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Policy Recommendations on the Gender Effects of Changes in Tax Bases, Rates, and Units

Results of Microsimulation Analyses for Six Selected EU Member States

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Abstract

The design of tax systems has a considerable impact on the personal distribution of income and wealth at the household and the individual level, and due to the gender-differentiated socio-economic conditions also in a gender perspective. One of the most important areas of taxation is the taxation of personal incomes through the personal income tax. It directly influences the after-tax distribution of incomes from the various income sources. Besides the level of income tax rates and the design of the income tax schedule (progressive versus flat tax schedule), the system of household taxation (joint versus individual taxation), the determination of taxable income and the design of tax exemptions (tax allowances versus credits), particularly child-related ones, are crucial determinants in this respect. In addition to the gender-differentiated distributional impact, income tax systems may also have a gender-differentiated effect on work incentives and the distribution of paid and unpaid work between men and women. It is important to note that these gender-differentiated effects imply an implicit tax bias of income tax systems which results from different socio-economic conditions and behavioural patterns of women and men, while modern income tax systems do not include any tax provisions linked to gender and thus do not contain any explicit tax bias.

Against this background, the paper presents an overview of the microsimulation results for selected provisions of the personal income tax system done with EUROMOD for six selected Member States of the European Union (EU): Germany, Austria, Spain, Czech Republic, United Kingdom, and Sweden. These Member States were selected because they belong to different "families of taxation" with different traditions, institutional, historical and cultural factors and developments, and different religious and partisan influences shaping the evolution of (personal income) tax systems.

Overall, our simulations show that the design of income tax schedules, systems of household taxation and (tax-related) child benefits has non-negligible effects on income distribution as well as work incentives in general and particularly from a gender perspective for the six EU Member States considered. Although the effects differ across countries, particularly on the level of household types, depending on the concrete design of the tax benefit system and the interactions between tax and benefit provisions, some general tendencies and effects can be identified.

Firstly, the introduction of a flat tax hardly impacts the simulated poverty risk, but increases income inequality. Gender-differentiated effects are less clear-cut, and their

extent differs across countries. However, generally a flat tax benefits couple households with a male active income contributor, while households with female active income contributors lose. Rather pronounced gender differences can also be found between active lone mothers and fathers. While in almost all countries active lone mothers lose from the introduction of a flat tax, active lone fathers are winners.

Secondly, replacing individual taxation by a joint taxation system with income splitting has small effects on the poverty risk only, but decreases income inequality in all countries analysed. The introduction of joint taxation with income splitting benefits couple households with one active income contributor in almost all countries included, regardless of the existence of children and of the gender of the active income contributor. Gender-differentiated effects are almost non-existent in childless couple households with one active income contributor. They are a little more pronounced if there are children in the household, due to income differences between spouses.

Thirdly, our simulations show that the various child benefits have the expected overall distributional effects. Replacing an existing child benefit granted as cash transfer by tax-related child benefits raises the poverty risk and income inequality. Moreover, the inequality- and poverty-increasing effect of a child tax allowance is estimated to be higher compared to that of a child tax credit. Gender-differentiated effects are not clear-cut and require deeper analyses.

Overall, one central result of our analyses is that the extent of gender differences in the effects of the various simulation scenarios differs markedly across the countries included. It remains to be explored, in a next step, to what extent these cross-country differences in the gender-differentiated impact of policy measures are associated with the prevailing welfare state / family of taxation types.

Keywords: EUROMOD, microsimulations, gender effects, income taxation

JEL classification code: D31, H21, H24, J16

1 Introduction[1)2)]

The design of tax systems has a considerable impact on the personal distribution of income and wealth at the household and the individual level, and due to gender-differentiated socio-economic conditions also in a gender perspective.[3] One of the most important areas of taxation is the taxation of personal incomes through the personal income tax, which directly influences the after-tax distribution of incomes from the various income sources. Besides the level of income tax rates and the design of the income tax schedule (progressive versus flat tax schedule), the system of household taxation (joint versus individual taxation), the determination of taxable income and the design of tax exemptions (tax allowances versus credits), particularly child-related ones, are crucial determinants in this respect (Obinger and Wagschal 2010). In addition to the gender-differentiated distributional impact, income tax systems may also have a gender-differentiated effect on work incentives and the distribution of paid and unpaid work between men and women. It is important to note that these gender-differentiated effects imply an implicit tax bias of income tax systems which results from different socio-economic conditions and behavioural patterns of women and men, while modern income tax systems do not include any tax provisions linked to gender and thus do not contain any explicit tax bias (Thomas and O'Reilly 2016).

Against this background, the paper presents an overview of the microsimulation results for selected provisions of the personal income tax system done with EUROMOD for six selected Member States of the European Union (EU): Germany, Austria, Spain, Czech Republic, United Kingdom, and Sweden. These Member States were selected because they belong to different "families of taxation" (Wagschal 2005, Obinger and Wagschal 2010) with different traditions, institutional, historical and cultural factors and developments, and different

[1] We thank Andrea Sutrich for careful research assistance, and Paul Eckerstorfer, Asa Gunnarsson, Ulrike Spangenberg and Gerlinde Verbist for valuable suggestions and comments. The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme 2014-2020, grant agreement No. FairTax 649439.
[2] The results presented here are based on EUROMOD version H1.0+. EUROMOD is maintained, developed and managed by the Institute for Social and Economic Research (ISER) at the University of Essex, in collaboration with national teams from the EU member states. We are indebted to the many people who have contributed to the development of EUROMOD. The process of extending and updating EUROMOD is financially supported by the European Union Programme for Employment and Social Innovation 'Easi' (2014-2020). The results and their interpretation are the authors' responsibility.
For the Czech Republic, Germany, Spain and Sweden we make use of microdata from the EU Statistics on Incomes and Living Conditions (EU-SILC) made available by Eurostat (169/2017-EUSILC); for Austria we use the national SILC data made available by Statistics Austria; for the UK we use Family Resources Survey (FRS) data made available by the Department of Work and Pensions via the UK Data Service. Data providers do not bear any responsibility for the analysis or interpretation of the data reported here.
[3] Gunnarsson, Schratzenstaller and Spangenberg (2017) give an overview of the relevant taxation areas and the status quo in the EU from a gender perspective.

religious and partisan influences shaping the evolution of (personal income) tax systems (see chapter 2). In chapter 3 we summarise the results of our microsimulations of the impact of various personal income tax provisions.

2 Background

2.1 Selection of EU Member States for the microsimulation analyses

The classification of the welfare state models prevailing in advanced democratic countries has a longstanding tradition in welfare state research.[4] This strand of the welfare state literature has its foundation in the seminal contribution by Esping-Andersen (1990), who, along the defining concepts of "stratification" and "decommodification", found "Three Worlds of Welfare Capitalism": a Liberal, a Conservative, and a Social-democratic world. The four "families of nations" identified by Castles, Schmidt and Therborn (1993) according to historical traditions, language and neighbourhood include an English-speaking family, a Nordic family, a continental Western European and a Southern European family. Hall and Soskice (2001) distinguish between Liberal and Coordinated market economies as varieties of capitalism. Ebbinghaus (2012) points out that in this research the previously socialist Central and Eastern European "new" EU Member States mostly are ignored, with Castles and Obinger (2008) being one rare exception.

Departing from these typologies, Wagschal (2005), based on a cluster analysis using 144 tax indicators for 21 selected OECD countries, develops a taxonomy for tax systems –four "families of taxation" (see also Obinger and Wagschal 2010, Wagschal 2015). These families of taxation are primarily distinguished by the level of overall taxation[5] and the dominant taxing principle (benefit versus ability to pay principle):[6]

- an English-speaking family (*UK*), with relatively low levels of taxation and a predominance of the ability to pay principle;
- a Continental family (*Austria*, Belgium, France, *Germany*, the Netherlands), which is strongly shaped by the benefit/insurance principle (based on the Bismarck tradition of social security financing) and relies heavily on social contributions;
- a Nordic family (Denmark, Finland, *Sweden*), showing the highest levels of taxation and relatively low social contributions;
- a peripheral or residual cluster, including a Southern (or Mediterranean) family (Italy, Portugal, *Spain*, Greece) as well as Ireland, with medium levels of taxation and no clear predominance of one of the two fundamental taxing principles.

[4] See Wagschal (2015) for an overview.
[5] Measured as total revenues from taxation and social security contributions in relation to GDP.
[6] The non-EU OECD countries included in the empirical study by Wagschal (2005) are neglected here.

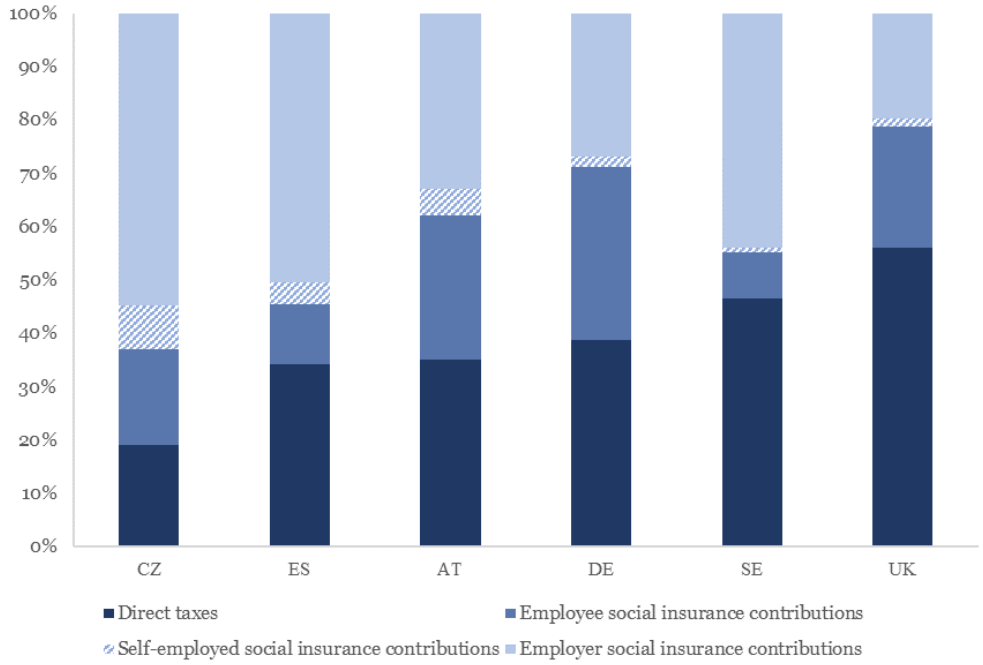
Welfare state research finds that partisan complexion of governments is a crucial determinant of the evolution of these different families of taxation (Obinger and Wagschal 2010, Wagschal 2015): accordingly, conservative and liberal parties are dominant in the English-speaking family of taxation, while Christian democratic and social democratic parties strongly shape the Continental and the Southern family. The Nordic family is primarily influenced by social democratic parties.

Of the selected six EU Member States analysed in our microsimulations, Austria and Germany are part of the Continental family of taxation, while the United Kingdom belongs to the English-speaking family, Sweden to the Nordic family, and Spain to the Southern/Mediterranean family. In the research on families of taxation, with its origins dating back to the mid-2000s, none of the 13 "new" EU Member States joining the EU beginning with the year 2004 has been considered so far. Closing this research gap is beyond the scope of our analysis. We therefore do not try to fit the Czech Republic into one of the four families of taxation outlined above, but rather establish an additional fifth family which may be labelled "New" family of taxation. Due to historical reasons and geographical proximity, (income) tax systems in those countries which can be attributed to this family of taxation share a number of common structural traits with the countries belonging to the Continental family of taxation. This new family in any case is characterised by overall tax ratios which in most new Member States are as low as those prevailing in the liberal English-speaking family, while the two fundamental taxing principles are of varying importance in the individual countries.

Figure 1 shows the simulated structure of government revenues[7] for the six selected countries according to the baseline scenario (i.e. the existing tax and benefits system) for the year 2016. In line with the before-mentioned welfare state classification, the share of direct taxation is rather high in the UK and in Sweden, while the two Continental states Germany and Austria as well as Spain (and the Czech Republic) rely more on social security contributions.

[7] See Burgos et al. (2017), De Agostini (2017), Fuchs and Hollan (2017), Gallego Granados (2016), Kalíšková, Münich and Pavel (2016) and Lindström (2017) for the scope of tax-benefit policies implemented in EUROMOD.

Figure 1 - Government revenue through taxes and social insurance contributions, baseline scenario, 2016

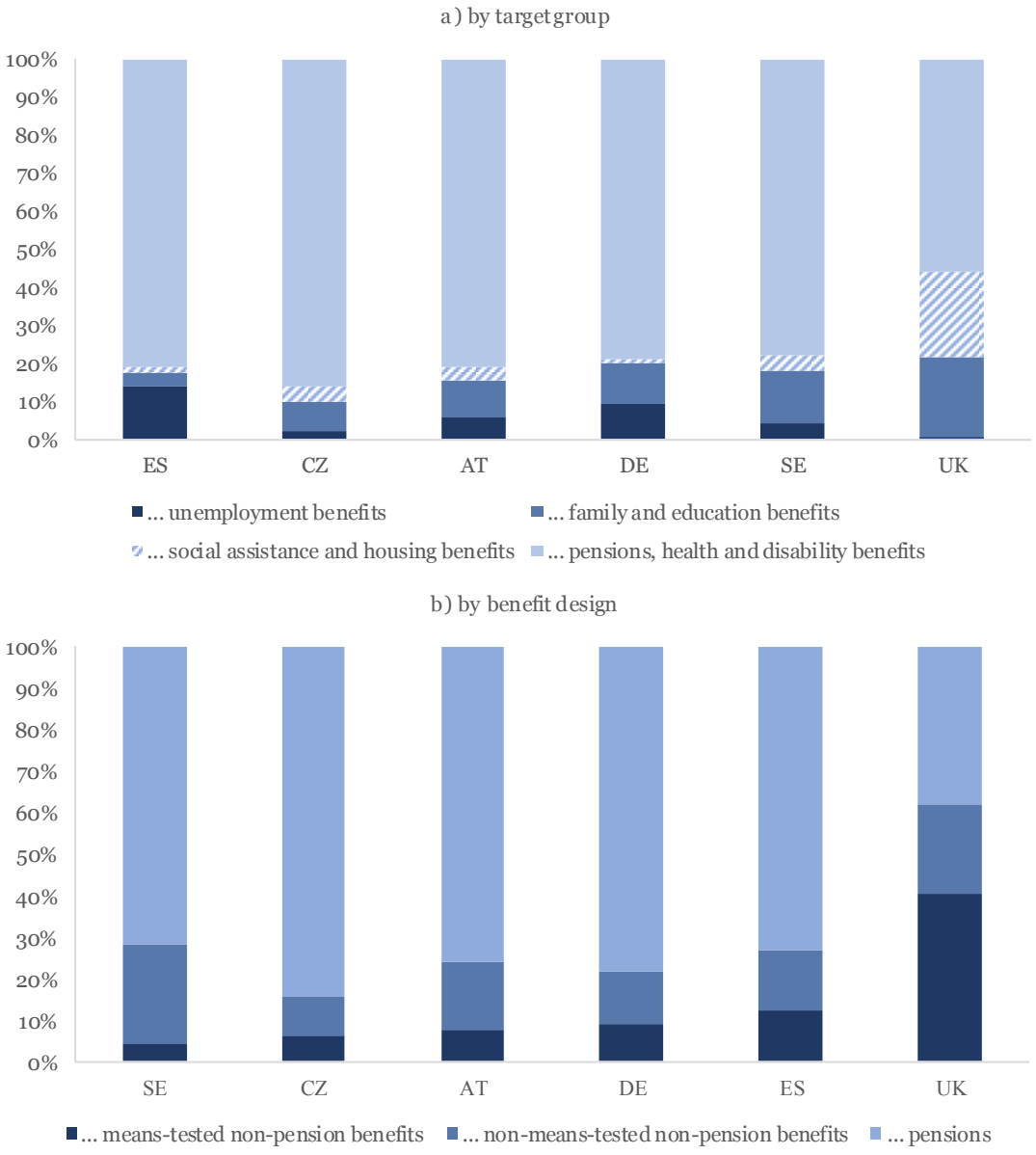


Source: EUROMOD. - Note: Government revenues in the baseline scenario as simulated by EUROMOD exclusive credited social insurance contributions. Sorted by relevance of direct taxes.

Figure 2 shows the simulated composition of government expenditure on social transfers for the six countries in the baseline scenario for 2016. Pension expenditures clearly dominate in all countries regarded. Family and education benefits make for a negligible share in Spain, reflecting the crucial role that Spanish families have to play as welfare providers, while their share is highest in the UK.

From a welfare state design perspective also the structure of benefits by their design is of interest: While the UK relies heavily on means-tested benefits, the share of universal benefits is considerably higher in the other countries regarded. This is in line with the concept of a liberal welfare state regime serving persons in need when family and market solutions fail.

Figure 2 - Government expenditure on social transfers, baseline scenario, 2016



Source: EUROMOD. - Note: Government expenditure on social transfers in the baseline scenario as simulated by EUROMOD. A) Sorted by relevance of family and education benefits. B) Sorted by relevance of means-tested benefits.

The missing gender perspective in the "traditional" line of research on welfare state (and taxation) models has been criticised by feminist scholars almost from the onset, starting with Jane Lewis (1993).[8] Indeed Korpi (2000) as one of the first researchers in this field finds a certain correlation between the welfare state regime and the degree of gender equality in OECD countries. The explicit consideration of the gender dimension in the design of overall

[8] See Saxonberg (2013) for a brief overview of the relevant literature.

tax systems and tax provisions is relevant also from a comprehensive sustainability perspective: Gender equality is one aspect of the social dimension, which is one of the four pillars[9] of a comprehensive sustainability orientation of taxation.[10]

Lewis' dichotomy of familialisation versus defamiliasation, with the latter defined as policies relieving parents – mostly mothers – from their caring duties, with which she responds to the practically gender blind "traditional" welfare state research, has in turn been criticised by Saxonberg (2013) due to a lack of an explicit gender perspective and the focus on regimes rather than policies. As an alternative, Saxonberg (2013) develops a typology for the analysis of welfare state policies along the degree to which they promote different gender roles for men and women (genderising policies) or rather support their elimination (degenderising policies). His typology of genderisation is based on the example of the level of paid parental leave and state support for childcare, as important policies influencing gender roles. Accordingly, he distinguishes the following models:[11]

- a degendered model (Sweden), with parental leaves equipped with high income replacement rates usually with father's quotas, and high state support for childcare;
- a degendered moderately institutionalised model (Hungary, Germany after 2007), with parental leaves equipped with high income replacement rates usually with father quotas, and medium state support for childcare;
- an explicitly gendered model (Austria12, Italy, Czech Republic, Slovakia), with maternity leaves and a medium level for additional flat-rate leaves, and relatively high state support for childcare;
- a gendered moderately institutionalised model (Spain, Netherlands), with low, means-tested, or no benefits for paid leaves, and medium state support for childcare;
- an implicitly gendered model (UK), with low, means-tested, or no benefits for paid leaves, and low state support for childcare.

In contrast to the family of taxation typology, this genderised welfare typology includes the Central and Eastern European countries that have joined the EU from 2004 on, and therefore also considers the Czech Republic.

[9] Besides the economic, the environmental, and the institutional/cultural pillar.
[10] For the concept of sustainability-oriented tax systems see Schratzenstaller, Krenek, Nerudová and Dobranschi (2017).
[11] The non-EU countries included by Saxonberg (2013) are neglected here.
[12] It has to be pointed out here that in the last few years Austria has been moving towards a more degenderised model.

2.2 Personal income tax provisions and impact dimensions considered in the microsimulation analyses

Our microsimulation analyses focus on several personal income tax provisions which are crucial for two gender-relevant impact dimensions of taxation. The first impact dimension of taxation refers to the distribution of income in general and between men and women in particular. The second one regards work incentives and – related – the distribution of paid and unpaid work among men and women.

Essential elements and characteristics of income taxation which have an impact on these gender-relevant impact dimensions of taxation include:

- the progressivity of the personal income tax schedule, which can be progressive or flat (i.e. the income tax schedule consists of a uniform proportional marginal income tax rate, mostly combined with a basic tax allowance introducing a progressive element)
- the system of household taxation, which can be individualised or joint (including couples or all household members in the tax unit)
- the design of child-related tax relief, which can be granted in the form of (refundable) tax credits reducing the income tax liability, tax allowances reducing the tax base (i.e. taxable income) or direct cash transfers.

2.2.1 Design of income tax schedule

While in the last quarter of the century 8 EU Member States, among them the Czech Republic in 2008, have introduced flat tax regimes beginning with the Baltic States in the early 1990s (with two of them having abolished them in the meantime[13]), the progressivity of personal income taxation has been generally weakened throughout the EU in the long run (Gunnarsson, Schratzenstaller and Spangenberg 2017). In particular, almost all Member States not applying a flat income tax have dualised their income tax systems by introducing proportional and relatively low income tax rates for some or all kinds of capital income compared to those levied on labour and other incomes. Labour and other incomes are still subject to progressive income tax schedules, whereby progressivity has been reduced by a general long-term trend of cutting top income tax rates. On average for the EU28, the top income tax rate went down from 47.2% to 39% between 1995 and 2015, remaining constant at that value since then (European Commission 2018A). Very generally, higher incomes benefit over-proportionately from such a dualisation of income taxation. Therefore, men on

[13] The Slovak Republic introduced a second, higher tax rate for upper incomes in 2013 and Latvia replaced its flat tax by a progressive income tax schedule consisting of three tax bands in 2018.

average benefit more than women: due to their generally higher income levels, and because capital incomes contribute a comparatively higher share to their incomes[14].

2.2.2 System of household taxation

Another trend particularly relevant from a gender perspective is the individualisation of personal income tax systems. Meanwhile, joint income taxation, based on the married couple or all members of a household as tax unit, has turned into a minority model in the EU: A recent survey by Meulders (2016) shows that only five of the 28 EU Member States (*Germany*, Luxembourg, Portugal, Ireland and France) have a joint taxation model as general standard, while in four Member States (*Spain*, Estonia, Malta and Poland) the spouses choose between joint and individual taxation.[15] This development has made personal income tax systems more employment-friendly for women: there is ample empirical evidence that joint income taxation impairs work incentives for women[16]. The trend towards the individualisation of income tax systems has also reduced incentives to share paid and unpaid work unequally between men and women, with men taking on a considerably larger share of paid work, while women take care of the bulk of unpaid work. It must be pointed out, however, that most individualised income tax systems – with *Sweden* and Finland as the only exceptions in the EU28 - provide some kind of tax relief for couples in which one partner has no or only negligible earnings, thus re-introducing at least indirect incentives for a traditional division of labour within the household. In the same vein, individual taxation and its gender equality promoting effects are undermined by family support distributed via the tax system and based on household income (Thomas and O'Reilly 2016).

2.2.3 Design of child-related tax relief

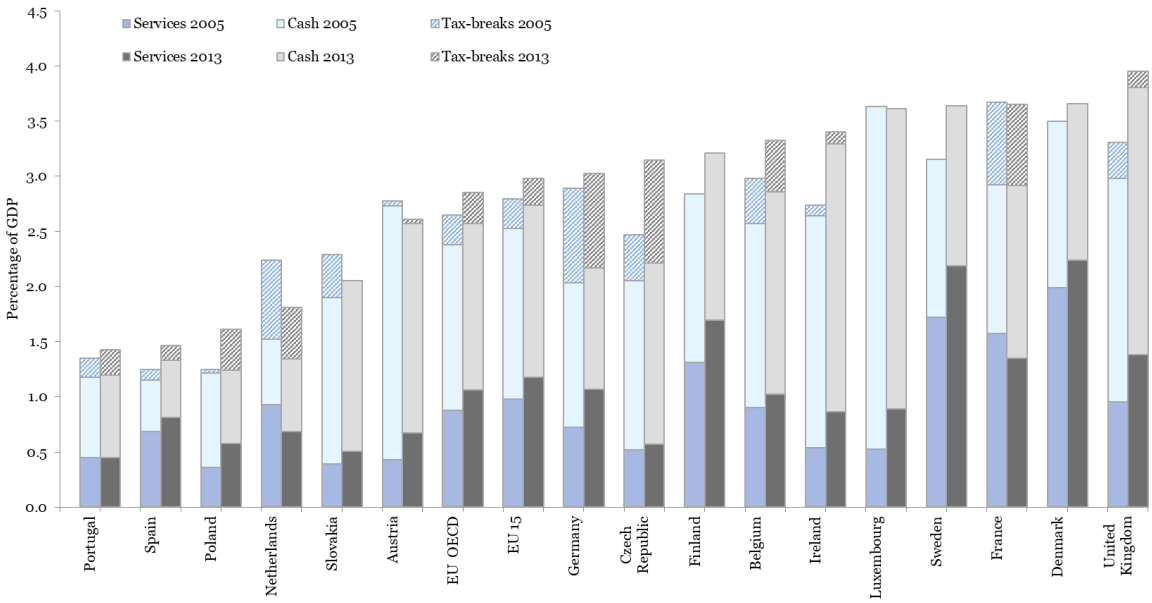
The design of child-related tax relief is relevant from a distributional point of view in general and from a gender perspective in particular. A tax allowance, which reduces the tax liability by decreasing the tax base (i.e. taxable income), provides increasing tax relief in absolute as well as relative terms (relative to taxable income) in case of a progressive income tax schedule. A (wastable) tax credit, i.e. an absolute amount which can be deducted from the tax liability, avoids this degressive effect, as it provides uniform tax relief independent from taxable income in absolute terms and decreasing tax relief relative to taxable income.

[14] See Bach (2013) for differences in income levels and structures between men and women for the example of Germany.
[15] See also Thomas and O'Reilly (2016) for a brief overview of the situation in the OECD as of 2015.
[16] See Gunnarsson, Schratzenstaller and Spangenberg (2017) for a brief overview of relevant empirical analyses based on different methodological approaches.

Compared to direct cash transfers, the downside of both instruments is that they do not provide tax relief to households in the low-income range with no or only low taxable income or tax liability from which to deduct child-related allowances or credits. Non-wastable (payable) tax credits (as applied e.g. in the Czech Republic and Austria) avoid this problem. As women earn less on average compared to men, a child tax credit generally is more favourable from a gender perspective than a child tax allowance with regard to distributional aspects.

Figure 3 gives a rough overview of the general structures of family benefits for the year 2013 for the 16 EU countries who are members of the OECD. On average, tax breaks account for only about 10% of overall family benefits, while services (primarily child care facilities) make up for more than one third and cash benefits for more than half of overall family benefits. Thus, very generally, child- and family-related tax relief is of minor importance within overall family benefits in the EU OECD countries. Despite a general trend towards the expansion of child care facilities, the structure of family benefits still varies considerably between countries. Sweden does not grant any tax breaks for families, and they are of a negligible magnitude in Austria[17]. Also, in Spain and the UK tax breaks do not play a major role, while they contribute considerably to overall family benefits in Germany and the Czech Republic.

Figure 3 - Family benefits in percent of GDP in EU OECD countries, 2013



Source: Authors' calculations based on OECD. EU 15: without Greece; EU OECD: average of EU OECD-countries.

[17] This situation has changed somewhat in 2019, with the introduction of the so-called family bonus (a child tax credit) (Fink and Rocha-Akis 2018).

2.2.4 Tax burden for second earners

Finally, the tax burden for second earners plays a crucial role from a gender perspective. There is ample empirical evidence that female labour supply is more responsive to changes in income and thus taxation, particularly for married women with children who in many EU countries are often second earners (Thomas and O'Reilly 2016)[18] .

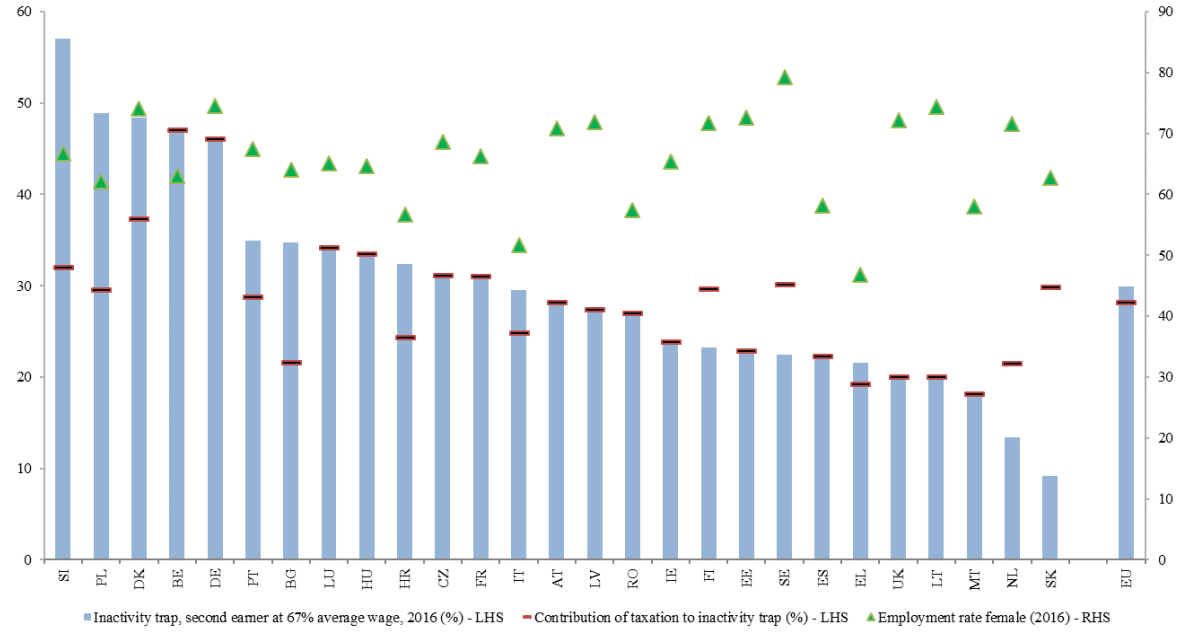
One key indicator in this respect is the so-called inactivity trap, which reflects the burden on labour income for second earners resulting from the withdrawal of benefits on the one hand and from taxation (personal income tax and social security contributions) on the other hand upon entering the labour market out of inactivity (e.g. after parental leave). This indicator has attracted growing attention in recent years, as it reflects the extent of negative work incentives with regard to labour market participation for second earners (e.g. European Commission 2018B).

Figure 4 shows the inactivity trap for second earners taking up employment out of inactivity at 67% of the average wage for 2016 under the assumption that the principal earner receives an average gross wage. The inactivity trap is the result of taxes kicking in (including the loss of tax relief from joint taxation provisions aiming at reducing the tax burden for sole earners) when employment is taken up out of inactivity on the one hand and of benefits withdrawn (particularly means-tested social assistance) on the other hand. It can be interpreted as implicit tax rate on the return to the labour market of inactive persons and reflects the share of the earned gross wage which is taxed away at the take-up of employment, thus measuring the financial (dis)incentives to take up employment. The size of the inactivity trap can be increased by joint taxation provisions and other tax provisions alleviating the tax burden for couples where the earnings are distributed unequally among the spouses, as well as by means-tested benefits for the non- or lower earning partner (European Commission 2018B). On average, the inactivity trap reaches 29.9 percent for the EU (Figure 4). Figure 4 illustrates that in almost all EU Member States, taxes contribute the lion's share to the inactivity trap.

A second indicator for work (dis)incentives for second earners is the low wage trap, reflecting the tax burden for a second earner upon increasing the gross wage from 33% to 66% of an average wage. On average, the low wage trap amounts to 33.7 percent for the EU (Figure 5). Figure 5 shows that taxes are responsible also for the largest portion of the low wage trap in most EU Member States.

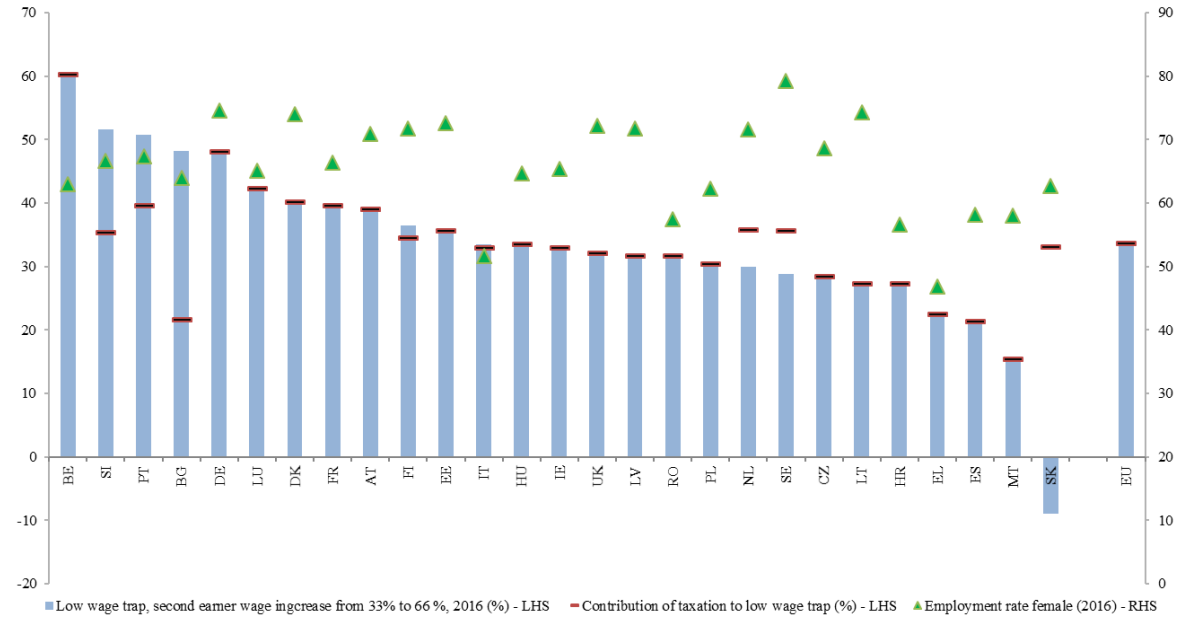
[18] See Meghir and Phillips (2010), Bargain and Peichl (2013), Bargain, Orsini and Peichl (2014) and Bick and Fuchs-Schündeln (2017) for extensive reviews over existing empirical analyses and own estimations of gender-differentiated labour supply elasticities for a number of advanced countries.

Figure 4 - Inactivity trap for second earners in EU Member States, 2016



Source: Eurostat and European Commission tax and benefits indicator database based on OECD data. – 1) For second earner at 67% of the average wage in a two-earner family with two children; the principal earner earns the average wage. – 2) 'Contribution of taxation' refers to the contribution made by taxation to the inactivity trap. – 3) Employment rate for women is used as proxy for second earners.

Figure 5 – Low wage trap for second earners in EU Member States, 2016



Source: Eurostat and European Commission tax and benefits indicator database based on OECD data. – 1) For second earner with a wage increase from 33 % to 66 % of the average wage in a two-earner family with two children; the principal earner earns the average wage. – 2) 'Contribution of taxation' refers to the contribution made by taxation (taxes plus social security contributions) to the low wage trap.

2.3 Basic characteristics of the personal income tax systems of the selected EU Member States

Six EU Member States were selected for the EUROMOD microsimulation analyses, stemming from the five families of taxation sketched above: Germany and Austria from the Continental family, the United Kingdom from the English-speaking family, Spain from the Southern family, Sweden from the Nordic family, and the Czech Republic from the new family. Figure 6 contains the basic characteristics of the personal income tax systems of these six EU countries as of 2016. Sweden is the only country in this group whose welfare state based on the typology elaborated by Saxonberg (2013) can be characterised as degendered, while the UK is implicitly and Austria as well as the Czech Republic are explicitly gendered. At a moderately institutionalised level, Germany has a degendered, Spain a gendered welfare state.

2.3.1 Design of income tax schedule

With the exception of the Czech Republic, all Member States regarded apply a progressive income tax schedule, with the basic income tax rate ranging from 14% in Germany to 52.12% in Sweden and the top income tax rate ranging from 45% in Spain to 57.1% in Sweden (2016). The Czech Republic introduced a flat income tax in 2008, thus joining the minority of EU Member States taxing all incomes at proportional income tax rates[19] ; the Czech flat income tax rate is 15%[20] .

2.3.2 Design of household taxation

Among the six EU Member States regarded here, individual taxation predominates with regard to the tax unit, which corresponds to the overall international long-term trend of individualisation of personal income taxation.[21] The exception is Germany, where a system of joint taxation with full income splitting is applied as standard model. Married couples can opt for individual taxation, which, however, is unattractive financially for spouses with unequal incomes as joint taxation with income splitting reduces the couple's overall tax burden. In Spain, married couples can opt for joint taxation, which implies an increased basic allowance but does not involve income splitting. The Czech Republic and Austria apply individual taxation, granting some form of tax relief to sole earners; also the UK offers some (means-tested) tax relief for sole earner couples. In the group of countries considered in the

[19] In 2016, seven EU Member States applied a flat tax; in 2018, Latvia replaced its flat income tax schedule by a progressive one. For the EU Member States having adopted and abolished flat taxes and the respective income tax rates since 2003 see European Commission (2018A).
[20] For very high incomes, there is a surcharge of 7%; which, however, is neglected here as it affects a very small group of taxpayers only.
[21] Gunnarsson, Schratzenstaller and Spangenberg (2017) give a brief overview for the EU.

analyses, only Sweden has a strictly individualised personal income tax system offering no tax relief for sole earners.

2.3.3 Design of child-related tax relief

Sweden is the only country in our country group that does not grant any form of tax relief for children; Swedish families with children receive child cash benefits instead. Four countries – Austria, the UK, the Czech Republic and Spain - offer tax credits for children. Hereby the Austrian tax credit de facto is designed as a universal child benefit paid in addition to another child cash benefit, the Czech tax credit is non-wastable, in UK the child tax credit is means-tested. Germany applies a combination of a universal child benefit paid as cash transfer to low and medium incomes and a tax allowance for higher incomes. In addition to the child tax credit (which de facto is a cash transfer), Austrian families receive child cash benefits and can make use of a (low) child tax allowance.

2.3.4 Tax burden for second earners

In the six countries regarded the inactivity trap for second earners (Figure 4) is lowest in the UK (20%) and highest in Germany (46.1%). In all countries it is exclusively caused by taxation. Remarkably, the contribution of taxation to the Swedish inactivity trap amounts to 134.1%.

As a result of the income splitting system the low wage trap for second earners (Figure 5) again is highest in Germany. At 21.3%, Spain has the lowest low wage trap. Also the low wage trap is dating back to taxation only in all six countries; with Sweden again showing an exceptionally high value of 123.6%.

Figure 6 – Basic characteristics of the personal income tax systems of selected EU Member States (2016)

Country	Family of taxation	Degree of degenderisation of welfare state	System of household taxation	PIT schedule basic and top income tax rate in %	Tax breaks in % of overall family benefits (2013)	(Tax-related) child benefits	Tax burden second earner in % of total	
							Contribution of taxation to inactivity trap	Contribution of taxation to low wage trap
EU28	**-**	**-**	**-**	**22 MS progressive 7 MS flat 21 to 38.9**	**0.28[3]**	**-**	**28.2[6] (94.2%)**	**33.6[6] (99.8%)**
Germany	Continental	Degendered moderately institutionalised	Individual or joint (full income splitting)[1]	Progressive 14 to 47.5	0.86	Cash benefit or tax allowance[7]	46.1 (100.0%)	48.0 (100.0%)
Austria	Continental	Explicitly gendered	Individual (tax relief for sole earners)	Progressive 25 to 50[4]	0.04	Cash benefit, tax credit (de facto cash benefit) and tax allowance	28.1 (100.0%)	39.0 (100.0%)
Spain	Southern	Gendered moderately institutionalised	Individual or joint[2]	Progressive 19 to 45	0.13	Tax credit	22.3 (100.0%)	21.3 (100.0%)
Sweden	Nordic	Degendered	individual	Progressive 52.1 to 57.1	0.00	Cash benefit	30.1 (134.1%)	35.6 (123.6%)
United Kingdom	English-speaking	Implicitly gendered	Individual (means-tested tax relief for sole earners)	Progressive 20 to 45	0.15	Means-tested tax credit	20.0 (100.0%)	32.0 (100.0%)
Czech Republic	new	Explicitly gendered	Individual (tax relief for sole earners)	Flat 15[5]	0.93	Non-wastable Tax credit	31.1 (100.0%)	28.4 (100.0%)

Sources: Bundesministerium der Finanzen (2017), European Commission (2018A), Saxonberg (2013), Wagschal (2005), EUROMOD country reports, own compilation. – 1) Individual taxation is optional. – 2) Joint taxation is optional. – 3) 16 EU OECD countries. – 4) An additional top income tax rate of 55% is levied temporarily on very high incomes. – 5) A surcharge of 7% is levied on very high incomes. - 6) EU average excluding Cyprus. – 7) Optional; lower incomes receive a cash benefit, higher incomes are granted a tax allowance.

3 Microsimulation results

This chapter provides an overview of the most important results of microsimulations of various scenarios modifying income tax provisions which are relevant, firstly, with regard to the distributional impact of income taxation in general and from a gender perspective in particular, and, secondly, for work incentives for women. The countries included are Austria, the Czech Republic, Germany, Spain, Sweden and the United Kingdom, representing different welfare state types and families of taxation as outlined in section 2.1.

These results were obtained using the tax-benefit microsimulation model EUROMOD (Sutherland and Figari 2013). The policy year for all analyses is 2016. The simulations are based on the results of the EU-SILC sample survey and the Family Resources Survey. The data contains information on the characteristics, amount and structure of income (income is uprated to the policy year 2016) and some information on expenditures of individuals living in various types of private households (see Figure 7 for the data source, number of individuals and private households per country). When implementing individual scenarios, modifications are made to some tax parameters, while the parameters of other components of the tax and benefits system remain constant unless otherwise indicated. Figure 7 gives an overview of the EUROMOD datasets for the selected countries.

Figure 7 – Overview of the EUROMOD datasets for the selected countries

Country	**Austria**	**Czech Republic**	**Germany**	**Spain**	**Sweden**	**United Kingdom**
Policy Year	2016	2016	2016	2016	2016	2016
Database	EU-SILC 2015	EU-SILC 2015	EU-SILC 2013	EU-SILC 2015	EU-SILC 2013	Family Resources Survey 2014/2015
Number of households	6 045	7 914	13 145	12 367	6 628	19 535
Number of individuals	13 173	17 683	27 840	32 201	16 452	44 787

Source: Authors' calculations and representation.

3.1 Philosophy and design elements of individual scenarios – description

Several scenarios were simulated for each of the six EU Member States. The first scenario, referred to as the Baseline (BL), is identical for each country and represents the respective tax and benefits system of the policy year 2016 without modifications. The other scenarios aim to assess different impacts of several personal income tax elements which are assumed

to be especially important from a distributional as well as from a gender perspective, focusing on the system of household taxation (individual versus joint taxation), the design of the tax schedule (progressive versus flat), and the design of child benefits (tax credits versus tax allowances versus cash transfers, respectively). All simulations are carried out maintaining budget neutrality to keep constant the budgetary means dedicated to a specific policy measure and thus to eliminate potential effects by simply changing the budgetary means available for a specific policy measure: Accordingly, the overall budgetary impact of the simulated scenarios is zero or negligible. However, some scenarios may imply a simultaneous decrease or increase of public revenues and expenditures, thus altering the structure of public budgets. Figure 8 provides an overview of the scenarios simulated for the six selected EU countries.

3.1.1 Scenarios for system of household taxation

Individual taxation (and tax relief for sole and principal earner couples, where applicable) is replaced by joint taxation (scenarios denoted as JT), more precisely a system of income splitting according to the German model, for Austria, Spain, Sweden, the United Kingdom, and the Czech Republic. In case of the Czech Republic the income tax schedule was simultaneously switched from flat to progressive tax (section 3.1.3). An additional scenario denoted as RMETR is simulated for the Czech Republic in which the tax credit for a husband or wife with low earnings is abolished and the child tax credit is increased to maintain budget neutrality. For Germany, we simulate the replacement of the existing income splitting system by an individual income tax system (IT). To maintain budget neutrality, all income tax rates are adjusted proportionally: downwards for Germany, upwards for all other countries, as generally an income splitting system induces income tax revenue losses. Two remarks must be made here: Firstly, the design of the scenarios neglects any legal or other restrictions which may impede their implementation (e.g. full individualisation of income taxation is not legally warranted in Germany). Secondly, with the exception of Sweden, the baseline scenario for the individual taxation countries is not full individualisation, as they all grant some tax relief for sole and principal earner couples.

3.1.2 Scenarios for child-related tax relief

The simulations of the impacts of the various child-related benefits are more complex. These instruments are used in differing designs and to a differing extent in the countries analysed, some countries combine several (tax-related) child benefits. The design of our scenarios aims at identifying the differing impact of child tax credits (ChC), child tax allowances (ChA), and child-related cash transfers. Therefore, we simulate two alternative scenarios each for

Sweden, Germany, the UK, and Austria; one scenario is considered for the Czech Republic and Spain.

Figure 8 – Scenarios for EUROMOD microsimulations for six selected EU Member States

Country	System of household taxation	Child-related tax relief	Design of income tax schedule
Germany	Replacing joint taxation of spouses (income splitting) by individual taxation, maintaining budget neutrality by a proportional decrease of all income tax rates (IT)	Scenario a: Replacing the child benefit by a child tax credit, which is scaled up to maintain budget neutrality (ChC) Scenario b: Replacing the child benefit by a child tax allowance, which is scaled up to maintain budget neutrality (ChA)	Replacing the progressive tax schedule by a flat tax, keeping the basic tax allowance and all tax credits, maintaining budget neutrality by adjusting the tax rate (FT)
Austria	Replacing individual taxation of spouses by joint taxation (income splitting), maintaining budget neutrality by a proportional increase of all income tax rates (JT)	Scenario a: Replacing the child tax credit (de facto cash benefit) by a child tax allowance, which is scaled up to maintain budget neutrality (ChA) Scenario b: Budget neutral replacement of the child allowance by a new child tax credit (ChC)	Replacing the progressive tax schedule by a flat tax, keeping the basic tax allowance and all tax credits, maintaining budget neutrality by adjusting the tax rate (FT)
Spain	Replacing individual taxation of spouses by joint taxation (income splitting), maintaining budget neutrality by a proportional increase of all income tax rates (JT)	Budget neutral replacement of the family tax credit for children by a tax allowance (ChA)	Replacing the progressive tax schedule by a flat tax, keeping the basic tax allowance and all tax credits, maintaining budget neutrality by adjusting the tax rate (FT)
Sweden	Replacing individual taxation of spouses by joint taxation (income splitting), maintaining budget neutrality by a proportional increase of all income tax rates (JT)	Scenario a: Replacing the child benefit by a child tax credit, which is scaled up to maintain budget neutrality (ChC) Scenario b: Replacing the child benefit by a child tax allowance, which is scaled up to maintain budget neutrality (ChA)	Replacing the progressive tax schedule by a flat tax, keeping the basic tax deduction and all tax credits, maintaining budget neutrality by adjusting the tax rate (FT)
United Kingdom	Replacing individual taxation of spouses by joint taxation (income splitting), maintaining budget neutrality by a proportional increase of all income tax rates (JT)	Scenario a: Replacing the child tax credit (means-tested benefit) by a child allowance, which is scaled up to maintain budget neutrality (ChA) Scenario b: Replacing the child tax credit (means-tested benefit) by a non-refundable tax credit, which is scaled down to maintain budget neutrality (ChC)	Replacing the progressive tax schedule by a flat tax, keeping the basic tax allowance and all tax credits, maintaining budget neutrality by adjusting the tax rate (FT)
Czech Republic	Abolishing the tax credit for a husband or wife with low earnings, maintaining budget neutrality by increasing the child tax credit (RMETR)	Transforming the child tax credit into a child allowance, which is scaled up proportionally to maintain budget neutrality (ChA)	Scenario a: Replacing the flat tax by a progressive tax schedule, maintaining budget neutrality (PT) Scenario b: Replacing the flat tax by a progressive tax schedule with the option for joint taxation of spouses (income splitting), maintaining budget neutrality (JT)

Source: Authors' representation. Note: Abbreviations denoting the scenarios in parenthesis.

For those countries relying solely (Sweden) or primarily (Germany) on a child cash benefit, we develop two alternative scenarios each: the replacement of the existing child cash benefit by a child tax credit in a first and by a child tax allowance in a second scenario. For the UK, a first scenario substitutes the existing means-tested child tax credit by a non-refundable child tax credit, while a second one foresees replacing the means-tested child tax credit by a child tax allowance. For Austria the existing child tax credit (de facto child cash benefit) is replaced by a child tax allowance in a first scenario, a second scenario substitutes the existing child tax allowance by a new child tax credit.

Rather straightforward are the Czech Republic and Spain: for both countries, the current child tax credit is replaced by a child tax allowance.

3.1.3 Scenarios for design of income tax schedule

The existing progressive income tax schedule is replaced by a flat income tax schedule for Austria, Spain, Sweden, the United Kingdom and Germany (denoted as FT). For the Czech Republic, we simulate the replacement of the existing flat income tax schedule by a progressive one[22] in a first scenario (PT), while in a second scenario a progressive income tax schedule is combined with joint taxation with income splitting for couples (JT). For the five countries with a progressive tax schedule, we simulate a scenario in which all existing tax exemptions are maintained. To maintain budget neutrality, the flat income tax rate is adjusted accordingly.

3.2 Results

The microsimulations focus on horizontal distributional effects of the simulated reforms, differentiated across different household types, and on their gender effects, hereby considering distributional impacts as well as work incentives for second earners, which are mainly women whose labour supply is relatively responsive to (tax-induced) variations in net wages[23]. One caveat must be pointed out here: The effects demonstrated in our simulations are aggregate effects insofar as they do not offer any differentiations across socio-economic characteristics as, for example, age, income levels, number of children, or a migration background.

[22] That means we simulate the re-introduction of the progressive tax schedule which was abolished in 2008 with the original tax rates, adjusting the tax brackets to maintain budget neutrality.
[23] See the extensive literature surveys provided by Meghir and Phillips (2010), Bargain and Peichl (2013), Bargain, Orsini and Peichl (2014) and Bick and Fuchs-Schündeln (2017).

3.2.1 Effects on public budgets

Figure 9 shows the effects of the various microsimulation scenarios on the structure of public revenues as deviations of personal income tax revenues and expenditures on social benefits in absolute terms. As all scenarios are simulated under the condition of budget neutrality, the overall impact on the balance of public budgets is zero or at least negligible. However, several scenarios impact on personal income tax revenue and expenditure on social benefits inducing a shift in the structure of public budgets.

Figure 9 - Impact on public budgets, 2016

	BL	**FT**	**PT**	**JT**	**IT**	**ChA**	**ChC**	**RMETR**
	in billion national currency	Change to base line in billion national currency						
Austria (EUR)								
Personal income tax revenues	29.6	0.0	-	0.0	-	-1.3	0.0	-
Expenditure on social benefits1)	19.5	0.0	-	0.0	-	-1.3	0.0	-
Balance[2])	10.1	0.0	-	0.0	-	0.0	0.0	-
Czech Republic (CZK)								
Personal income tax revenues	144.5	-	2.2	3.3	-	-6.3	-	0.1
Expenditure on social benefits[1])	140.0	-	2.2	2.9	-	-6.4	-	0.3
Balance[2])	4.5	-	0.0	-0.4	-	0.1	-	-0.2
Germany (EUR)								
Personal income tax revenues	282.6	1.5	-	-	-1.7	-29.4	-29.9	-
Expenditure on social benefits[1])	190.0	1.2	-	-	-1.9	-29.4	-29.5	-
Balance[2])	92.6	0.3	-	-	-0.2	0.0	-0.4	-
Spain (EUR)								
Personal income tax revenues	67.1	0.0	-	0.1	-	0.0	-	-
Expenditure on social benefits[1])	76.0	0.0	-	0.1	-	0.0	-	-
Balance[2])	-8.9	0.0	-	0.0	-	0.0	-	-
Sweden (SEK)								
Personal income tax revenues	564.1	-0.4	-	-0.2	-	-28.3	-28.7	-
Expenditure on social benefits[1])	216.3	0.0	-	0.0	-	-28.4	-28.6	-
Balance[2])	347.8	-0.4	-	-0.2	-	0.1	-0.1	-
United Kingdom (GBP)								
Personal income tax revenues	134.0	0.1	-	0.4	-	-14.0	-14.3	-
Expenditure on social benefits[1])	112.3	0.1	-	0.4	-	-14.0	-14.3	-
Balance[2])	21.8	0.0	-	0.0	-	0.0	0.0	-

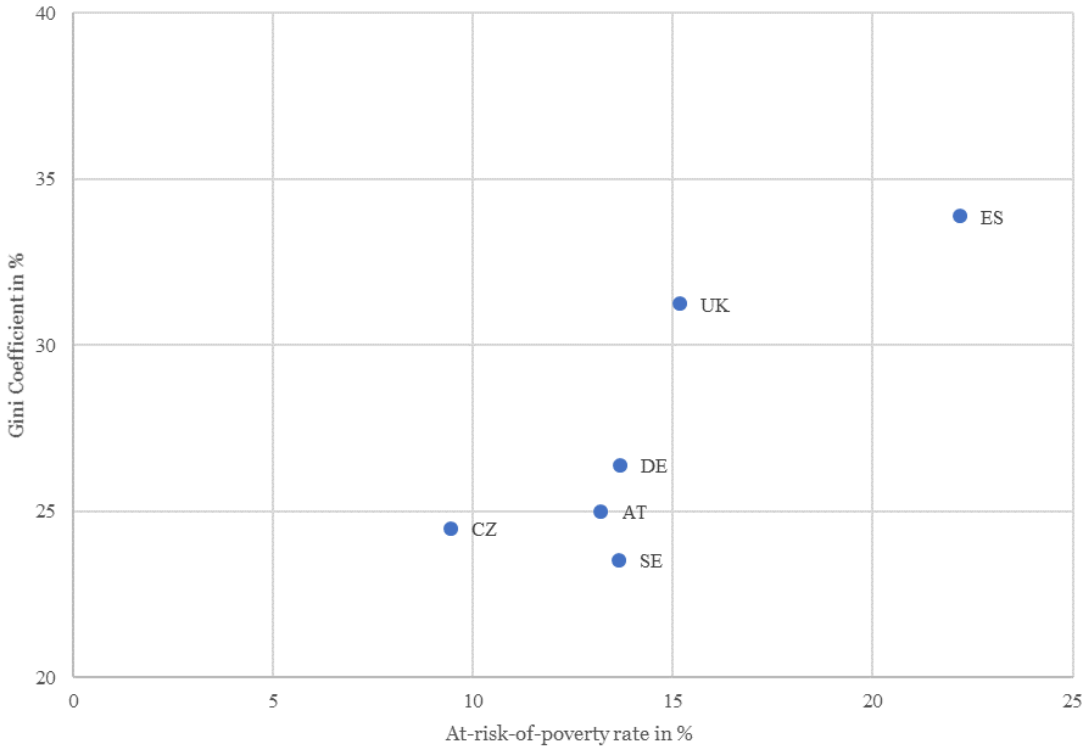
Source: Authors' calculations based on EUROMOD simulations. Notes: BL: baseline scenario, PT progressive tax rate scenario, FT flat tax rate scenario, JT joint taxation scenario, IT individual taxation scenario, ChA Child tax allowance scenario, ChC child tax credit scenario, RMETR Reduced marginal effective tax rate scenario. 1) Excluding old-age pensions. - 2) Personal income tax revenues minus expenditure on social benefits.

3.2.2 Effects on poverty and inequality

Figure 10 shows two central indicators for poverty and inequality for the baseline scenario for all six countries considered: the at-risk-of-poverty rate[24] and the Gini coefficient. The poverty rate measures the share of individuals whose equivalised disposable income after social transfers lies below the at-risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income after social transfers. The Gini coefficient is a measure for a distribution's deviation from perfect equality and lies between 0 in the case of perfect equality and 1 (or 100%) in the case of maximal inequality. Both indicators are highest in Spain, which has a Gini coefficient of 33.9% and an at-risk-of-poverty rate of 22.2% in the baseline scenario. The Czech Republic lies on the other side of the spectrum, with an at-risk-of-poverty rate of 9.5% and a Gini coefficient of 24.5%. At-risk-of-poverty rates in Sweden (13.6%), Germany (13.7%) Austria (13.2%) and the UK (15.2%) are rather close; while income inequality measured by the Gini coefficient is lowest in Sweden (at 23.5%) and highest in the UK (at 31.3%).

[24] Throughout this paper we use the terms at-risk-of-poverty rate and poverty rate synonymously.

Figure 10 - Poverty risk and income inequality, baseline scenario, 2016



Source: Authors' calculations based on EUROMOD simulations. - Note: At-risk-of-poverty threshold set at 60 % of the national median equivalised disposable income after social transfers. Gini coefficient based on equivalised disposable household income.

Figure 11 - Changes of at-risk-at-poverty rates for the simulated scenarios, change to baseline in percentage points

Poverty						
Country	**AT**	**CZ**	**DE**	**ES**	**SE**	**UK**
	in %					
BL[25])	13.19	9.46	13.67	22.18	13.64	15.17
	Change to base in percentage points					
FT[24])	-0.38	-	-0.25	-0.32	-0.04	-0.64
PT[24])	-	0.26	-	-	-	-
JT[24])	0.43	0.46	-	-0.03	0.11	-0.17
IT[24])	-	-	0.45	-	-	-
ChA[24])	1.42	1.18	1.72	-0.05	0.73	5.74
ChC[24])	0.00	-	2.02	-	0.73	5.98
RMETR[24])	-	-0.24	-	-	-	-

Source: Authors' calculations based on EUROMOD simulations.

Figure 12 - Changes of Gini coefficients for the simulated scenarios, change to baseline in percentage points

Gini Coefficient						
Country	**AT**	**CZ**	**DE**	**ES**	**SE**	**UK**
	in %					
BL[24])	24.99	24.48	26.38	33.88	23.54	31.25
	Change to base in percentage points					
FT[24])	1.54	-	1.71	0.53	0.01	1.04
PT[24])	-	-1.01	-	-	-	-
JT[24])	-0.69	-1.44	-	-0.13	-0.11	-0.28
IT[24])	-	-	0.23	-	-	-
ChA[24])	0.25	0.47	0.57	0.05	0.28	1.92
ChC[24])	-0.02	-	0.43	-	0.21	1.78
RMETR[24])	-	0.02	-	-	-	-

Source: Authors' calculations based on EUROMOD simulations.

Figure 13 - Changes of P90/P10 ratios for the simulated scenarios, absolute change

P90/P10						
Country	**AT**	**CZ**	**DE**	**ES**	**SE**	**UK**
	in %					
BL[24])	3.04	4.73	5.25	5.47	4.89	3.86
	Absolute change					
FT[24])	0.05	-	0.03	-0.01	-0.02	-0.03
PT[24])	-	-0.02	-	-	-	-
JT[24])	-0.03	-0.02	-	0.01	0.00	0.03
IT[24])	-	-	-0.05	-	-	-
ChA[24])	0.08	0.06	0.06	0.00	0.01	0.76
ChC[24])	-0.01	-	0.06	-	0.01	0.73
RMETR[24])	-	-0.01	-	-	-	-

Source: Authors' calculations based on EUROMOD simulations.

Figure 11 contains the changes of estimated at-risk-of-poverty-rates for the individual scenarios in percentage points compared to the baseline scenario. The changes in Gini coefficients measuring income inequality are depicted in Figure 12. In addition, we present

the effects of the different scenarios on P90/P10 ratios (Figure 13), i.e. the ratios of the upper bound value of the ninth decile (i.e. the 10% of households with highest income) to that of the first decile (i.e. the 10% of households with lowest incomes)[26]. An increase (decrease) of P90/P10 ratios indicates an increase (decrease) of income inequality. According to the P90/P10 ratio, income inequality in the baseline scenario in the six countries included is highest in Spain (5.47) and Germany (5.25) and lowest in Austria (3.04).

3.2.2.1 Simulation of changes in the income tax schedule

Overall, our simulations suggest that the effect of the change of the income tax system – from a flat tax to a progressive income tax system and vice versa – would have negligible effects on poverty: a result which can be explained by the fact that such a reform would hardly affect the lower income groups, as the existing basic allowances would be maintained in all scenarios. For the lowest income groups, it is primarily the basic allowance which determines their tax burdens, while the tax rate matters to a far lower extent.

The Gini coefficient would increase as a consequence of the introduction of a flat tax in all countries considered, indicating an increase in income inequality resulting from a general decrease in progressivity of income tax systems; however, depending on the progressivity of the current income tax schedules, to rather different degrees. The increase would be rather pronounced in Austria and Germany, where income tax schedules are rather progressive, while it would be more moderate in Spain and the UK and almost zero in Sweden. The re-introduction of a progressive income tax schedule in the Czech Republic would moderately decrease the Gini coefficient and thus reduce income inequality.

P90/P10 ratios are hardly affected by the introduction of a flat tax in all five countries; also substituting the Czech flat tax by a progressive income tax schedule would result in a very small decrease of the P90/P10 ratio.

3.2.2.2 Simulation of changes in the system auf household taxation

The impact of a substitution of the existing systems of individual taxation by a joint taxation system with income splitting has small effects on poverty only. As low-income households have only low or even no taxable incomes, their overall tax burden is hardly or not at all affected by the system of household taxation. Introducing individual taxation in Germany would slightly increase the overall poverty rate. This increase is driven by a relatively large

[26] While the Gini coefficient compares the cumulative proportions of the population against the cumulative proportions of income they receive, the P90/P10 ratio refers to inequality at the tails of the distribution only.

increase of the poverty rate in the households in which only one of the spouses earns an active income; these are the households benefiting most from joint taxation.

The introduction of an income splitting system has the expected effect on the Gini coefficients at the household level, indicating an overall decrease of income inequality in all five countries currently applying a system of individual taxation. Conversely, applying a system of individual taxation in Germany slightly increases income overall inequality. It can be assumed that within households, income inequality will decrease, particularly benefiting second earners (mostly women); however, our simulations do not allow any conclusions in this respect.[27] Again, P90/P10 ratios would hardly be changed by the simulated changes of the system of household taxation in all countries regarded.

3.2.2.3 Simulation of changes within (tax-related) child benefits

Generally, our simulations show the expected distributional effects of the various child benefits (see Figures 11 to 13). Most pronounced are the changes in at-risk-of-poverty rates, while the measures for income inequality (Gini coefficient and P90/P10 ratio) are only slightly affected. Obviously, the extent of the effects for the individual countries crucially depends on the current design of income taxation (in particular the degree of progressivity of the income tax schedule), on the absolute amounts of (tax-related) child benefits, and the design of the system of child benefits, so that the extent to which the individual measures for poverty and inequality are changed by the simulated scenarios cannot be directly compared across countries. However, our simulations provide interesting insights on the general direction of the impact on poverty and income distribution which can be expected from different changes within the system of child benefits.

Replacing an existing child cash benefit by tax-related child benefits, as foreseen in the scenarios simulated for Sweden and Germany, would increase poverty and income inequality.[28] The simulations for Austria demonstrate, in a similar vein, that abolishing the existing child tax credit (which de facto is a cash benefit) and increasing the tax allowance for children would significantly raise poverty and slightly increase income inequality; while the replacement of the existing child allowance by a child tax credit due to its very low level has almost no effect. Analogously, transforming the existing non-wastable child tax credit into a child allowance in the Czech Republic would increase poverty and income inequality.

[27] Bach (2013) shows for Germany that the German income splitting leads to higher effective tax burdens for women compared to men in most income groups; its substitution by individual taxation would decrease the tax burden for women and increase the tax burden for men, thus strengthening the progressivity of income taxation on an individual level.
[28] In both countries, the P90/P10 coefficient would increase very slightly only.

In Spain the overall effect of replacing the family tax credit for children by a tax allowance on poverty and inequality is negligible.

Replacing the existing means-tested child tax credit (which de facto is a means-tested cash benefit) by a child allowance or by a non-refundable child tax credit would considerably raise poverty and income inequality in the UK. Both reforms benefit primarily the upper half of the income distribution. However, the increase of inequality is higher in the case of the child allowance as the tax credit primarily strengthens the (upper) middle part of the income distribution, while the tax allowance has the strongest effect on incomes at the top of the distribution. The choice between a child tax allowance and a non-refundable child tax credit does not significantly affect the change of poverty rates.

Similarly, the simulation exercise for Sweden suggests that replacing a universal child benefit by a child tax allowance increases inequality even more than substituting it by a child tax credit, as higher incomes benefit more from a child tax allowance due to their higher marginal tax rates. A similar simulation result can be found for Germany.

3.2.3 Gender aspects

3.2.3.1 Gender-differentiated distributional effects

EUROMOD is based on the household as standard unit, thus assuming that all individuals in a household are pooling resources and are equally affected by policy measures: an assumption which obviously does not hold in reality (Avram, Popova and Rastrigina, 2016): The distributional impact of changes in tax and benefit policy may differ between men and women in a given household, and certain household types in which women or men are over- or under-represented (e.g. households consisting of lone parents – typically lone mothers) may be affected disproportionately by specific policy measures. To identify gender-differentiated distributional effects, Avram, Popova and Rastrigina (2016) suggest a two-pronged strategy: On the one hand, a decomposition approach can isolate gender-differentiated effects within households consisting of two adults. On the other hand, distributional analyses can focus on certain household types in which men or women are over- or underrepresented. The scope of our analyses allows to pursue the second approach only, i.e. to analyse the distributional impact of the various scenarios on specific household types which are particularly interesting from a gender perspective. Specifically, it is possible to simulate distributional effects for one-person households, i.e. single men and women as well as lone mothers and fathers, also differentiating between one-person households where the adult is actively employed on the one hand and households where they are inactive on the other hand. Moreover, the distributional effects for two-person households with

different constellations regarding the main income contributor (male or female), differentiating between households with and without children, can be identified. However, these analyses only allow comparisons between different household types (i.e. whether a specific policy measure affects specific household types more or less than others). Analyses of intra-household distributional effects are not possible, which is a serious limitation of EUROMOD analyses (as with all methods relying on households and resource pooling).

To determine whether a given household type benefits overall from a simulated reform affecting the income tax system, we look at the changes of the aggregate tax burden (i.e. whether it is decreased or increased by the reform), compared to possible changes in aggregate transfer payments received by this household type for simulation scenarios involving also social transfers. A given household type is a winner if the overall tax burden for this household type is reduced and the tax reduction is not or only partially compensated by a decrease in transfer payments received, and vice versa. For the sake of simplicity, we do not present the detailed amounts of the changes of the overall tax burden and the transfer payments received in absolute terms for all household types here, but only highlight the winning and losing household types for the various reforms analysed in our simulation exercise.[29] Of course, this simplification comes at the cost of neglecting quantitative (gender-differentiated) effects: as this approach does not inform about the relative size of the gains or losses affecting individual household types, it cannot make visible possible (gender) differences regarding the extent of gains or losses.

3.2.3.1.1 Changes in the income tax schedule

The simulated changes in income tax systems do not produce clear-cut results in the countries analysed. The observed patterns at first sight rather appear inconsistent, and they require more in-depth analyses than can be done within the scope of this paper (see Figure 14). However, some patterns can be detected.

Replacing progressive income taxation by a flat tax would reduce the tax burden for active single men, lone fathers and households with male active income[30] contributors, due to their (on average) higher incomes, in Austria. In Spain a flat tax would benefit households with male active income contributors and households with female active income contributors with children, as well as active lone parents. In the UK, households with male active income contributors and with female active income contributors with children as well as active lone

[29] The detailed country tables can be found in the annex. The following analyses are based on the A1 country tables for the simulations regarding the income tax schedule and the system of household taxation and on the A3 country tables regarding the system of child benefits.
[30] Active income is derived from dependent and independent employment.

fathers would profit from a flat tax reform. In Germany, active single men and active lone fathers as well as active single women profit from the reform, while households with male and female active income contributors, who benefited most from income splitting in the baseline scenario, lose out.

Losers in a flat tax scenario are active single women in Austria, Spain and the UK, who are confronted with an increase of income tax rates. The increase of income tax rates results in losses also for households with female active income contributors and no children in Austria, Spain and the UK. Active lone mothers would lose in Austria, Germany and the UK; active single men would face an increased tax burden in Spain and the UK.

Figure 14 - Winning and losing household types for simulated change in income tax system

Household type	Austria (FT)	Germany (FT)	Spain (FT)	Sweden (FT)	UK (FT)	Czech Republic (PT)
2-adult household with female active income contributor, without children	-	-	-	+	-	+
2-adult household with male active income contributor, without children	+	-	+	+	+	+
Active single woman	-	+	-	-	-	+
Active single man	+	+	-	-	-	-
Inactive single woman	-	-	-	+	-	+
Inactive single man	+	+	-	+	-	+
2-adult household with female active income contributor with children	-*	-	+	+	+	-*
2-adult household with male active income contributor with children	+	-	+	-	+	-
Active lone mother	-	-	+	-	-	-
Active lone father	+*	+	+*	-	+	+*
Inactive lone mother	-*	+	-	+*	0	0
Inactive lone father	x	x	x	+*	+*	x

Source: Authors' representation based on EUROMOD simulations (see A1 country tables in the annex). Note: "+" winner, "-" loser, "0" no effect; "*" interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households, FT flat tax rate scenario, PT progressive tax rate scenario.

In Sweden, changes are minimal due to its comparatively little progressive income tax schedule in the baseline scenario; accordingly, a flat tax scenario would incur only negligible gender-differentiated effects.

Replacing the Czech flat tax by a progressive income tax would benefit female and male active income contributors without children, while households with female and male active income contributors with children would lose out. Further winners from the introduction of a progressive income tax schedule would be active single women and lone fathers, while active single men and active lone mothers would lose.

A closer look at gender differences between otherwise identical household types (i.e. singles with and without children) may deliver more meaningful insights. For example, a flat tax generally benefits couple households with a male active income contributor in all countries analysed (the exception is Germany due to the loss of the tax savings through income splitting), while couple households with female active income contributors generally lose (with the exception of Spain and the UK as well as Sweden, where gains are negligible, however, due to the low progressivity of the existing income tax schedule). These gender differences are probably caused by the on average higher incomes of male active income contributors compared to female ones. In the Czech Republic, both households with male and female active income contributors without children benefit from the replacement of the existing flat tax by a progressive income tax schedule, while the existence of children in such households turns these households into losers.

Rather pronounced gender differences can be found between active lone mothers and active lone fathers in Germany and the UK: the first group loses from the introduction of a flat tax, while active lone fathers are winners. Across all household types considered, gender differences are most pronounced in Austria: single men with and without children gain from a flat tax, single women with and without children are losers; regardless whether they earn active income or are inactive. Households with active male income contributors generally win, while households with female active income contributors generally lose. Gender differences are least pronounced in Sweden.

3.2.3.1.2 Changes in the system of household taxation

Introducing joint taxation with income splitting would, as expected, benefit couple households with one active income contributor in Austria, UK, Sweden (with the exception of households with female active income contributors with children) and Spain regardless of the existence of children and regardless whether the active income contributor is male or female (see Figure 15).

Conversely, couple households with one active income contributor would lose in Germany as a result of the introduction of individual taxation, regardless of the existence of children. The only exception are households with female active contributors without children, who would benefit from the reduction of income tax rates. In a similar vein, all single households (with and without children, active and inactive) would gain from the lowering of income tax rates the introduction of individual taxation would allow in a budget neutral scenario.

Single men and women as well as lone fathers and mothers would face losses in the joint taxation scenario, in which single person households suffer from the increase in tax rates, in Austria, Spain, and the UK. Again, the impact of the introduction of income splitting in Sweden would have minimal overall and gender-differentiated effects in Sweden.

Figure 15 - Winning and losing household types for simulated change in system of household taxation

Household type	Austria (JT)	Spain (JT)	Sweden (JT)	UK (JT)	Czech Republic (JT)	Czech Republic (RMETR)	Germany (IT)
2-adult household with female active income contributor, without children	+	-	+	+	+	-	+
2-adult household with male active income contributor, without children	+	+	+	+	+	-	-
Active single woman	-	-	-	-	-	0	+
Active single man	-	-	-	-	-	0	+
Inactive single woman	-	-	-	-	+	0	+
Inactive single man	-	-	-	-	+	0	+
2-adult household with female active income contributor with children	+*	+	-	+	-*	-*	-
2-adult household with male active income contributor with children	+	+	+	+	-	-	-
Active lone mother	-	-	-	-	-	+	+
Active lone father	-*	-*	-	-	-	+	+
Inactive lone mother	-*	-	0*	0	0	0	+
Inactive lone father	x	x	+*	-*	x	x	x

Source: Authors' representation based on EUROMOD simulations (see A1 country tables in the annex). Note: "+" winner, "-" loser, "0" no effect; "*" interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households. JT joint tax rate scenario, RMETR reduced marginal effective tax rate scenario.

The additional household taxation scenario in the Czech Republic which foresees the abolition of the tax credit for a husband or wife with low earnings, maintaining budget neutrality by increasing the child tax credit, would decrease the tax burden for lone parents with children benefitting from an increased child tax credit. Households with male and

female active income contributors, regardless of the existence of children, would carry an increased tax burden due to the loss of the abolished tax credit.

Not taking into account the intra-household perspective and magnitude of change, gender differentiated effects of a substitution of individual taxation by joint taxation with income splitting are almost non-existent in couple households with one active income contributor.

3.2.3.1.3 Changes within (tax-related) child benefits

Finally, we look at the gender-differentiated impact of changes within (tax-related) child benefits (see Figure 16). The overall picture across the countries included in our simulations appears more heterogeneous compared to the results for the income tax schedule and the system of household taxation. The main reason for this heterogeneous picture is the considerable cross-country differences in the design of child benefit systems, which entail corresponding cross-country differences in the simulated scenarios. As a consequence, the results of the simulations are less comparable across countries than those of the preceding sets of simulations. What is most interesting in this set of simulations is how changes in the child benefit system would affect different household types in the individual countries.

In Spain, changes brought about by replacing the existing child tax credit by a child tax allowance largely correspond to theoretical expectations: Households with male main income contributors as well as active lone parents would win, while households with female main income contributors would lose. Similarly, granting a child allowance instead of a child tax credit in the Czech Republic would benefit all households with active incomes.

The country-specific results for the scenarios substituting a cash benefit by a child tax allowance are most inconclusive. In Sweden, all households with active incomes would win, with the exception of couple households with a male active income contributor. In Austria, active couple households as well as active lone mothers would lose. In the UK, couple households with a male active income contributor and active lone fathers would win; couple households with a female active income contributor and active lone mothers would have to accept losses. In Germany practically all household types would lose.

The replacement of the German child cash benefit by a child tax credit would entail losses for all household types. Granting a child tax credit instead of the existing means-tested cash benefit in the UK would benefit couple households with male active income contributors as well as active fathers, couple households with female active income contributors and lone mothers would lose.

Figure 16 - Winning and losing household types for simulated changes within (tax-related) child benefits

Household type	Austria		Czech Republic	Germany		Spain	Sweden		UK	
	ChA	ChC	ChA	ChA	ChC	ChA	ChA	ChC	ChA	ChC
2-adult household with female active income contributor with children	-*	0*	+*	0	-	-	+	+	-	-
2-adult household with male active income contributor with children	-	+	+	-	-	+	-	-	+	+
Active lone mother	-	+	+	-	-	+	+	+	-	-
Active lone father	0*	0*	+*	-	-	+*	+	+	+	+
Inactive lone mother	-*	0*	0	-	-	-	-*	-*	-	-
Inactive lone father	x	x	x	x	x	x	+*	+*	-*	-*

Source: Authors' representation based on EUROMOD simulations (see A3 country tables in the annex). Note: + winner, - loser, "0" no effect; "*" interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households. ChA Child tax allowance scenario, ChC child tax credit scenario.

Gender differences between otherwise identical household types differ across countries and simulated scenarios. Most striking is Germany, where the substitution of a child cash benefit by a child tax allowance in a first scenario and by a child tax credit in a second scenario makes all household types considered worse off, regardless of gender. For the other countries, there is no clear-cut picture with regard to gender differences.

3.2.3.2 Impact on work incentives

Besides its re-distributive effect, by altering gross incomes the tax benefit system also affects the (dis)incentive to work leading to potential labour supply reactions especially of those less attached to the labour market – second earners and thus mostly women. In order to analyse the incentive to work of the tax benefit systems of the six EU Member States and the various scenarios analysed in our microsimulations, we use two indicators: the marginal effective tax rate (METR) and the participation tax rate (PTR).[31]

The METR is defined as

$$METR = 1 - \frac{\Delta Y_h}{\Delta E_i}$$

where ΔY_h is the change in disposable household income and ΔE_i is the change in individual

[31] See for these indicators also Rastrigina and Verashchagina (2015).

gross earnings. It measures the extent to which taxes, social insurance contributions and benefits affect the financial gain from work when increasing labour supply at the intensive margin. The higher the METR, the less financially rewarding it is to expand working hours for individuals already in employment. The extent of the low wage trap for second earners (see section 2.2.4 above) is crucially dependent on METRs for lower incomes.

The PTR is defined as

$$PTR = 1 - \frac{\Delta Y_h}{\Delta E_i}$$

It measures how transitioning from non-employment to employment affects the income disposable to a household (increase of labour supply at the extensive margin) and is equivalent to the METR, expect for the fact that the initial individual gross earnings are zero and ΔE_i reduces to $E_i^1 - E_i^0 = E_i^1$, with E_i^0 being the initial earnings and E_i^1 being the increased earnings. The PTR influences the participation decision, i.e. the decision whether to enter the labour market at all.

Both indicators are subject to assumptions about the level of increase in individual gross earnings. For calculating the METR we assume an increase in earnings of 10%. For the PTR the gross earnings of inactive persons are set to 2/3 of mean active income. We further assume full-year employment.

We focus our analysis on households where a woman is either a second earner or inactive. More precisely, we calculate the METR for households

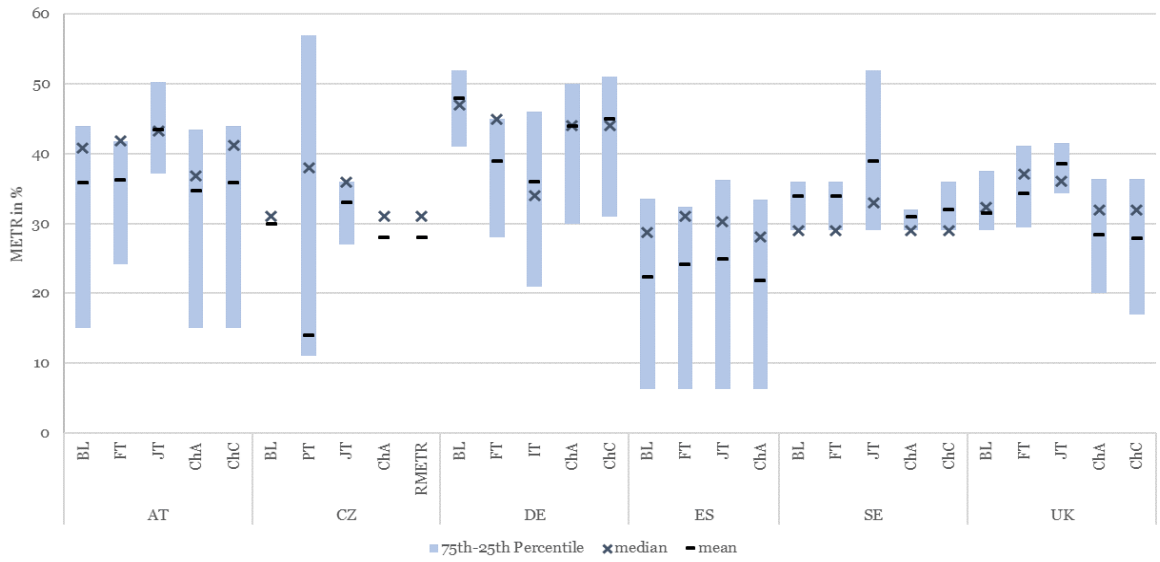
- with (at least) two-adults,
- with or without children,
- where both adults earn income from (self) employment,
- and where the second earner is female.

The PTR is calculated for households

- with two working age adults,
- where one adult is active, i.e. (self) employed,
- where the second adult is inactive income and is not retired, unemployed or disabled,
- with or without children,
- and where the inactive person is female.

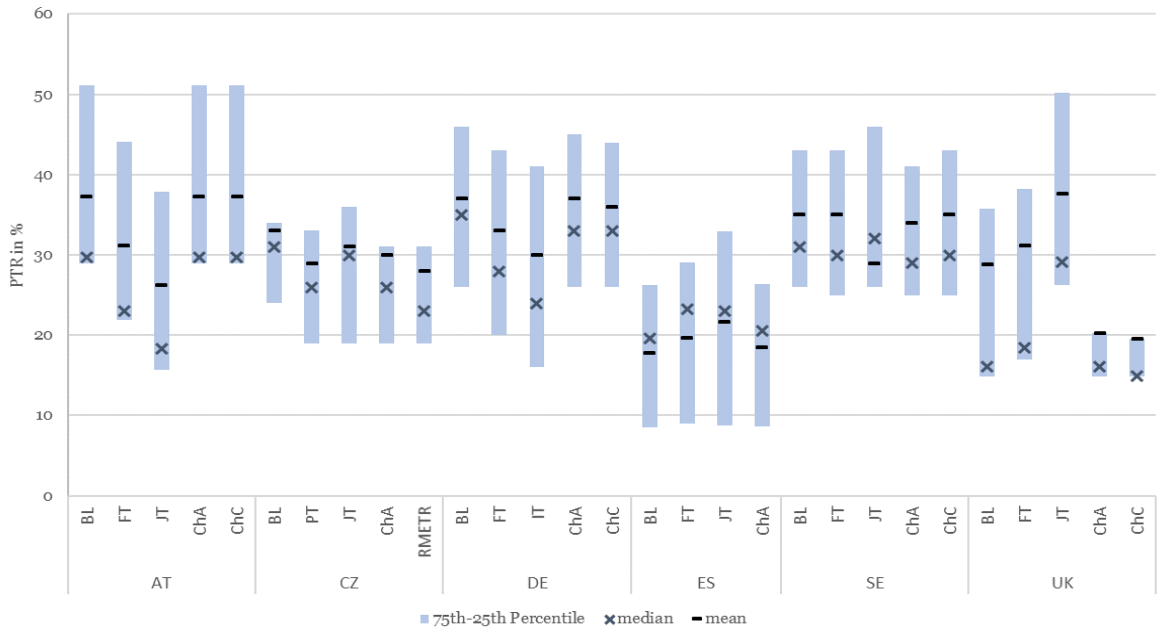
Figures 17 and 18 give an overview of the distributions of METRs for female second earners and PTRs for inactive women in the baseline scenario as well as in the various scenarios for the six EU countries included in our simulation exercises.

Figure 17 - Distribution of Marginal Effective Tax Rates (METR) for female second earners, 2016



Source: Authors' calculations based on EUROMOD simulations.

Figure 18 - Distribution of Participation Tax Rates (PTR) for inactive women, 2016



Source: Authors' calculations based on EUROMOD simulations.

After briefly describing METRs and PTRs in the baseline scenarios for the six countries included, we summarise the impact of the various scenarios on work incentives,

differentiating between the impact at the intensive margin (METRs influencing the decision to increase labour supply) for female second earners and the impact at the extensive margin (PTR influencing the decision to take up employment out of inactivity) for women in the following sections.

3.2.3.2.1 Work incentives in the baseline scenario

In the baseline scenario, METRs for second earners on average for all households are highest for Germany (a result of the income splitting system) at 48%. In the other five countries, average METRs for second earners range between 22% (Spain) and 36% (Austria). The first quartile of METRs ranges from 6% (Spain) to 41% in the income splitting country Germany and the third quartile from 34% in Spain to 52% in Germany. The most striking feature of the diverse distributions can be found for the Czech Republic where the median is also the mode with at least 50% of second earners facing a METR of 31%.

The mean PTR in the baseline scenario is highest in Austria and Germany (37%). In Sweden, the Czech Republic and the UK it ranges between 35% and 29%; it is by far at the lowest level in Spain (18%). The first quartile of PTRs ranges from 9% in Spain to 29% in Austria), the third quartile is lowest in Spain (26%) and largest in Austria (51%)

3.2.3.2.2 Impact of changes in the design of the income tax schedule on work incentives

3.2.3.2.2.1 Impact on METRs

The introduction of a flat tax has differing effects on the average METR for female second earners in the countries regarded, depending on income tax rates as well as the system of household taxation (individual taxation versus income splitting system).

Replacing progressive taxation by a flat tax leaves the average METR unchanged in Austria and Sweden and only slightly raises it in Spain and the UK, indicating no or only a slight overall improvement of work incentives at the intensive margin for female second earners. However, the effects are distributed rather unevenly among the whole group of second earners, and they differ significantly across countries.

The first quartile of the METR substantially increases in Austria (due to the increase of the basic income tax rate and the abolition of all tax credits necessary to maintain budget neutrality of the reform), thus decreasing work incentives for a considerable share of second earners. It remains constant in Spain, Sweden and the UK and substantially decreases in the income splitting country Germany, which should improve work incentives accordingly.

An even more pronounced improvement of work incentives would result from the substitution of the existing flat tax by a progressive income tax schedule in the Czech Republic with its system of individual taxation: here the first quartile of the METR is decreased by 20 percentage points to 11%.

While in Sweden the third quartile of METR does not change under a flat tax regime, a flat income tax schedule results in a slight decrease in Austria and Spain, a more pronounced decrease in Germany, and a slight increase in the UK.

In the Czech Republic, the third quartile of the METR rises from 31% to 57% which presumably had massive impact on female second earners. This significant increaseby 26 percentage points is accompanied by a decrease of first quartile by about 20 percentage points

3.2.3.2.2.2 Impact on PTRs

Generally, the implemented flat tax regimes have a larger impact on the (dis)incentives to transition into employment than on the (dis)incentive to increase labour supply. The average PTR decreases considerably in Austria and moderately in Germany, implying an improvement of incentives for inactive women to take up employment through replacing the existing progressive income tax schedule by a flat tax. A slight increase of the average PTR depressing work incentives is observed for Spain and the UK, while it would remain constant in Sweden. Substituting the existing flat tax in the Czech Republic by a progressive income tax schedule would leave the average of the PTR for all households nearly unchanged.

Unlike the results for the METRs, the extent of the changes of the first and third quartile of PTRs is similar and largely corresponds to the changes observable for the average PTRs. Overall, the results for the impact of the introduction of a flat tax on incentives to take up work for inactive women do not show a clear direction.

3.2.3.2.3 Impact of changes in the system of household taxation on work incentives

3.2.3.2.3.1 Impact on METRs

The introduction of a joint taxation system with income splitting in Austria, Spain, Sweden and the UK increases the average METR for female second earners and thus decreases work incentives overall. A particularly pronounced effect is observable in Austria for the first quartile and in Sweden for the third quartile. In the Czech Republic for which the income splitting was implemented jointly with a progressive tax schedule - the average METR slightly increases compared to the baseline (+3 percentage points) and significantly increases compared to the progressive tax scenario (+19 percentage points). For the first and

third quartile the effects when comparing to the progressive tax scenario as opposed to a comparison against the baseline are even more divergent. While they are of moderate magnitude compared to the baseline (first quartile: -4 percentage points; third quartile: +5 percentage points), we find a significant change when comparing to the progressive tax scenario (first quartile: +16 percentage points; third quartile: -21 percentage points). This highlights the (by design) ineffectiveness of income splitting under flat tax regimes. The relatively small effects when comparing against the baseline are attributable to progressive elements in the Czech flat tax such as the basic allowance.

Replacing the German income splitting system by individual taxation results in a sizeable improvement of work incentives. The mean (-12 percentage points) and median (-13 percentage points) METR as well as the first (-6 percentage points) and third quartile (-20 percentage points) of the METR distribution decrease considerably with the difference between the first and third quartile reflecting the effect of the progressive income tax schedule.

3.2.3.2.3.2 Impact on PTRs

The substitution of the existing system of individual taxation by joint taxation with income splitting considerably reduces the average PTR for inactive women in Austria; a moderate reduction is observable in Sweden and a slight one in the Czech Republic. Increases result in Spain (moderate) and the UK (considerable). Overall, therefore, the effects are not as clear as those on METR, indicating a deterioration of work incentives for inactive women for Spain (slightly) and the UK, but improvements in Austria, Sweden, and the Czech Republic.

Substituting the current income splitting system in Germany by individual taxation reduces the average PTR for inactive women as well as the first and the (albeit to a lesser extent) third quartile of the PTR notably, thus improving – as theoretically expected –incentives for inactive women to enter the labour market.

3.2.3.2.4 Impact of changes within (tax-related) child benefits on work incentives

3.2.3.2.4.1 Impact on METRs

For Spain, Austria and the Czech Republic the simulated changes of (tax-related) child benefits have no impact on the average METR for female second earners, thus leaving work incentives unchanged on average. The impact is zero or small in the scenarios simulated for Sweden.

The most pronounced changes can be found for Germany and the UK. Substituting the existing child benefit by a child tax allowance or a child tax credit, respectively, would

substantially decrease the first quartile of the METR and somewhat reduce it on average. For the UK, the first quartile of the METRs is considerably and the third quartile is moderately decreased, reflecting the work disincentive of the means-testing in the baseline scenario. With a slightly smaller first quartile of METRs the child tax credit scenario performs slightly better than the scenario introducing a child tax allowance.

3.2.3.2.4.2 Impact on PTRs

Similar to the results for the METR, we find minor effects of the simulated reforms concerning (tax-related) child benefits on the PTRs for inactive women only: In Austria, Germany, Spain and Sweden, the PTRs are hardly affected at most; in the Czech Republic, replacing the non-wastable child tax credit by a child tax allowance would slightly decrease the average of PTR as well as the first and the third quartile, thus it somewhat increases incentives for inactive women to take up employment. In the UK, replacing the existing means-tested child benefit by a child tax allowance or a child tax credit, respectively, the average PTR as well as the first quartile decrease for inactive women, again, reflecting the loss the of the means-tested child benefit in the baseline which results in higher effective tax rates with the child tax credit doing slightly better in terms of work incentives than the child tax allowance.

4 Conclusions and Outlook

Overall, our simulations show that the design of income tax schedules, systems of household taxation and (tax-related) child benefits has non-negligible effects on income distribution as well as work incentives in general and particularly from a gender perspective in the six EU Member States considered. Although the effects differ for some household types across countries, depending on the concrete design of the tax benefit system and the interactions between tax and benefit provisions that cannot be captured in our simulation exercise, some general tendencies and effects can be identified.

Firstly, the introduction of a flat tax would hardly impact on poverty but would increase income inequality. Gender-differentiated effects are less clear-cut, and their extent differs across the countries analysed in our simulation exercise. However, generally a flat tax benefits couple households with a male active income contributor, while households with female active income contributors lose. Rather pronounced gender differences can also be found between active lone mothers and fathers. While in almost all countries active lone mothers lose from the introduction of a flat tax, active lone fathers are winners.

Secondly, replacing individual taxation by a joint taxation system with income splitting would have small effects on poverty only but would decrease income inequality on a household level in all countries analysed. From a gender perspective it is interesting (if not surprising) that the introduction of joint taxation with income splitting would benefit couple households with one active income contributor in almost all countries included, regardless of the existence of children and regardless of the gender of the active income contributor. Gender-differentiated effects of a substitution of individual taxation by joint taxation with income splitting are almost non-existent in childless couple households with one active income contributor. They are a little more pronounced if there are children in the household, due to income differences between spouses.

Thirdly, our simulations demonstrate that the various child benefits would have the expected overall distributional effects. Replacing an existing child benefit granted as cash transfer by tax-related child benefits would raise poverty and income inequality. Moreover, the inequality- and poverty-increasing effect of a child tax allowance would be higher compared to a child tax credit. Gender-differentiated effects are not clear-cut and require deeper analyses.

Overall, one central result of our analyses is that the extent of gender differences in the effects of the various simulation scenarios differs markedly across the countries included. It remains to be explored, in a next step, to what extent these cross-country differences in the

gender-differentiated impact of policy measures are associated with the welfare state / family of taxation typologies outlined above.

With regard to further research, we also want to stress that although Saxonberg's typology is based on policies which are commonly perceived as cornerstones within reconciliation policies, as they have a considerable influence with regard to the stabilisation or rather elimination of traditional gender roles and division of labour among women and men, the genderisation/degenderisation typology can also be applied to other types of social policies (Saxonberg 2013). The approach may thus serve as an interesting point of departure also when attempting to categorise tax policies from a gender perspective. Analogously, tax policies can be distinguished by the degree to which they stabilise or rather help to break up traditional gender roles to improve gender equality. To capture both the distributional and allocative impact of taxation on gender equality, the understanding of gender roles must be perceived as a concept that not only refers to gender stereotypes or family roles, but comprises structural socio-economic gender differences in general, such as the gender gap in income and wealth or the division of paid and unpaid work.

Our simulation results could be a basis for the development of a new typology for income tax systems from a gender perspective, breaking down the typology put forward by Saxonberg (2013) for welfare states in general to income tax systems as one specific feature of welfare states. Such a typology would reflect the degree of the (de)genderisation of income tax systems, i.e. to what extent they support traditional gender roles particular with regard to the distribution of paid and unpaid work within couples. It would have to include the design of the elements of income tax systems analysed here, because our analyses suggest that the system of household taxation as well as the design of the income tax schedule and child-related benefits can be expected to have an impact on gender relations. In addition, income tax systems contain a number of further provisions impacting on gender roles[32]: Some of them influence the distribution of paid work in couple households (with children) directly, as the tax breaks for overtime hours (which are mainly performed by men) granted for example in Austria, the tax deductibility of expenditures for external childcare (which decrease participation tax rates and METR for second earners) offered for example in Germany, or tax relief for two-earner-couples (for example the Spanish working mothers tax credit). Other provisions have a more indirect impact, as for example tax exemptions for commuters, which – depending on their design – may reduce effective tax rates for second

[32] See for an analysis of the impact of the most important tax exemptions in the Austrian income tax system on female labour supply and on the distribution of paid and unpaid work Schratzenstaller and Dellinger (2018).

earners. The role of taxation in efforts to achieve gender equality via public budgets is still not adequately considered in academic research as well as practical tax policy. Therefore, the identification of income tax provisions influencing female labour supply and the distribution of paid and unpaid work in couples, also in a cross-country comparative perspective and within a comprehensive framework (which could be provided by a typology of income tax systems from a gender perspective), is an indispensable prerequisite for efforts to design degendering tax systems.

5 References

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6 Annex

All the tables of the annex are based on EUROMOD simulations. The abbreviations are as following:

BL ...	baseline scenario
PT ...	progressive tax rate scenario
FT ...	flat tax rate scenario
JT ...	joint taxation scenario
IT ...	individual taxation scenario
ChA ...	child tax allowance scenario
ChC ...	child tax credit scenario
RMETR ...	reduced marginal effective tax rate scenario

A1 ... Distribution of Tax Burden (change to baseline, negative value means reduction of tax burden for household)

A2 ... Distribution of Social Transfers (changes to baseline, negative value means reduction of social transfers received by household)

A3 ... Net Balance of changes of Tax Burden and Social Transfers (total of changes to baseline, negative value means overall gain for household, positive value means overall loss for household; "+" means "winner", "-" means "loser")

A4 ... Distribution of Public Expenditure (negative value means reduction of public expenditure received by household)

A5 ... Distribution of Poverty (negative value means reduced risk-at-poverty rate)

A1 - Distribution of Tax Burden – Austria

AT					
Scenario	**BL**	**FT**	**JT**	**ChA**	**ChC**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of tax burden for household			
All	29 598	45	-5	-1 276	-1
(2,0,0)	5 353	-140	230	-4	0
(1F,1M,0)	754	40	-25	0	0
(1M,1F,0)	1 172	-56	-81	0	0
(1F,0,0)	1 331	95	118	0	0
(1M,0,0)	3 291	-299	335	0	0
(0,1F,0)	1 317	156	113	0	0
(0,1M,0)	918	-1	82	0	0
(0,2,0)	2 837	168	-405	0	0
(2,0,X)	6 349	-219	-26	-786	10
(1F,1M,X)	(197)	(3)	(-7)	(-24)	(0)
(1M,1F,X)	1 228	-120	-226	-173	-4
(1F,0,X)	220	35	26	-58	-4
(1M,0,X)	(127)	(-18)	(15)	(-13)	(0)
(0,1F,X)	(0)	(1)	(2)	(-2)	(0)
(0,1M,X)	x	x	x	x	x
(0,2,X)	(177)	(-25)	(-33)	(-7)	(0)
(1,0,0)	4 622	-204	453	0	0
(0,1,0)	2 235	155	195	0	0
(1,0,X)	347	16	41	-70	-4
(0,1,X)	(8)	(0)	(2)	(-2)	(0)

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A1 - Distribution of Tax Burden – Czech Republic

CZ					
Scenario	**BL**	**PT**	**JT**	**ChA**	**RMETR**
	in million CZK	**Change to baseline in million CZK** negative value means reduction of tax burden for household			
All	140 953	2 235	2 866	-6 254	167
(2,0,0)	30 210	-977	179	0	199
(1F,1M,0)	2 079	-373	-508	0	109
(1M,1F,0)	5 079	-394	-727	0	353
(1F,0,0)	6 210	-116	387	0	0
(1M,0,0)	11 054	397	1 286	0	0
(0,1F,0)	222	-40	-30	0	0
(0,1M,0)	284	-53	-31	0	0
(0,2,0)	676	-61	-127	0	17
(2,0,X)	38 597	4 030	3 839	-3 776	-1 992
(1F,1M,X)	(570)	(134)	(36)	(-74)	(58)
(1M,1F,X)	8 160	3 261	1 124	-1 122	1 232
(1F,0,X)	2 119	138	398	-379	-238
(1M,0,X)	(941)	(-19)	(83)	(-98)	(-60)
(0,1F,X)	0	0	0	0	0
(0,1M,X)	0	0	0	0	0
(0,2,X)	464	350	218	-22	17
(1,0,0)	17 264	280	1 673	0	0
(0,1,0)	506	-94	-61	0	0
(1,0,X)	3 060	120	481	-477	-298
(0,1,X)	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A1 - Distribution of Tax Burden – Germany

DE					
Scenario	**BL**	**FT**	**IT**	**ChA**	**ChC**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of tax burden for household			
All	282 675	1 535	-1 680	-29 407	-29 913
(2,0,0)	59 917	-3 901	-3 040	-200	-194
(1F,1M,0)	6 151	442	-274	-20	-23
(1M,1F,0)	10 661	205	974	-4	0
(1F,0,0)	20 848	-1 220	-2 673	-47	0
(1M,0,0)	30 320	-3 381	-2 922	-33	0
(0,1F,0)	6 622	412	-1 481	-292	0
(0,1M,0)	7 029	-165	-1 162	-283	0
(0,2,0)	17 832	5 571	2 219	-10	-3
(2,0,X)	62 369	-673	1 469	-16 992	-17 748
(1F,1M,X)	2 303	244	22	-639	-612
(1M,1F,X)	19 183	1 970	4 325	-4 626	-4 952
(1F,0,X)	4 135	49	-707	-1 322	-1 424
(1M,0,X)	2 417	-302	-182	-363	-347
(0,1F,X)	148	-15	-37	-80	-103
(0,1M,X)	64	6	-14	-15	-18
(0,2,X)	201	141	63	-103	-99
(1,0,0)	51 168	-4 601	-5 595	-80	0
(0,1,0)	13 651	247	-2 644	-575	0
(1,0,X)	6 553	-253	-889	-1 685	-1 770
(0,1,X)	x	x	x	x	x

"X""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A1 - Distribution of Tax Burden – Spain

ES				
	BL	**FT**	**JT**	**ChA**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of tax burden for household		
All	67 068	-34	138	9
(2,0,0)	10 077	212	229	-1
(1F,1M,0)	1 524	117	6	0
(1M,1F,0)	3 112	-84	-187	0
(1F,0,0)	2 607	205	175	0
(1M,0,0)	4 409	246	294	0
(0,1F,0)	1 474	171	83	0
(0,1M,0)	1 419	135	81	0
(0,2,0)	3 352	186	-304	0
(2,0,X)	18 712	-935	245	5
(1F,1M,X)	551	-30	-10	7
(1M,1F,X)	3 263	-406	-380	-11
(1F,0,X)	1 144	-56	78	-1
(1M,0,X)	(240)	(-39)	(16)	(-2)
(0,1F,X)	48	6	3	1
(0,1M,X)	x	x	x	x
(0,2,X)	104	-9	-1	1
(1,0,0)	7 016	451	469	0
(0,1,0)	2 893	306	164	0
(1,0,X)	1 383	-95	94	-3
(0,1,X)	65	10	4	2

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A1 - Distribution of Tax Burden – Sweden

SE					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million SEK	**Change to baseline in million SEK** negative value means reduction of tax burden for household			
All	564 137	-376	40	-28 332	-28 790
(2,0,0)	83 020	258	104	0	0
(1F,1M,0)	29 314	-122	-184	0	0
(1M,1F,0)	23 485	-104	-482	0	0
(1F,0,0)	21 629	91	426	0	0
(1M,0,0)	32 186	53	705	0	0
(0,1F,0)	30 927	-324	141	0	0
(0,1M,0)	20 480	-199	134	0	0
(0,2,0)	75 288	-675	-1 180	0	0
(2,0,X)	154 947	646	122	-19 437	-19 750
(1F,1M,X)	7 140	-100	6	-875	-894
(1M,1F,X)	17 700	61	-604	-1 690	-1 770
(1F,0,X)	10 021	69	226	-2 558	-2 540
(1M,0,X)	6 726	24	136	-1 216	-1 188
(0,1F,X)	1 039	-2	0	-373	-395
(0,1M,X)	679	-3	-2	-125	-137
(0,2,X)	3 123	0	79	-337	-367
(1,0,0)	53 815	143	1 131	0	0
(0,1,0)	51 407	-523	275	0	0
(1,0,X)	(16 748)	(93)	(362)	(-3 774)	(-3 728)
(0,1,X)	(1 718)	(-5)	(-2)	(-497)	(-532)

Values in parentheses interpret with caution due to small sample size.

A1 - Distribution of Tax Burden – United Kingdom

UK					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million GBP	**Change to baseline in million GBP** negative value means reduction of tax burden for household			
All	166 028	140	421	-13 969	-14 321
(2,0,0)	35 457	-202	2 086	0	0
(1F,1M,0)	4 362	186	-229	0	0
(1M,1F,0)	7 732	-68	-1 177	0	0
(1F,0,0)	5 866	217	565	0	0
(1M,0,0)	9 012	185	907	0	0
(0,1F,0)	4 667	382	227	0	0
(0,1M,0)	2 876	263	142	0	0
(0,2,0)	12 245	966	-934	0	0
(2,0,X)	36 617	-201	757	-8 592	-8 926
(1F,1M,X)	1 946	-27	-278	-468	-472
(1M,1F,X)	11 353	-1 127	-2 306	-2 914	-2 753
(1F,0,X)	2 509	4	199	-608	-649
(1M,0,X)	919	-86	94	-156	-163
(0,1F,X)	642	0	0	-1	-1
(0,1M,X)	(139)	(-22)	(10)	(-1)	(-1)
(0,2,X)	638	8	-12	-23	-25
(1,0,0)	14 878	402	1 471	0	0
(0,1,0)	7 544	645	369	0	0
(1,0,X)	3 427	-82	293	-763	-812
(0,1,X)	781	-22	10	-2	-2

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A2 - Distribution of Social Transfers – Austria

AT					
Scenario	**BL**	**FT**	**JT**	**ChA**	**ChC**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of social transfers received by household			
All	19 531	45	-5	-1 277	-1
(2,0,0)	669	0	0	-10	0
(1F,1M,0)	170	1	0	0	0
(1M,1F,0)	474	1	0	-2	0
(1F,0,0)	639	0	0	-8	0
(1M,0,0)	649	0	0	-5	0
(0,1F,0)	3 813	2	0	-1	0
(0,1M,0)	1 073	1	0	-5	0
(0,2,0)	1 125	8	-2	-1	0
(2,0,X)	3 913	6	3	-630	0
(1F,1M,X)	(456)	(2)	(0)	(-35)	(0)
(1M,1F,X)	1 480	5	-1	-186	-1
(1F,0,X)	683	3	0	-95	0
(1M,0,X)	(90)	(0)	(0)	(-13)	(0)
(0,1F,X)	(331)	(0)	(0)	(-27)	(0)
(0,1M,X)	x	x	x	x	x
(0,2,X)	(370)	(1)	(-2)	(-25)	(0)
(1,0,0)	1 288	0	0	-13	0
(0,1,0)	4 886	3	0	-6	0
(1,0,X)	773	3	0	-108	0
(0,1,X)	(371)	(0)	(0)	(-29)	(0)

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A2 - Distribution of Social Transfers – Czech Republic

CZ					
Scenario	**BL**	**PT**	**JT**	**ChA**	**RMETR**
	in million CZK	**Change to baseline in million CZK** negative value means reduction of tax burden for household			
All	65 674	-136	-116	-18	21
(2,0,0)	2 013	-14	-13	0	0
(1F,1M,0)	1 254	-6	-6	0	14
(1M,1F,0)	1 101	-3	-3	0	11
(1F,0,0)	1 276	-39	-36	0	0
(1M,0,0)	1 355	-34	-30	0	0
(0,1F,0)	2 439	-1	-1	0	0
(0,1M,0)	2 262	-1	-1	0	0
(0,2,0)	2 734	0	0	0	0
(2,0,X)	8 544	-21	-21	-5	-3
(1F,1M,X)	(1 199)	(0)	(0)	(0)	(1)
(1M,1F,X)	15 881	0	0	0	0
(1F,0,X)	1 804	-10	-1	-11	-10
(1M,0,X)	(356)	(-2)	(-1)	(-1)	(-1)
(0,1F,X)	5 925	0	0	0	0
(0,1M,X)	175	0	0	0	0
(0,2,X)	6 140	0	0	0	0
(1,0,0)	2 631	-72	-65	0	0
(0,1,0)	4 700	-1	-1	0	0
(1,0,X)	2 160	-13	-2	-12	-11
(0,1,X)	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A2 - Distribution of Social Transfers – Germany

DE					
Scenario	**BL**	**FT**	**IT**	**ChA**	**ChC**
	in million EUR	**Changes to base in million EUR** negative value means reduction of tax burden for household			
All	117 853	1 146	-1 915	-29 462	-29 485
(2,0,0)	1 759	32	-25	-71	-72
(1F,1M,0)	3 161	41	-190	-23	-23
(1M,1F,0)	2 273	47	-67	-12	-12
(1F,0,0)	2 611	82	-124	-46	-45
(1M,0,0)	2 626	65	-135	-1	0
(0,1F,0)	15 373	46	-157	-14	0
(0,1M,0)	15 896	-4	-111	-21	0
(0,2,0)	7 970	15	-108	-8	-8
(2,0,X)	19 477	164	-157	-15 444	-15 468
(1F,1M,X)	2 485	76	-112	-639	-639
(1M,1F,X)	11 401	348	-212	-6 483	-6 493
(1F,0,X)	6 563	50	-142	-2 210	-2 224
(1M,0,X)	1 050	11	-29	-405	-407
(0,1F,X)	6 802	2	-92	-258	-271
(0,1M,X)	858	0	-11	-42	-42
(0,2,X)	4 014	46	-55	-276	-280
(1,0,0)	5 237	147	-259	-46	-45
(0,1,0)	31 269	42	-269	-35	0
(1,0,X)	7 614	61	-171	-2 614	-2 631
(0,1,X)	x	x	x	x	x

"X""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A2 - Distribution of Social Transfers – Spain

ES				
	BL	**FT**	**JT**	**ChA**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of tax burden for household		
All	75 994	1	137	1
(2,0,0)	3 808	0	0	0
(1F,1M,0)	2 122	0	0	0
(1M,1F,0)	3 965	0	0	0
(1F,0,0)	2 067	0	0	0
(1M,0,0)	1 660	0	0	0
(0,1F,0)	11 189	0	0	0
(0,1M,0)	3 246	0	0	0
(0,2,0)	8 180	0	0	0
(2,0,X)	8 328	1	34	1
(1F,1M,X)	1 884	0	-3	0
(1M,1F,X)	3 744	0	111	0
(1F,0,X)	1 031	0	0	0
(1M,0,X)	(297)	(0)	(0)	(0)
(0,1F,X)	815	0	0	0
(0,1M,X)	x	x	x	x
(0,2,X)	1 380	0	0	0
(1,0,0)	3 727	0	0	0
(0,1,0)	14 434	0	0	0
(1,0,X)	1 329	0	0	0
(0,1,X)	1 057	0	0	0

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A2 - Distribution of Social Transfers – Sweden

SE					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million SEK	**Change to baseline in million SEK** negative value means reduction of tax burden for household			
All	168 511	2	-36	-28 447	-28 456
(2,0,0)	7 423	0	0	0	0
(1F,1M,0)	4 001	0	-2	0	0
(1M,1F,0)	4 519	0	0	0	0
(1F,0,0)	4 738	0	0	0	0
(1M,0,0)	6 311	0	0	0	0
(0,1F,0)	8 647	0	0	0	0
(0,1M,0)	7 527	0	0	0	0
(0,2,0)	4 735	0	2	0	0
(2,0,X)	59 969	0	-14	-18 447	-18 451
(1F,1M,X)	4 857	0	-3	-831	-831
(1M,1F,X)	14 021	0	-14	-3 076	-3 076
(1F,0,X)	6 851	0	0	-2 304	-2 308
(1M,0,X)	4 310	2	2	-999	-999
(0,1F,X)	5 312	0	0	-558	-558
(0,1M,X)	1 604	0	-2	-116	-116
(0,2,X)	5 345	0	-3	-478	-479
(1,0,0)	11 049	0	0	0	0
(0,1,0)	16 174	0	0	0	0
(1,0,X)	(11 161)	(2)	(2)	(-3 304)	(-3 307)
(0,1,X)	(6 915)	(0)	(-1)	(-674)	(-674)

Values in parentheses interpret with caution due to small sample size.

A2 - Distribution of Social Transfers – United Kingdom

UK					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million GBP	**Change to baseline in million GBP** negative value means reduction of tax burden for household			
All	112 270	139	422	-13 969	-14 320
(2,0,0)	1 472	1	0	0	0
(1F,1M,0)	1 492	5	-6	0	0
(1M,1F,0)	1 464	7	-7	0	0
(1F,0,0)	742	1	0	0	0
(1M,0,0)	370	3	1	0	0
(0,1F,0)	11 867	8	4	0	0
(0,1M,0)	11 296	5	2	0	0
(0,2,0)	13 560	10	-26	0	0
(2,0,X)	9 818	13	319	-1 510	-1 734
(1F,1M,X)	3 572	11	8	-987	-999
(1M,1F,X)	8 457	47	102	-2 526	-2 612
(1F,0,X)	7 007	13	5	-2 255	-2 267
(1M,0,X)	595	0	0	-153	-153
(0,1F,X)	11 493	0	0	-2 857	-2 857
(0,1M,X)	(650)	(0)	(0)	(-162)	(-162)
(0,2,X)	9 159	0	0	-2 150	-2 150
(1,0,0)	1 112	3	1	0	0
(0,1,0)	23 163	14	6	0	0
(1,0,X)	7 602	13	6	-2 408	-2 421
(0,1,X)	12 143	0	0	-3 019	-3 019

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A3 – Net Balance of Changes of Tax Burden and Social Transfers–Austria

AT								
Scenario	**FT**	**JT**	**ChA**	**ChC**	**FT**	**JT**	**ChA**	**ChC**
	Change to baseline in million EUR				**Net effect on household ("+"/winner, "-"/loser)**			
All	0	0	1	0	0	0	-	0
(2,0,0)	-141	231	6	0	+	-	-	0
(1F,1M,0)	39	-25	0	0	-	+	0	0
(1M,1F,0)	-57	-81	2	0	+	+	-	0
(1F,0,0)	94	118	8	0	-	-	-	0
(1M,0,0)	-299	335	5	0	+	-	-	0
(0,1F,0)	154	113	1	0	-	-	-	0
(0,1M,0)	-2	82	5	0	+	-	-	0
(0,2,0)	160	-403	0	0	-	+	0	0
(2,0,X)	-226	-29	-156	10	+	+	+	-
(1F,1M,X)	(2)	(-7)	(11)	(0)	(-)	(+)	(-)	(0)
(1M,1F,X)	-126	-225	14	-3	+	+	-	+
(1F,0,X)	32	26	38	-4	-	-	-	+
(1M,0,X)	(-18)	(15)	(0)	(0)	(+)	(-)	(0)	(0)
(0,1F,X)	(1)	(2)	(25)	(0)	(-)	(-)	(-)	(0)
(0,1M,X)	x	x	x	x	x	x	x	x
(0,2,X)	(-26)	(-32)	(18)	(0)	(+)	(+)	(-)	(0)
(1,0,0)	-204	453	13	0	+	-	-	0
(0,1,0)	152	195	6	0	-	-	-	0
(1,0,X)	14	41	38	-4	-	-	-	+
(0,1,X)	(0)	(2)	(27)	(0)	(0)	(-)	(-)	(0)

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A3 – Net Balance of Changes of Tax Burden and Social Transfers–Czech Republic

CZ								
Scenario	**FT**	**JT**	**ChA**	**RMETR**	**FT**	**JT**	**ChA**	**RMETR**
	Change to baseline in million CZK				**Net effect on household ("+"/winner, "-"/loser)**			
All	2 371	2 982	-6 236	146	-	-	+	-
(2,0,0)	-963	192	0	199	+	-	0	-
(1F,1M,0)	-367	-502	0	95	+	+	0	-
(1M,1F,0)	-391	-724	0	342	+	+	0	-
(1F,0,0)	-77	423	0	0	+	-	0	0
(1M,0,0)	431	1 316	0	0	-	-	0	0
(0,1F,0)	-39	-29	0	0	+	+	0	0
(0,1M,0)	-52	-30	0	0	+	+	0	0
(0,2,0)	-61	-127	0	17	+	+	0	-
(2,0,X)	4 051	3 860	-3 771	-1 989	-	-	+	+
(1F,1M,X)	(134)	(36)	(-74)	(57)	(-)	(-)	(+)	(-)
(1M,1F,X)	3 261	1 124	-1 122	1 232	-	-	+	-
(1F,0,X)	148	399	-368	-228	-	-	+	+
(1M,0,X)	(-17)	(84)	(-97)	(-59)	(+)	(-)	(+)	(+)
(0,1F,X)	0	0	0	0	0	0	0	0
(0,1M,X)	0	0	0	0	0	0	0	0
(0,2,X)	350	218	-22	17	-	-	+	-
(1,0,0)	352	1 738	0	0	-	-	0	0
(0,1,0)	-93	-60	0	0	+	+	0	0
(1,0,X)	133	483	-465	-287	-	-	+	+
(0,1,X)	x	x	x	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A3 – Net Balance of Changes of Tax Burden and Social Transfers–Germany

DE								
Scenario	**FT**	**IT**	**ChA**	**ChC**	**FT**	**IT**	**ChA**	**ChC**
	Change to baseline in million EUR				**Net effect on household ("+"/winner, "-"/loser)**			
All	389	235	55	-428	-	-	-	+
(2,0,0)	-3 933	-3 015	-129	-122	+	+	+	+
(1F,1M,0)	401	-84	3	0	-	+	-	0
(1M,1F,0)	158	1 041	8	12	-	-	-	-
(1F,0,0)	-1 302	-2 549	-1	45	+	+	+	-
(1M,0,0)	-3 446	-2 787	-32	0	+	+	+	0
(0,1F,0)	366	-1 324	-278	0	-	+	+	0
(0,1M,0)	-161	-1 051	-262	0	+	+	+	0
(0,2,0)	5 556	2 327	-2	5	-	-	+	-
(2,0,X)	-837	1 626	-1 548	-2 280	+	-	+	+
(1F,1M,X)	168	134	0	27	-	-	0	-
(1M,1F,X)	1 622	4 537	1 857	1 541	-	-	-	-
(1F,0,X)	-1	-565	888	800	+	+	-	-
(1M,0,X)	-313	-153	42	60	+	+	-	-
(0,1F,X)	-17	55	178	168	+	-	-	-
(0,1M,X)	6	-3	27	24	-	+	-	-
(0,2,X)	95	118	173	181	-	-	-	-
(1,0,0)	-4 748	-5 336	-34	45	+	+	+	-
(0,1,0)	205	-2 375	-540	0	-	+	+	0
(1,0,X)	-314	-718	929	861	+	+	-	-
(0,1,X)	x	x	x	x	x	x	x	x

"X""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A3 – Net Balance of Changes of Tax Burden and Social Transfers–Spain.

ES						
Scenario	**FT**	**JT**	**ChA**	**FT**	**JT**	**ChA**
	Change to baseline in million EUR			**Net effect on household ("+"/winner, "-"/loser)**		
All	-35	1	8	+	-	-
(2,0,0)	212	229	-1	-	-	+
(1F,1M,0)	117	6	0	-	-	0
(1M,1F,0)	-84	-187	0	+	+	0
(1F,0,0)	205	175	0	-	-	0
(1M,0,0)	246	294	0	-	-	0
(0,1F,0)	171	83	0	-	-	0
(0,1M,0)	135	81	0	-	-	0
(0,2,0)	186	-304	0	-	+	0
(2,0,X)	-936	211	4	+	-	-
(1F,1M,X)	-30	-7	7	+	+	-
(1M,1F,X)	-406	-491	-11	+	+	+
(1F,0,X)	-56	78	-1	+	-	+
(1M,0,X)	(-39)	(15)	(-2)	(+)	(-)	(+)
(0,1F,X)	6	3	1	-	-	-
(0,1M,X)	x	x	x	x	x	x
(0,2,X)	-9	-2	1	+	+	-
(1,0,0)	451	469	0	-	-	0
(0,1,0)	306	164	0	-	-	0
(1,0,X)	-95	93	-3	+	-	+
(0,1,X)	10	4	2	-	-	-

Values in parentheses interpret with caution due to small samples size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households

A3 – Net Balance of Changes of Tax Burden and Social Transfers–Sweden

SE								
Scenario	**FT**	**JT**	**ChA**	**ChC**	**FT**	**JT**	**ChA**	**ChC**
	Change to baseline in million SEK				**Net effect on household ("+"/winner, "-"/loser)**			
All	-378	76	115	-334	+	-	-	+
(2,0,0)	258	104	0	0	-	-	0	0
(1F,1M,0)	-122	-182	0	0	+	+	0	0
(1M,1F,0)	-104	-482	0	0	+	+	0	0
(1F,0,0)	91	426	0	0	-	-	0	0
(1M,0,0)	53	705	0	0	-	-	0	0
(0,1F,0)	-324	141	0	0	+	-	0	0
(0,1M,0)	-199	134	0	0	+	-	0	0
(0,2,0)	-675	-1 182	0	0	+	+	0	0
(2,0,X)	646	136	-990	-1 299	-	-	+	+
(1F,1M,X)	-100	9	-44	-63	+	-	+	+
(1M,1F,X)	61	-590	1 386	1 306	-	+	-	-
(1F,0,X)	69	226	-254	-232	-	-	+	+
(1M,0,X)	22	134	-217	-189	-	-	+	+
(0,1F,X)	-2	0	185	163	+	0	-	-
(0,1M,X)	-3	0	-9	-21	+	0	+	+
(0,2,X)	0	82	141	112	0	-	-	-
(1,0,0)	143	1 131	0	0	-	-	0	0
(0,1,0)	-523	275	0	0	+	-	0	0
(1,0,X)	(91)	(360)	(-470)	(-421)	(-)	(-)	(+)	(+)
(0,1,X)	(-5)	(-1)	(177)	(142)	(+)	(+)	(-)	(-)

Values in parentheses interpret with caution due to small sample size

A3 – Net Balance of Changes of Tax Burden and Social Transfers–United Kingdom.

UK								
Scenario	**FT**	**JT**	**ChA**	**ChC**	**FT**	**JT**	**ChA**	**ChC**
	Change to baseline in million GBP				**Net effect on household ("+"/winner, "-"/loser)**			
All	1	-1	0	0	-	+	0	0
(2,0,0)	-202	2 087	0	0	+	-	0	0
(1F,1M,0)	182	-223	0	0	-	+	0	0
(1M,1F,0)	-74	-1 170	0	0	+	+	0	0
(1F,0,0)	217	564	0	0	-	-	0	0
(1M,0,0)	182	906	0	0	-	-	0	0
(0,1F,0)	374	224	0	0	-	-	0	0
(0,1M,0)	258	139	0	0	-	-	0	0
(0,2,0)	955	-909	0	0	-	+	0	0
(2,0,X)	-214	437	-7 082	-7 192	+	-	+	+
(1F,1M,X)	-38	-286	519	527	+	+	-	-
(1M,1F,X)	-1 174	-2 407	-388	-140	+	+	+	+
(1F,0,X)	-9	193	1 648	1 619	+	-	-	-
(1M,0,X)	-86	94	-3	-9	+	-	+	+
(0,1F,X)	0	0	2 856	2 856	-	-	-	-
(0,1M,X)	(-22)	(10)	(161)	(161)	(+)	(-)	(-)	(-)
(0,2,X)	8	-12	2 126	2 125	-	+	-	-
(1,0,0)	399	1 470	0	0	-	-	0	0
(0,1,0)	632	363	0	0	-	-	0	0
(1,0,X)	-95	288	1 645	1 609	+	-	-	-
(0,1,X)	-22	10	3 017	3 017	+	-	-	-

Values in parentheses interpret with caution due to small samples size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households

A4 - Distribution of Public Expenditure – Austria

AT					
Scenario	**BL**	**FT**	**JT**	**ChA**	**ChC**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of public expenditure			
All	63 482	45	-5	-1 277	-1
(2,0,0)	1 620	0	0	-10	0
(1F,1M,0)	3 029	1	0	0	0
(1M,1F,0)	2 614	1	0	-2	0
(1F,0,0)	1 211	0	0	-8	0
(1M,0,0)	1 209	0	0	-5	0
(0,1F,0)	11 615	2	0	-1	0
(0,1M,0)	5 858	1	0	-5	0
(0,2,0)	19 319	8	-2	-1	0
(2,0,X)	3 989	6	3	-630	0
(1F,1M,X)	(950)	(2)	(0)	(-35)	(0)
(1M,1F,X)	1 682	5	-1	-186	-1
(1F,0,X)	704	3	0	-95	0
(1M,0,X)	(90)	(0)	(0)	(-13)	(0)
(0,1F,X)	(405)	(0)	(0)	(-27)	(0)
(0,1M,X)	x	x	x	x	x
(0,2,X)	(1 019)	(1)	(-2)	(-25)	(0)
(1,0,0)	2 420	0	0	-13	0
(0,1,0)	17 474	3	0	-6	0
(1,0,X)	794	3	0	-108	0
(0,1,X)	(489)	(0)	(0)	(-29)	(0)

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A4 - Distribution of Public Expenditure – Czech Republic

CZ					
Scenario	**BL**	**FT**	**JT**	**ChA**	**RMETR**
	in million CZK	**Change to baseline in million CZK** negative value means reduction of public expenditure			
All	462 498	2 207	2 840	-6 402	340
(2,0,0)	8 836	-14	-12	0	0
(1F,1M,0)	11 214	-6	-6	0	14
(1M,1F,0)	23 848	-3	-3	0	11
(1F,0,0)	4 258	-39	-36	0	0
(1M,0,0)	2 865	-34	-30	0	0
(0,1F,0)	76 751	-1	-1	0	0
(0,1M,0)	31 761	-1	-1	0	0
(0,2,0)	161 848	0	0	0	0
(2,0,X)	13 534	1 189	1 308	-1 873	558
(1F,1M,X)	(3 188)	(71)	(111)	(-334)	(51)
(1M,1F,X)	21 638	430	828	-2 448	-654
(1F,0,X)	3 532	222	213	-666	223
(1M,0,X)	(653)	(15)	(16)	(-59)	(17)
(0,1F,X)	7 879	13	13	-121	32
(0,1M,X)	241	0	0	0	0
(0,2,X)	10 281	9	9	-77	20
(1,0,0)	7 123	-72	-65	0	0
(0,1,0)	108 512	-2	-2	0	0
(1,0,X)	4 185	237	229	-724	240
(0,1,X)	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households

A4 - Distribution of Public Expenditure – Germany

DE					
Scenario	**BL**	**FT**	**IT**	**ChA**	**ChC**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of public expenditure			
All	496 370	1 147	-1 915	-29 461	-29 485
(2,0,0)	2 587	32	-24	-70	-72
(1F,1M,0)	19 774	41	-190	-23	-23
(1M,1F,0)	8 695	48	-67	-11	-11
(1F,0,0)	5 024	83	-124	-45	-44
(1M,0,0)	3 442	65	-135	-1	0
(0,1F,0)	91 264	46	-158	-15	0
(0,1M,0)	66 810	-4	-111	-21	0
(0,2,0)	204 640	15	-108	-8	-8
(2,0,X)	20 193	164	-157	-15 444	-15 468
(1F,1M,X)	5 677	76	-112	-639	-639
(1M,1F,X)	12 430	348	-212	-6 483	-6 493
(1F,0,X)	7 108	50	-142	-2 210	-2 224
(1M,0,X)	1 145	11	-29	-405	-407
(0,1F,X)	8 524	2	-92	-258	-271
(0,1M,X)	1 279	0	-11	-41	-42
(0,2,X)	5 818	46	-55	-276	-280
(1,0,0)	8 466	148	-259	-46	-44
(0,1,0)	158 074	42	-269	-35	0
(1,0,X)	8 253	61	-171	-2 615	-2 631
(0,1,X)	x	x	x	x	x

"X""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A4 - Distribution of Public Expenditure – Spain

ES				
	BL	**FT**	**JT**	**ChA**
	in million EUR	**Change to baseline in million EUR** negative value means reduction of public expenditure		
All	162 432	1	137	1
(2,0,0)	5 796	0	0	0
(1F,1M,0)	6 593	0	0	0
(1M,1F,0)	9 317	0	0	0
(1F,0,0)	2 881	0	0	0
(1M,0,0)	2 736	0	0	0
(0,1F,0)	18 077	0	0	0
(0,1M,0)	11 565	0	0	0
(0,2,0)	41 025	0	0	0
(2,0,X)	8 954	1	34	1
(1F,1M,X)	2 270	0	-3	0
(1M,1F,X)	4 097	0	111	0
(1F,0,X)	1 050	0	0	0
(1M,0,X)	(302)	(0)	(0)	(0)
(0,1F,X)	855	0	0	0
(0,1M,X)	x	x	x	x
(0,2,X)	1 936	0	0	0
(1,0,0)	5 617	0	0	0
(0,1,0)	29 643	0	0	0
(1,0,X)	1 351	0	0	0
(0,1,X)	1 144	0	0	0

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A4 - Distribution of Public Expenditure – Sweden

SE					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million SEK	**Change to baseline in million SEK** negative value means reduction of public expenditure			
All	647 023	1	-37	-28 447	-28 457
(2,0,0)	18 541	0	-1	0	0
(1F,1M,0)	34 531	0	-2	0	0
(1M,1F,0)	22 109	0	0	0	0
(1F,0,0)	10 304	0	0	0	0
(1M,0,0)	9 281	0	0	0	0
(0,1F,0)	116 532	0	0	0	0
(0,1M,0)	63 024	0	0	0	0
(0,2,0)	228 239	0	2	0	0
(2,0,X)	62 210	0	-14	-18 446	-18 451
(1F,1M,X)	7 718	0	-4	-831	-831
(1M,1F,X)	16 276	0	-14	-3 076	-3 076
(1F,0,X)	7 290	0	0	-2 304	-2 307
(1M,0,X)	4 458	1	2	-1 000	-1 000
(0,1F,X)	6 330	0	1	-558	-558
(0,1M,X)	2 439	0	-1	-116	-116
(0,2,X)	6 705	0	-3	-478	-479
(1,0,0)	19 585	0	0	0	0
(0,1,0)	179 556	0	0	0	0
(1,0,X)	(11 748)	(2)	(2)	(-3 304)	(-3 307)
(0,1,X)	(8 770)	(0)	(-2)	(-675)	(-675)

Values in parentheses interpret with caution due to small sample size.

A4 - Distribution of Public Expenditure – United Kingdom

UK					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in million GBP	**Change to baseline in million GBP** negative value means reduction of public expenditure			
All	191 238	139	422	-13 969	-14 320
(2,0,0)	3 533	1	0	0	0
(1F,1M,0)	4 282	5	-6	0	0
(1M,1F,0)	5 249	7	-7	0	0
(1F,0,0)	1 772	1	0	0	0
(1M,0,0)	776	3	1	0	0
(0,1F,0)	29 490	8	4	0	0
(0,1M,0)	19 284	5	2	0	0
(0,2,0)	50 053	10	-26	0	0
(2,0,X)	9 862	13	319	-1 510	-1 734
(1F,1M,X)	3 704	11	8	-987	-999
(1M,1F,X)	8 513	47	102	-2 526	-2 612
(1F,0,X)	7 007	13	5	-2 255	-2 267
(1M,0,X)	595	0	0	-153	-153
(0,1F,X)	11 548	0	0	-2 857	-2 857
(0,1M,X)	(666)	(0)	(0)	(-162)	(-162)
(0,2,X)	9 464	0	0	-2 150	-2 150
(1,0,0)	2 549	3	1	0	0
(0,1,0)	48 774	14	6	0	0
(1,0,X)	7 602	13	6	-2 408	-2 421
(0,1,X)	12 213	0	0	-3 019	-3 019

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A5 - Distribution of Poverty by Household Type – Austria

AT					
Scenario	**BL**	**FT**	**JT**	**ChA**	**ChC**
	in %	**Change to baseline in percentage points**			
(2,0,0)	3,83	0,14	0,14	0,14	0.00
(1F,1M,0)	12,85	0.00	-0,59	0.00	0.00
(1M,1F,0)	12,77	0.00	-1,56	0.00	0.00
(1F,0,0)	15,99	1,22	0,69	0.00	0.00
(1M,0,0)	18,36	0,14	0,79	0,79	0.00
(0,1F,0)	25,73	-3,23	1,42	0,44	0.00
(0,1M,0)	32,16	-1,40	1,21	0,44	0.00
(0,2,0)	14,83	0,17	-0,78	0,12	0.00
(2,0,X)	6,18	-0,27	0,48	1,23	0.00
(1F,1M,X)	(32,01)	(0.00)	(6,19)	(5,87)	(0.00)
(1M,1F,X)	25,81	-2,17	-2,86	3,19	0.00
(1F,0,X)	24,58	-1,89	1,16	4,22	0.00
(1M,0,X)	(16,15)	(0.00)	(0.00)	(4,38)	(0.00)
(0,1F,X)	(45,99)	(0.00)	(2,91)	(19,50)	(0.00)
(0,1M,X)	x	x	x	x	x
(0,2,X)	(40,16)	(0.00)	(0.00)	(0.00)	(0.00)
(1,0,0)	17,35	0,60	0,75	0,45	0.00
(0,1,0)	27,76	-2,65	1,36	0,44	0.00
(1,0,X)	23,66	-1,68	1,03	4,24	0.00
(0,1,X)	(42,49)	(0.00)	(2,68)	(18,02)	(0.00)

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A5 - Distribution of Poverty by Household Type – Czech Republic

CZ					
Scenario	**BL**	**FT**	**JT**	**ChA**	**RMETR**
	in %	**Change to baseline in percentage points**			
(2,0,0)	3.71	-0.12	0.02	0.00	0.00
(1F,1M,0)	7.36	-1.62	-1.62	0.00	0.00
(1M,1F,0)	6.55	0.00	0.00	0.00	0.00
(1F,0,0)	8.20	-0.13	-0.13	0.00	0.00
(1M,0,0)	6.63	-0.18	-0.18	0.00	0.00
(0,1F,0)	17.15	1.90	1.85	0.22	0.00
(0,1M,0)	20.68	0.47	0.47	0.00	0.00
(0,2,0)	6.20	0.39	0.39	0.00	0.00
(2,0,X)	3.75	-0.10	-0.10	1.48	-0.14
(1F,1M,X)	(10.65)	(4.69)	(4.69)	(13.35)	(2.34)
(1M,1F,X)	8.82	0.60	0.60	3.19	0.14
(1F,0,X)	9.38	1.02	0.46	5.07	-0.32
(1M,0,X)	18.17	0.00	0.00	0.00	0.00
(0,1F,X)	46.13	0.00	0.00	2.40	0.00
(0,1M,X)	(55.23)	(18.84)	(18.84)	(0.00)	(0.00)
(0,2,X)	63.69	0.00	0.00	0.00	0.00
(1,0,0)	7.28	-0.16	-0.16	0.00	0.00
(0,1,0)	18.20	1.47	1.44	0.16	0.00
(1,0,X)	11.31	0.80	0.36	3.95	-0.25
(0,1,X)	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A5 - Distribution of Poverty by Household Type – Germany

DE					
Scenario	**BL**	**FT**	**IT**	**ChA**	**ChC**
	in %	**Change to baseline in percentage points**			
(2,0,0)	2.17	-0.07	0.16	0.00	0.00
(1F,1M,0)	7.36	-0.02	1.36	0.00	0.00
(1M,1F,0)	7.71	0.26	1.81	0.00	0.00
(1F,0,0)	12.45	-0.65	-0.01	0.19	0.19
(1M,0,0)	7.68	-0.39	-0.02	0.00	0.00
(0,1F,0)	31.53	-3.21	-0.19	0.00	0.00
(0,1M,0)	38.42	-2.05	0.11	0.00	0.11
(0,2,0)	12.80	-0.32	0.53	0.00	0.11
(2,0,X)	2.83	-0.04	0.56	1.64	1.56
(1F,1M,X)	11.65	3	6.88	4.59	4.59
(1M,1F,X)	8.57	1.14	4.33	5.60	5.09
(1F,0,X)	10.75	-3.08	0.42	2.55	2.55
(1M,0,X)	15.13	-2.95	0.21	0.00	0.00
(0,1F,X)	50.24	-8.47	0.69	2.17	2.86
(0,1M,X)	36.34	-9.28	0.00	0.00	0.00
(0,2,X)	68.42	-5.41	0.79	3.41	3.41
(1,0,0)	10.05	-0.52	-0.02	0.09	0.09
(0,1,0)	34.44	-2.72	-0.06	0.00	0.05
(1,0,X)	11.58	-3.06	0.38	2.07	2.07
(0,1,X)	x	x	x	x	x

"X""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A5 - Distribution of Poverty by Household Type – Spain

ES				
	BL	**FT**	**JT**	**ChA**
	in %	**Change to baseline in percentage points**		
(2,0,0)	9.29	0.00	0.00	0.00
(1F,1M,0)	19.40	-0.13	0.00	0.00
(1M,1F,0)	16.90	-0.32	0.00	0.00
(1F,0,0)	15.19	0.00	0.00	0.00
(1M,0,0)	24.05	0.02	0.15	0.00
(0,1F,0)	16.91	-0.16	0.00	0.00
(0,1M,0)	27.65	0.00	0.00	0.00
(0,2,0)	19.98	-0.56	0.00	-0.07
(2,0,X)	14.09	-0.19	-0.08	-0.01
(1F,1M,X)	49.81	-0.96	1.59	0.51
(1M,1F,X)	38.34	-0.95	-0.87	-0.07
(1F,0,X)	25.82	0.00	0.00	0.00
(1M,0,X)	(58.64)	(0.00)	(0.00)	(0.00)
(0,1F,X)	69.68	0.00	1.31	0.00
(0,1M,X)	x	x	x	x
(0,2,X)	84.38	-0.94	0.00	0.00
(1,0,0)	20.52	0.01	0.09	0.00
(0,1,0)	20.88	-0.10	0.00	0.00
(1,0,X)	29.76	0.00	0.00	0.00
(0,1,X)	69.42	-1.14	1.07	0.00

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

A5 - Distribution of Poverty by Household Type – Sweden

SE					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in %	**Change to baseline in percentage points**			
(2,0,0)	2.15	0.00	0.00	0.00	0.00
(1F,1M,0)	4.08	0.00	0.00	0.00	0.00
(1M,1F,0)	7.37	0.00	-0.45	0.00	0.00
(1F,0,0)	12.54	0.00	0.00	0.00	0.00
(1M,0,0)	13.93	0.23	0.23	0.00	0.23
(0,1F,0)	24.49	-0.35	0.17	0.00	0.17
(0,1M,0)	31.10	0.00	0.00	0.00	0.00
(0,2,0)	4.50	-0.01	0.18	0.00	0.09
(2,0,X)	3.74	0.09	0.12	0.31	0.31
(1F,1M,X)	18.20	0.00	-0.72	-0.29	-0.29
(1M,1F,X)	19.88	0.50	-1.51	2.25	2.02
(1F,0,X)	19.10	0.00	0.44	-1.77	-2.08
(1M,0,X)	11.18	0.00	0.00	0.00	0.00
(0,1F,X)	77.01	0.00	0.00	0.00	0.00
(0,1M,X)	37.92	0.00	0.00	0.00	0.00
(0,2,X)	51.67	0.00	0.00	1.82	1.82
(1,0,0)	13.35	0.13	0.13	0.00	0.13
(0,1,0)	26.77	-0.23	0.11	0.00	0.11
(1,0,X)	x	x	x	x	x
(0,1,X)	x	x	x	x	x

Values in parentheses interpret with caution due to small sample size.

A5 - Distribution of Poverty by Household Type – United Kingdom

UK					
	BL	**FT**	**JT**	**ChA**	**ChC**
	in %	**Change to baseline in percentage points**			
(2,0,0)	0.99	0.00	-0.03	0.01	0.01
(1F,1M,0)	14.95	0.10	-0.62	1.10	1.96
(1M,1F,0)	11.30	-0.20	-0.91	0.56	0.84
(1F,0,0)	9.21	-0.63	0.00	0.32	0.32
(1M,0,0)	7.52	-0.34	0.20	0.32	0.32
(0,1F,0)	32.07	-1.33	0.07	0.61	0.77
(0,1M,0)	37.18	-1.20	0.13	1.23	1.68
(0,2,0)	20.26	-1.03	0.02	0.87	1.13
(2,0,X)	2.62	-0.18	-0.03	3.24	3.43
(1F,1M,X)	34.23	-1.44	-0.21	19.18	19.96
(1M,1F,X)	19.45	-0.44	-1.17	13.52	13.72
(1F,0,X)	10.23	-1	0.23	22.92	23.01
(1M,0,X)	5.92	0.00	0.00	8.73	8.73
(0,1F,X)	41.88	-1.60	0.08	39.41	40.59
(0,1M,X)	(65.84)	(-1.95)	(0.88)	(24.54)	(24.54)
(0,2,X)	65.94	-4.59	0.48	21.33	21.78
(1,0,0)	8.27	-0.47	0.11	0.32	0.32
(0,1,0)	34.16	-1.28	0.09	0.86	1.14
(1,0,X)	9.74	-0.89	0.20	21.32	21.40
(0,1,X)	43.37	-1.63	0.13	38.48	39.59

Values in parentheses interpret with caution due to small sample size, "x""data not published due to unreliable survey estimates as a result of less than 20 reporting households.

7 Project information

FairTax is a cross-disciplinary four year H2020 EU project aiming to produce recommendations on how fair and sustainable taxation and social policy reforms can increase the economic stability of EU member states, promoting economic equality and security, enhancing coordination and harmonisation of tax, social inclusion, environmental, legitimacy, and compliance measures, support deepening of the European Monetary Union, and expanding the EU's own resource revenue bases. Under the coordination of Umeå University (Sweden), comparative and international policy fiscal experts from eleven universities in six EU countries and three non-EU countries (Brazil, Canada and Norway) contribute to FairTax research.

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