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Accounting for gender differences in the distributional effects of tax and benefit policy changes

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Abstract

The distributional impact of policy changes is usually considered in terms of equivalised household income, assuming that each individual within the household is being affected in the same way, as a result of complete income pooling. The aim of this paper is to extend this approach by introducing a gender perspective in the analysis of policy effects. We use EUROMOD, the tax-benefit microsimulation model for the EU, to estimate the effects of changes in tax-benefit policies over the period 2008-2014 separately for men and women. The paper consists of two parts. First, we apply the standard approach based on the equal income sharing assumption but focus on lone parent families – a specific household type which makes gendered policy effects easier to observe. This analysis is performed for 18 EU countries: Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, France, Italy, Latvia, Luxembourg, Hungary, the Netherlands, Poland, Romania, Finland and Sweden. Second, we estimate the policy effects for men and women in couples. To obtain gender specific effects, we redefine income at the individual level by allocating income components to each adult within the household according to a set of assumptions. We present three alternative scenarios of intra-household income sharing. All scenarios assume that all individual incomes (e.g. earnings, individual benefits) are retained by their recipients, while common incomes (e.g. family benefits, housing allowances) are distributed following three different sets of sharing rules, which are defined in relation to the primary and the secondary earner status. We compare the outcomes of men and women in these three scenarios and in the baseline which assumes equal income sharing. This analysis is performed for six countries which differ in terms of the degree of defamilialisation their welfare regimes provide: Belgium, the Czech Republic, Spain, France, Romania and Finland.

JEL: D13, H23, I32

Keywords: Tax-benefit policies, Microsimulation, Gender, Intra-household income sharing, European Union.

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1. Introduction

The household is the standard statistical unit for collecting and assessing data on income distribution (Canberra Group, 2011). This approach represents a methodological choice implying two strong assumptions: (i) household members pool all their incomes together and (ii) share them equally among all household members. Commonly used measures of income distribution, such as the at-risk-of-poverty rate or the Gini index, are computed using household income, which is equivalised in order to account for economies of scale in consumption. There are pragmatic reasons for measuring income at the household level. First, some income sources (e.g. family benefits) are difficult to attribute to one particular individual in the household. Second, information on intra-household transfers is difficult to obtain. Finally, children (who usually do not have income of their own) have to be assigned some of the income of their parents in order not to distort measures of income distribution.

The assumption that all household members share resources equally can lead to a substantial bias in assessing income inequality among individuals, and in particular, between men and women (see Ponthieux and Meurs, 2015, for an overview). According to the data from the ad-hoc EU-SILC 2010 module on intra-household allocation of resources 47% of adults are living in multi-adult households where at least part of income is not fully shared (Ponthieux, 2013). While the actual sharing rule (or information on who consumes the purchased goods and services) is difficult to recover, there is strong evidence that the share of the individual's contribution to household disposable income affects his or her bargaining power and individual consumption outcomes (see e.g. Himmelweit et al., 2013). Thus, from a policy perspective, it is important to acknowledge asymmetries in intra-household sharing of resources when considering individual welfare (Bisdee et al., 2013). Bennett (2013) in her review of research on within-household income distribution concludes that it is important to distinguish the impact of policies on men and women and to bring about a change in perspective of public policy makers.

The studies that assess the distributional impacts of recent or proposed policy changes, usually consider these effects at the household level (see Avram et al., 2013; De Agostini et al., 2014; De Agostini et al., 2015). Each individual in the household is assumed to be affected by policy changes in the same way. However, Sutherland (1997) shows that the conclusions about the distributional impact of policies may be different when they are analysed at the individual level instead of the household level. In particular, men and women may be affected differently even when they live in the same household. Policy changes that benefit some members of the household (or the household as a whole) may at the same time make other members of the household worse off. For example, reduction in taxes, especially for top wage earners, may benefit men (rather than women) since men on average have higher labour market participation rates and higher wages. As a couple's total earned income increases, the eligibility to income-tested benefits may shrink leaving household members who rely on this source of income (more likely women) worse off.

The aim of this paper is to illustrate how gender disparities can be taken into account when analysing the effect of recent policy changes. We isolate the direct effect of changes in taxes and benefits on income distribution from other factors following the decomposition approach developed by Bargain and Callan (2010) and used in numerous studies (e.g. Avram et al., 2013; De Agostini et al., 2014; De Agostini et al., 2015). Our contribution is to modify the decomposition exercise in order to explicitly incorporate a gender perspective. In order to account for gender disparities, we implement a two-pronged strategy:

(i) First, we compare the effect of policy changes on households containing lone mothers and lone fathers. In this case, we continue to use equivalised household disposable income.

(ii) Second, we compare the effect of policy changes on men and women in couples. To distinguish between the effect of policy changes on men and women, we redefine all incomes at the individual level; we also compare our approach with results using complete household income pooling.

To allocate income components to adults within multi-adult households we use a set of standardised assumptions about the intra-household distribution of income, leading to three scenarios. The scenarios assume that all individual incomes are retained by their recipients, while common incomes are distributed following three different sets of sharing rules: (i) favouring the primary earner, (ii) favouring the secondary earner, (iii) shared equally. The chosen scenarios do not aim to represent the actual sharing practices but to reflect an individual's bargaining power which has been shown to correlate with access to household resources. We compare the results obtained for men and women under the three alternative scenarios with the conventional analysis which assumes that all incomes are pooled together and shared equally among all household members.

The first part of our analysis which compares lone mother and lone father households using the conventional income sharing assumptions is performed for 18 EU countries: Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, France, Italy, Latvia, Luxembourg, Hungary, the Netherlands, Poland, Romania, Finland and Sweden. For the second part of the analysis we selected six countries which represent different welfare regimes and achieve different degrees of defamilialisation, i.e. the extent to which the welfare regime lessens individuals' reliance on the family. These include: Belgium, the Czech Republic, Spain, France, Romania and Finland.

The analysis uses EUROMOD – the static tax-benefit microsimulation model for the EU – to estimate the first-order distributional effects of changes in direct income taxes and cash benefits over the period 2008-2014. We use two outcome indicators: changes in the mean disposable income and changes in the at-risk-of-poverty rate. The behavioural responses to tax-benefit policy changes and changes in public services are outside of the scope of this paper.

The paper contributes to the methodological discussion on how to account for intra-household income sharing when examining the distributional effects of changes in public policies. It proposes a standardised approach to estimate the effects of policy changes for men and women using alternative assumptions that can be applied in a consistent way in a cross-country context.

The remainder of this paper is structured as follows. Section 2 explains the methodology. Section 3 analyses the gender disparities in the effects of policy changes in lone parent households using the conventional assumption of equal income sharing within the household. Section 4 discusses the gender disparities in the distributional effects of policies when income is individualised. Section 5 concludes by summarising the findings of this research.

2. Methodology

2.1 Isolating effect of policy changes

To isolate changes in the distribution of disposable income due to policy changes, we use a simplified version of the decomposition proposed by Bargain and Callan (2010) which relies on microsimulation techniques. Static microsimulation models allow for the direct effect of changes in tax-benefit policies to be separated from the effects of other factors, such as changes in earnings, other market incomes, demographic and labour market characteristics of the population. For recent similar exercises see: Avram et al., 2013; De Agostini et al., 2014 De Agostini et al., 2015.

We use EUROMOD, the tax-benefit microsimulation model for the EU. EUROMOD simulates policy rules for the 28 EU member states using EU-SILC as the input data.

The distributional effects of policies between two time periods (here 2008 and 2014) can be identified in EUROMOD by comparing the two income distributions, henceforth called the baseline and the counterfactual. Both income distributions are derived using EU-SILC 2012 (with income data for 2011). We keep fixed all population characteristics other than incomes (i.e. demographic and labour market characteristics). The baseline distribution is obtained by inflating market incomes from the data to the target year (in our case from 2011 to 2014) and simulating the tax-benefit policy rules of the corresponding year (i.e. 2014). The counterfactual distribution is constructed using the same population and the same inflated market incomes as in the baseline scenario; the only difference is that the tax-benefit rules of 2008 are applied. The policy parameters are adjusted for the change in prices over the observed period in order to make nominal values of parameters from the two different years comparable in real terms. The values of Harmonized Index of Consumer Prices (HICP) used for indexation of policy parameters are shown in Table A1 in Annex.

By comparing the baseline and the counterfactual scenarios we can identify the first-order effects of changes in tax-benefit policies on the income distribution. The second order effects, which arise when changes in taxes and benefits affect individual behaviour (e.g. employment decisions), are outside the scope of this study. In assessing distributional effects, we focus on changes in mean disposable income and poverty headcount.

2.2 Introducing a gender dimension in policy analysis

Several approaches can be used to capture gender disparities in the distributional effects of the tax-benefit policies. Each approach has some implications for the interpretation of the results.

First, if income is measured in a conventional way (at the household level) we might focus on particular household types in which gender differences are easier to observe, e.g. lone parent households. This approach does not provide a full picture of gender differences in the whole population, yet it highlights the effects of policies on the population subgroups that are of a particular interest to policy makers, e.g. lone parent households which are over-represented among the poor. Note that this approach has limitations because EU-SILC samples usually contain small numbers of lone parents, especially of lone fathers (see Table A3 in Annex for sample sizes). This is in line with the relatively reduced prevalence of lone father families.

Second, to take account of gender disparities in households where men and women live together in couples we can redefine income, and changes in income, at the individual level. When individualizing incomes, we assume that all incomes received by individuals are fully retained by their recipient and thus not shared. Incomes that cannot be readily individualized because they are received by a group of individuals are allocated to adults according to a standardised set of assumptions. We consider the following income sharing scenarios:

(1) Equal income sharing (baseline scenario): all individual and common incomes are pooled and shared equally among all household members.

(2) Minimum income sharing with a bias towards the primary earner: individual income components (e.g. earnings, individual taxes, social insurance contributions, individual benefits, such as unemployment benefits, old-age or disability pensions, etc.) are attributed to the recipient of that income; in this scenario, we assume the primary earner takes advantage of his/her bargaining power to retain common sources of income (e.g. family benefits, social assistance benefits, etc.). The primary earner is defined as the person with the highest earnings within the assessment unit (or the highest market income if earnings alone cannot determine a unique primary earner). Note that there is no explicit gender dimension in the definition of the primary earner.

(3) Minimum income sharing with a bias towards the secondary earner: individual income components are attributed to recipient of that income, while common sources of income are assigned to the secondary earner. The secondary earner is defined as

the partner of the primary earner; if the primary earner has no partner, then the secondary earner is defined as the person with the second highest earnings or market income.

(4) Minimum income sharing with an equal distribution of common sources of income: individual income components are attributed to the recipient of that income but common income sources are shared equally among all adults (defined as persons aged 18 and older) in the assessment unit.

In the three alternative scenarios (2-4) individual incomes such as income from employment or self-employment, individual benefits or pensions are retained by individuals who receive them, and are not shared with other household members. Many such incomes are already collected at the individual level in EU-SILC data, thus, they can be easily allocated to their recipients. Some market incomes are collected at the household level, and therefore have to be allocated to adult members of the household. Market incomes that require relatively long time to accumulate, such as income from property or land and capital income, are shared equally between the members of the oldest couple. The same applies to regular taxes on property and wealth. Other sources of market income collected at the household level, e.g. private transfers, are shared among all adults in the household.

Social security contributions and income taxes in individual taxation systems are assigned to individuals who are liable to pay them. As EUROMOD simulates social security contributions and income taxes at the individual level (or for the legally defined tax units in case of joint taxation) the reallocation of these income components to individuals is straightforward, unlike in the EU-SILC data where these components are recorded in a single variable at the household level. In the case of joint taxation, the total tax is split among the adults in the tax unit (usually the two spouses) proportionally to their taxable income.

Family, housing and social assistance benefits that are collected in the EU-SILC data at the household level, are simulated in EUROMOD. These are shared differently across the scenarios. In scenario 2 they are allocated to the primary earner; in scenario 3 to the secondary earner; and in scenario 4 they are shared among all adult members of the respective assessment unit. In all three scenarios, common sources of income are split at the level of the assessment unit that receives them.[2] This will usually (but not always) be a smaller unit than the household. Such income sharing rules ensure that only individuals who are part of the assessment unit entitled to a given income source participate in the sharing. This means that sometimes common income sources are not split among all members of the household but only among those entitled to receive the benefit. Table A2 in Annex summarizes the assumptions used for allocation of income components in the three scenarios.

We assign all sources of income to adults only. This is in contrast to the conventional approach which assigns the same (equivalised) household income to all individuals in the household, including children. We do so because our aim is to compare the effect of policy changes on (adult) men and women. There would be little point in assigning income to male and female children, as by definition children are not independent and have to rely on the resources of their parents or carers. Thus, children are dropped from our analysis and any income that they may have is attributed to their parents. However, we do account for the cost of having children. We attribute the cost of children to their parents by applying the equivalence scale commonly used in official EU statistics[3]. When both parents are present, we assume that the costs of their children are split equally. Children are defined as individuals below 18 years old, unless they live in single-person households.

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[2] The exceptions are maternity and paternity benefits that are received by individuals to compensate for individual risks. These benefits are assigned to respective individuals in case they can be isolated from other family benefits in EUROMOD.

[3] We assign a weight of 0.3 to children aged 0-13 and a weight of 0.5 to children aged 14-17.

To construct our three scenarios, we build on and extend the work of Sutherland (1997). In her analysis on the distribution of individual income she assumes that family benefits are received by mothers (as mandated by law), and other household components are received by the head of household. While this assumption may have been plausible in the UK in that period of time, it may not be relevant in the context of other countries. Therefore, we adopt a more flexible approach for allocating common sources of income by designing three different scenarios described above. These scenarios allow us to check the sensitivity of results to different assumptions about intra-household redistribution of common sources of income. The assumptions of minimum income sharing (scenarios 2, 3, and 4) and of full income sharing (conventional analysis at the household level presented in scenario 1) can be considered as lower and upper bounds of the degree of intra-household income redistribution.

The primary and the secondary earners are defined within the appropriate assessment units (e.g. nuclear family or household) using earnings from employment and self-employment. Whenever adults in the assessment unit have equal earnings (or do not have any earnings) other individual incomes, such as old-age pensions, disability pensions, unemployment benefits, etc., are compared. If these incomes are also equal, then the eldest adult among those with the highest incomes is considered the primary earner[4]. The secondary earner is the partner of the primary earner if she or he is included in the unit of assessment. Otherwise, it is the person with the second highest earnings/income (or the eldest person among individuals with the second highest earnings/income).

It should be pointed out that the *actual* income pooling and sharing practices may depend on household characteristics, external circumstances, cultural norms, etc. Empirical findings suggest that income pooling is more common among married couples, couples with children, one-earner families (or if there is a substantial income imbalance between spouses/partners), and in households with limited means (see the overview in Ponthieux and Meurs, 2015). It is less common if partners have higher education or when one household member has financial ties with other households (e.g. children from the previous partnership). Income pooling, however, does not necessarily mean equal sharing and equal control over the way the common money is spent.

In this paper we do not attempt to reproduce the actual sharing practices within the families. We also do not suggest that the sharing scenarios that we propose are the most commonly observed. Our goal is to test whether and to what extent the effects of policy changes differ for men and women once the conventional assumption of equal sharing is removed. Therefore, we apply the same set of assumptions to all countries considered in the paper and to all household types. We believe that this approach is clear and transparent. Even if the adopted assumptions do not resemble the precise sharing mechanism in each family (which is hard to observe anyway), they are likely to reflect the bargaining power of individuals within the households and have implications for actual distribution of resources.

2.3 Data and tools

The analysis is based on the tax-benefit microsimulation model EUROMOD (version G3.0). EUROMOD simulates universal and targeted cash benefits, social insurance contributions and personal direct taxes. Income elements that cannot be (fully) simulated are market incomes and benefits which depend on previous contribution history (e.g. pensions) or on some unobserved characteristics (e.g. disability benefits). These are read from the microdata and updated according to statutory rules (such as indexation rules) or according to the growth in average amounts per recipient. The input data for EUROMOD are derived from the European Union Statistics on Income

[4] If adults have the same age then the one with the lowest id number is chosen as the primary earner.

and Living Conditions (EU-SILC) dataset. Detailed information on EUROMOD and its applications can be found in Sutherland & Figari (2013).

In this paper we use EUROMOD to simulate changes in market incomes and tax-benefit policy rules within the period of 2008-2014 based on the 2012 cross-sectional wave of EU-SILC. The first part of our analysis which compares lone mother and lone father households using the conventional income sharing approach is performed for 18 EU countries: Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Spain, France, Italy, Latvia, Luxembourg, Hungary, the Netherlands, Poland, Romania, Finland, and Sweden. For the second part of the analysis where we use a more sophisticated approach, we selected a subset of countries which represent different welfare regimes and achieve different degrees of defamilialisation, i.e. the extent to which the welfare regime lessens individuals' reliance on the family. These include: Belgium, the Czech Republic, Spain, France, Romania and Finland.

3. Effect of policies at the household level

3.1 Total population

Before analysing particular groups of population or trying to disentangle effects on men and women, it is worth considering the overall effects of policy changes on the main income indicators over the period 2008-2014 for the whole population. These effects represent the benchmark for further analysis. In this section disposable income is measured using the conventional assumption of equal sharing within the household. Changes in the disposable income over a certain period can be attributed to a number of different factors: changes in market incomes, changes in population characteristics or changes in the tax-benefit policies. While analysing the total change is important, here we are interested in the last factor, i.e. the changes in disposable income due to changes in tax-benefit policies. In particular, we explore how changes in taxes and benefits (or lack of such changes) affected two indicators: mean disposable income and at-risk-of-poverty rate in 18 EU countries.[5]

Figure 1 shows that policy changes in 2008-2014 led to a substantial increase in mean income in 5 countries (Belgium, Bulgaria, Denmark, Poland, and Sweden); a decrease in 7 countries (Estonia, Ireland, Spain, France, Italy, Latvia, and Hungary); and resulted in little change (approximately ±1%) in the other 6 countries (the Czech Republic, Germany, Luxembourg, the Netherlands, Romania and Finland).

In all five countries where mean income has increased (from 3.6% in Belgium to 9.2% in Bulgaria), changes in pensions contributed to income growth. In Denmark and Sweden the role of pensions was modest, but in Belgium, Bulgaria, and Poland the contribution of pensions was dominant. In Sweden and Denmark, the contribution of taxes was also strong. Interestingly, only in Denmark (out of all 18 countries considered here) the effect of means-tested benefits was positive and considerable. It was partly driven by an introduction of a new means-tested benefit[6] but also by an introduction of a means-test on a child family grant[7].

Hungary and Ireland experienced the largest drop in mean income due to policy changes: 5.8% and 10.9%, respectively. The drop in income was mainly driven by an increase in taxes but also cuts in benefits, especially non means-tested benefits. In the remaining five countries where mean incomes have dropped, their decline was

[5] Similar analysis is presented in De Agostini et al. (2015) for 10 EU countries. The results for 7 countries covered in both papers are comparable. The differences in the magnitude of changes are due to more recent EU-SILC data and EUROMOD version used in this paper.

[6] "Green check" (Grøn check) was introduced in 2010 as a tax-free lump sum benefit to compensate for the increase in environmental and energy taxes, with rates varying between adults and children.

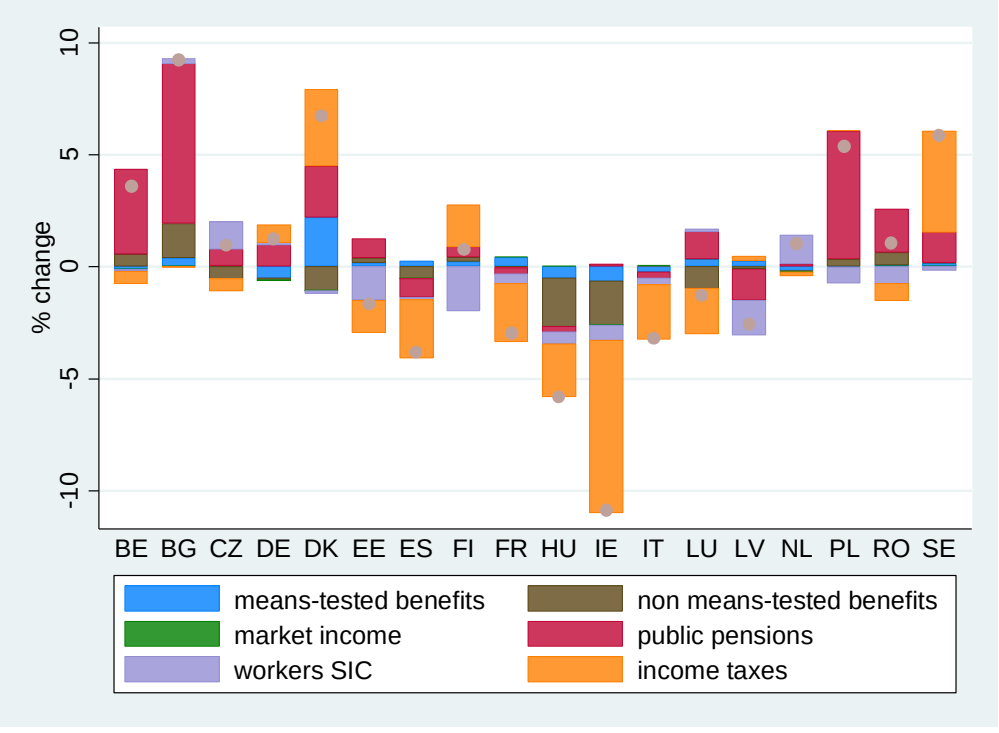
[7] Child family grant (Børnefamilieydelse) is a tax-free benefit paid to families with children below 18. The benefit size varies with the age of the child.

moderate: from 1.7% in Estonia to 3.8% in Spain. In all countries apart from Latvia the reduction in income was driven primarily by changes in income taxes. In Latvia (and also in Estonia) changes in social insurance payments contributed to the decline. Changes in pensions contributed to income decline in Latvia and Spain: in both countries the indexation of pensions was either below inflation levels or abolished for a period of time as a part of austerity measures (during the same period, consumer prices increased in the two countries by 9-9.5%).

Figure 2 shows the changes in at-risk-of-poverty rates (FGT0) due to policy changes. Poverty thresholds are set at the level of 60% of median equivalised household disposable income in each year. Our results show that changes in poverty were quite moderate in most countries. In ten countries (Belgium, Bulgaria, Denmark, Estonia, France, Italy, Luxembourg, Romania, Finland, and Sweden) there was a decline in poverty risk ranging from 0.4 percentage points (ppts) in Italy to 5.1 ppts in Bulgaria. In the latter, significant income growth was mainly due to pensions and benefits and has favoured those at the bottom of the income distribution. In four countries, the at-risk-of-poverty rate slightly increased: in the Netherlands by 0.5 ppts, in Germany by 0.7 ppts, in Latvia by 1.1 ppts, and in Hungary by 1.7 ppts. In Latvia, pensions did not keep pace with the overall level of income growth which might have pushed some pensioners below the poverty line. In Hungary, cuts in benefits are likely to have had an adverse effect at the bottom of income distribution. In the four remaining countries (the Czech Republic, Spain, Poland and Ireland) the changes in at-risk-of-poverty rates were not significant.

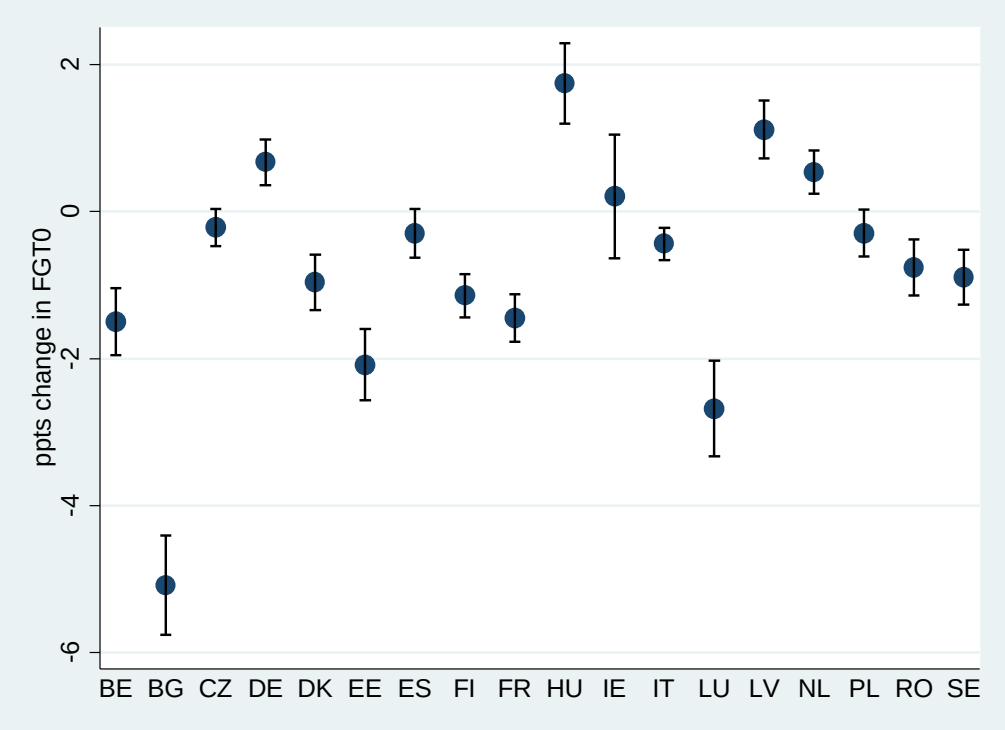
It should be noted that if the results shown in Figure 1 and Figure 2 are split by gender, there are no statistically significant differences between men and women. Moreover, any differences would be difficult to interpret, as they will be driven by single men and single women households. In couples, the outcomes of men and women will be identical.

Figure 1: Changes in mean equivalised household disposable income due to policy changes between 2008 and 2014



Notes: The dots show net changes in mean disposable income. The bars show the changes in each component of disposable income.
Source: EUROMOD Version G3.0.

Figure 2: Changes in at-risk-of-poverty rates due to policy changes between 2008 and 2014



Notes: The dots show net changes in at-risk-of poverty rates (FGT0). The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

3.2 Lone parents

This section focuses on differences between lone mothers and lone fathers, the groups that are typically of concern to policy makers[8]. During the past thirty years, growth in separation and divorce rates have led to increases in the share of lone parents. In the 18 countries we examine, lone mothers are present in between 2.9% of households in Finland and 8.9% of households in Ireland (see Figure A1 in Annex). Lone father families are much less common. They can be found in between 0.2% of households in Poland and 1.4% of households in Sweden. These households are usually at higher risk of poverty than other household types and depend heavily on redistributive policies. The estimates of at-risk-of-poverty rates for lone mother and lone father households in 2014 (Figure A2 in Annex) suggest that in about half of the countries lone mother households are likely to be more exposed to poverty risk than lone father households.

Below we explore the effects of changes in the tax and benefit policies over the period of 2008-2014 on lone mothers and lone fathers and compare to the results for the population as a whole (described in the previous section). It should be kept in mind that the samples of lone fathers in the EU-SILC data are small. Therefore, the results should be treated with caution, especially for Bulgaria, the Czech Republic, Estonia, Ireland, Luxembourg, Latvia, Poland and Romania, where the number of observations for lone fathers is below 50 (see Table A3 in Annex).

Figure 3 shows the changes in disposable household income for lone mothers and fathers due to policy effects over the period of 2008-2014. In six countries the changes in taxes and benefits resulted in income growth for lone parents: these are

[8] By construction lone parent households might include other adults apart from the lone parent himself/herself. They are kept in the analysis because their removal would reduce samples for lone parents even further.

the same five countries where income has grown for the population at large – Belgium, Bulgaria, Denmark, Poland and Sweden, as well as Romania. In all of them (except Denmark and Romania) the growth in income for lone parents was less than the average growth in income for the population as a whole. The contribution of pensions to income growth is smaller in all countries as lone parents are less likely to receive such income. On the contrary, the effect of means-tested benefits is larger, especially in Bulgaria, Denmark, Romania, and Sweden. The same does not hold for non means-tested benefits. Their contribution increases relative to the average one only in Belgium, Bulgaria, and Romania and only for lone mothers. It is likely that certain non means-tested benefits are targeted primarily at mothers while fathers are excluded (e.g. maternity benefits). In Denmark, part of the increase in the effect of means-tested benefits is offset by the decrease in non means-tested benefits: this is the result of an introduction of a means-test on the child family grant. In Bulgaria and Denmark the incomes of lone mothers increase due to policy changes slightly less than incomes of lone fathers (however, the differences are small). In the remaining countries the total effects of policies on incomes of lone mothers and lone fathers are largely the same.

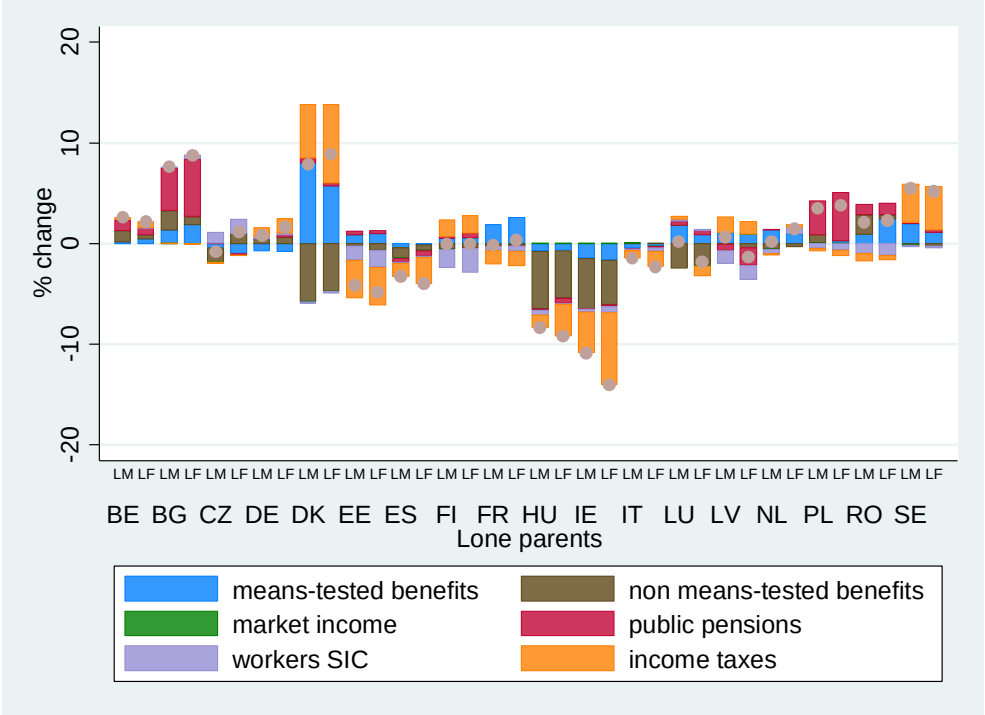
The effect of policies on disposable income was negative for lone parents in Estonia, Ireland, Spain, Italy and Hungary. In these five countries, disposable income has also decreased for the population as a whole. However, in case of Italy lone parents have been less affected compared to the population at large; on the contrary, in Estonia, Ireland and Hungary, the negative effects of policy changes are stronger for lone parents (due to the higher effect of taxation in Estonia; and sharper cuts in non means-tested benefits in Hungary and Ireland). In all five countries the reduction in income seems to be slightly higher for lone fathers than for lone mothers: but the differences are small (and the small samples for lone father households prevent the construction of accurate estimates).

In Latvia and France, disposable incomes have declined for the population on average, but the effects for lone parents were slightly different. In France lone parents have been protected by policies from the adverse income changes: the decrease in income due to taxes was lower and the increase due to means-tested benefits was higher than for the total population. As a result, disposable income of lone parents has barely changed due to policies. Similarly, in Latvia the average negative effect has disappeared completely in case of lone mothers and decreased considerably in case of lone fathers.

In the rest of countries (the Czech Republic, Germany, Luxembourg, the Netherlands and Finland) the changes in income for lone parents were quite small and similar to changes for the total population. However, in some of them the direction of change was different for lone mothers and fathers. For example, in the Czech Republic disposable income has dropped for lone mothers due to a decrease in non means-tested benefits, but has not dropped for lone fathers. The opposite trend took place in Luxembourg where incomes of lone fathers have slightly decreased (due to increase in taxes) while lone mothers have not been affected. Both in the Czech Republic and in Luxembourg, lone father households have on average higher mean disposable incomes and a larger share of disposable income coming from the market sources.

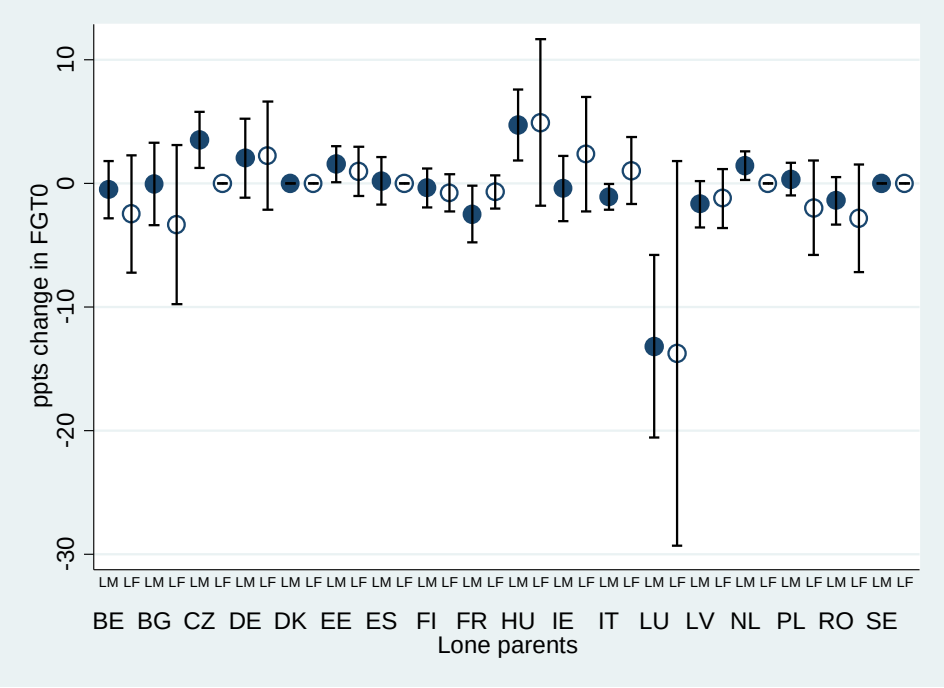
Figure 4 shows changes in the risk of poverty due to policy changes. The poverty threshold is equal to 60% of median equivalised household disposable income in each year. The changes in poverty were barely significant for lone parents in most of the countries. This is not surprising because the sample sizes are relatively small and the confidence intervals are large. A few exceptions include lone mothers in Hungary, the Czech Republic, and the Netherlands, where the risk of poverty has increased by 4.7 ppts, 3.5 ppts, and 1.5 ppts respectively; and Luxembourg, where the risk of poverty for lone mothers dropped by 13.2 ppts (although the precision of the estimate is quite low).

Figure 3: Changes in mean equivalised household disposable income for lone mothers and fathers due to policy changes between 2008 and 2014



Notes: The dots show net changes in mean disposable income. The bars show the changes in each component of disposable income.
Source: EUROMOD Version G3.0.

Figure 4: Changes in at-risk-of-poverty rates for lone mothers and fathers due to policy changes between 2008 and 2014



Notes: The dots show net changes in at-risk-of-poverty rates (FGT0). The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

4. Effect of policies at the individual level

In this section, we look at differences in policy effects for men and women in couples[9]. In order to do this we allocate components of household income to individuals within the household according to a standardised set of assumptions. We compare the outcomes for men and women with the results obtained from the conventional analysis which assumes equal income sharing. In total we present four scenarios of allocating income to individuals within households (see Section 2.2 for the description of assumptions behind each scenario).

For this part of the analysis we have selected six EU countries to serve as case studies. These countries differ in terms of their welfare regimes and the degree of defamilialisation they provide through their tax-benefit systems.

Finland is a representative of a socio-democratic welfare regime in Esping-Andersen's classical typology (Esping-Andersen 1990; Esping-Andersen 1999; Esping-Andersen 2009) which stresses the role of government in welfare provision and aims to foster cross-class solidarity. Finland, together with other Nordic countries, achieves a high degree of defamilialisation, i.e. the extent to which the welfare system lessens individuals' reliance on the family. However, female employment rates are lower in Finland compared to other Nordic countries such as Sweden or Denmark[10]. Compared to other EU countries, a larger share of public revenues is spent on providing universal public services. The system of social transfers is dominated by universal, non means-tested benefits while the tax system is fully individualized.

Belgium and *France* belong to the conservative-corporatist welfare regime, which aims to preserve class hierarchies by providing occupationally differentiated benefits. Both countries, however, achieve a high degree of defamilialisation due to a strong pro-natalist focus of their policies (Gauthier, 1996). Similarly to Finland, a larger amount of funding is directed to subsidising childcare services. In addition, these countries provide generous cash allowances that are not income-related and are arranged so that benefit levels increase more than proportionally with each additional child, making the system more supportive of large families. France has a joint taxation system, while Belgium has a predominantly individualized tax system with elements of joint taxation.

Spain is a representative of the Southern-European cluster of the conservative-corporatist welfare regimes, notable for the fragmented nature of social security and a low degree of defamilialisation (Fererra 1996; Bonoli 1997; Arts and Gellissen 2002). Statutory childcare facilities are not well-developed, as it is assumed that the market will meet any emerging needs. Family benefits are also relatively low, albeit there is a considerable regional variation. This policy mix may be expected to amplify social and gender inequalities, a fact that is also in line with the high child poverty rates observed in this country. Spain has an optional joint taxation system.

Romania and the *Czech Republic* represent the post-communist welfare regime. The distinctive features of this regime include the dominance of social insurance programmes, a high coverage of the population, but relatively low benefit amounts (Hacker 2009). The Czech Republic leans towards the conservative-corporatist model, while Romania leans towards the neo-liberal welfare model with a higher emphasis on means-tested benefits. Both countries provide a low degree of defamilialisation due to the fact that childcare services have eroded considerably since the collapse of the communist regimes. The Czech Republic, in particular, has one of the lowest rates of labour market participation for mothers. However, to offset a decrease in fertility

[9] By construction, households with couples might include other adult household members. Restricting analysis to only those households that contain one couple (with or without children) would reduce sample sizes.

[10] Employment rates (15-64), Eurostat, indicator code "lfsa_ergaed".

rates, public policies in these countries have been increasingly pursuing pro-natalist objectives, which resulted in relatively generous parental leave policies. In both countries the tax systems are individualized.

Below we show how the assumptions about income sharing within the household affect gender differences in two outcome indicators: mean disposable income and at risk-of-poverty-rate. Poverty thresholds are equal to 60% of median equivalised household disposable income in each year (hence they might shift between 2008 and 2014 due to changes in median income). They are computed in the baseline (scenario 1) and applied in all other scenarios for men and women in all household types. We are looking at the situation in 2014 and changes in both indicators between 2008 and 2014 due to changes in tax-benefit policies over the same period.

The focus in this section is on men and women living in couples. In particular we look at four types of households containing: one-earner couples without children, one-earner couples with children, two-earner couples without children and two-earner couples with children. Sample sizes for all analyzed household types are provided in Table A3 in Annex. By definition, in the baseline scenario which assumes equal sharing of all incomes within the household, the disposable incomes and at-risk-of-poverty rates are the same for men and women and vary only by household type[11]. We expect that under our alternative assumptions disparities between men and women will be more pronounced in countries with low degree of defamilialisation (Spain, the Czech Republic and Romania), while countries with a high degree of defamilialisation (Finland, Belgium and France) will show lower levels of gender disparities in couples.

To establish a benchmark for further analysis of the impact of policy changes, we applied different income sharing assumptions to obtain estimates of mean disposable income and at-risk-of-poverty rates for men and women in 2014. Figures 3.1-3.6 in Annex show the composition of mean disposable income (left-side graphs) and the poverty headcount (right-side graphs) in 2014 for men and women under different assumptions of income sharing for each country. These results confirmed that outcomes for men and women are very sensitive to the assumptions regarding how income is shared within the household:

- Under all the minimum income sharing scenarios, the disposable income of men is either the same or higher than in the baseline and the male poverty rate is the same or lower than in the baseline, while the opposite applies to incomes and poverty rates of women. Among the six countries selected for this analysis, Finland and Belgium appear to have the lowest gender gap once we applied minimum income sharing assumptions which is expected given the high degree of defamilialisation provided in these countries.
- Assumptions about the intra-household redistribution have the highest impact on the estimated differences in outcomes between women and men in households with children, especially in one-earner couples with children. For the latter, the gender gap in mean income and in poverty is much higher under the alternative assumptions. This is not surprising, as in most one earner couples it is the male partner who is employed.

There are very minor differences across the three alternative scenarios that we use. This confirms that the gender gap in disposable income can be largely explained by the gender gap in employment rates, earnings, and other individual level incomes. Other income sources, such as e.g. benefits, do not compensate this gender gap. However, the variation across the three alternative scenarios appears to be quite large for couples with children, and especially for one-earner couples. Scenario 2 (a bias towards the primary earner) leads to the largest gender gap and scenario 3 (a bias

[11] Small variations arise in some countries due to the existence of same-sex couples.

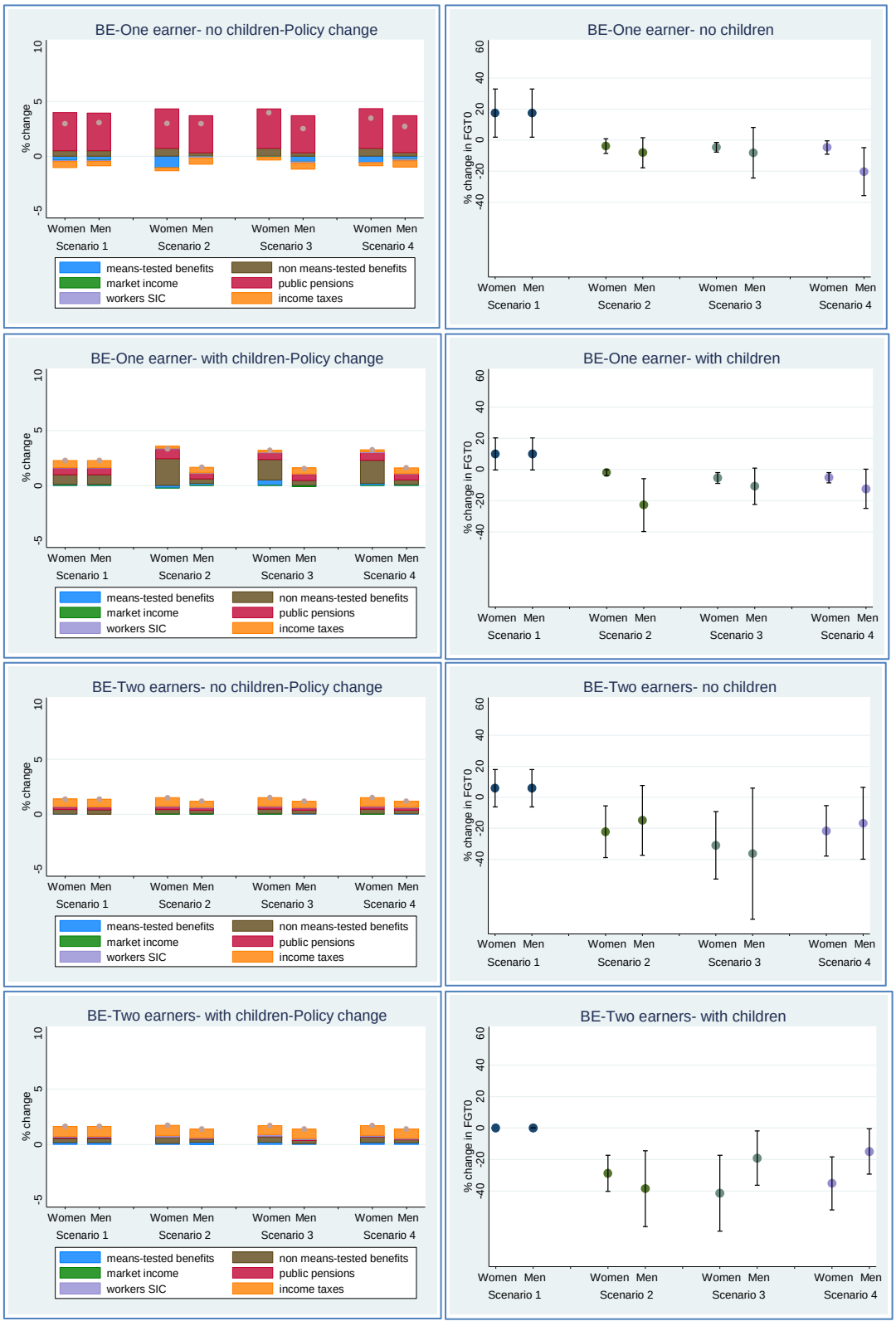
towards the secondary earner) to the smallest gender gap, while scenario 4 (partial sharing of common incomes) is in the middle between the two.

4.1 Belgium

Figure 5.1 (left-side graphs) shows the effects of policy changes on mean disposable incomes in Belgium between years 2008-2014. The results suggest that policy changes affected disposable incomes of women and men in a very similar way in all scenarios, with the exception of one-earner couples with children. In the baseline scenario, the disposable income of one-earner couples with children has grown by 2%, mainly due to increases in public pensions and non means-tested benefits and reductions in income taxes. In the other three scenarios, which do not assume equal sharing, women in one-earner couples with children appear to have benefited more than men from the policy changes – their income has grown by 3.3%, while the income of men in the same type of household has grown by 1.5-1.7%. The difference can be attributed to the increase in non means-tested benefits. One-earner couples without children have experienced a 3% growth in their disposable income, which can be mainly attributed to public pensions. As far as two-earner couples (with and without children) are concerned, their disposable income has increased by 1.4-1.7%, both for men and women. Hence, policy changes in Belgium during 2008-2014 have benefitted one-earner couples, and in particular women in one-earner couples with children.

The effects of changes in policies on at-risk-of-poverty rates are shown in Figure 5.1 (right-side graphs). The changes have not been beneficial for the poor. Under the baseline assumptions, the groups that suffered the most are one-earner couples with or without children, whose poverty headcount has grown by 17% and by 10%, respectively, due to changes in policies. There was a 6% growth in poverty for two-earner couples without children. Two-earner couples with children have not experienced any changes in terms of their poverty headcount. As far as the alternative income sharing scenarios are concerned, there are no statistically significant differences in poverty trends between men and women.

Figure 5.1: Belgium: Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type



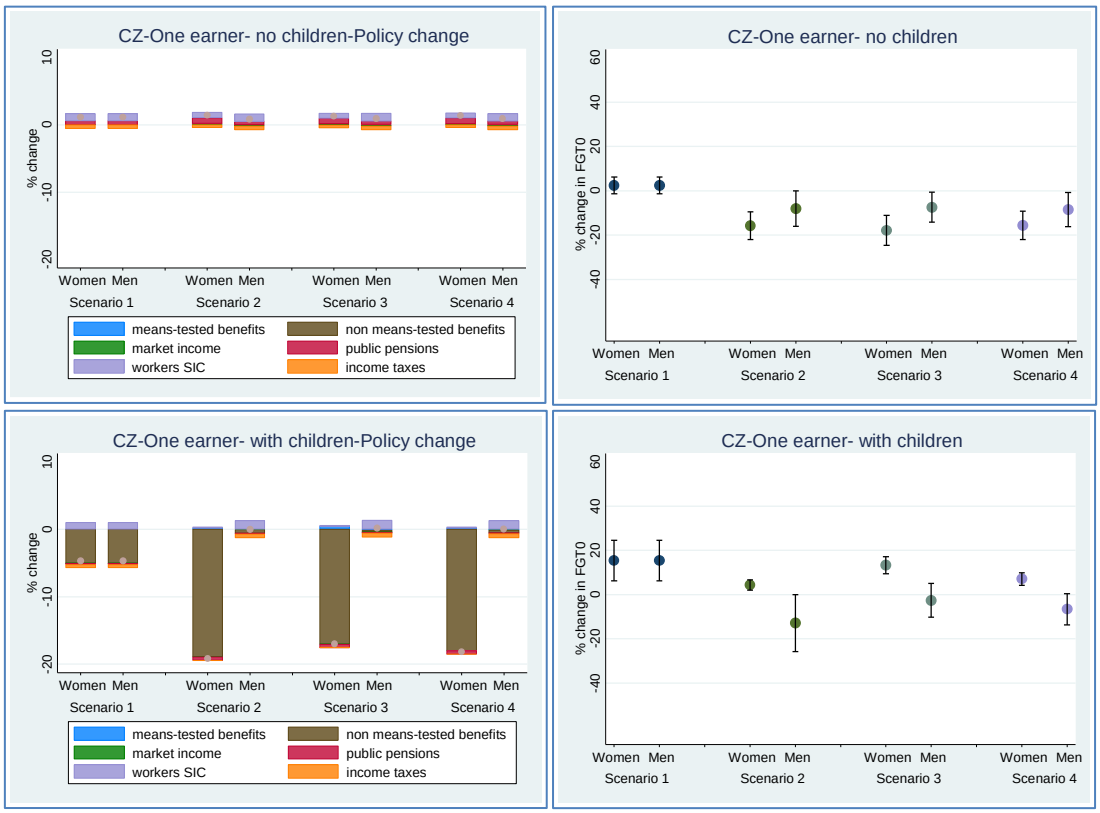
Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

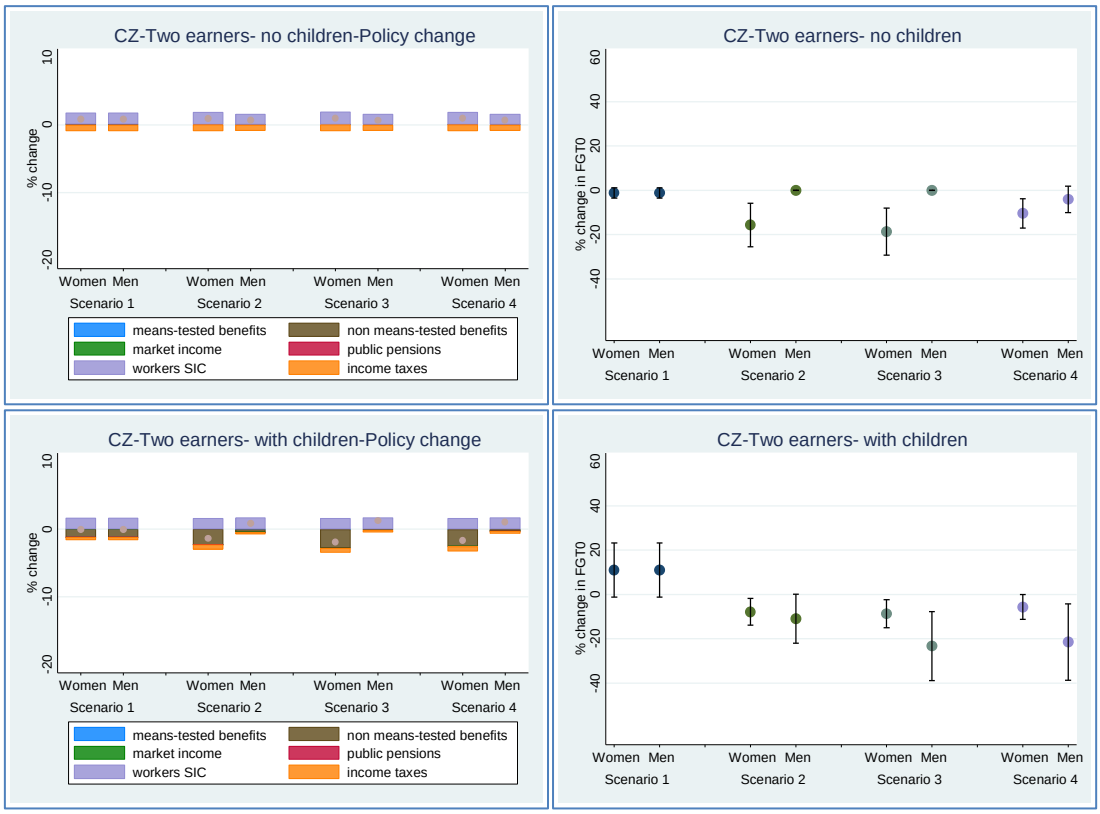
4.2 Czech Republic

The effects of policy changes on mean income over the period 2008-2014 in the Czech Republic are shown in Figure 5.2 (right-side graphs). They appear to affect the incomes of men and women in households without children in a similar way. Both one-earner and two-earner couples without children have experienced a slight (around 1%) growth in their disposable income in all scenarios. In contrast, for those men and women who live in households with children, the outcomes of policy changes differ substantially (once incomes are individualised). In the baseline, disposable income of men and women in one-earner couples with children has dropped by approximately 5%, mainly due to the reductions in non means-tested benefits. In the three alternative scenarios incomes of men have remained unchanged, while incomes of women have dropped by 17-19%. A similar trend but of a lower magnitude is observed for two-earner couples with children, where the incomes of women have dropped by 1.4-1.9%, while the incomes of men have increased by 1%. Hence, women in one-earner couples with children have been penalised the most by the changes in tax-benefit policies which took place between 2008 and 2014.

In the baseline, changes in policies over the period 2008-2014 (shown in Figure 5.2, right-side graphs) have very moderately affected poverty headcount of households without children (they either experienced a slight increase or a slight reduction in poverty), while for one-earner and two-earner couples with children poverty headcount has grown by 15% and 11%, respectively. As far as the three alternative scenarios of intra-household income redistribution are concerned, in couples without children the policy changes have been more beneficial for women, while the opposite situation is observed for one-earner couples with children. There are no statistical differences between men and women in two-earner couples with children in terms of changes in poverty headcount.

Figure 5.2: Czech Republic : Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type





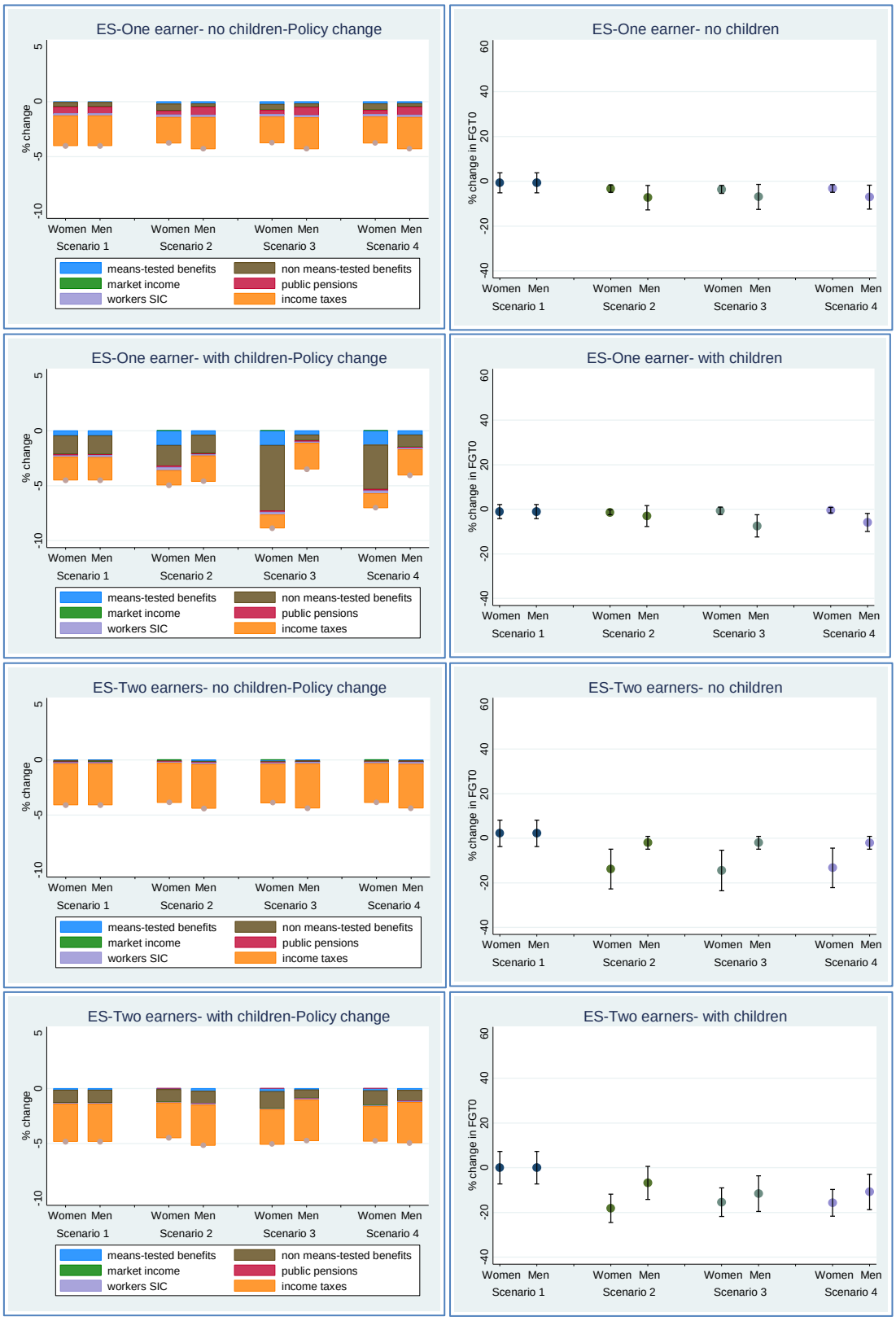
Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

4.3 Spain

In Spain, the effects of policy changes on mean incomes between 2008-2014 (Figure 5.3, left-side graphs) seem to be similar for men and women across all scenarios and all household types, with the exception of one-earner households with children. There was a 4-5% decline in incomes over the period 2008-2014, which can mainly be attributed to increases in income taxes and to reductions in non means-tested and means-tested benefits. In case of one-earner households under scenarios 3 and 4 we can observe a sizable gender gap, whereby the decline in incomes of women was 2.5 and 1.7 times as high as that for men.

Figure 5.3 (right-side graphs) shows that in the baseline, there were no significant changes in poverty rates over the period 2008-2014 for any household type. However, once the equal sharing assumption is removed, we can see that women in two-earner couples have been affected by policy changes more positively than men. There are no statistically significant differences between men and women in one-earner couples.

Figure 5.3: Spain: Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type



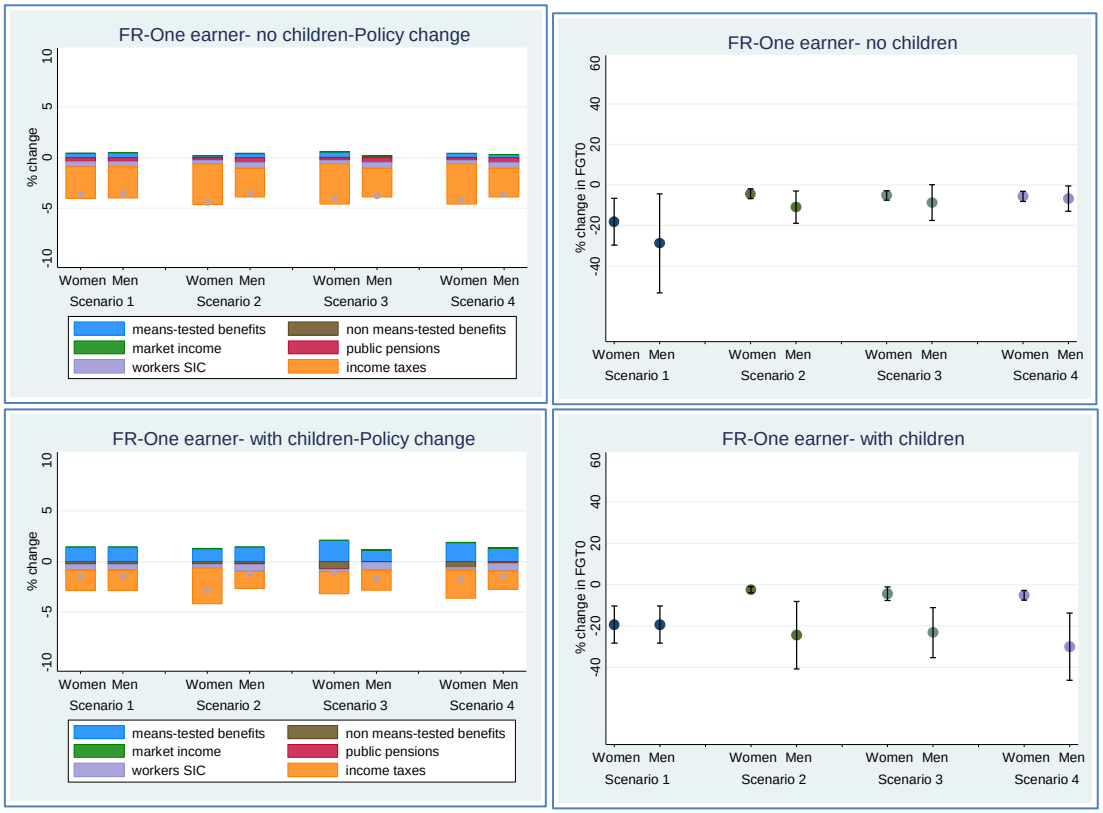
Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

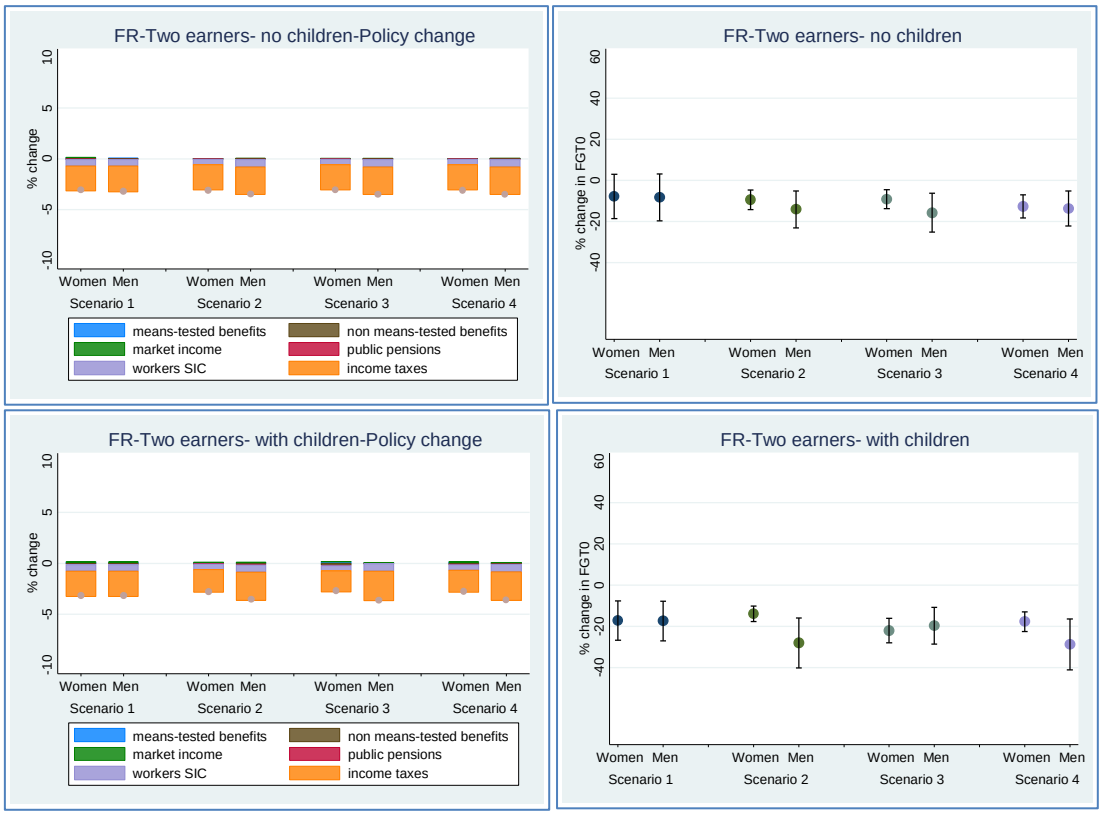
4.4 France

In France, policy changes over the period 2008-2014 (see Figure 5.4, left-side graphs) appear to have had a negative impact on mean disposable incomes in all types of couples and can be mainly attributed to changes in income taxes. The decline was equal to 3-4% of mean disposable income on average, however, one-earner couples with children have experienced smaller losses in their real income (1.5% in the baseline), because increases in taxes for these households have been partially offset by increases in means-tested benefits. While women in one-earner couples appear to have lost more than men according to scenario 2, elsewhere the gender differences are small.

Figure 5.4 (right-side graphs) shows that the policy changes over the period 2008-2014 have had quite large positive effect in terms of poverty reduction for all types of couples. For one-earner couples with and without children, poverty rates have dropped by approximately 20%. Two-earner couples with and without children have experienced, respectively, 17% and 8% reduction in their poverty rates. There are no statistically significant differences in the way policies affected men and women, with the exception of those in one-earner couples with children, where men have benefitted more than women.

Figure 5.4: France: Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type





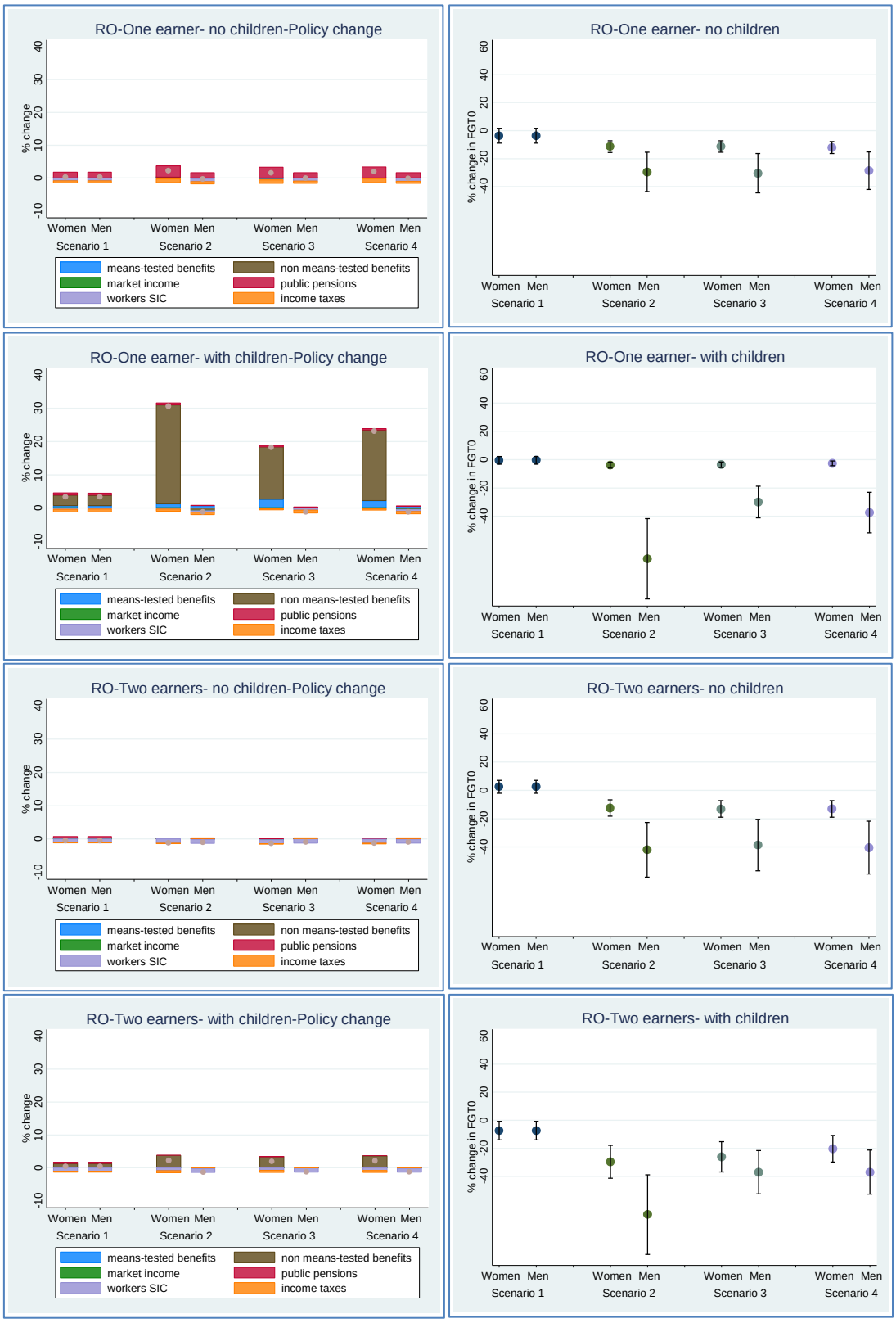
Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

4.5 Romania

Policy changes over the period 2008-2014 (shown in Figure 5.5, left-side graphs) have not had a significant effect on mean disposable incomes, with the exception of one-earner couples with children, whose mean incomes have grown by approximately 3%. This is due to the fact that increases in public pensions have been offset by increases in income taxes. Once we remove the equal sharing assumption, women in all types of couples (except two-earner couples without children) seem to have benefitted more than men as a result of changes in tax-benefit policies. Women in one-earner couples with children have benefitted the most. Their incomes have grown by 18-30%. A smaller but also highly significant increase in mean incomes is observed for women in two-earner couples with children. In both cases it is the result of increases in non means-tested benefits.

In terms of policy effects on poverty (shown in Figure 5.5, right-side graphs), the baseline estimates show that over the period 2008-2014 there was a moderate poverty reduction in one-earner couples without children and more pronounced decrease in two-earner couples with children. On the opposite, the poverty has slightly increased for two-earner couples without children. Once the assumption of equal sharing is removed, it appears that men in all types of couples have benefitted much more than women in terms of poverty reduction. The gap between men and women is especially high for one-earner couples.

Figure 5.5: Romania: Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type



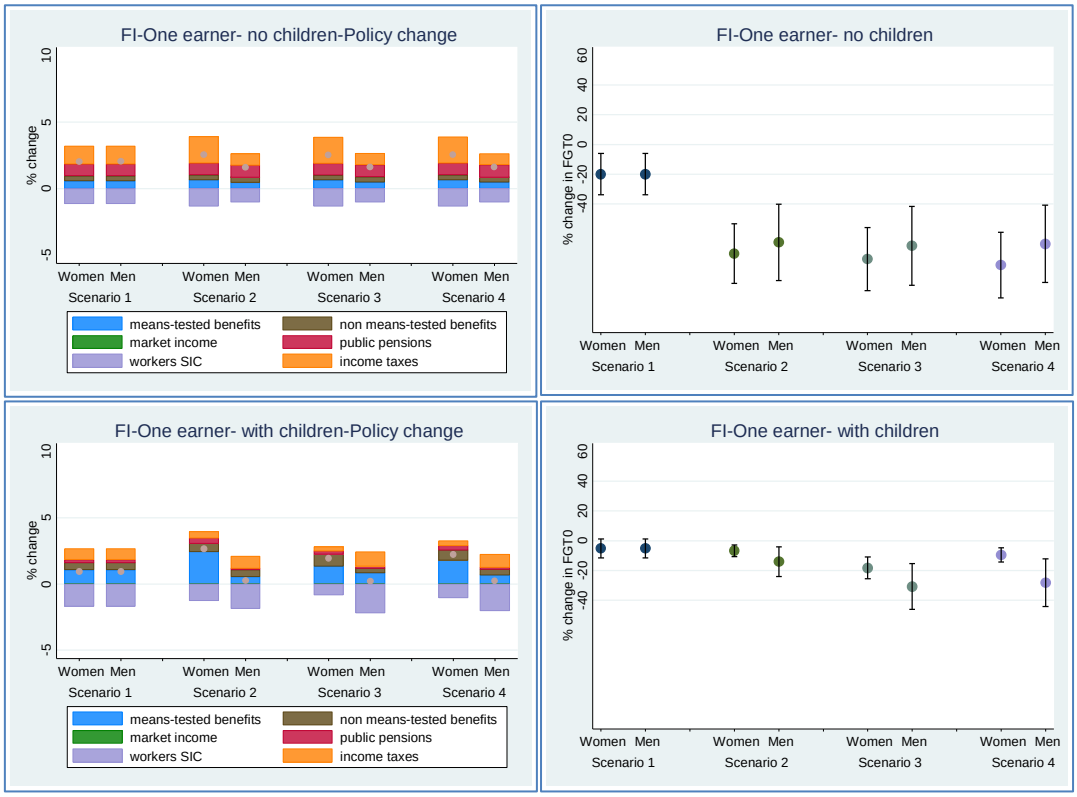
Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

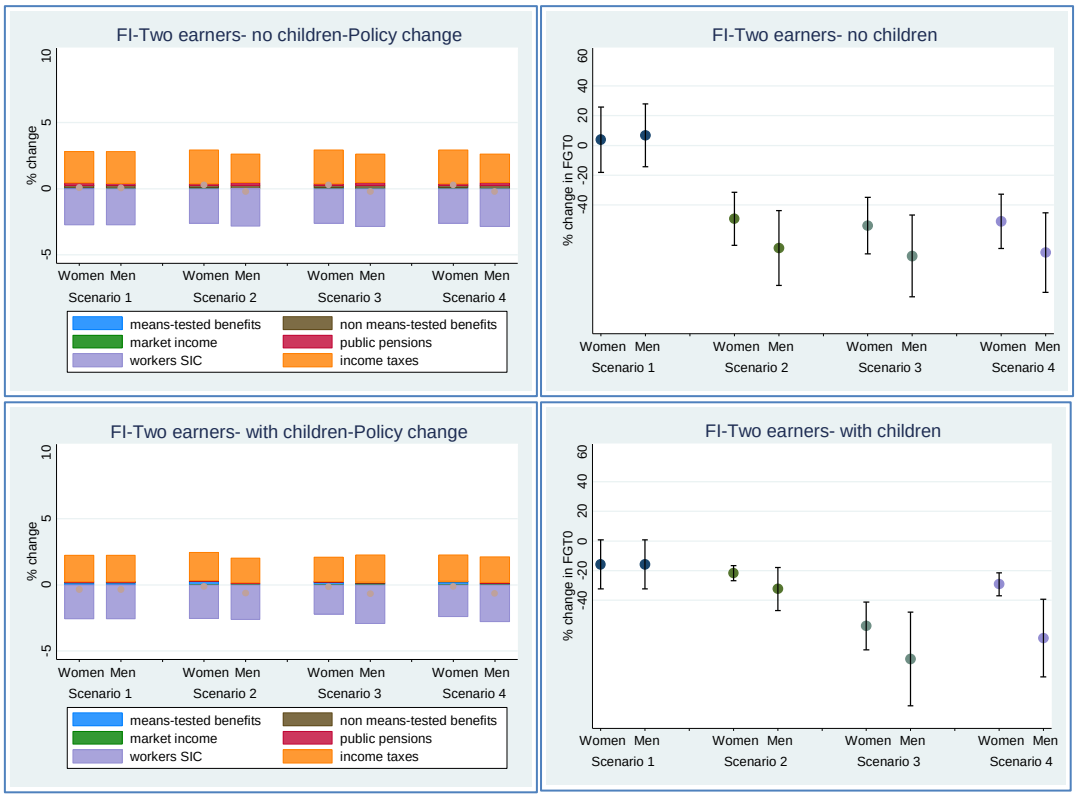
4.6 Finland

In Finland (see Figure 5.6, left-side graphs), the differences between men and women are for the most part marginal and not statistically significant in all the scenarios. There was a very moderate growth (below 2%) in mean incomes of one-earner couples, which could be attributed to reductions in income tax and increase in means-tested benefits partly offset by increases in social insurance contributions. Women in one-earner couples appear to have gained more than men. Incomes of two-earner couples have not changed in any of the scenarios.

The effect of changes in tax-benefit policies on poverty over the period 2008-2014 are shown in Figure 5.6 (right-side graphs). They appear to have been beneficial for all household types apart from two-earner couples without children, whose poverty headcount has increased by approximately 5%. For one-earner couples with children, in the baseline, poverty has decreased by 5%, for two-earner couples with children it has decreased by 16%, and for one-earner couple without children – by 20%. Once the minimum income sharing assumptions are applied, statistically significant differences between men and women are observed only for one-earner couples with children, where men appear to have benefitted more than women. For other household types these differences are not statistically significant.

Figure 5.6: Finland: Changes in mean disposable income and in poverty headcount due to policy changes between 2008 and 2014 for men and women, by household type





Notes: The dots show net changes in disposable income and in FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

5. Conclusions

The impact of policy changes is usually considered in terms of equivalised household income, assuming that each individual within the household is being affected in the same way. This is based on the conventional assumption that incomes are pooled and equally shared within the household. The aim of this paper was to introduce a gender perspective in the analysis of the effects of tax-benefit policies on mean disposable income and poverty. We used EUROMOD – the tax-benefit microsimulation model for the EU – to estimate the effects of changes in tax-benefit policies over the period 2008-2014 in a selection of countries with different welfare regimes, gender inequality patterns and macroeconomic conditions.

First, we have applied the standard approach based on the equal sharing assumption but focused on specific household types for which we can easily observe gender differences in the effects of policies: lone mothers and lone fathers. Our analysis has shown that the policy changes in 2008-2014 affected lone parents differently across 18 EU countries considered. In seven countries the effect of policies was positive: median income has grown in Belgium, Bulgaria, Denmark, Poland, Romania and Sweden, and poverty has declined substantially in Luxembourg (for lone mothers). However, in another seven countries, policy changes were unfavourable to lone parents: in Estonia, Ireland, Spain, Italy, and Hungary policy changes resulted in income declines and in the Czech Republic, Hungary, and the Netherlands the poverty risk for lone mothers has increased. In the remaining four countries lone parents were largely protected from income losses. Finally, although differences between lone mothers and lone fathers are important and comparison by gender was the focus of this paper, it seems that EU-SILC data have little to say about differences between these relatively small groups of households. The sample sizes for lone fathers are too small to establish any differences with enough confidence.

Second, we have estimated the distributional effects of policies separately for men and women in households with couples. In order to do this we redefined income at the individual level by allocating income components to each adult within the household according to a standardised set of assumptions, resulting in three alternative scenarios of intra-household redistribution of income. We compared these three scenarios with the baseline approach which assumes equal sharing within the household. Our results demonstrated whether and to what extent policy changes over the period 2008-2014 affected changes in mean disposable incomes and at-risk-of-poverty rates for men and women differently under the alternative income sharing assumptions:

- *Belgium*: there was moderate growth in mean disposable income due to increases in public pensions and non means-tested benefits. A higher than average growth was experienced by both men and women in one-earner couples without children and by women in one-earner couples with children. These positive policy changes, however, have not affected the bottom of income distribution. Poverty has increased for all types of households, but there is no evidence to suggest that men and women were affected differently.

- *Czech Republic*: Policy changes have not affected mean incomes and poverty rates among childless couples. Women in two-earner couples with children have experienced a slight decline in mean income, and women in one-earner couples have experienced a substantial income decline, due to reductions in non means-tested benefits. Poverty rates have also substantially increased for couples with children, and women in one-earner couples have been affected more negatively than men.

- *Spain:* Policy changes (increases in income taxes and reductions in non means-tested benefits) have led to a decline in mean disposable incomes in all types of couples. These changes were for the most part gender neutral. Poverty rates have not been substantially affected, but the policy changes appear to have been more beneficial for women in two-earner couples than for all the other groups.

- *France:* All types of couples have experienced a decline in real income mainly due to increases in income taxes, with women and men affected to the same degree. One-earner couples with children, however, have experienced smaller income losses due to increases in means-tested benefits. Poverty rates for all household types have decreased or remained at the same level. One-earner couples with children benefited most in terms of poverty reduction, but men in these couples have benefitted more than women under the alternative income sharing assumptions.
- *Romania*: Mean incomes have increased for almost all subgroups. The main beneficiaries of policy changes were women in one-earner couples, especially for those with children, who have benefitted from increases in non means-tested benefits. Overall, poverty rates for all household types remained the same or slightly decreased. Men in all types of couples have benefitted much more than women in terms of poverty reduction.
- *Finland:* Mean incomes have not been affected by policy changes, as a result of simultaneous reductions in income taxes and increases in social contributions. The only exception is women in one-earner couples who seem to have experienced a higher income growth due to increases in means-tested benefits. Policy changes resulted in poverty declines for all groups, especially for one-earner couples without children and two-earner couples with children. In general changes in poverty appear to be gender neutral.

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Annex

Table A1. Harmonized Index of Consumer Prices (HICP) 2008-2014

Country	CPI
BE	1.104
BG	1.104
CZ	1.096
DE	1.086
DK	1.090
EE	1.169
ES	1.089
FI	1.140
FR	1.082
HU	1.217
IE	1.006
IT	1.105
LU	1.114
LV	1.095
NL	1.102
PL	1.160
RO	1.282
SE	1.070

Source: Eurostat, HICP (2005 = 100) - annual data (average index and rate of change); indicator code "prc_hicp_aind".

Table A2: Allocation of disposable income components in three income sharing scenarios:

COMPONENTS OF DISPOSABLE INCOME	Type of income	EU-SILC concept	EUROMOD concept	EUROMOD treatment	Scenario A: minimum sharing pro-primary earner	Scenario B: minimum sharing pro-secondary earner	Scenario C: minimum sharing with equal sharing of common sources
Individual level in EU-SILC							
EMPLOYEE CASH OR NEAR CASH INCOME	Market income	PY010G	Yem	From data	Individual who receives income in the data	The same	The same
CASH BENEFITS OR LOSSES FROM SELF-EMPLOYMENT	Market income	PY050G	Yes	From data	Individual who receives income in the data	The same	The same
PENSION FROM INDIVIDUAL PRIVATE PLANS	Market income	PY080G	Ypp	From data	Individual who receives income in the data	The same	The same
UNEMPLOYMENT BENEFITS	Benefits/ Pensions	PY090G	Bun	Simulated	Individual who receives income in the data	The same	The same
OLD-AGE BENEFITS	Benefits/ Pensions	PY100G	Poa	From data	Individual who receives income in the data	The same	The same
SURVIVOR' BENEFITS	Benefits/ Pensions	PY110G	Psu	From data	Individual who receives income in the data	The same	The same
SICKNESS BENEFITS	Benefits/ Pensions	PY120G	Bhl	From data	Individual who receives income in the data	The same	The same
DISABILITY BENEFITS	Benefits/ Pensions	PY130G	Pdi	From data	Individual who receives income in the data	The same	The same
EDUCATION-RELATED ALLOWANCES	Benefits/ Pensions	PY140G	Bed	Simulated/ from data	Individual who receives income in the data	The same	The same

Table A2 (cont'd): Allocation of disposable income components in three income sharing scenarios:

COMPONENTS OF DISPOSABLE INCOME	Type of income	EU-SILC concept	EUROMOD concept	EUROMOD treatment	Scenario A: minimum sharing pro-primary earner	Scenario B: minimum sharing pro-secondary earner	Scenario C: minimum sharing with equal sharing of common sources
Household level in EU-SILC							
INCOME FROM RENTAL OF A PROPERTY OR LAND	Market income	HY040G	Ypr	From data	Shared equally between the oldest couple	The same	The same
INTEREST, DIVIDENDS, PROFIT FROM CAPITAL INVESTMENTS	Market income	HY090G	Yiy	From data	Shared equally between the oldest couple	The same	The same
FAMILY/CHILDREN RELATED ALLOWANCES	Benefits/ Pensions	HY050G	Bfa	Simulated/ from data	Primary earner in the assessment unit	Secondary earner in the assessment unit	Shared equally between the adults in the assessment unit
SOCIAL EXCLUSION NOT ELSEWHERE CLASSIFIED	Benefits/ Pensions	HY060G	Bsa	Simulated	Primary earner in the assessment unit	Secondary earner in the assessment unit	Shared equally between the adults in the assessment unit
HOUSING ALLOWANCES	Benefits/ Pensions	HY070G	Bho	Simulated/ from data	Primary earner in the assessment unit	Secondary earner in the assessment unit	Shared equally between the adults in the assessment unit
REGULAR INTER-HOUSEHOLD CASH TRANSFER RECEIVED	Market income	HY080G	Ypt	From data	Shared equally between all adults in the household	The same	The same
INCOME RECEIVED BY PEOPLE AGED UNDER 16	Market income	HY110G	Yot	From data	Shared equally between all adults in the household	The same	The same
REGULAR TAXES ON WEALTH	Taxes	HY120G	Tpr	From data	Shared equally between the oldest couple	The same	The same
REGULAR INTER-HOUSEHOLD CASH TRANSFER PAID	Market income	HY130G	Xmp	From data	Shared equally between all adults in the household	The same	The same
TAX ON INCOME AND SOCIAL CONTRIBUTIONS	Taxes/ SIC	HY140G	tis	Simulated	SIC & individual taxes are allocated to respective individuals; taxes in joint system are divided between partners in proportion to their taxable income	The same	The same

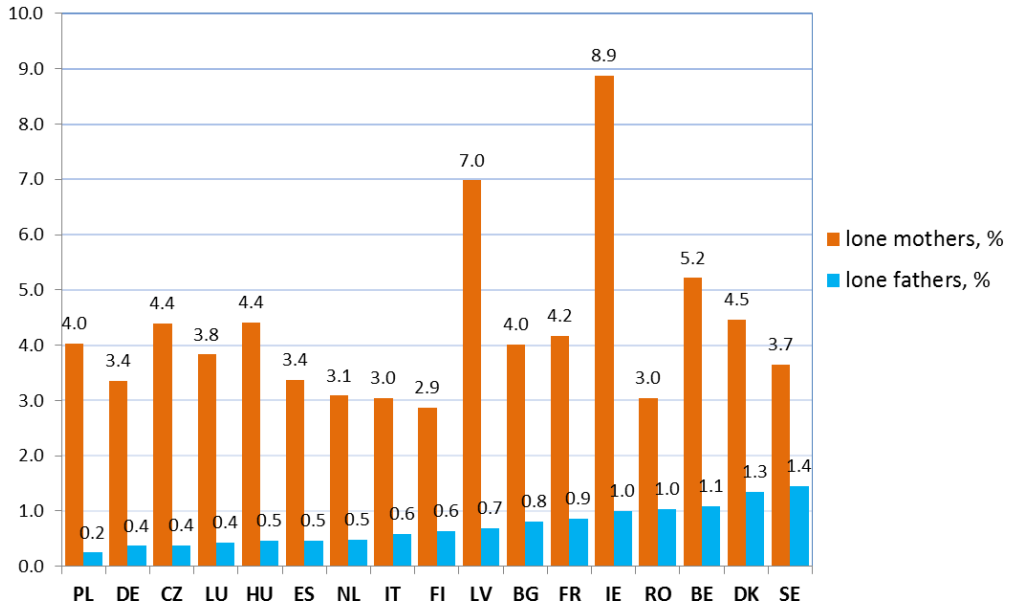
*Notes: * Except paternity and maternity benefits which are allocated to the mother and the father.*

Table A3: Sample size by household type

	BE	BG	CZ	DE	DK	EE	ES	FI	FR	HU	IE	IT	LU	LV	NL	PL	RO	SE
Lone father	*65*	*34*	*31*	*51*	*66*	*18*	*62*	*68*	*118*	*50*	*29*	*99*	*35*	*42*	*76*	*49*	*48*	*74*
Lone mother	*323*	*184*	*370*	*442*	*175*	*315*	*489*	*273*	*514*	*596*	*413*	*634*	*316*	*478*	*349*	*636*	*141*	*208*
One earner, with children: Men	*295*		*519*				*1198*	*376*	*478*								*480*	
One earner, with children: Women	*295*		*519*				*1197*	*376*	*478*								*480*	
One earner, no children: Men	*446*		*701*				*1357*	*1105*	*1002*								*780*	
One earner, no children: Women	*441*		*701*				*1358*	*1104*	*998*								*780*	
Two earners, no children: Men	*672*		*1390*				*1203*	*2437*	*1786*								*1031*	
Two earners, no children: Women	*665*		*1388*				*1205*	*2437*	*1769*								*1031*	
Two earners, with children: Men	*933*		*1128*				*1780*	*2373*	*2376*								*703*	
Two earners, with children: Women	*935*		*1128*				*1780*	*2378*	*2381*								*703*	

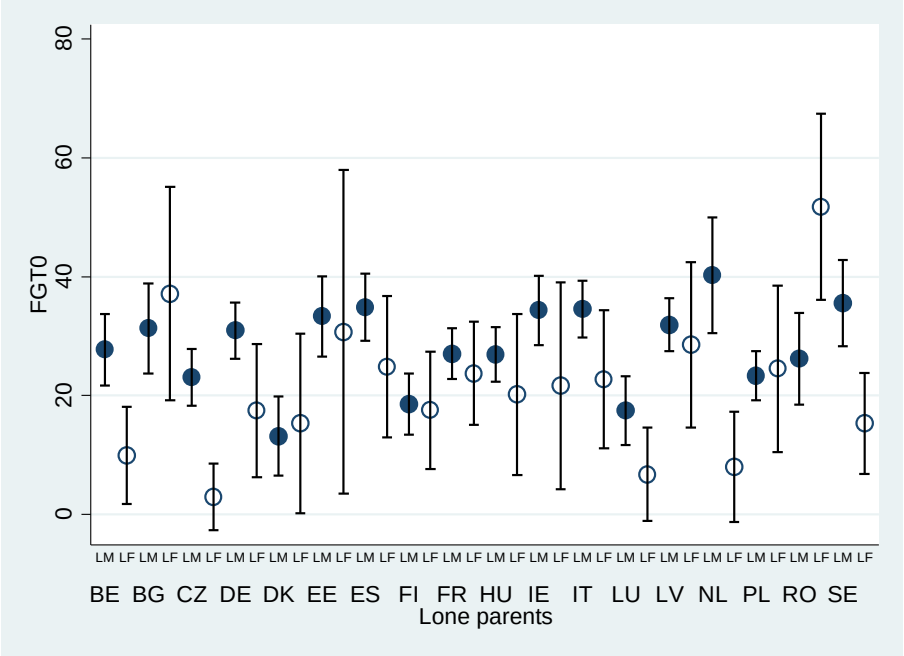
Notes: Sample size shows the number of adults with the respective characteristics.
Source: EUROMOD Version G3.0.

Figure A1: The shares of households containing lone mothers and lone fathers (SILC 2012)



Source: EUROMOD Version G3.0

Figure A2: Poverty headcount (FGT0) for households with lone fathers and lone mothers, 2014



Notes: The dots show poverty headcount FGT(0). The bars show lower and upper bounds of the 95% confidence intervals.

Source: EUROMOD Version G3.0.

Figure A3.1: Belgium: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

Figure A3.2: Czech Republic: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

Figure A3.3: Spain: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

Figure A3.4: France: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

Figure A3.5: Romania: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.

Figure A3.6: Finland: Mean disposable income and poverty headcount (FGT0) in 2014 for men and women, by household type

Notes: The dots show mean disposable income and FGT(0). Results for mean income are shown in national currency. The bars show lower and upper bounds of the 95% confidence intervals.
Source: EUROMOD Version G3.0.