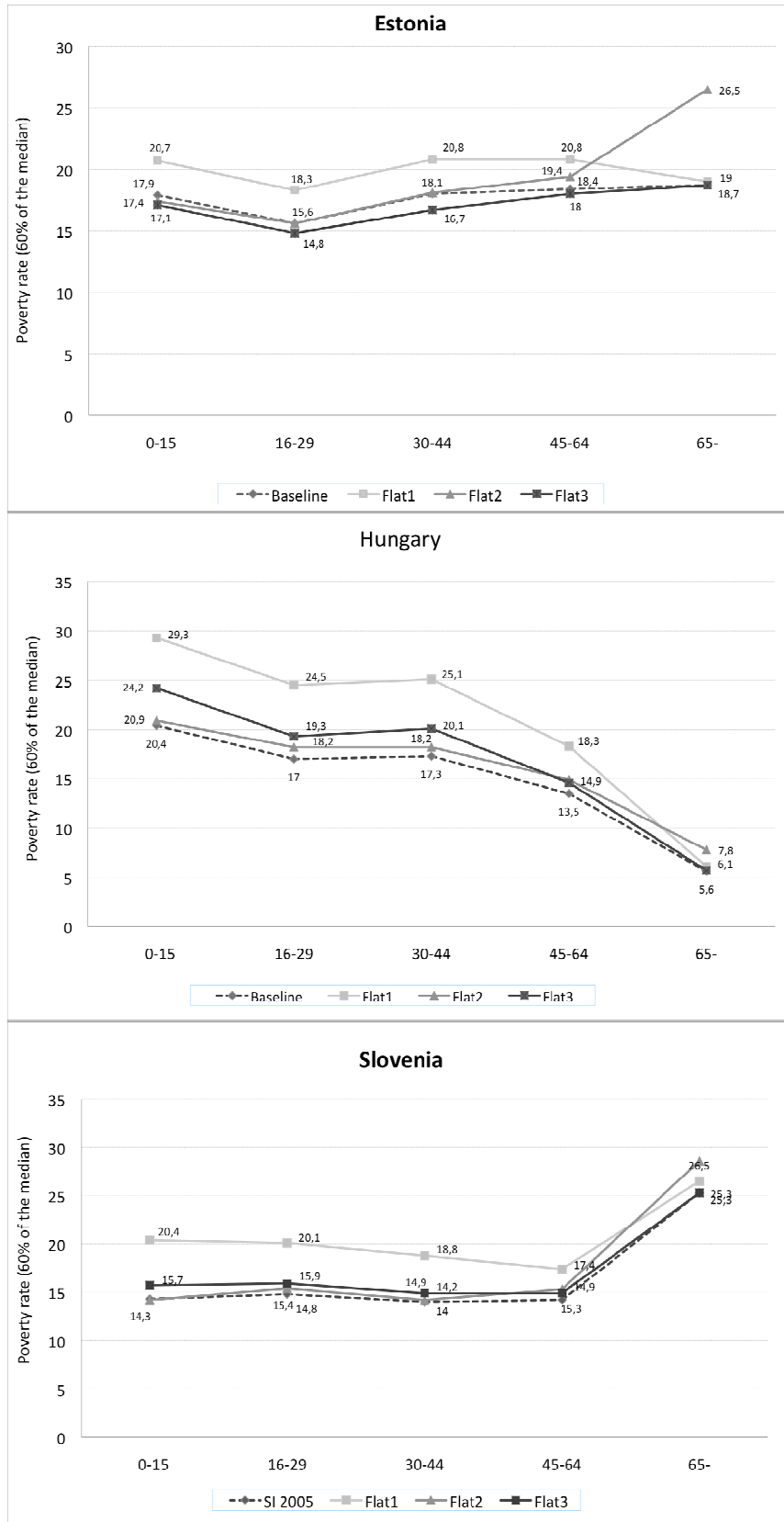
Source: own calculations using EUROMOD version D25
 Note: poverty thresholds are kept constant at 60% of the (national) baseline median equivalised income
 For more details, see Tables A3, A6 and A9 in the Annex.

Next, we explore whether the changes affect any specific age group in particular. The flat tax scenarios have the largest impact on the poverty risk of the elderly in Estonia. In contrast, working age population and especially children are affected more in Hungary and Slovenia. In particular, we found three main features: (1) elderly are strongly hit by the *Flat2* scenario in Estonia (7.8% points increase), while in the other two countries this effect is moderate (2.2-

3.3% points), (2) children suffer the most in Hungary under *Flat1* (poverty increases by 8.9% points), (3) poverty increases among the working age population in all three countries under *Flat1*, although the magnitude is greater in Hungary and Slovenia.

The reason for the elderly being so profoundly affected in Estonia under *Flat2* is because they would lose their current tax allowance which increases their tax burden significantly, and given that many of them are concentrated around the poverty line, this can change the poverty measure quite considerably. The poverty risk of elderly would decline in the *Flat1* scenario, as the whole pension income becomes tax free. However, given that the existing pension allowance combined with the basic allowance makes the effective tax burden on pensions rather low already, the decline in poverty risk is marginal. Surprisingly, for Slovenia the poverty risk of the elderly increases slightly under *Flat1*, in spite of the fact, that their pension incomes would be entirely tax exempt (which are partly taxed in the baseline system). In other scenarios, *Flat2* and *Flat3*, where pensioner incomes would be partly taxed, the poverty risk of the elderly, respectively, increases and remains unchanged. Pensioner incomes are not affected by *Flat1* in Hungary because pensions remain untaxed. The increase of poverty rate of the elderly in *Flat2* reflects that pensions become fully taxable, although the magnitude of change (2.2% points) is modest.

Figure 3. Poverty rates in different age groups



Source: own calculations using EUROMOD version D25

Note: poverty thresholds are kept constant at 60% of the (national) baseline median equivalised income

For more details, see Tables A3, A6 and A9 in the Annex.

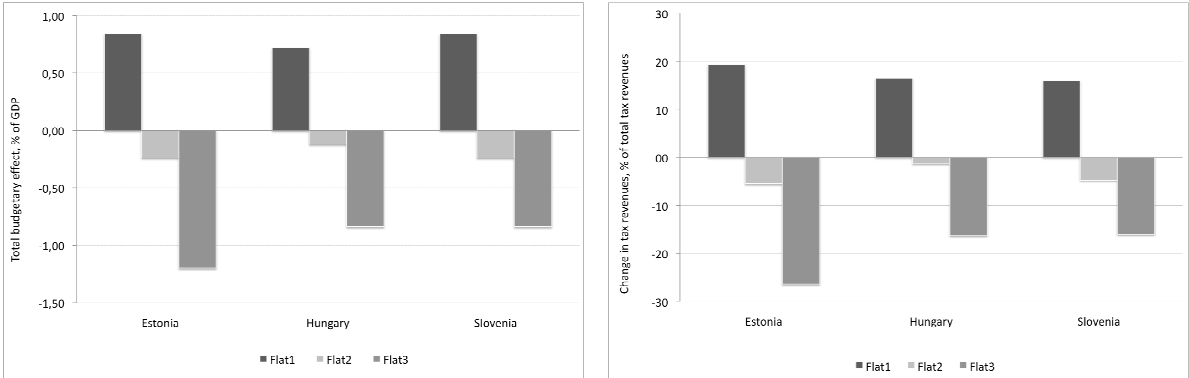
Why are children and working age households affected in Hungary? *Flat1* would increase poverty as it eliminates the general tax allowance for employees and the tax allowance for

families with children, which do benefit households substantially in the baseline system (for an overview of major changes, see Table 4). The introduction of *Flat2* would increase both of these major tax allowances compared to the baseline, but at the same time would make pensions taxable. This latter might also affect some households with dependent children. As a result of these two contrasting effects, poverty among children (up to the age of 15) would remain largely at the same level as in the baseline.

5. Fiscal cost and change of total tax burden

The fiscal effect of the flat tax scenarios simulated here largely depends on the actual tax system. While the introduction of a 20% PIT with no tax exemptions (*Flat1*) is expected to raise extra budget revenues in all the countries, a scheme with a basic and a child allowance and pensions fully taxed (*Flat2*) would generate a moderate loss for the budget (see Figure 4), assuming no changes in tax compliance and labour force participation. The third scenario, with a lower tax rate and an additional allowance for pensions (*Flat3*) would cost more in all countries. The costs of this, probably most feasible, scenario ranges between 16 and 26% as a share of total personal income tax revenues, although it remains below 1.3% of the GDP in all three countries. The fiscal cost is the highest in Estonia, compared to the baseline system.

Figure 4. Total fiscal cost of alternative scenarios in Estonia, Hungary and Slovenia

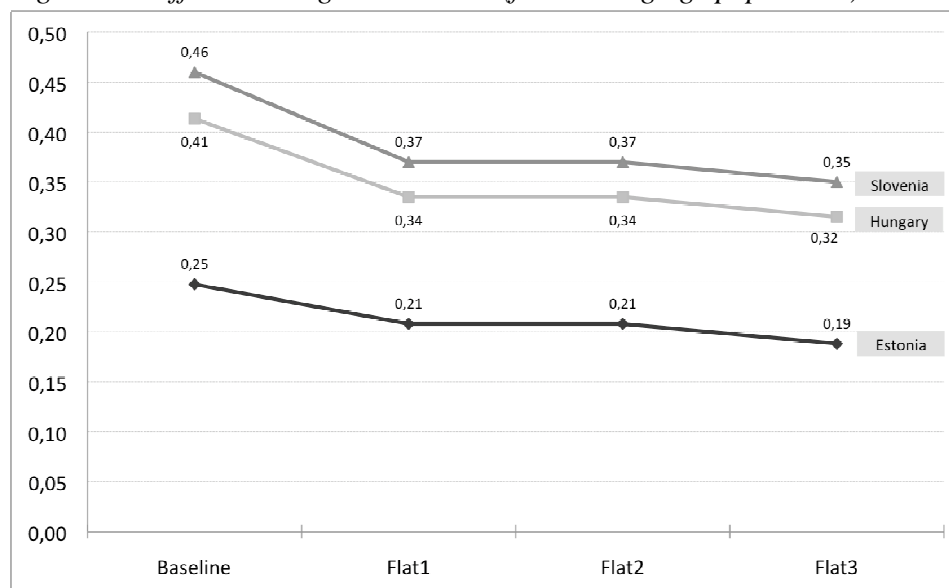


Note: the total fiscal effect is measured in terms of personal income taxes, social security contributions and cash benefits. Only “day-after” effects are considered (neglecting longer term effects or effects due to change of behaviour).

Source: Own calculation using EUROMOD version D25

Parallel to the falling tax revenues, the work incentives for individuals improve with the introduction of all three alternative scenarios (see Figure 5). The indicator used here is effective marginal tax rate (EMTR), which measures the extent to which the combined effect of taxes and benefits reduce the financial gain from additional work effort. In other words, it measures what part of any additional earnings is “taxed away”.

Figure 5. Effective marginal tax rates (for working age population) – median value



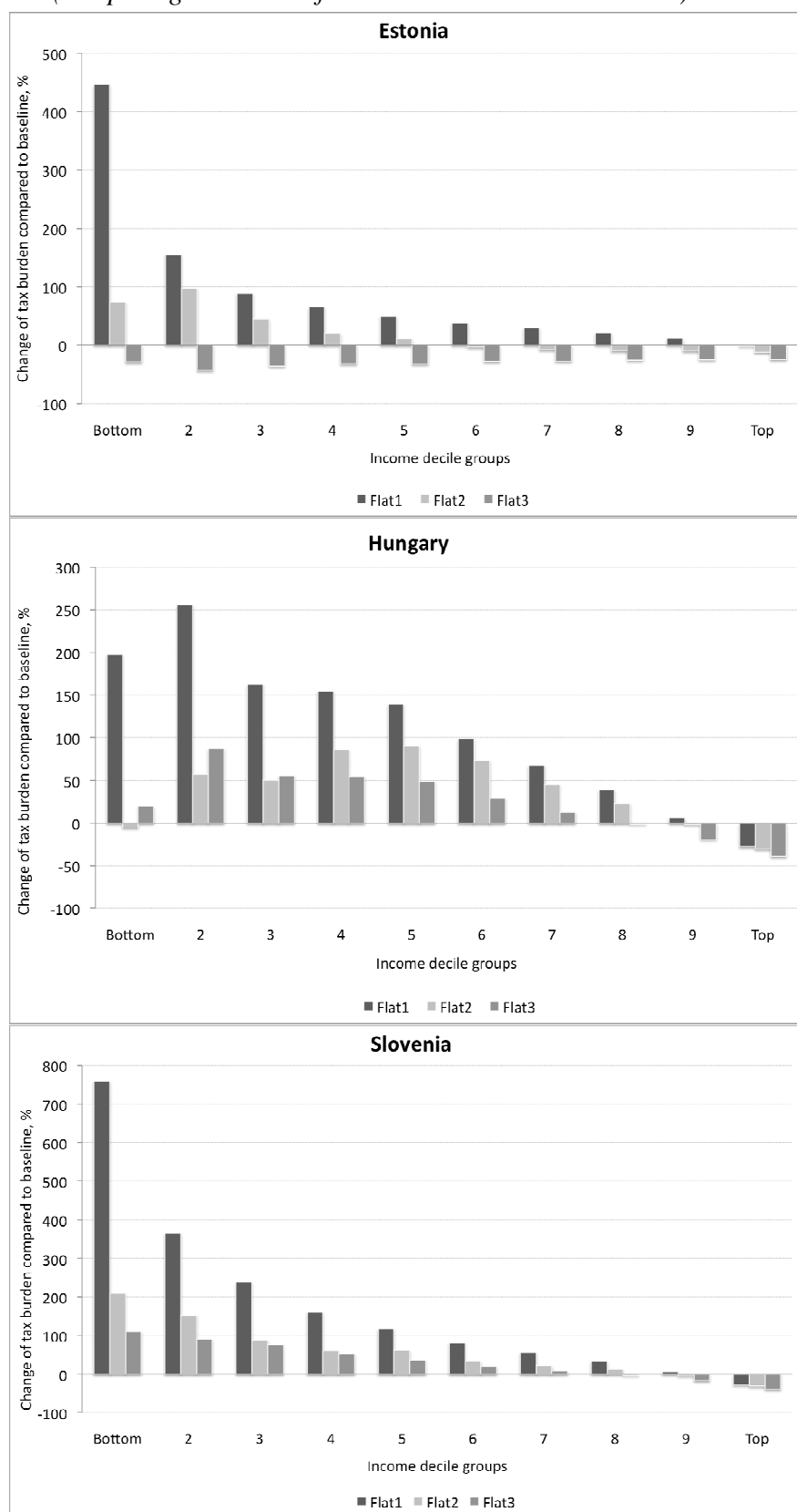
Note: EMTRs are calculated for the working age population (those aged 18-64) with positive employment or self-employment income, increasing earnings of each individual in the household in turn by 3% while the change in all benefits and taxes (including social insurance contributions) is observed at the household level.
Source: Own calculation using EUROMOD version D25

There are large differences in the baseline level of effective marginal tax rates, mostly due to the differences in the level of employee social insurance contributions. Estonia has the lowest rate, 25% in contrast to 41% and 46% in Hungary and Slovenia, respectively. The change in EMTRs across the various scenarios has the same pattern for all three countries, but the decline is greater in Hungary and Slovenia which have higher baseline values. Tax rates are the lowest under *Flat3*: compared to the 2005 baseline system, the reduction of the EMTR is 6-9% points. In sum, the reduction of tax rates as result of a flat tax reform would be greatest in Hungary and Slovenia, countries with a relative progressive tax system.

We also assessed the impact on incomes at the household level to determine who are the winners and losers of these alternative reforms. In most cases, households with lower incomes are likely to be losers, while those at the top would gain. As shown by Figure 6, the tax burden would increase the most under the flat tax rate with no tax exceptions (apart from exempting pensions from tax) (*Flat1*), and in particular the bottom deciles would be adversely affected. It is not surprising, as the low income groups tend to be beneficiaries of the existing zero income tax brackets.

In Estonia, *Flat1* scenario would increase the tax burden of low income earners over 400% for the bottom decile. The extra tax burden decreases with income, and for the top decile there is effectively no change, compared to the baseline scenario. *Flat2* scenario will also increase tax burden for the low income earners, although considerably less than *Flat1* scenario. This is again due to lower tax allowances and eliminated pension allowance. High income earners, starting from the 6th decile will benefit from the decrease in the marginal tax, albeit modestly. Overall the tax burden is about 6% less compared to the baseline. *Flat3* scenario will decrease marginal tax rate and extend the allowance for families with children and this will decrease overall tax burden by one quarter on average. The changes will benefit all income deciles through the reduction of income burden, compared to the baseline. Lower quintiles will gain somewhat more, albeit the differences are not significant across deciles. This confirms our earlier findings, claiming that the future tax scenario has no impact on overall inequality.

Figure 6. Change of tax burden per income deciles in Estonia, Hungary and Slovenia (comparing alternative flat tax scenarios to the baseline)



Source: Own calculation using EUROMOD version D25

Note: the decile groups are defined based on the baseline equivalised disposable income, i.e. kept unchanged also in the alternative scenarios (in order to show the income change for the same group of people)

For more details, see Tables A15-A17 in the Annex.

The overall majority of Hungarian households would suffer from the introduction of any of the three flat tax systems examined here. The tax burden increases by over 100% for the bottom half of the population in the “most radical” *Flat1* scenario. The income loss remains also substantial, over 50% for this group under *Flat2* and *Flat3*. The main reason for this is the taxation of pensions (pensioners are concentrated between the second and the sixth deciles), which are tax exempt in the baseline scenario. The increase of tax payments in the second decile surpasses that of the bottom decile, due to the withdrawal of tax allowances which affect the working poor the most (but not the poorest tenth, where many people are out of work). The top tenth of the income distribution gains under all scenarios, with a tax burden decreasing by around 30-40%.

Most Slovenian households would be hit by an increase of tax burden under all three scenarios, especially *Flat1*. The increase is enormous for the first decile, by over 700% compared to the baseline scenario. This is due to the disappearance of all tax allowances. Tax burden will be 150-200% higher under *Flat2* scenario for the bottom two deciles compared to the baseline. Subsequent deciles would suffer gradually less, and only the two highest deciles will benefit. Overall tax burden is 5% less compared to the baseline scenario. The social impact of tax reform in Slovenia is mildest in the case of the *Flat3* system. Although this version will still increase tax burden for individuals in low income households, yet to a considerably less extent than either *Flat1* or *Flat2*. In this “future Estonian” scenario, the upper third of the income distribution would benefit from the decrease of marginal tax.

6. Conclusions

Flat income tax schemes bring simplification in the tax rates, but more importantly, in the system of tax allowances and the calculation of the tax base. This might explain their popularity in Eastern Europe, where this pursuit of transparency in the tax system is hoped to increase tax compliance and economic growth and thus ultimately tax revenues.

The purpose of this paper is to illustrate the “day-after effects” of the introduction of alternative flat tax schemes in Estonia, Hungary and Slovenia in a comparable manner. The analysis is based on EUROMOD, the European tax-benefit microsimulation model, which now includes these countries, enabling cross-country comparisons. These reform scenarios keep all other tax-benefit policy *rules* unchanged, but not necessary the value of these taxes and benefits. For instance, in case of means-tested benefits, provided only if the personal or household net income is below a certain threshold, entitlements might change as the result of the tax reform. With EUROMOD, we are able to take into account such interactions between taxes and benefits.

The three alternative proposals considered have actually occurred in the political discussions in these countries and in case of Estonia, it has been already approved by the parliament to take effect in a few years’ time. In this paper, we estimate the distributional and fiscal effects of these reforms, both for the country of origin and other two if the corresponding proposal was “imported”. These scenarios may be thought of as illustrations of the possibly many alternative approaches.

The results suggest that the most radical scenario considered here, with a flat tax rate of 20% and no tax concessions (apart from exempting pensions from tax) would have a dramatic

effect on inequality and poverty. For instance, the Gini coefficient would increase from 0.27 to 0.32 in Hungary and from 0.27 to 0.30 in Slovenia. Also, most of the cost of the reform would be borne by lower income groups, while the “taxman” (the government budget) and the richest fifth of the population appear to be the only beneficiaries. This scenario, which has appeared in Hungarian politics, would increase the poverty of children by 9% points and poverty among the working age population by 7-8% points if implemented there, highlighting the drawbacks of ad hoc policy ideas without thorough impact assessment.

A less radical proposal, originated in Slovenia, with a 20% tax rate and certain allowances (but without any special concession for pensions) still has a negative impact on the majority of the population in all three countries, albeit to a much smaller extent, although the total budgetary impact is slightly negative. Implementation of the Slovenian own flat tax proposal in Slovenia would result in rising inequality (from 0.27 to 0.30 in case of the Gini coefficient) and increasing tax burden on the bottom eight deciles of the population. At the same time, the median level of effective marginal tax rates would decline from 46% to 37%.

The reform taking effect in Estonia by 2011 will cost the country 1.2% of the GDP while being somewhat less for other two countries. The impact on households in all three countries is rather varied, depending on the original tax system of the specific country. In Estonia, the inequality will increase, but the tax burden would decline almost uniformly in all income groups, compared to the tax system of 2005. In Hungary, the middle of the income distribution would lose the most, because of the novel tax burden on pension incomes, while the effect on the bottom decile would be more modest (but still negative). The richest fifth of the population would benefit from the uniform income tax rate of 18% (keeping social security contributions unchanged), both in Hungary and Slovenia, countries with a progressive tax system.

In sum, in Hungary and Slovenia, the introduction of the flat tax schemes as considered here would result in a substantial increase of the tax burden for the bottom deciles as well as increase in inequality and poverty. The impact on inequality and poverty is relative modest in Estonia which already has a functioning flat tax system and a relatively high level of inequality. However, these flat tax schemes would reduce (the median level of) effective marginal tax rates by 4-9% points which might result in increasing tax compliance or labour market participation.

Overall, the analysis on these three countries shows that the specific design of flat tax schemes largely determines their impact on fiscal revenues and income distribution. Radical and simple solutions, such as introducing a single rate and abolishing all benefits appear to have detrimental effects on lower income groups. The combination of a flat rate with a basic allowance and some other benefits seems to offer a more viable strategy. Note, however, that this also implies a certain degree of progressivity in the system. These solutions thus may ultimately not differ fundamentally from the simplification of the tax systems as they are. The charm of “flat tax” may ultimately lie in its simplicity and transparency, but not necessary in its feature of having a single rate.

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Annex

Table A1 Personal income tax parameters for 2005 in Estonia, Hungary and Slovenia, as simulated in EUROMOD

	Estonia	Hungary	Slovenia
Tax schedule			
number of tax brackets	1	2	5
marginal tax rates (%)	24	18/38	16/33/38/42/50
type	comprehensive (applied on all sources of incomes)	schedular (capital and partly self-employment income are taxed separately)	comprehensive
Tax allowances and credits			
general	allowance of 1,303 EUR (20,400 EEK) per year	tax credit on wages/salaries with the maximum amount of 438 EUR (108,000 HUF) per year	allowance of 2,355 EUR (564,400 SIT) per year
child related	yearly allowance of 1,303 EUR (20,400 EEK) per child, starting from the third	tax credit of 146 EUR (per year) if 1 child, 195 EUR per child if 2 children, 487 EUR per child if 3+ children	yearly allowance of 1,982 EUR for the first child, 2,154 for the second, 2,872 for the third and increasing further 718 EUR for each additional child (e.g. 3,590 EUR for the 4th, 4,309 EUR for the 5th etc)
old age/pensions related	yearly allowance of 2,300 EUR (36,000 EEK), applied to pension incomes	pensions not taxed	yearly allowance of 1,149 EUR and a tax credit equal to 14.5% of individual pensions
invalidity related	none	tax credit of 97 EUR per year in case of serious disability	yearly allowance of 14,361 EUR
other	none	not simulated	yearly allowance for self-employed journalists and culture professionals (up to 15% of income or 2,441 EUR per year); yearly allowance of 5,007 EUR on student work (not simulated)
Deductible expenses			
compulsory social insurance contributions	yes	no	yes
voluntary pension insurance	up to 15% of taxable income	not simulated	up to 5.844% of gross wage or 2,293 EUR per year
other	housing loan interest payments, education and training expenses (altogether up to 50% of taxable income or 3,196 EUR per year)	not simulated	other selected expenses (up to 2% of intermediary tax base)
Standardised costs	none	none	10% of contractual work (including student work) and royalties, 40% of rents, 35% of dividends
Unit of assessment	individual or married couples (optional)	individual	individual
Tax base	Earnings, self-employment income, royalties, rent, pensions, contributory	Earnings, (part of) self-employment income, property income, contributory benefits	Earnings, self-employment income, royalties, interests, dividends, rent, imputed rent from land, pensions,

	benefits (unemployment, maternity, sickness) – after deducting employee and self-employed SICs	(unemployment, maternity, sickness, child care)	contributory benefits (unemployment, maternity, child care) – <i>after deducting employee and self-employed SICs</i>
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Estonia

Table A2 Poverty rates under the alternative scenarios using alternative thresholds (40, 50, 60, 70% of the baseline median), 2005

percentage of individuals below:	EE 2005	Flat1	Flat2	Flat3
40% of median equivalent income	5.7	6.7	6.0	5.7
Males	5.7	6.9	6.0	5.6
Females	5.8	6.5	6.1	5.7
50% of median equivalent income	10.6	12.3	11.1	10.3
Males	10.9	12.5	11.2	10.5
Females	10.4	12.2	11.1	10.1
60% of median equivalent income	17.7	19.9	19.2	17.0
Males	16.9	19.2	17.7	16.2
Females	18.3	20.5	20.5	17.8
70% of median equivalent income	25.2	28.5	26.0	24.2
Males	23.1	26.5	23.5	22.1
Females	27.0	30.1	28.1	25.9

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the modified OECD equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. Poverty thresholds are kept constant at the baseline levels (see Table A14).

Source: Own calculation using EUROMOD version D25

Table A3 Poverty rates under the alternative scenarios by age and gender groups, 2005

	EE 2005	Flat1	Flat2	Flat3
Population	17.7	19.9	19.2	17.0
0-15	17.9	20.7	17.4	17.1
16-29	15.6	18.3	15.6	14.8
30-44	18.0	20.8	18.1	16.7
45-64	18.4	20.8	19.4	18.0
65-	18.7	19.0	26.5	18.7
Men	16.9	19.2	17.7	16.2
Women	18.3	20.5	20.5	17.8

Notes: Poverty threshold: 60% of the baseline median (i.e. constant across scenarios)

Source: Own calculation using EUROMOD version D25

Table A4 Percentage of winners and losers in comparison to baseline scenario

percentage of individuals by deciles	Flat1		Flat2		Flat3	
	winners	losers	winners	losers	winners	losers
1	0.0	47.2	14.6	33.6	18.3	8.8
2	0.0	52.5	26.8	60.0	34.5	7.0
3	0.0	61.9	43.2	49.6	47.7	5.8
4	0.1	70.9	48.2	47.5	59.2	6.2
5	0.0	77.7	54.9	42.4	64.5	6.3
6	0.2	95.2	69.5	30.5	83.8	6.8
7	0.8	98.1	72.5	27.5	90.9	6.4
8	3.7	96.0	77.2	22.8	96.9	2.8
9	11.4	87.9	76.5	23.4	98.4	0.9
10	47.7	52.3	84.8	15.2	99.9	0.0
Total	6.4	74.0	56.8	35.3	69.4	5.1

Notes: Winners are individuals with higher equivalised standard disposable income comparing to baseline scenario; losers are individuals with lower equivalised standard disposable income comparing to baseline scenario. Deciles refer to baseline scenario.

Source: Own calculation using EUROMOD version D25

Hungary

Table A5 Poverty rates under the alternative scenarios using alternative thresholds (40, 50, 60, 70% of the baseline median), 2005

percentage of individuals below:	HU 2005	Flat1	Flat2	Flat3
40% of median equivalent income	4.1	6.0	3.9	4.4
males	4.6	6.8	4.4	4.9
females	3.7	5.3	3.6	3.9
50% of median equivalent income	8.4	12.0	8.7	9.2
males	9.1	13.0	9.5	9.9
females	7.7	11.0	8.0	8.5
60% of median equivalent income	14.9	20.8	16.1	16.9
males	15.5	21.6	16.5	17.4
females	14.3	20.1	15.8	16.4
70% of median equivalent income	22.5	30.0	25.2	25.6
males	23.0	30.8	25.3	25.9
females	22.1	29.4	25.1	25.3

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the modified OECD equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. Poverty thresholds are kept constant at the baseline levels (see Table A14).

Source: Own calculation using EUROMOD version D25

Table A6 Poverty rates (60% of the baseline median) by age and gender groups, 2005

	HU 2005	Flat1	Flat2	Flat3
Population	14.9	20.8	16.1	16.9
0-15	20.4	29.3	20.9	24.2
16-29	17.0	24.5	18.2	19.3
30-44	17.3	25.1	18.2	20.1
45-64	13.5	18.3	14.9	14.6
65-	5.6	6.1	7.8	5.7
Men	15.5	21.6	16.5	17.4
Women	14.3	20.1	15.8	16.4

Notes: Poverty threshold: 60% of the baseline median (i.e. constant across scenarios)

Source: Own calculation using EUROMOD version D25

Table A7 Percentage of winners and losers in comparison to baseline scenario

percentage of individuals by deciles	Flat1		Flat2		Flat3	
	winners	losers	winners	losers	winners	losers
1	2.0	80.7	20.5	28.5	16.7	43.9
2	2.4	83.2	14.8	61.6	15.4	63.2
3	4.6	79.8	16.9	73.4	14.6	66.4
4	4.6	72.1	18.4	77.5	15.0	59.5
5	4.7	72.3	16.4	82.1	15.7	60.4
6	5.7	69.6	21.9	77.7	19.8	55.6
7	10.7	70.2	22.1	77.5	22.2	66.4
8	14.3	70.0	31.6	68.3	33.1	61.9
9	33.8	55.0	47.4	52.6	51.4	48.1
10	70.2	25.0	73.9	26.0	80.1	19.8
Total	15.3	67.8	28.4	62.5	28.4	54.5

Notes: Winners are individuals with higher equivalised standard disposable income comparing to baseline scenario; losers are individuals with lower equivalised standard disposable income comparing to baseline scenario. Deciles refer to baseline scenario.

Source: Own calculation using EUROMOD version D25

Slovenia

Table A8 Poverty rates under the alternative scenarios using alternative thresholds (40, 50, 60, 70% of the baseline median), 2005

percentage of individuals below:	SI 2005	Flat1	Flat2	Flat3
40% of median equivalent income	3.5	4.1	3.7	3.6
males	3.6	4.2	3.8	3.7
females	3.5	4.0	3.7	3.5
50% of median equivalent income	8.7	11.0	9.5	9.1
males	8.8	11.0	9.5	9.1
females	8.7	11.1	9.6	9.1
60% of median equivalent income	15.9	20.1	16.9	16.8
males	15.1	19.4	15.9	16.0
females	16.7	20.7	17.8	17.5
70% of median equivalent income	23.4	28.6	24.9	24.6
males	22.3	27.3	23.6	23.4
females	24.5	29.7	26.2	25.8

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the modified OECD equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions. Poverty thresholds are kept constant at the baseline levels (see Table A14).

Source: Own calculation using EUROMOD version D25

Table A9 Poverty rates under the alternative scenarios by age and gender groups, 2005

	SI 2005	Flat1	Flat2	Flat3
Population	15.9	20.1	16.9	16.8
0-15	14.3	20.4	14.2	15.7
16-29	14.8	20.1	15.4	15.9
30-44	14.0	18.8	14.2	14.9
45-64	14.2	17.4	15.3	14.9
65-	25.3	26.5	28.6	25.3
Men	15.1	19.4	15.9	16.0
Women	16.7	20.7	17.8	17.5

Notes: Poverty threshold: 60% of the baseline median (i.e. constant across scenarios)

Source: Own calculation using EUROMOD version D25

Table A10 Percentage of winners and losers in comparison to baseline scenario

percentage of individuals by deciles	Flat1		Flat2		Flat3	
	winners	losers	winners	losers	winners	losers
1	3.8	35.3	8.0	26.3	4.8	22.7
2	1.0	71.5	15.1	67.1	5.5	59.6
3	0.5	83.8	19.8	73.5	4.6	73.3
4	0.8	86.6	20.6	78.4	9.5	74.9
5	1.2	87.7	15.7	84.3	10.4	77.6
6	0.9	90.7	29.5	70.5	18.1	76.5
7	3.3	90.7	38.9	61.1	28.7	68.9
8	10.2	85.9	50.6	49.4	48.5	51.0
9	30.3	68.5	63.0	37.0	77.2	22.4
10	87.8	12.2	85.8	14.2	93.0	7.0
Total	14.0	71.3	34.7	56.2	30.0	53.4

Notes: Winners are individuals with higher equivalised standard disposable income comparing to baseline scenario; losers are individuals with lower equivalised standard disposable income comparing to baseline scenario. Deciles refer to baseline scenario.

Source: Own calculation using EUROMOD version D25

Table A11 Income inequality in Estonia under various policy scenarios

	<i>EE 2005</i>	<i>Flat1</i>	<i>Flat2</i>	<i>Flat3</i>
Gini Coefficient	0.323	0.334	0.332	0.332
Income quintile share ratio (S80/S20)	5.21	5.45	5.49	5.45
Average equivalised income per decile per individual (EUR PPP), monthly				
1	165	158	164	166
2	254	242	249	257
3	314	298	310	321
4	367	348	364	376
5	420	400	418	432
6	485	462	490	504
7	565	540	572	589
8	668	644	680	699
9	822	803	839	863
10	1,364	1,368	1,404	1,444
Mean income (equivalised)	542	526	549	565
Mean income (unequivalised)	365	355	368	379
Median income (equivalised)	450	430	453	467
Median income (unequivalised)	279	270	262	279

Notes: Computed for individuals according to their household disposable income (HDI) equivalised by the modified OECD equivalence scale. HDI are calculated as the sum of all income sources of all household members net of income tax and social insurance contributions.

Source: Own calculation using EUROMOD version D25

Table A12 Income inequality in Hungary under various policy scenarios

	<i>HU 2005</i>	<i>Flat1</i>	<i>Flat2</i>	<i>Flat3</i>
Gini Coefficient	0.274	0.316	0.302	0.309
Income quintile ratio (S80/S20)	4.03	4.85	4.46	4.65
Average equivalised income per decile per individual (EUR PPP), monthly				
1	203	183	203	200
2	299	269	293	290
3	361	324	351	348
4	413	377	397	400
5	469	427	446	453
6	524	483	499	512
7	584	543	562	576
8	665	627	648	664
9	781	771	788	812
10	1,242	1,377	1,393	1,435
Mean income (equivalised)	554	538	558	569
Mean income (unequivalised)	376	367	377	386
Median income (equivalised)	496	451	469	481
Median income (unequivalised)	350	313	322	332

Notes: see Table A11.

Source: Own calculation using EUROMOD version D25

Table A13 Income inequality in Slovenia under various policy scenarios

	<i>SI 2005</i>	<i>Flat1</i>	<i>Flat2</i>	<i>Flat3</i>
Gini Coefficient	0.270	0.300	0.292	0.296
Income quintile ratio (S80/S20)	3.99	4.46	4.36	4.41
Average equivalised income per decile per individual (EUR PPP), monthly				
1	390	379	386	387
2	542	503	530	532
3	667	610	651	648
4	776	709	756	754
5	872	806	844	851
6	973	903	950	955
7	1,090	1,023	1,067	1,079
8	1,229	1,175	1,214	1,233
9	1,456	1,437	1,470	1,497
10	2,272	2,470	2,504	2,553
Mean income (equivalised)	1,026	1,001	1,037	1,049
Mean income (unequivalised)	660	646	664	675
Median income (equivalised)	922	854	890	900
Median income (unequivalised)	602	562	572	598

Notes: see Table A11

Source: Own calculation using EUROMOD version D25

Table A14 Constant poverty lines, in EUR PPP (monthly)

% of median income	EE	HU	SI
40%	180	198	369
50%	225	248	461
60%	270	298	553
70%	315	347	645

Table A15 Estonia: Fiscal cost and change of total tax burden 2005

	EE 2005		Flat1		Flat2		Flat3	
	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio
Surplus/deficit for the budget (monthly) Compared to the baseline	-53,522		-39,735	-	-57,616		-72,896	
			13,787		-4,094		-19,374	
Total monthly income tax burden by income decile								
1	212	-	1,158	5.46	368	1.73	151	0.71
2	682	-	1,741	2.55	1,343	1.97	387	0.57
3	1 536	-	2,895	1.88	2,217	1.44	984	0.64
4	2 412	-	3,986	1.65	2,892	1.20	1,647	0.68
5	3 216	-	4,828	1.50	3,584	1.11	2,190	0.68
6	5 465	-	7,542	1.38	5,267	0.96	3,941	0.72
7	7 187	-	9,319	1.30	6,669	0.93	5,222	0.73
8	10 289	-	12,387	1.20	9,318	0.91	7,637	0.74
9	13 820	-	15,482	1.12	12,493	0.90	10,339	0.75
10	28 478	-	28,069	0.99	25,113	0.88	21,436	0.75
All taxes	73 299	-	87 409	1.19	69,264	0.94	53,934	0.74

Source: Own calculation using EUROMOD version D25

Table A16 Hungary: Fiscal cost and change of total tax burden 2005

	HU 2005		Flat1		Flat2		Flat3	
	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio	1000 EUR PPP	Ratio
Surplus/deficit for the budget (monthly) Compared to the baseline	-869,976		-778,242		-878,157		-976,173	
			91,734		-8,181		-106,197	
Total monthly income tax burden by income decile								
1	7,345		21,831	2.97	6,959	0.95	8,770	1.19
2	8,924		31,728	3.56	13,973	1.57	16,687	1.87
3	15,438		40,546	2.63	23,215	1.50	23,908	1.55
4	14,822		37,770	2.55	27,501	1.86	22,868	1.54
5	19,281		46,120	2.39	36,711	1.90	28,660	1.49
6	26,448		52,550	1.99	45,770	1.73	34,116	1.29
7	38,969		65,322	1.68	56,618	1.45	44,005	1.13
8	59,156		82,012	1.39	72,449	1.22	58,632	0.99
9	104,731		110,788	1.06	103,209	0.99	84,754	0.81
10	328,322		237,103	0.72	229,250	0.70	199,225	0.61
All taxes	623,435		725,771	1.16	615,656	0.99	521,625	0.84

Source: Own calculation using EUROMOD version D25

Table A17 Slovenia: Fiscal cost and change of total tax burden 2005

	SI 2005		Flat1		Flat2		Flat3	
	1000 EUR	Ratio	1000 EUR	Ratio	1000 EUR	Ratio	1000 EUR	Ratio
Deficit/surplus for the budget (monthly)	-263,460		-235,798		-272,636		-293,438	
Compared to the baseline			27,661		-9,177		-29,979	
Total tax burden by income decile								
1	364	-	3,127	8.58	1,125	3.09	764	2.10
2	1,412	-	6,560	4.65	3,568	2.53	2,691	1.91
3	2,948	-	9,960	3.38	5,539	1.88	5,187	1.76
4	4,909	-	12,759	2.60	7,881	1.61	7,466	1.52
5	6,698	-	14,546	2.17	10,819	1.62	9,058	1.35
6	10,358	-	18,688	1.80	13,773	1.33	12,460	1.20
7	14,184	-	22,149	1.56	17,417	1.23	15,300	1.08
8	19,530	-	25,928	1.33	21,844	1.12	18,991	0.97
9	31,445	-	33,485	1.06	30,143	0.96	26,185	0.83
10	92,978	-	67,221	0.72	63,862	0.69	57,050	0.61
All taxes	184,827	-	214,422	1.16	175,971	0.95	155,152	0.84

Source: Own calculation using EUROMOD version D25