# The impact of a European unemployment benefit scheme on labour supply and income distribution* ${ }^{*}$ 

Mathieu Lefebvre ${ }^{\ddagger}$

Agathe Simon ${ }^{\S}$

January 20, 2022


#### Abstract

This paper investigates the effect of the introduction of a European unemployment insurance scheme (EMU-UI) on the labour supply and the income distribution in the Eurozone countries. Based on a structural estimation of the labour supply and using the European tax-benefit microsimulation model EUROMOD, we simulate various scenarios of reform. The results show that the labour supply response to the introduction of a EMU-UI differs substantially across countries and depends on the design of the EMU-UI. We find that a flat EMU-UI scheme implies very strong disincentive to work but reduces poverty. On the contrary, a fully contribution-related EMU-UI system limits much more the distortions on the labour market in most countries but has limited effects on poverty and inequality. An EMU-UI with a common replacement rate, articulated with floor and ceiling amounts, would allow for upward convergence as it would reduce strongly poverty and inequality in several countries while not inducing important labour supply reduction.


Keywords: Unemployment insurance, structural labour supply, discrete choice, microsimulation, EUROMOD. JEL Codes: C25, C81, J22, H55, I38

[^0]
## 1 Introduction

The recent financial and sovereign debt crisis have put back on the agenda the need for the European Monetary Union (EMU) of a common budgetary instrument that would make the Union more resilient to shocks. Among others, the idea of a common unemployment insurance scheme (EMUUI herefater) has been extensively discussed for its strong stabilisation power $\dagger$. Since employment and social outcomes are often seen as decisive factors for the sustainability and legitimacy of the monetary union (Del Monte and Zandstra, 2014), a common EMU-UI scheme would provide a counter-cyclical stabilisation mechanism in the euro area and could act as an insurance device in the presence of asymmetric macroeconomic shocks. The project of a EMU-UI system has been brought up to date by the Covid-19 crisis. A temporary Support to mitigate Unemployment Risks in an Emergency (SURE) plan has been implemented, with the aim of increasing workers protection via short-time work scheme (STW). In particular, it has been argued that SURE, although temporary, should be seen as an emergency operationalisation of a European Unemployment Re-insurance Scheme in the specific context of the COVID-19 crisis; this without prejudice to the possible subsequent establishment of a permanent instrument under a different legal basis in the TFEU ${ }^{2}$ Thus the will of the European authorities to move towards a European unemployment scheme is well present.

In this paper, we evaluate the impact of the introduction of an EMU-UI system on the labour supply in each EMU country. Using the EU tax-benefit microsimulation model EUROMOD, we simulate the introduction of a common unemployment insurance system in the 19 countries of the monetary Union. To analyze the potential effects of an EMU-UI scheme, we combine microsimulation techniques with a structural model of labour supply. The model follows previous works by van Soest (1995), Blundell et al. (2000) and Bargain et al. (2014) and allows to account for the nonlinear and nonconvex budgets sets of complex tax and benefit systems. Various ways of designing a common EMU-UI scheme have been proposed in the literature and the policy

[^1]debate ${ }^{3}$. The propositions go from providing a basic level of insurance that partly replaces national schemes (Dullien et al, 2017) to a more contingent system which triggers payments based mainly on unemployment rate deviation from the long run tendencies (Carnot et al, 2017). We then simulate different scenarios to reflect the different propositions of EMU-UI scheme and we compare the effects of these scenarios on two issues. First we look at the employment effects both for singles and individuals in couple. In particular, we are interested in the (dis)incentives to work on an extensive and an intensive margin. Second, we look at the distributional effects taking into account the behavioural responses of labour supply.

Recent studies have assessed the stabilisation properties of an EMU-UI scheme (Jara et al., 2015; Dolls et al., 2016, 2018) as well as its income protection effects (Jara and Sutherland, 2014; Jara et al., 2016). In particular, Dolls et al. (2018) have assessed the income stabilisation effect and the budgetary issues of the introduction of a European unemployment insurance. Based on microsimulations and looking at the change of disposable income for the unemployed, they found a significant stabilisation effect. In particular they pointed out the inter-temporal and inter-regional stabilisation that could take place without having any net contributor or recipient countries in the long run. Jara and Sutherland (2014) and Jara et al. (2016) also used micro data to analyze how an EMU-UI system that top-up national systems affects income protection. Their results show that the introduction of an EMU-UI scheme could have a positive effect on households' income stabilisation and reduce the risk of poverty. The common minimum standards implied by the EMU-UI would increase the replacement and coverage rates of unemployment benefits.

To our knowledge, no studies have looked at the labour supply implications of the introduction of an EMU-UI system. Though, in changing both the generosity and the duration of unemployment insurance benefits, an EMU-UI scheme is likely to affect labour supply decisions. Especially, it has be shown that a change in the level of UI benefits can affect the duration of unemployment spell (Krueger and Meyer, 2002; Chetty, 2008; Lalive et al., 2006; Landais, 2015; Schmieder et al., 2016). For example, a higher generosity of UI benefits tends to affect the duration of unemployment via an increase in reservation wage (Feldstein, 1976; Krueger and Mueller, 2016) and a reduction of

[^2]job search effort (Krueger and Mueller, 2010; Le Barbanchon, 2016; Le Barbanchon et al., 2019).
Furthermore, several studies have shown that around the time benefits are expired, the job search rate increases (Moffitt, 1985; Katz and Meyer, 1990; Card et al., 2007). However benefit duration seems to imply very small labour supply effects (see Krueger and Meyer (2002) for a survey). The introduction of an EMU-UI, that could change levels, duration and eligibility of benefits, needs to be evaluated on the ground of employment and social protection. This is particularly important to compare countries in order to identify the diverging effects that such a reform could have.

Anticipating our results, we show that the labour supply implications differs quite much regarding the designs of EMU-UI. We find that a flat-rate EMU-UI which tends more towards a Beveridgian model would imply very strong disincentive to work, even though the poverty reduction associated is consequent. A basic EMU-UI, fully contribution-related, would allow to limit much more the distortions on the labour market in most countries but would have limited effects on poverty and inequality. An EMU-UI with a common replacement rate, articulated with floor and ceiling amounts, would allow for upward convergence as it would reduce strongly poverty and inequality in several countries, especially in countries where poverty rates tends to be high, while not inducing too strong labour supply reduction.

The rest of the paper is organized as follows. Section 2 presents the EMU-UI proposal and the various scenarios. Section 3 develops the empirical strategy and presents the data. The results of the structural labour supply model are presented in Section 4 along with estimated elasticities. Section 5 presents the employment effects of the introduction of an EMU-UI and Section 6 shows how poverty and inequality are affected. Conclusions are drawn in Section 7.

## 2 The EMU-UI

In the recent years, the introduction of a European unemployment insurance scheme have been discussed in the economics literature and the policy debate. As exposed by Dolls et al. (2018), three different systems have been proposed. The first proposal is a common EMU-UI scheme, also called a "genuine" system, that would partly replace national UI schemes and would introduce
common minimum standards and basic level of insurance, as considered by Dullien (2014), Strauss et al. (2013), Andor (2014) and the European Commission (2014, 2014). In this scheme, benefits could be topped up by additional payments from national unemployment insurance systems. This system would only cover short-term unemployment and in order to preserve incentives for national policy-makers, long-term unemployment would not be covered. An alternative to this proposal would be an "equivalent" system that consists of transfers between members states in case of large economic shocks (Beblavỳ and Maselli, 2014; Beblavỳ et al., 2015; Carnot et al., 2017). This would take the form of a re-insurance system. Such system would only be triggered if the level of unemployment reaches some predetermined level. A last option considers a system in which the EMU-UI scheme complements the national systems by providing additional benefits, which would either top up national benefits or kick in if national benefits were to expire. The "genuine" system seems more challenging than an "equivalent" system as it would imply harmonisation of unemployment benefits systems (Esser et al., 2013). At the same time, a "genuine" system would allow for upward convergence of national UI systems beyond its stabilisation function, as there are sizable gaps in terms of accessibility to unemployment benefits between countries (Jara et al., 2016).

In this paper, we are mainly concerned with the first proposal which is also the one that has been largely studied, both in terms of stabilizing effects (Dullien, 2013, Dolls et al., 2016; Beblavý and Lenaerts, 2017) and income protection (Jara and Sutherland, 2014; Jara et al., 2016). In particular, several features of a EMU-UI system have been widely discussed and recent debates have focused on the degree of eligibility or the generosity of transfers. Although those aspects are important in terms of budget size and stabilisation properties, from an individual viewpoint, other characteristics such as benefit duration and replacement rate could also affect income protection of workers or incentives to work. If the main goal of an EMU-UI system is to stabilise the economy, it should only cover the cyclical part of unemployment and avoid financing the frictional unemployment and the long-term unemployment. Thus it is commonly accepted that the benefit duration should be between three to twelve month $\$^{4}$. Regarding the benefit's replacement rate, the most considered

[^3]proposal is a replacement rate of $50 \%$ of previous gross earnings. This level has been shown to be sufficient to avoid unemployment trap (Krueger and Mueller, 2010). However floors and caps are also considered ${ }^{5}$. Finally, the eligibility rules, determined as the number of months an individual should contribute in order to be entitled to benefits, may matter too. It is usually accepted that the conditions to access benefits should be light and most proposals consider 3 months of contributions over the last year.

Depending on the choice of parameters for these key features, we may expect different effects in terms of incentives to supply labour and or redistribution and income protection. In the following, we follow proposals by Beblavý and Lenaerts (2017) as well as Jara et al. (2016) and simulate four different reform scenarios. In the first three scenarios, we vary the key features of an EMU-UI scheme that would partly replace national unemployment insurance systems. In the fourth scenario, we consider an EMU-UI scheme that would completely substitute to national systems:

- Scenario 1 (Basic EMU-UI) focuses on a basic benefit with a replacement rate of $50 \%$ of previous gross individual earnings available to all currently employed up to age 64. Workers need to have contributed during at least 3 months during the last 12 months. The benefit covers eligible individuals from the 1 st to the 12th months of unemployment.
- Scenario 2 (Floor and ceiling EMU-UI) introduces to Scenario 1 ceilings and floors applicable to unemployment benefits. The latter are bounded between $30 \%$ of national average earnings and a ceiling at $150 \%$ of national average earnings applies 6 .
- In Scenario 3 (Flat-rate EMU-UI), we keep the same parameters as in Scenario 2 but the generosity level is changed. Instead of a replacement rate determined by individual earnings, the benefits are now set by a flat rate of $50 \%$ of average national earnings. This reform aims at looking at the effect of a kind of Beveridgian system.
suggested by Beblavý and Lenaerts (2017).
${ }^{5}$ For example, Beblavý and Lenaerts (2017) propose a capping at $150 \%$ of national average earning. Jara et al. (2016) also consider a floor at $30 \%$ of national average earning. Delpla (2012) propose a capping at 2000 euros per months for every country.
${ }^{6}$ In our simulation, we use the Eurostat data from the Structure of earnings survey 2018 on mean employment earning per month to determine these national floors and ceilings.

In these first three scenarios, the EMU-UI is topped-up by national systems and consequently there is no reduction of benefit generosity. Differently said, all countries benefit from the EMU-UI and national systems simply transfer the difference between their own benefit level and the EMU-UI benefit level to unemployed individuals. In order to study a full harmonisation of national UI systems in the Eurozone, we simulate a last scenario with a complete substitution of national UI system by a EMU-UI:

- In Scenario 4 (Full substitution EMU-UI), we then simulate a basic EMU-UI with the same characteristics as Scenario 1 which fully replaces national UI. This means that the EMU-UI is not topped-up by national systems.


## 3 Empirical strategy

### 3.1 The structural labour supply model

In order to estimate the labour-supply response to the introduction of the EMU-UI, we opt for a structural discrete choice model (Blundell et al., 2000; van Soest, 1995). This approach is convenient because it allows to apply quite general specifications of the utility function and the budget constraint. Especially it provides a straightforward way to account for the nonlinear and nonconvex budget sets of complex tax and benefit systems when modeling individual and joint labour supplies of couples. One important aspect of the framework is that the choice set is discretized; that is the individual decision of labour supply is restricted to a set of alternatives, which allow to represent non-participation (inactivity), part-time and full-time working so that both extensive and intensive margins are estimated.

We model the labour supply decision of individuals defined as being the utility maximizing choice between a set of discrete hours choices. Let $U\left(C, H^{m}, H^{w}\right)$ denote the utility function of the household, where $C$ is the household consumption and $H^{w}$ and $H^{m}$ are spouses' work hours, women and men respectively. Accordingly, the utility of a couple $i$ at each discrete choice $j=1, \ldots, J$ can be written as:

$$
U_{i j}=V\left(C_{i j}, H_{i j}^{m}, H_{i j}^{w}, Z_{i}\right)+\epsilon_{i j}
$$

where $V_{i j}$ is a deterministic function which depends on households' characteristics and the alternatives and $\epsilon_{i j}$ is a random error term. If $\epsilon_{i j}$ is assumed to be identically and independently distributed across alternatives and households according to an EV-I distribution, the probability that alternative $j$ is chosen by household $i$ is given by (McFadden, 1974):

$$
P_{i j}=\frac{\exp V\left(C_{i j}, H_{i j}^{m}, H_{i j}^{w}, Z_{i}\right)}{\sum_{k=1}^{J} \exp V\left(C_{i k}, H_{i k}^{m}, H_{i k}^{w}, Z_{i}\right)}
$$

Identification is conditional on the a-priori functional form of the structural utility term. In line with van Soest (1995) and Blundell et al. (2000), the deterministic utility function of a couple has the following functional form:

$$
\begin{align*}
V_{i j}= & \beta_{c i} C_{i j}+\beta_{c c} C_{i j}^{2}+\beta_{h_{w} i} H_{i j}^{w}+\beta_{h_{m} i} H_{i j}^{m}+\beta_{h_{w w}}\left(H_{i j}^{w}\right)^{2}+\beta_{h_{m m}}\left(H_{i j}^{m}\right)^{2}+\beta_{c h_{w}} C_{i j} H_{i j}^{w}  \tag{1}\\
& +\beta_{c h_{m}} C_{i j} H_{i j}^{m}+\beta_{h_{m} h_{w}} H_{i j}^{w} H_{i j}^{m}-\alpha_{j}^{w} * 1\left(H_{i j}^{w}>0\right)-\alpha_{j}^{m} * 1\left(H_{i j}^{m}>0\right)
\end{align*}
$$

where $\alpha_{j}^{w}$ and $\alpha_{j}^{m}$ are fixed costs equal to zero in case of inactivity of the spouses ( $H_{i j}^{m}=0$ or $H_{i j}^{w}=0$ ) and non-zero for $H_{i j}^{m}>0$ or $H_{i j}^{w}>0$. The introduction of these fixed costs of working improves the fit of the model but also implicitly accounts for difference in demand side constraints and the availability of jobs. We assume that preferences vary across households through taste-shifters on coefficients on consumption and work hours:

$$
\begin{align*}
& \beta_{c i}=\beta_{c}^{0}+z_{i}^{c} \beta_{c}+v_{i}  \tag{2}\\
& \beta_{h_{w} i}=\beta_{h}^{0} w+z_{i}^{w} \beta_{h w}  \tag{3}\\
& \beta_{h_{m} i}=\beta_{h^{m}}^{0}+z_{i}^{m} \beta_{h m} \tag{4}
\end{align*}
$$

where $z_{i}^{c}, z_{i}^{w}$ and $z_{i}^{m}$ are vectors including polynomial form of age, number of children, presence of young children and presence of elderly in the household. The term $\beta_{c i}$ also incorporates unobserved heterogeneity, in the form of a normally distributed term $v_{i}$, this to allow random taste
variation and unrestricted substitution patterns between alternatives.
The model is estimated by allowing choice between four alternatives for each individual, which corresponds to $J=4 * 4=16$ alternatives in total for the couple 7 . The alternatives are: NonParticipation (0 hours of work), Part-time work (1-29 hours of work), Full-time work (30-49 hours of work) and Over-time work (50+). In the case of singles, we restricted the option set to four alternatives of working hours and we estimate the same model except that $H_{i j}^{w}$ is excluded.

For each discrete choice, disposable income (equivalent to aggregate household consumption in a static framework) is calculated as a function of hourly wage rate ( $w_{i}$ ), women and men earning hours $\left(H_{i j}^{m}, H_{i j}^{w}\right)$, non labour income $\left(y_{i}\right)$ and household characteristics $\left(z_{i}\right)$. The consumption function can then be theoretically derived as follow:

$$
C_{i j}=d\left(w_{i}^{m} H_{i j}^{m}, w_{i}^{w} H_{i j}^{w}, y_{i}, z_{i}\right)
$$

The function $d$ is calculated using the tax-benefit microsimulation EUROMOD that we describe in the next section. The approach provides a straightforward way to account for the nonlinear and nonconvex budget sets of complex tax and benefit systems when modeling individual and joint labour supplies of spouses (Bargain et al. 2010). With the help of EUROMOD, we simulate the disposable income for each worked hours in order to compute the budget constraint. Wage rates for women and men in each household $i\left(w_{i}^{m}, w_{i}^{w}\right)$ are calculated by gross earning divided by working hours. In order to predict wages for non-workers, we estimate a Heckman-corrected wage equation, which allow to take into account the differences in characteristics between workers and non-worker $8^{8}$. In order to reduce the problem of division bias (Borjas, 1990), we use the predicted wages for all observations 9 Finally, we incorporate the wage prediction error in the labour supply estimation to avoid inconsistent estimates of the structural parameters (van Soest, 1995).

[^4]
### 3.2 Data and tax-benefit microsimulation

The analysis makes use of the tax-benefit microsimulation model EUROMOD that is based upon harmonized EU-SILC data (European Union Statistics on Income and Living Conditions). Datasets have been harmonized in the sense that similar income concepts are used together with comparable variable definitions. The EUROMOD model makes use of detailed information on household composition, characteristics of household members and their incomes from the EU-SILC to create common definitions of income concepts that allow for a very detailed and harmonized micro-level calculation of taxes and benefits .10 Thus, EUROMOD allows simulating the fiscal and social policies in place in all European countries by calculating the entitlement and tax liabilities for each individual in each household. By calculating the disposable income of each individual with nationally representative micro data, the microsimulation model is useful to perform comparative distributional analysis between EU countries, as well as to assess the budgetary and work incentive effects of policy reforms. Indeed EUROMOD allows for counterfactual ex-ante simulations.

EUROMOD covers 28 countries of the European Union but we focus on the 19 countries of the Eurozone that are concerned with the possibility of a common unemployment insurance system. We also focus on the 2018 tax-benefit rules of the countries using the underlying micro-data from 2016 (EU-SILC 2016). Market incomes and non-simulated tax-benefit instruments in the data are adjusted to 2016 levels using source-specific updating factors. For the estimation of labour supply, we restrict our sample to individuals aged between 16 to 64 years old who are neither students, self-employed, disabled or retired. We do not considered self-employed individuals as they are excluded from the EMU-U $\sqrt{11}$, they are not affected by the reforms. We also exclude self-employed due to the difficulty to measure working hours and wages for this type of workers. We distinguish

[^5]between four groups: single women, single men, women and men in couple.
Table 1 presents descriptive statistics of the relevant variables for couples and singles, separately for men and women. Working hours are quite heterogeneous between countries, especially for women in couple. The number of working hours of women in couple is particularly low in Greece, Ireland, Malta, Netherlands and Italy with averages around 20-23 hours per week. This is essentially due to low labour market participation in these countries. In comparison, in Finland, France, Estonia, Lithuania Latvia and Slovakia, the participation rate of women in couple is much higher and they work more than 30 hour a week on average. There is less disparities between countries in terms of working hours for men in couple which ranges between 33 to 39 hours per week on average with a mode around 35 . Participation rates of married men are higher than $80 \%$ in all countries, exception made for Belgium, Greece and Portugal. Working hours and participation rates for single women tends to be higher than women in couple, even though they are very low in Greece, Ireland, Malta and Netherlands to a lesser extent. Working hours and participation for single men are also very low in Greece, Finland and Ireland in comparison to other countries.

Hourly wage rates, which are estimated and predicted for both observed and unobserved wages in the sample (see 3.1 for more details regarding the wage estimation procedure), are on average lower for women than for men. The lowest levels are observed in Slovakia, Latvia, Lithuania and Estonia for which it is lower than 7 euros. In most countries, we find lower predicted wages for married women than single women, which is in line with common findings. We predict particularly high wage rate in Luxembourg, the Netherlands and Belgium. In order to make comparison between countries, we will present how sensitives are labour supply choices regarding those predicted wages in the next sections.

Finally, the age is similar in countries of the sample with an average age of 45 years. The composition of the household changes between countries with a number of children for couples going from 0.3 in Slovakia to 1,3 in Ireland.

Table 1: Descriptive statistics

|  | AT | BE | CY | DE | EE | EL | ES | FI | FR | IE | IT | LT | LU | LV | MT | NL | PT | SI | SK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Single women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | 43.4 | 46.1 | 45.3 | 48.5 | 47.6 | 49.6 | 48.5 | 46.4 | 45.8 | 47.6 | 48.1 | 49.2 | 44.4 | 47.4 | 48.5 | 49.0 | 48.8 | 44.9 | 47.3 |
| \# of children | 0.32 | 0.44 | 0.22 | 0.21 | 0.31 | 0.17 | 0.28 | 0.30 | 0.46 | 0.58 | 0.21 | 0.29 | 0.34 | 0.39 | 0.35 | 0.22 | 0.30 | 0.35 | 0.30 |
| Hourly predicted wage | 15.01 | 14.2 | 9.0 | 17.5 | 4.1 | 9.6 | 14.8 | 19.4 | 30.3 | 6.3 | 6.7 | 2.7 | 18.5 | 4.3 | 7.9 | 21.8 | 8.4 | 13.0 | 7.4 |
| Weekly hours | 31.3 | 23.9 | 30.6 | 30.2 | 38.0 | 16.2 | 24.6 | 31.0 | 30.4 | 18.5 | 26.8 | 33.9 | 29.2 | 36.1 | 18.9 | 23.1 | 29.2 | 32.8 | 36.2 |
| Participation rate | 87.9 | 70.1 | 76.3 | 84.6 | 97.2 | 41.9 | 68.1 | 87.0 | 83.7 | 62.1 | 75.2 | 89.3 | 79.1 | 92.1 | 50.7 | 75.5 | 74.4 | 83.7 | 91.5 |
|  | Single men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | 41.9 | 43.5 | 43.5 | 46.9 | 42.8 | 42.3 | 44.7 | 42.2 | 43.3 | 47.7 | 43.9 | 46.6 | 41.9 | 44.8 | 43.5 | 45.8 | 45.9 | 44.5 | 45.0 |
| \# of children | 0.01 | 0.09 | 0.04 | 0.03 | 0.03 | 0.01 | 0.04 | 0.05 | 0.12 | 0.05 | 0.02 | 0.03 | 0.03 | 0.05 | 0.02 | 0.04 | 0.06 | 0.04 | 0.02 |
| Hourly predicted wage | 16.0 | 16.1 | 13.3 | 19.0 | 4.0 | 7.8 | 13.9 | 24.6 | 30.5 | 5.2 | 7.6 | 2.1 | 20.4 | 4.5 | 8.9 | 21.1 | 9.2 | 14.3 | 8.0 |
| Weekly hours | 36.4 | 31.1 | 33.0 | 34.6 | 37.2 | 27.1 | 31.6 | 29.7 | 33.9 | 25.0 | 32.8 | 31.3 | 38.3 | 34.4 | 35.7 | 31.6 | 30.6 | 33.1 | 35.0 |
| Participation rate | 91.9 | 81.3 | 82.6 | 85.1 | 90.8 | 66.2 | 80.7 | 79.5 | 88.3 | 68.7 | 87.6 | 82.2 | 91.3 | 87.8 | 87.9 | 86.1 | 74.3 | 82.5 | 83.9 |
|  | Couple women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | 41.4 | 41.0 | 42.6 | 45.9 | 43.3 | 44.0 | 43.9 | 43.9 | 41.9 | 43.0 | 43.4 | 48.3 | 40.1 | 44.7 | 41.8 | 45.7 | 44.2 | 42.4 | 47.3 |
| \# of children | 0.69 | 0.79 | 0.79 | 0.46 | 0.68 | 0.66 | 0.69 | 0.70 | 0.78 | 1.27 | 0.71 | 0.42 | 0.76 | 0.60 | 0.70 | 0.63 | 0.63 | 0.85 | 0.30 |
| Hourly predicted wage |  | 36.0 | 8.1 | 17.2 | 4.2 | 8.0 | 12.5 | 33.3 | 18.2 | 10.2 | 4.9 | 4.9 | 26.2 | 2.4 | 9.7 | 37.6 | 13.5 | 22.1 | 4.2 |
| Weekly hours | 26.0 | 24.8 | 24.6 | 25.7 | 31.7 | 20.4 | 26.0 | 31.9 | 30.0 | 20.4 | 22.7 | 34.0 | 27.0 | 31.3 | 22.2 | 22.3 | 29.7 | 31.2 | 36.2 |
| Participation rate | 82.6 | 73.3 | 69.6 | 79.1 | 82.6 | 53.5 | 73.2 | 88.1 | 84.4 | 66.2 | 69.7 | 82.9 | 75.7 | 80.9 | 62.3 | 81.7 | 75.7 | 79.7 | 91.5 |
|  | Couple men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | 42.6 | 41.4 | 43.5 | 46.9 | 43.4 | 45.4 | 43.9 | 45.3 | 42.9 | 43.5 | 43.8 | 47.7 | 41.3 | 43.3 | 41.8 | 47.1 | 44.0 | 42.8 | 45.0 |
| \# of children | 0.69 | 0.79 | 0.79 | 0.46 | 0.68 | 0.66 | 0.69 | 0.70 | 0.78 | 1.27 | 0.70 | 0.42 | 0.76 | 0.60 | 0.70 | 0.63 | 0.63 | 0.85 | 0.02 |
| Hourly predicted wage | 20.1 | 39.7 | 9.7 | 21.1 | 5.4 | 8.9 | 13.1 | 44.9 | 21.5 | 13.1 | 6.5 | 4.9 | 26.1 | 3.1 | 11.1 | 37.7 | 15.8 | 21.7 | 4.7 |
| Weekly hours | 39.0 | 33.2 | 32.9 | 35.4 | 36.8 | 34.0 | 35.5 | 36.3 | 35.9 | 33.0 | 34.8 | 34.0 | 37.3 | 35.6 | 37.2 | 34.9 | 34.2 | 36.9 | 35.0 |
| Participation rate | 90.9 | 79.8 | 81.3 | 84.0 | 89.4 | 74.7 | 85.7 | 89.6 | 87.2 | 82.2 | 87.5 | 83.9 | 85.4 | 87.4 | 87.3 | 90.4 | 78.8 | 88.1 | 83.9 |

## 4 Estimation results

The labour supply model presented in Section 3.1 is estimated for each country and separately for couple and single men and women. We present the results in two steps. First we comment on the structural model estimation and its power to replicate the observed labour supply. We then compare labour supply elasticities across countries. Elasticities of labour supply to exogenous changes in budget constraints will be key to evaluate the impact of the reforms.

### 4.1 Labour supply estimates

Table A.3 to A. 11 in the appendix present the results of the estimations separately for men and women and according to marital status ${ }^{12}$. Although the coefficients of a discrete choice model have a few intuitive interpretation and little can be said about their magnitude, the signs of the coefficients are broadly in line with previous findings. As expected, the presence of children in the household reduces the probability to work for women in all groups and in most countries. On the contrary, the presence of elderly decreases preference for leisure of women. Taste shifters related to age are not always significant and do not display clear patterns. Interestingly, the fixed cost of work is negative and significant for both singles and couple, suggesting some disutility associated to work. As pointed out by Bargain et al. (2014), we cannot directly compare preferences across countries, given the large number of model parameters but we will compare labour supply elasticities in the next subsection.

The pseudo- $R^{2}$ and the log-likelihood of the estimations show that the fit is rather good. The pseudo- $R^{2}$ is about 0.35 on average for single women and men and 0.4 for couples. In order to judge the prediction power of the model, Table 2 compares average observed and predicted hours of work. On average, the model almost perfectly fits the data both for men and women in many countries. There are some exceptions like single women in Portugal, Italy and Spain or single men in Spain and Lithuania for which the discrepancy is relatively high (around 5\%). For couples, the fit is much better than for singles in every country. Overall the model performs relatively well in

[^6]predicting observed labour supplies.

Table 2: Average observed and predicted hours of work

| Country | AT | BE | CY | DE | EE | EL | ES | FR | FI | IE | IT | LT | LU | LV | MT | NL | PT | SI | SK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Single women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Observed | 32.2 | 25.5 | 31.8 | 30.8 | 37.6 | 23.5 | 22.7 | 31.8 | 32.4 | 18.7 | 27.9 | 33.4 | 30.0 | 35.6 | 19.4 | 23.9 | 31.1 | 34.1 | 36.2 |
| Predicted | 32.7 | 26.3 | 33.3 | 30.5 | 38.3 | 22.7 | 21.5 | 32.5 | 32.7 | 18.3 | 29.4 | 33.1 | 29.5 | 35.2 | 20.1 | 23.4 | 33.2 | 34.1 | 35.9 |
| Gap percentage | 1.5 | 3.2 | 4.9 | -1.0 | 2.1 | -3.7 | -5.1 | 2.2 | 0.8 | -2.2 | 5.3 | -0.9 | -1.5 | -1.0 | 3.2 | -1.8 | 6.7 | 0.0 | -0.6 |
|  | Single men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Observed | 35.7 | 30.6 | 31.6 | 33.0 | 37.2 | 32.9 | 28.3 | 29.7 | 35.4 | 21.9 | 26.5 | 29.1 | 36.7 | 34.7 | 36.1 | 31.6 | 31.1 | 34.8 | 34.3 |
| Predicted | 36.9 | 35.6 | 32.6 | 32.1 | 38.0 | 31.9 | 30.5 | 31.7 | 35.9 | 22.8 | 27.2 | 30.9 | 38.5 | 33.5 | 35.4 | 31.3 | 31.6 | 34.0 | 33.9 |
| Gap percentage | 3.5 | 16.3 | 3.0 | -2.7 | 2.2 | -2.9 | 7.8 | 6.5 | 1.3 | 4.3 | 2.8 | 6.4 | 4.9 | -3.6 | -2.2 | $-1.0$ | 1.6 | -2.4 | -1.3 |
|  | Couple women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Observed | 27.0 | 25.5 | 25.5 | 25.4 | 31.2 | 20.0 | 26.4 | 32.6 | 31.4 | 21.9 | 23.4 | 23.4 | 26.3 | 30.3 | 23.5 | 23.6 | 29.9 | 31.4 | 28.2 |
| Predicted | 27.2 | 25.3 | 26.0 | 25.7 | 32.2 | 19.5 | 26.7 | 32.4 | 31.5 | 22.6 | 23.8 | 23.5 | 26.9 | 30.5 | 23.1 | 23.3 | 30.4 | 32.6 | 28.1 |
| Gap percentage | 0.9 | -0.7 | 2.2 | 1.4 | 3.0 | -2.4 | 1.1 | -0.8 | 0.3 | 3.0 | 1.9 | 0.8 | 2.1 | 0.6 | -1.7 | -1.4 | 1.7 | 3.5 | -0.2 |
|  | Couple men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Observed | 36.5 | 32.8 | 32.7 | 32.8 | 36.4 | 31.4 | 34.1 | 35.1 | 35.6 | 32.8 | 34.6 | 34.6 | 35.2 | 35.0 | 35.8 | 35.1 | 33.5 | 35.4 | 34.6 |
| Predicted | 36.4 | 33.1 | 32.8 | 33.2 | 37.5 | 31.7 | 34.3 | 35.8 | 35.9 | 32.8 | 34.8 | 34.5 | 34.7 | 35.6 | 35.4 | 35.8 | 33.5 | 35.5 | 34.6 |
| Gap percentage | -0.3 | 0.9 | 0.1 | 1.3 | 2.9 | 0.8 | 0.6 | 1.8 | 0.9 | 0.0 | 0.5 | -0.3 | -1.6 | 1.6 | -1.1 | 2.1 | -0.1 | 0.1 | 0.2 |

### 4.2 Elasticities

Another way to interpret the parameters of the model is to look at the labour supply elasticities. Since the labour supply model is nonlinear, elasticities cannot be derived analytically but can be calculated by numerical simulations using the estimation results. This is done by simulating the impact of a marginal increase in income on hours of work and participation. The labour supply elasticities provide a first insight into behavioural response to change in the household income and they will be useful in determining the impact of reforms over countries.

We present both wages and income (unearned income) elasticities. In particular, we predict the change in average working hours after a common uniform increase of $1 \%$ in net wages (or unearned income $\sqrt{13}$ For couple, cross-wage elasticities are obtained by simulating changes in individual hours when the spouse wage rates are increased. Usually the literature focuses on women labour supply because women participation is lower and working hours are more variable than men's. Men's labour supply is found to be very inelastic to small exogenous changes in the budget constraint.

Figures 1 displays own-wage elasticities $\sqrt{14}$. Overall, the results are in line with previous estimations (see Blundell et al., 2000; Bargain et al., 2014). In particular, elasticities for single women show little variation between countries as it ranges from 0.06 to 0.84 (exception made for Spain and Slovakia) and is less than 0.50 in many countries. Single men tend to have larger elasticities than single women, in a range from $-0,16$ for the Netherlands to 0,87 for Lithuania. Net wages elasticities are particularly high in Ireland, Lithuania and Slovenia for single men. Wage elasticities for women in couple are higher than for single women. Married women are largely studied in the literature and it is common results to find higher elasticities for them than single women. For men in couple, results are more compressed, with own-wage elasticities ranging between -0.2 and 0.8 . Figure 2 displays cross-wage elasticities for couples. They are smaller in absolute value than own-wage elasticities and they are a little smaller for men than for women. Finally Figure 3 presents income elasticities. As often, income elasticities are very small and close

[^7]to zero. They are negative for a lot of countries.


Figure 1: Own-wage elasticities


Couple women

Couple men

Figure 2: Cross-wage elasticities


Figure 3: Income elasticities

## 5 Employment effects of an EMU-UI

Our empirical framework is used to study how the different scenarios of reform might impact labour supply and employment. Figures 4 to 6 present the effect of each scenario on the non-participation rates, the share of full-time equivalent workers and the mean hours of work in each country respectively. The variation is calculated taking the situation before the reform as the baseline ${ }^{15}$,

We find strong differences across countries and between scenarios of reform. Overall, the results show that the implementation of an EMU-UI would have a strong disincentive effect to work in Portugal, Belgium, Lithuania and Greece for both single and couple individuals. On the contrary, the EMU-UI would have low or no impact on labour supply in Austria, Estonia, Finland, Slovenia, Slovakia.

In particular the effect of the reforms differs according to gender and marital status. In Greece

[^8]and Italy, we find much stronger labour supply reaction for both single and in couple women. This is especially true for the flat-rate EMU-UI (Scenario 3) and the full substitution EMU-UI (Scenario 4), which both includes flat amounts. The resulting impact can be explained by the difficulty for women to obtain subsequent unemployment benefits without floor amount. For example, in Italy, the share of women working part-time tends to be high. For single individuals, most reforms affect only women in Slovenia and Slovakia. On the contrary, the labour supply reaction is stronger for single men than women in Belgium, Spain, Lithuania and Portugal.

Looking at each scenario separately, we see that the basic EMU-UI (Scenario 1) does not imply much changes in labour market participation and hours of work except in Belgium and Portugal. There is no labour supply reactions in Germany, Estonia, Finland, Netherlands, Slovenia and Slovakia. While we find an increase of the non-participation rate at around $0.1-0.2 \%$ in most countries, it increases by around $0.7 \%$ and $0.9 \%$ in Belgium and Portugal respectively (see Appendix A.16). In this scenario, it appears that the introduction of an EMU-UI increases the generosity of unemployment benefits for all unemployed in Portugal. Particularly, unemployment benefits almost double for Portuguese single men and consequently we observe an important reduction of the number of FTE for that category $\left(-3.11 \%\right.$, see Appendix A.14 ${ }^{16}$. For the rest of the countries, we observe a small reduction in FTE which is mainly driven by single women who reduce their number of hours of work. With the introduction of the EMU-UI, the disposable income under unemployment is close to the income level under part-time employment which increase the relative utility of non working.

The floor and ceiling EMU-UI has a much more important effect on employment even if the impact remain low in most countries. Overall, the floor and ceiling EMU-UI induces an increase in non-participation rates in almost all countries, except for Finland. Compared to a basic EMU-UI, Lithuania and Greece are much affected by the introduction of the floor and ceiling.

The flat-rate benefit is rather different than the two first scenarios and introduces a flat-rate benefit. This reform has a much stronger impact on the labour supply and reduces the number of

[^9]FTE in most countries. The drop is important in Belgium, Lithuania, Latvia, Malta, the Netherlands and Portugal. In particular, single individuals are strongly affected by the reform with a decrease of FTE around $1.20 \%$ to $2 \%$ for single men in many countries and even $3.2 \%$ in Lithuania. Single women are also affected with a decrease of about 2\% in Belgium and Italy. Couples are affected although less strongly. This reform seems to imply strong distortions on labour markets in almost all Eurozone countries. Overall, we can see from Figure 6 that the mean hours decrease by more than $0.25 \%$ in 8 Eurozone countries.

Finally, on top of these 3 different scenarios, the full replacement EMU-UI introduces a complete harmonisation of national UI systems and propose to implement a single EMU-UI which replaces national systems. The effect is rather different to what the three first reforms implied. We observe an increase of the labour supply (FTE) in Estonia, Finland, Ireland, Italy, Lithuania and the Netherlands. This is mainly due do the reduction of the generosity of unemployment benefits under the EMU-UI compared to the national system. We can see from Figure 4 that the non-participation rates decrease in Ireland, Lithuania, Italy and the Netherlands at around 0.2-0.5 percentage points. These countries have quite generous benefits. However, the EMU-UI is still more generous than the national system in certain countries and thus Scenario 4 also implies negative labour supply response in Belgium, Spain, Latvia, Malta and Portugal.

Thus the EMU-UI seems to affect countries differently. However Belgium, Portugal, Latvia, Lithuania, Cyprus and Malta are the six countries for which there are considerable variations in labour supply. The reasons of such an impact are different according to the country. In Portugal, for example, we observe a high increase in generosity of benefits for all unemployed, especially for single men. Most single individuals who change their labour supply in our simulations go from full-time to non-participation and are older than 50 year old. This age effect is also observed in Belgium and Lithuania for which we find a decrease in labour supply mainly for single men above 50 years old. In Cyprus, we find that many women with young children and working part-time decrease their labour supply. Women in couple who changed their working hours have more children and their partner's earnings tend to be higher compared to women who did not change their labour supply after the reform. We also observe the same mechanism for Malta. We find very
strong labour supply reduction in Belgium, especially for single men for which the EMU-UI tends to increase a lot their disposable income. As said before, we also observe an age effect. The share of older unemployed in Belgium tends to be high, which is confirmed here as many of individuals who reduce their working hours are above 50 years old. This drop in labour supply could also be explained by the entitlement conditions to access to national UI which tends to be relatively strict in Belgium and are now relaxed with EMU-U $\sqrt{17]}$ Even though the duration and replacement rate of UI benefit in Belgium are relatively generous, there is still individuals with low access to benefits leading to relatively high share of unemployed individual at risk of poverty in Belgium ${ }^{18}$

In summary, the proposal of a basic EMU-UI has few effects on the participation rate and the number of hours of work. The introduction of a floor and ceiling EMU-UI has also little impact and does not induce important labour supply reactions. On the contrary, the flat-rate EMU-UI leads to greater disincentive to work and we can expect such a reform to have quite strong labour market distortions effects. The potential advantage of the floor and ceiling EMU-UI in comparison to a basic EMU-UI is that it is designed to be more redistributive and could contribute more to upward convergence in terms of social protection of workers between countries. The replacement of national system by a full substitution $E M U-U I$ has slight increase or no effect on labour supply. However since the EMU-UI scheme is less generous than national UI in several countries, it may have redistributional implications, as we are going to see in the next Section.

[^10]

Figure 4: Effects of the reforms on the extensive margin


Figure 5: Effects of the reforms on the share of full-time workers


Figure 6: Effects of the reforms on mean hours worked

## 6 Effects of an EMU-UI on poverty and inequality

We next look at the distributional effect of these four reform scenarios. To do so, we focus on two measures: the Gini index and the standard headcount poverty rate estimated at a threshold of $60 \%$ of median equivalised disposable incomes. Similarly to the previous section on labour supply, we compare the four scenarios to a baseline. In the following, we present the total effects but Tables A. 18 and A.19 present also the effects of the three reforms on the Gini index for single women, single men, and couples respectively.

Figure 7 and 8 show the variation in percentage of the poverty rate and the Gini index for the introduction of each scenario compared to the baseline. The basic EMU-UI (scenario 1) implies a reduction of poverty in almost all countries (11 out of 19 countries), exception made for Luxembourg, Finland and Germany for which we observe a slight increase in poverty rates. In Ireland, the Netherlands, Austria and Slovakia, we observe almost no poverty variation. We find a substantial reduction in poverty under this basic EMU-UI in Belgium, Portugal, Italy and Lithuania with a noticeable -2 percentage points decrease in Belgium. Under the floor and ceiling EMU-UI, we observe a more important poverty reduction effect that affects many more countries than the basic scenario. Overall, a floor and ceiling EMU-UI implies a reduction in poverty rates in all countries except Slovenia, Malta and Luxembourg. The effect of the flat-rate EMU-UI on poverty is similar to the floor and ceiling scenario but the poverty reduction tends to be slightly more important for the Netherlands, Latvia and Germany. Otherwise, the poverty drop remains broadly the same. Not surprisingly, a full substitution EMU-UI shows opposite effects. The poverty rates increase in eight countries, although the change being small, except in Malta. However, we still observe a poverty reduction in Belgium, Italy, Portugal, Lithuania, Greece and Slovakia. This means that the basic EMU-UI that we consider here tends to be on average more 'generous' than the national UI systems in those countries. It is indeed more efficient in tackling poverty.


Figure 7: Poverty rates variation in percentage points

Figure 8 presents the variation in the Gini index. Overall, the income inequalities tends to decrease in the first three scenarios, with a more important drop in floor and ceiling and flat-rate scenarios. For the basic EMU-UI, we find a reduction of inequality in more than ten countries with a particularly strong effect in Belgium, Portugal and Italy. If we look at details, we see that this reduction is particularly high for single women and especially in countries where the Gini index before the reform was high; i.e. in Belgium, Spain and Portugal. The reduction in Gini is stronger under floor and ceiling $E M U-U I$ and we find a decrease in all countries except for Finland. The drop is particularly high in Belgium, Greece, the Netherlands, with a decrease at around $-6 \%,-4 \%$ and $-2 \%$ respectively. We also find a reduction effect in Spain and Slovakia but the decrease is a bit less than $1 \%$ for those countries. In the flat-rate EMU-UI, the effect of the introduction of an EMU-UI is important and we observe a fall in income inequality of about $1 \%$ in many countries. Except Finland and Slovakia, all countries experience a reduction if inequality.

Finally, full substitution EMU-UI leads to an increase in Gini coefficients in a series of countries. However, this scenario has still a negative effect on inequality in Italy, Portugal and Slovakia.

Overall, these four scenarios have divergent redistributive implications. A basic EMU-UI reduces poverty rates in several countries. It also reduces the inequality of income, as expressed by the Gini coefficient, in almost half of the Eurozone countries. However, a floor and ceiling EMU-UI implies much more reduction in poverty and inequalities and it affects many more countries and to a higher extent. The redistributive effects of the flat-rate $E M U-U \mathrm{I}$ are of the same magnitude as floor and ceiling alternative. This tends to show that a partially insurance-related benefit scheme with floors and ceilings implies broadly similar reduction in poverty and inequalities than a fully 'beveridgian' system with flat-rate EMU-UI.


Figure 8: Change in Gini coefficient in percentage

## 7 Conclusion

This paper assesses the implication of an EMU-UI on labour market and income distribution for the Eurozone countries. We simulate four scenarios of reform using EUROMOD for the year 2018 and estimate a structural discrete choice model of labour supply for both single and couple. The results show that the introduction of an EMU-UI would have heterogeneous effects in terms of behavioural adjustment between countries. We show that the intensity of the labour supply reaction depends much on the marital status and gender, as in many countries, women in couple and single men tends to have stronger reactions to the reforms. Our results also show that the introduction of a common EMU-UI would decrease income inequalities and poverty in a majority of countries. Countries that are characterised by quite unequal income distribution would benefit from EMU-UI, regardless of the design of this scheme. In particular, an EMU-UI would reduce income inequalities in Greece, Belgium, Spain and Portugal. We find also a significant drop in poverty rates after the reforms in Belgium, Greece, Italy and Portugal.

One important finding is that the characteristics of the EMU-UI regarding eligibility or the generosity of the benefits play a key role. A flat-rate EMU-UI inspired by a beveridgian system would imply high disincentive to work in many countries combined however with a high reduction in terms of poverty and inequalities. A second scenario, the floor and ceiling EMU-UI, shows limited disincentive to work but it significantly helps fighting poverty of unemployed individuals. Thus we show that a flat-rate benefit would have too strong negative labour supply effect even though this would perform well to reduce inequality and poverty. An EMU-UI with floor and ceiling would perform as well as the latter, while inducing broadly similar labour market distortion as a fully insurance-based EMU-UI.

Despite the potential stabilisation property of an EMU-UI, the recent crises has shown the need for a greater convergence between countries regarding social protection and inequality reduction. The recent Covid-19 crisis highlighted the need for greater protection of unemployed against poverty. A lot of countries have taken measures during the crisis. Nine Eurozone countries have extended or raised the unemployment insurance payments to ensure a minimum sustainable
replacement rate 19 . We observe today an increasing tendency of workers that have difficulty to access sufficient level of social protection, including unemployment benefits. In addition, the share of low-wage earners remains high in Europe (in 2018, $15.3 \%$ of employees were low-wage earners in EU), meanings that these workers would have very low unemployment benefits revenues if the system was fully earning-related.

The European Pillar of Social Rights (EPSR) highlighted the need for greater social protection for all workers, having adequate unemployment benefits while not generating labour supply disincentives and reducing poverty rates in Europe. The recent Porto Social Summit which was held on 7th of May 2021 rekindled the need for a common tool to consolidate a Social Europe. In this summit, EU leaders signed a commitment to set new targets for 2030, in line with the EPSR in which one of the objectives states that 'The number of people at risk of poverty or social exclusion should be reduced by at least 15 million, including at least 5 million children' whereas in 2019, around 91 million persons were still at risk of poverty or social exclusion in the EU and almost half ( $48.7 \%$ ) of unemployed persons were at risk of poverty after social transfers in 2016.

The EPSR reaffirms also states that 'The unemployed have the right to [...] adequate unemployment benefits of reasonable duration, in line with their contributions and national eligibility rules. Such benefits shall not constitute a disincentive for a quick return to employment.'

If policy makers want to meet the EPSR requirements regarding the reduction of poverty and improve unemployment benefit systems performance at protecting better workers while limiting the distortions on the labour market, our results show that it would be relevant to consider a floor and ceiling EMU-UI which allows greater performance in fighting poverty combined with limited labour supply reduction.

[^11]
## References

Aaberge, R., U. Colombino and S. Strøm, "Labour supply in Italy: an empirical analysis of joint household decisions, with taxes and quantity constraints," Journal of Applied Econometrics 14 (1999), 403-422.

Andor, L., "Basic European Unemployment Insurance - The Best Way forward in Strengthening the EMU's Resilience and Europe's Recovery," Intereconomics 49 (2014), 184-189.

Bargain, O., M. Caliendo, P. Haan and K. Orsini, ""Making work pay" in a rationed labor market," Journal of Population Economics 23 (January 2010), 323-351.

Bargain, O., K. Orsini and A. Peichl, "Comparing Labor Supply Elasticities in Europe and the United States: New Results," Journal of Human Resources 49 (2014), 723-838.

Beblavý, M. and K. Lenaerts, "Feasibility and Added Value of a European Unemployment Benefits Scheme," (2017), 1-103.

Beblavỳ, M., G. Marconi, I. Maselli et al., "A European Unemployment Benefits Scheme: The rationale and the challenges ahead," CEPS Special Report 19 (2015).

Beblavỳ, M. and I. Maselle, "An Unemployment Insurance Scheme for the Euro Area: A simulation exercise of two options," CEPS Special Reports No 98 (2014).

Blundell, R., A. Duncan, J. McCrae and C. Meghir, "The labour market impact of the working families' tax credit," Fiscal Studies 21 (March 2000), 75-103.

Borjas, B. G. J., "Self-Selection and the Earnings of Immigrants," The American Economic Review 80 (1990), 305-308.

Card, D., R. Chetty and A. Weber, "The spike at benefit exhaustion: Leaving the unemployment system or starting a new job?," American Economic Review 97 (2007), 113-118.

Carnot, N., M. Kizior, G. Mourre et al., "Fiscal stabilisation in the Euro-Area: A simulation exercise," Technical Report, ULB-Universite Libre de Bruxelles, 2017.

Chetty, R., "Moral hazard versus liquidity and optimal unemployment insurance," Journal of political Economy 116 (2008), 173-234.

Claeys, G., Z. Darvas and G. Wolff, "Benefits and drawbacks of European unemployment insurance," Bruegel Policy Brief 0 (2014).

Creedy, J. and G. Kalb, "Discrete hours labour supply modelling: specification, estimation and simulation," Journal of Economic Surveys 19 (2005), 697-734.

Del Monte, M. and T. Zandstra, "Common Unemployment Insurance Scheme for the Euro Area," European Parliamentary Research Service-EPRS, PE 510 (2014), 984.

Delpla, J., "A Euro-wide conditional unemployment insurance," in seminar "EU level economic stabilisers", Brussels, July (2012).

Dolls, M., C. Fuest, D. Neumann and A. Peichl, "A Basic Unemployment Insurance Scheme for the Euro Area," ifo DICE Report 14 (May 2016), 55-60.
———, "An unemployment insurance scheme for the euro area? A comparison of different alternatives using microdata," International Tax and Public Finance 25 (February 2018), 273-309.

Dullien, S., "A euro-area wide unemployment insurance as an automatic stabilizer: Who benefits and who pays? Paper prepared for the European Commission (DG EMPL)," 2013 (2013).
——, A European Unemployment BeneÖt Scheme. How to provide formore Stability in the Euro Zone (Bertelsmann-Stiftung, 2014).

Esser, I., T. Ferrarini, K. Nelson, J. Palme and O. Suöberg, "Unemployment benefits in EU member states," (2013).

Fana, M., S. Tolan, S. Torrejón, C. Urzi Brancati and E. Fernández-Macías, "The COVID confinement measures and EU labour markets," Publications office of the european union, Luxembourg, 2020.

Feldstein, M., "Temporary layoffs in the theory of unemployment," Journal of political economy 84 (1976), 937-957.

Jara, H. X. and H. Sutherland, "The implications of an EMU unemployment insurance scheme for supporting incomes," Euromod working papers, EUROMOD at the Institute for Social and Economic Research, April 2014.

Jara, H. X., H. Sutherland and A. Tumino, "The role of an EMU unemployment insurance scheme on income protection in case of unemployment," Euromod working papers, EUROMOD at the Institute for Social and Economic Research, December 2016.

Jara, H. X., A. Tumino and H. Sutherland, "The redistributive and stabilising effects of an EMU unemployment benefit scheme under different hypothetical unemployment scenarios," Euromod working papers, EUROMOD at the Institute for Social and Economic Research, December 2015.

Katz, L.F. and B.D. Meyer, "Unemployment insurance, recall expectations, and unemployment outcomes," The Quarterly Journal of Economics 105 (1990), 973-1002.

Krueger, A. B. and B. D. Meyer, "Chapter 33 Labor supply effects of social insurance," volume 4 of Handbook of Public Economics (Elsevier, 2002), 2327-2392.

Krueger, A. B. and A. Mueller, "Job search and unemployment insurance: New evidence from time use data," Journal of Public Economics 94 (2010), 298-307.

Krueger, A. B. and A. I. Mueller, "A contribution to the empirics of reservation wages," American Economic Journal: Economic Policy 8 (2016), 142-79.

Lalive, R., J. Van Ours and J. Zweimüller, "How changes in financial incentives affect the duration of unemployment," The Review of Economic Studies 73 (2006), 1009-1038.

Landais, C., "Assessing the welfare effects of unemployment benefits using the regression kink design," American Economic Journal: Economic Policy 7 (2015), 243-78.

Le Barbanchon, T., "The effect of the potential duration of unemployment benefits on unemployment exits to work and match quality in France," Labour Economics 42 (2016), 16-29.

Le Barbanchon, T., R. Rathelot and A. Roulet, "Unemployment insurance and reservation wages: Evidence from administrative data," Journal of Public Economics 171 (2019), 1-17.

Moffitt, R., "Unemployment insurance and the distribution of unemployment spells," Journal of econometrics 28 (1985), 85-101.

Schmieder, J. F., T. von Wachter and S. Bender, "The Effect of Unemployment Benefits and Nonemployment Durations on Wages," American Economic Review 106 (March 2016), 739-777.

Strauss, M., O. Bontout, G. Lejeune, M. Ciesielska and R. Di Girolamo, "Paper on automatic stabilisers," European Commission, Brussels (2013).

Sutherland, H., "EUROMOD: An integrated European benefit-tax model," Technical Report, EUROMOD Working Paper, 2001.

Sutherland, H. and F. Figari, "EUROMOD: the European Union tax-benefit microsimulation model," International journal of microsimulation 6 (2013), 4-26.
van Soest, A., "Structural Models of Family Labor Supply: A Discrete Choice Approach," Journal of Human Resources 30 (1995), 63-88.

## A Appendix

## The Heckman-corrected wage estimation

influence wage directly. The Mill ratio, which is the ratio of the probability density function to the cumulative distribution function from the probit regression, which is used in the OLS estimation of wages.

Table A.1: Wage estimation: women

|  | (AT) | (BE) | (CY) | (DE) | (EE) | (EL) | (ES) | (FI) | (FR) | (IE) | (TT) | (LT) | (LU) | (LV) | (MT) | (NL) | (PT) | (SI) | (SK) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | $0.74{ }^{* *}$ | 0.23 | 0.06 | $0.36 * * *$ | $0.33^{* * *}$ | 0.06 | 0.23 * | $0.19^{*}$ | 0.02 | $0.12{ }^{*}$ | -0.23 | $0.39^{* * *}$ | 0.09 | $0.38^{* * *}$ | 0.49*** | 0.79*** | -0.14 | $0.84^{* * *}$ | $0.49^{* * *}$ |
|  | (0.27) | (0.15) | (0.09) | (0.03) | (0.05) | (0.04) | (0.10) | (0.08) | (0.06) | (0.05) | (0.12) | (0.06) | (0.11) | (0.06) | (0.05) | (0.09) | (0.11) | (0.19) | (0.07) |
| Age squared | -0.02* | $-0.01^{*}$ | 8.00 | $-0.01^{* * * *}$ | $-0.01^{* * *}$ | -0.00 | $-0.01^{*}$ | -0.00*** | 0.00 | -0.00 | $0.00{ }^{*}$ | $-0.01^{* * *}$ | -0.00 | $-0.00^{1 * * *}$ | -0.01*** | -0.02**** | 0.00 | -0.02*** | $-0.01^{* * *}$ |
|  | (0.01) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.01) | (0.00) |
| Age cubic | 0.00 * | $0.00^{* *}$ | -0.00 | $0.00^{* * *}$ | $0.00^{* * *}$ | 0.00 | $0.00^{* * * *}$ | $0.00^{* *}$ | -0.00 | -0.00 | -0.00 | $0.00{ }^{* *}$ | 0.00 | $0.00^{* * *}$ | $0.00^{* * *}$ | 0.00**** | -0.00 | $0.00^{* *}$ | $0^{0.00^{* * *}}$ |
|  | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| High education | 0.05 | ${ }^{-0.35}$ | $0.71^{* * *}$ | $0.36{ }^{* * *}$ | $0.49^{* * * *}$ | $0.33^{7 * * *}$ | 0.09 | $0.19{ }^{*}$ | $0.45^{* * *}$ | $0.71^{* * *}$ | 0.02 | 0.81 *** | $0.47^{7 * * *}$ | $0.81^{* * *}$ | $0.45 * * *$ | 0.07 | $0.5{ }^{\text {\%****}}$ | $-0.36$ | 0.07 |
|  | (0.20) | (0.26) | (0.06) | (0.06) | (0.05) | (0.09) | (0.17) | (0.09) | (0.10) | (0.15) | (0.15) | (0.17) | (0.04) | (0.11) | (0.09) | (0.12) | (0.10) | (0.29) | (0.08) |
| Number of children | 0.13 | 0.17 | $0^{0.06 *}$ | $-0.11{ }^{*}$ | $-0.12^{* * *}$ | $0.04{ }^{*}$ | $0^{0.09 *}$ | 0.08 | $-0.07^{* * * *}$ | $-0.10^{*}$ | $0.13^{*}$ | -0.15*** | 0.05 | -0.11*** | -0.06* | 0.05 | ${ }_{0} 0.06$ | 0.11 | 0.06 |
|  | (0.17) | (0.10) | (0.03) | (0.05) | (0.03) | (0.02) | (0.04) | (0.07) | (0.02) | (0.05) | (0.05) | (0.04) | (0.04) | (0.03) | (0.03) | (0.04) | (0.04) | (0.07) | (0.07) |
| \# of children $<2 \mathrm{y} / \mathrm{o}$ | 0.08 | -0.17 | -0.12 | $-0.39^{* * *}$ | ${ }^{-0.56 * * *}$ | 0.01 | 0.01 | 0.06 | $-0.68^{* * *}$ | -0.15 | -0.13 | $-0.81{ }^{* * *}$ | -0.06 | $-0.96{ }^{* * * *}$ | -0.08 | 0.04 | -0.11 | -0.31 | 0.34 |
|  | (0.52) | (0.16) | (0.07) | (0.07) | (0.12) | (0.05) | (0.09) | (0.10) | (0.08) | (0.08) | (0.11) | (0.23) | (0.08) | (0.14) | (0.07) | (0.08) | (0.08) | (0.18) | (0.18) |
| In couple | -0.03 | -0.18 | $0.35^{* * *}$ | $0.12^{* *}$ | 0.01 | $0.07{ }^{*}$ | 0.20 ** | 0.01 | $0.17^{7 * * *}$ | 0.20 **** | 0.26 * | -0.04 | $0.12{ }^{* *}$ | -0.09** | 0.06 | 0.04 | 0.03 | 0.13 | -0.00 |
|  | (0.16) | (0.15) | (0.04) | (0.04) | (0.03) | (0.04) | (0.07) | (0.06) | (0.05) | (0.06) | (0.10) | (0.05) | (0.04) | (0.04) | (0.05) | (0.06) | (0.03) | (0.12) | (0.05) |
| _cons | -5.45* | 1.24 | -0.51 | $-3.49^{* * * *}$ | $-4.18^{* * *}$ | -0.02 | -1.29 | $-0.12$ | 1.06 | -0.75 | $6.72^{*}$ | $-6.00^{* * *}$ | 1.49 | $-5.41{ }^{1+* *}$ | $-4.94{ }^{* * *}$ | -8.68**** | 3.63 | -9.06**** | $-4.34^{* * *}$ |
|  | (2.49) | (2.65) | (1.36) | (0.53) | (0.84) | (0.71) | (1.73) | (1.28) | (0.54) | (0.69) | (2.72) | (1.02) | (1.78) | (0.88) | (0.58) | (0.88) | (1.98) | (1.79) | (0.87) |
| select |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | $-0.17^{*}$ | $0.25{ }^{\text {m*** }}$ | $0.63^{* * *}$ | 0.08 | $0.25^{* * *}$ | 0.12 ** | $0.31{ }^{* * * *}$ | 0.20**** | $-0.21{ }^{* * *}$ | 0.07 | $0.24 * * *$ | -0.03 | $0^{0.62 * * *}$ | 0.11 | $0.17{ }^{*}$ | $-0.22^{* * *}$ | $0.42^{* * *}$ | -0.29*** | -0.08 |
|  | (0.07) | (0.07) | (0.07) | ${ }^{(0.05)}$ | (0.06) | (0.04) | (0.04) | (0.05) | (0.05) | ${ }^{(0.06)}$ | (0.03) | (0.07) | (0.08) | ${ }^{(0.06)}$ | (0.08) | (0.05) | (0.05) | (0.05) | (0.06) |
| $\underset{\text { Age squared }}{\underset{\sim}{\omega}}$ | 0.01 *** | -0.00* | $-0.00^{* * *}$ | -0.00 | -0.00* | -0.00 | $-0.01{ }^{* * *}$ | -0.00* | $0.01{ }^{* * *}$ | -0.00 | $-0.00{ }^{0 * * *}$ | 0.00 | $-0.01^{* * *}$ | -0.00 | -0.00 | $0.01{ }^{* * * *}$ | $-0.01^{* * *}$ | $0.01{ }^{* * *}$ | $0.01{ }^{* * *}$ |
|  | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Age cubic | $-0.00^{* * * *}$ | 0.00 | $0.00^{* * * *}$ | -0.00 | 0.00 | ${ }^{-0.00{ }^{*}}$ | $0.00^{* * * *}$ | -0.00 | $-0.00^{* * *}$ | $-0.00$ | 0.00 | $-0.00^{*}$ | $0^{0.00 * * * *}$ | -0.00 | 0.00 | ${ }^{-0.000 * * *}$ | $0.00^{* * *}$ | $-0.00{ }^{* * *}$ | $-0.00^{* * *}$ |
|  | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| High education | $0.23^{* * *}$ | $0.66^{\text {m*** }}$ | $0.48^{* * *}$ | $0.34 * * * *$ | $0.43^{* * *}$ | $0.65^{* * *}$ | $0.59^{* * *}$ | $0.32^{* * * *}$ | $0.57^{* * *}$ | $0.67^{7 * * *}$ | $0.33^{* * * *}$ | $0.75 * * *$ | 0.08 | $0.58^{* * *}$ | 1.10*** | $0.48{ }^{* * * *}$ | $0.41^{* * *}$ | $0.67^{7 * * *}$ | $0.32^{* * *}$ |
|  | (0.05) | (0.05) | (0.06) | (0.04) | (0.05) | (0.03) | (0.03) | (0.04) | (0.04) | (0.05) | (0.03) | (0.06) | (0.06) | (0.05) | (0.08) | (0.04) | (0.04) | (0.04) | (0.05) |
| \# children < $2 \mathrm{y} / \mathrm{o}$ | $-0.63^{* * *}$ | 0.04 | . 07 | $-0.29{ }^{* * * *}$ | $-0.72^{* * * *}$ | 0.05 | -0.08 | -0.05 | $-0.30^{* * * *}$ | -0.08 | $0.15 * *$ | $-0.68^{* * *}$ | -0.33** | $-0.60{ }^{\text {+**** }}$ | $-0.26^{*}$ | -0.09 | 0.11 | -0.12 | $-0.57^{* * * *}$ |
|  | (0.11) | (0.10) | (0.10) | (0.09) | (0.09) | (0.06) | (0.07) | (0.08) | (0.08) | (0.10) | (0.06) | (0.14) | (0.11) | (0.10) | (0.11) | (0.08) | (0.09) | (0.08) | (0.10) |
| \# children < $6 \mathrm{y} / \mathrm{o}$ | -0.07 | 0.03 | 0.06 | -0.11 | -0.01 | -0.00 | -0.06 | 0.08 | -0.00 | $-0.17^{* *}$ | -0.02 | -0.05 | -0.15 | -0.12 | $-0.28^{* *}$ | -0.09 | 0.03 | 0.20** | -0.04 |
|  | (0.09) | (0.08) | (0.09) | (0.07) | (0.08) | (0.05) | (0.05) | (0.06) | (0.06) | (0.06) | (0.05) | (0.10) | (0.09) | (0.09) | (0.10) | (0.06) | (0.07) | (0.07) | (0.07) |
| \# children < $12 \mathrm{y} / \mathrm{o}$ | -0.03 | -0.01 | -0.02 | 0.05 | 0.05 | -0.00 | $-0.12^{*}$ | 0.01 | 0.10 | $-0.15^{* *}$ | -0.07 | 0.03 | -0.13 | -0.07 | -0.26** | -0.05 | 0.08 | 0.03 | 0.14 |
|  | (0.09) | (0.08) | (0.09) | (0.07) | (0.08) | (0.05) | (0.05) | (0.06) | (0.06) | (0.06) | (0.05) | (0.10) | (0.09) | (0.09) | (0.09) | (0.05) | (0.06) | (0.07) | (0.08) |
| In couple | $0.12^{*}$ | $0.29^{\text {m*** }}$ | -0.19** | $0.16^{* * *}$ | 0.13* | $-0.23^{* * *}$ | $-0.16^{* * *}$ | $0.12{ }^{* *}$ | $0.19^{* * *}$ | $0.18^{* * * *}$ | $-0.23{ }^{* * *}$ | 0.10 | -0.01 | -0.05 | $-0.30^{* * *}$ | $0.16^{* * * *}$ | 0.02 | 0.07 | 0.08 |
|  | (0.06) | (0.05) | (0.06) | (0.04) | (0.05) | (0.03) | (0.03) | (0.04) | (0.05) | (0.05) | (0.03) | (0.06) | (0.06) | (0.05) | (0.06) | (0.04) | (0.04) | (0.05) | (0.05) |
| Number of children | $-0.18^{* *}$ | $-0.22^{2 * * *}$ | -0.12* | $-0.22^{* * *}$ | $-0.24^{* * * *}$ | -0.03 | -0.05 | $-0.27^{* * *}$ | -0.09** | $-0.10^{*}$ | $-0.08^{*}$ | -0.09 | -0.09 | -0.05 | -0.08 | $-0.09^{* *}$ | $-0.16^{* * * *}$ | $-0.15^{* * *}$ | $-0.32^{* * *}$ |
|  | (0.06) | (0.05) | (0.06) | (0.05) | (0.05) | (0.03) | (0.03) | (0.04) | (0.04) | (0.04) | (0.03) | (0.06) | (0.06) | (0.06) | (0.06) | (0.03) | (0.04) | (0.04) | (0.05) |
| Other income | -0.00 | -0.00 | -0.00**** | $-0.00$ | 0.00 | $-0.00^{* * *}$ | 0.00 | 0.00 | ${ }^{-0.00 *}$ | 0.00 | 0.00 | 0.00 | -0.00 | -0.00 | -0.00 | $-0.00$ | -0.00 | $-0.00$ | -0.00 |
|  | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| _cons | $2.04{ }^{*}$ | $-4.14^{* * * *}$ | -8.91*** | -1.05 | $-3.43^{* * * *}$ | $-2.92^{* * *}$ | -4.26*** | $-2.77^{* * *}$ | $3.04{ }^{* * * *}$ | $-1.00$ | -4.46*** | -0.23 | $-8.50^{* * *}$ | -1.47 | -1.42 | 3.52**** | $-6.05^{* * * *}$ | 3.26**** | -0.00 |
|  | (0.85) | (0.82) | (0.92) | (0.57) | (0.73) | (0.52) | (0.48) | (0.61) | (0.59) | (0.72) | (0.44) | (0.88) | (0.94) | (0.79) | (0.92) | (0.58) | (0.57) | (0.62) | (0.68) |
| /mills |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| lambda | ${ }^{-3.13 *}$ | $-2.04^{* *}$ | 0.04 | 0.08 | 0.52* | -0.24 | $-1.76^{* *}$ | -1.71*** | 0.25 | 0.91* | $-1.67^{*}$ | 0.30 | -0.58 | 0.93* | -0.08 | $-1.35{ }^{*}$ | -1.11* | $-2.98{ }^{\text {*** }}$ | $-1.23^{* *}$ |
|  | (1.51) | (0.74) | (0.20) | (0.39) | (0.26) | (0.19) | (0.55) | (0.54) | (0.43) | (0.39) | (0.71) | (0.54) | (0.35) | (0.44) | (0.20) | (0.55) | (0.47) | (0.94) | (0.39) |
| $N$ | 3385 | 3367 | 2868 | 7276 | 3879 | 10529 | 9334 | 6237 | 6443 | 3544 | 12206 | 2901 | 2668 | 3677 | 2711 | 7483 | 6737 | 5643 | 4153 |
| pseudo $R^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table A．2：Wage estimation：men

SK）

| Age |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $0.21{ }^{*}$ | 0.08 | $0.55^{* * *}$ | 0.27 ＊＊＊ | $0.25^{* * *}$ | 0.03 | 0.20 ＊＊ | 0.01 | $0.33^{* * *}$ | ${ }^{0.10^{*}}$ | －0．23 | $0.36{ }^{* * *}$ | $-0.01$ | $0.43^{*+*}$ | $0.43^{3+*}$ | $0.58^{* * *}$ | $-0.02$ | $0.75^{*}$ | $0.22$ |
|  | （0．09） | （0．09） | （0．06） | （0．05） | （0．07） | （0．04） | （0．08） | （0．08） | （0．08） | （0．04） | （0．12） | （0．08） | （0．10） | （0．07） | （0．04） | （0．09） | （0．08） | （0．32） |  |
| Age squared | －0．00 | －0．00 | $-0.01{ }^{* * *}$ | $-0.01{ }^{* * *}$ | $-0.01{ }^{* * *}$ | －0．00 | ${ }^{-0.00 *}$ | －0．00 | －0．01＊＊ | －0．00 | $0.00{ }^{*}$ | $-0.01^{* * *}$ | －0．00 | $-0.00^{* * *}$ | $-0.01{ }^{* * *}$ | $-0.01^{* * *}$ | 0.00 | $-0.02^{*}$ | －0．01 |
|  | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．01） | （0．00） |
| Age cubic | 0.00 | 0.00 | $0.00^{* * *}$ | $0.00^{* *}$ | $0.00^{* *}$ | －0．00 | 0.00 | 0.00 | $0.00{ }^{* *}$ | 0.00 | －0．00 | $0.00^{* * * *}$ | 0.00 | $0.00^{* * *}$ | $0.00^{* * * *}$ | $0.00^{* * * *}$ | 0.00 | 0.00 | 0．00＊ |
|  | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） |
| High education | $0.38{ }^{* * *}$ | 0.10 | $0.45^{* * * *}$ | $0.30^{* * * *}$ | $0.39^{* * *}$ | $0.40^{* * * *}$ | $0.30^{* * *}$ | 0.07 | 0.12 | $0.44^{* * * *}$ | 0.02 | $0.42^{* * *}$ | $0.46{ }^{6 * * *}$ | $0.60^{* * *}$ | $0.42^{* * *}$ | 0．23＊＊ | $0.48^{* * *}$ | －0．64 | －0．01 |
|  | （0．06） | （0．11） | （0．06） | （0．06） | （0．05） | （0．04） | （0．10） | （0．11） | （0．17） | （0．08） | （0．15） | （0．10） | （0．06） | （0．08） | （0．11） | （0．09） | （0．08） | （0．60） | （0．17） |
| Number of children | 0.00 | 0.03 | －0．03 | 0.01 | $-0.05^{*}$ | －0．00 | 0.02 | 0.05 | －0．02 | $0.07 * *$ | $0.13{ }^{*}$ | ${ }^{-0.07 *}$ | －0．01 | －0．01 | －0．02 | 0.06 | 0.05 | 0.04 | 0.14 |
|  | （0．04） | （0．04） | （0．02） | （0．03） | （0．02） | （0．02） | （0．03） | （0．04） | （0．02） | （0．02） | （0．05） | （0．03） | （0．03） | （0．02） | （0．03） | （0．04） | （0．03） | （0．13） | （0．13） |
| \＃of children $<2 \mathrm{y} / \mathrm{o}$ | 0.14 | －0．03 | 0.04 | 0.06 | $0.13^{*}$ | 0.03 | 0.10 | －0．12 | －0．15 | 0．05 | －0．13 | 0.11 | 0.05 | 0.11 | －0．02 | －0．02 | －0．11 | －0．42 | 0.07 |
|  | （0．11） | （0．10） | （0．07） | （0．08） | （0．06） | （0．04） | （0．08） | （0．13） | （0．11） | （0．07） | （0．11） | （0．13） | （0．10） | （0．08） | （0．07） | （0．12） | （0．08） | （0．43） | （0．17） |
| In couple | 0.05 | －0．15 | 0.08 | －0．03 | 0.04 | $0.13 * *$ | 0.04 | －0．18 | －0．20 | 0.13 | 0.26 ＊ | $0.27^{*}$ | －0．07 | 0.12 | $0.12^{*}$ | －0．13 | －0．18 | －0．51 | －0．09 |
|  | （0．12） | （0．14） | （0．09） | （0．10） | （0．10） | （0．05） | （0．11） | （0．14） | （0．15） | （0．12） | （0．10） | （0．12） | （0．10） | （0．11） | （0．06） | （0．20） | （0．14） | （0．45） | （0．22） |
| ＿cons | －0．45 | 2.41 | $-6.52^{* * *}$ | $-1.45^{* *}$ | $-2.15{ }^{*}$ | 0.80 | －1．72 | $2.83{ }^{*}$ | $-1.71^{*}$ | 0.45 | $6.72^{*}$ | $-4.16^{* * *}$ | $3.32^{*}$ | $-5.03^{* * *}$ | －4．11＊＊＊ | －5．74＊＊＊ | 2.30 | －5．63 | －0．24 |
|  | （0．94） | （1．69） | （0．63） | （0．50） | （1．06） | （0．68） | （1．33） | （1．16） | （0．84） | （0．56） | （2．72） | （1．22） | （1．64） | （1．13） | （0．50） | （0．84） | （1．55） | （3．12） | （3．64） |
| select |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age | ${ }^{-0.15 *}$ | 0．20＊＊ | $-0.24^{* * *}$ | －0．08 | $0.45^{* * *}$ | $0.21^{* * *}$ | $0.31{ }^{* * *}$ | 0.04 | $-0.11^{*}$ | 0.05 | $0.24{ }^{* * *}$ | 0.27 ＊＊＊ | $0.44^{* * *}$ | 0．29＊＊＊ | 0.00 | ${ }^{-0.12}{ }^{*}$ | 0．22＊＊＊ | －0．05 | $0.28{ }^{* * *}$ |
|  | （0．07） | （0．06） | （0．07） | （0．04） | （0．06） | （0．04） | （0．04） | （0．05） | （0．04） | （0．06） | （0．03） | （0．07） | （0．08） | （0．07） | （0．07） | （0．05） | （0．04） | （0．05） | ${ }^{(0.06)}$ |
| Age squared | $0.01^{* *}$ | －0．00 | $0.01^{* * *}$ | $0.00^{* *}$ | -0.01 ＊＊＊＊ | $-0.00{ }^{* * *}$ | $-0.01^{* * *}$ | 0.00 | $0.00{ }^{* *}$ | －0．00 | $-0.00^{* * *}$ | $-0.01{ }^{* *}$ | $-0.01^{* * *}$ | －0．01＊＊＊＊ | 0.00 | 0.00 ＊＊ | $-0.01^{* * *}$ | $0.00{ }^{*}$ | $-0.00^{* * *}$ |
|  | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | ${ }^{(0.00)}$ |
| Age cubic | $-0.00^{* * *}$ | －0．00 | $-0.00{ }^{* * * *}$ | $-0.000^{* * *}$ | $0.00^{* * *}$ | 0.00 | $0.00^{* * *}$ | $-0.00^{* * *}$ | $-0.00^{* * *}$ | －0．00 | 0.00 | $0.00{ }^{*}$ | $0.00{ }^{*}$ | $0.00{ }^{* *}$ | －0．00 | $-0.00^{* * *}$ | $0.00{ }^{* *}$ | $-0.00^{* * * *}$ | 0.00 |
|  | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） |
| High education | －0．09 | $0.39^{\text {＊＊＊＊}}$ | $0.38^{* * *}$ | $0.26{ }^{* * *}$ | $0.44 * * *$ | $0.44^{* * *}$ | $0.44^{* * *}$ | $0.411^{* * *}$ | $0.59^{* * * *}$ | $0.39^{* * * *}$ | $0.33^{* * *}$ | $0.47^{* * *}$ | 0.08 | $0.44^{* * *}$ | $0.72^{* * *}$ | $0.19^{* * *}$ | 0.25 ＊＊＊ | $0.41^{* * * *}$ | $0.22{ }^{2 * *}$ |
|  | （0．05） | （0．05） | （0．06） | （0．04） | （0．07） | （0．03） | （0．03） | （0．05） | （0．04） | （0．05） | （0．03） | （0．07） | （0．07） | （0．08） | （0．08） | （0．04） | （0．05） | （0．05） | （0．06） |
| \＃of children＜2 y／o | －0．07 | 0.08 | 0.11 | －0．06 | 0.20 | 0.12 | －0．11 | 0.14 | 0.07 | 0.01 | $0.15 * *$ | $-0.34^{*}$ | －0．13 | $0.33{ }^{*}$ | －0．04 | 0.12 | 0.11 | 0.18 | 0.05 |
|  | （0．12） | （0．11） | （0．12） | （0．10） | （0．13） | （0．07） | （0．08） | （0．10） | （0．09） | （0．11） | （0．06） | （0．17） | （0．14） | （0．16） | （0．13） | （0．10） | （0．10） | （0．09） | （0．10） |
| \＃of children＜6 y／o | 0.19 | 0.01 | 0.04 | 0.03 | －0．01 | 0.05 | －0．11 | 0.08 | 0.08 | －0．20＊＊ | －0．02 | $-0.24^{*}$ | 0.11 | 0.12 | －0．09 | 0.02 | 0.01 | $-0.02$ | ${ }^{-0.02}$ |
|  | （0．10） | （0．09） | （0．09） | （0．09） | （0．10） | （0．05） | （0．06） | （0．07） | （0．06） | （0．06） | （0．05） | （0．12） | （0．11） | （0．12） | （0．12） | （0．07） | （0．07） | （0．07） | （0．08） |
| \＃of children＜12 y／o | 0.11 | －0．03 | 0.11 | －0．01 | 0.10 | 0.03 | －0．08 | 0.01 | －0．00 | $-0.14{ }^{*}$ | －0．07 | －0．13 | 0.05 | 0.16 | －0．02 | 0.03 | －0．01 | 0.06 | －0．00 |
|  | （0．10） | （0．08） | （0．10） | （0．09） | （0．09） | （0．05） | （0．06） | （0．07） | （0．06） | （0．06） | （0．05） | （0．13） | （0．11） | （0．12） | （0．10） | （0．06） | （0．07） | （0．07） | （0．08） |
| In couple | $0.36{ }^{* * *}$ | $0.43^{* * * *}$ | $0.48^{* * *}$ | $0.46{ }^{* * * *}$ | 0．79＊＊＊ | $0.40^{* * *}$ | $0.42^{* * *}$ | $0.511^{* * *}$ | $0.45^{* * * *}$ | $0.58{ }^{* * * *}$ | $-0.23 * * *$ | $0.52^{* * *}$ | $0.45^{* * * *}$ | $0.52^{* * *}$ | $0.25^{* * *}$ | $0.49^{* * * *}$ | $0.53^{* * * *}$ | $0.26{ }^{* * * *}$ | $0.30 * * *$ |
|  | ${ }^{(0.06)}$ | （0．06） | （0．08） | （0．04） | （0．06） | （0．04） | （0．04） | （0．05） | （0．05） | （0．06） | （0．03） | （0．07） | （0．08） | （0．06） | （0．07） | （0．04） | ${ }^{(0.04)}$ | （0．05） | （0．06） |
| Number of children | $-0.17^{7 *}$ | －0．08 | －0．03 | －0．04 | $-0.11{ }^{*}$ | －0．07＊ | 0.01 | $-0.11^{* *}$ | －0．02 | 0.02 | $-0.08{ }^{*}$ | 0.08 | －0．07 | －0．08 | －0．05 | －0．11＊＊＊ | －0．06 | －0．04 | －0．16＊＊＊ |
|  | ${ }^{(0.06)}$ | （0．05） | （0．06） | （0．05） | （0．05） | （0．04） | （0．04） | ${ }^{(0.04)}$ | （0．04） | （0．04） | （0．03） | （0．07） | （0．07） | （0．07） | ${ }^{(0.06)}$ | （0．04） | （0．04） | （0．04） | （0．05） |
| Other income | －0．00 | －0．00 | -0.00 ＊＊＊＊ | $-0.00{ }^{*}$ | 0.00 | $-0.000^{* * *}$ | 0.00 | 0.00 | 0.00 | －0．00 | 0.00 | 0.00 | －0．00 | －0．00 | －0．00 | 0.00 | 0.00 | 0.00 | －0．00 |
|  | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） | （0．00） |
| ＿cons | $2.39 * *$ | $-3.43^{* * *}$ | $2.86 * * *$ | 0.87 | -5.56 ＊＊＊ | $-3.87^{7 * *}$ | $-3.87^{7 * *}$ | －1．00 | $1.86{ }^{6 * *}$ | ${ }^{-0.65}$ | -4.46 ＊＊＊ | $-3.29^{* * *}$ | $-6.00^{* * *}$ | $-3.22^{* * *}$ | 0.18 | $2.19^{* * *}$ | $-4.28^{* * *}$ | 0.85 | $-3.68^{* * *}$ |
|  | （0．84） | （0．79） | （0．83） | （0．55） | （0．74） | （0．47） | （0．46） | （0．60） | （0．53） | （0．72） | （0．44） | （0．87） | （0．93） | （0．83） | （0．82） | （0．56） | （0．55） | （0．58） | （0．68） |
| ／mills |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| lambda | $-1.36{ }^{*}$ | $-1.29^{*}$ | －0．50 | －1．14＊＊ | －0．41 | $-0.34^{*}$ | $-1.20^{*}$ | $-2.23^{* * *}$ | $-1.98 * *$ | －0．03 | $-1.67 *$ | －0．47 | $-1.23^{* *}$ | －0．07 | －0．45 | ${ }^{-1.86 *}$ | $-1.16{ }^{*}$ | $-6.91{ }^{*}$ | －2．20 |
|  | （0．64） | （0．54） | （0．27） | （0．43） | （0．31） | （0．15） | （0．48） | （0．57） | （0．64） | （0．33） | （0．71） | （0．46） | （0．46） | （0．51） | （0．40） | （0．91） | （0．48） | （3．28） | （1．33） |
| $N$ | 3262 | 3316 | 2563 | 6547 | 3756 | 10247 | 9099 | 6015 | 6687 | 3274 | 12206 | 2579 | 2712 | 3191 | 2804 | 6983 | 6160 | 5885 | 3846 |
| pseudo $R^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

[^12]Table A.3: Labour supply estimates: Single women

|  | (AT) | (BE) | (CY) | (DE) | (EE) | (EL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | temp_choice temp_choice temp_choice temp_choice temp_choice temp_choice |  |  |  |  |  |
| Cx |  |  |  |  |  |  |
| Age | $\begin{gathered} -0.084 \\ (0.14) \end{gathered}$ | $\begin{gathered} 0.540^{*} \\ (0.27) \end{gathered}$ | $\begin{aligned} & 1.815 \\ & (0.95) \end{aligned}$ | $\begin{gathered} 0.213^{*} \\ (0.10) \end{gathered}$ | $\begin{gathered} -0.071 \\ (0.76) \end{gathered}$ | $\begin{aligned} & 1.578 \\ & (0.85) \end{aligned}$ |
| Age squared | $\begin{gathered} -0.000 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.065^{*} \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.203 \\ (0.11) \end{gathered}$ | $\begin{gathered} -0.028^{*} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.022 \\ & (0.09) \end{aligned}$ | $\begin{gathered} -0.230^{*} \\ (0.10) \end{gathered}$ |
| Number of children | $\begin{gathered} -0.011 \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.081^{* *} \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.050 \\ (0.09) \end{gathered}$ | $\begin{gathered} -0.040^{*} \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.099 \\ & (0.12) \end{aligned}$ | $\begin{gathered} -0.174 \\ (0.16) \end{gathered}$ |
| _cons | $\begin{gathered} -1.003 \\ (0.51) \end{gathered}$ | $\begin{gathered} -1.422 \\ (0.91) \end{gathered}$ | $\begin{gathered} -6.924^{* *} \\ (2.38) \end{gathered}$ | $\begin{gathered} -0.972^{* *} \\ (0.33) \end{gathered}$ | $\begin{aligned} & 0.766 \\ & (1.60) \end{aligned}$ | $\begin{gathered} -1.015 \\ (1.75) \end{gathered}$ |
| $\begin{aligned} & \hline \mathrm{CxC} \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.007^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.006 \\ & (0.00) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.028^{* * *} \\ (0.01) \\ \hline \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.035 \\ (0.03) \\ \hline \end{array}$ | $\begin{gathered} -0.014 \\ (0.03) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \hline \text { CxL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.008^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.019^{* * *} \\ (0.01) \\ \hline \end{gathered}$ | $\begin{gathered} 0.005^{*} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.01) \\ \hline \end{gathered}$ | $\begin{gathered} -0.010^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \overline{\text { L1x }} \\ & \text { Age } \end{aligned}$ | $\begin{aligned} & -0.020 \\ & (0.05) \end{aligned}$ | $\begin{aligned} & 0.084 \\ & (0.10) \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.11) \end{gathered}$ | $\begin{aligned} & 0.042 \\ & (0.03) \end{aligned}$ | $\begin{aligned} & -0.102 \\ & (0.12) \end{aligned}$ | $\begin{gathered} -0.050^{* *} \\ (0.02) \end{gathered}$ |
| Age squared | $\begin{gathered} 0.000 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.008 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.003 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.005 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.013 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.008^{* * *} \\ (0.00) \end{gathered}$ |
| Presence of children | $\begin{gathered} -0.006 \\ (0.02) \end{gathered}$ | $\begin{aligned} & -0.025 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.034 \\ & (0.03) \end{aligned}$ | $\begin{aligned} & 0.013 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.009 \\ & (0.03) \end{aligned}$ | $\begin{gathered} 0.029 * * * \\ (0.01) \end{gathered}$ |
| \# of children <2 y/o | $\begin{gathered} 0.079^{* *} \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.017 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.054 \\ & (0.04) \end{aligned}$ | $\begin{aligned} & 0.017 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.107^{*} \\ & (0.05) \end{aligned}$ | $\begin{aligned} & 0.028 \\ & (0.02) \end{aligned}$ |
| \# of children <6 y/o | $\begin{gathered} 0.047^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.011 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.017 \\ & (0.02) \end{aligned}$ | $\begin{gathered} 0.023^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ |
| Presence of elderly | $\begin{gathered} 0.069^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.034^{*} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.003 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.027^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.029 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.019^{* * *} \\ (0.00) \end{gathered}$ |
| _cons | $\begin{gathered} 2.526^{* * *} \\ (0.31) \end{gathered}$ | $\begin{gathered} 2.702^{* * *} \\ (0.43) \\ \hline \end{gathered}$ | $\begin{gathered} 3.654^{* * *} \\ (0.39) \end{gathered}$ | $\begin{gathered} 2.180^{* * *} \\ (0.16) \end{gathered}$ | $\begin{gathered} 3.257^{* * *} \\ (0.40) \\ \hline \end{gathered}$ | $\begin{gathered} 2.438^{* * *} \\ (0.14) \end{gathered}$ |
| L1xL1 _cons | $\begin{gathered} -0.010^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\overline{\text { IND }}$ fixed_cost | $\begin{gathered} -9.182^{* * *} \\ (0.78) \\ \hline \end{gathered}$ | $\begin{gathered} -8.982^{* * *} \\ (0.93) \\ \hline \end{gathered}$ | $\begin{gathered} -14.588^{* * *} \\ (1.25) \\ \hline \end{gathered}$ | $\begin{gathered} -8.459^{* * *} \\ (0.39) \\ \hline \end{gathered}$ | $\begin{gathered} -8.825^{* * *} \\ (0.86) \\ \hline \end{gathered}$ | $\begin{gathered} -8.659^{* * *} \\ (0.52) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \hline \text { sd_1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.020 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.110^{* * *} \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.065 \\ (0.04) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.08) \end{aligned}$ |
| $\bar{N}$ pseudo $R^{2}$ | $\begin{gathered} 499 \\ 0.411 \end{gathered}$ | $\begin{gathered} 353 \\ 0.234 \\ \hline \end{gathered}$ | $\begin{gathered} 369 \\ 0.498 \\ \hline \end{gathered}$ | $\begin{array}{r} 1512 \\ 0.276 \\ \hline \end{array}$ | $\begin{gathered} 453 \\ 0.514 \end{gathered}$ | $\begin{gathered} 923 \\ 0.337 \\ \hline \end{gathered}$ |

Standard errors in parentheses

* $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.4: Labour supply estimates: Single women

|  | (ES) | (FI) | (FR) | (IE) | (IT) | (LT) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | temp_choice temp_choice temp_choice temp_choice temp_choice temp_choice |  |  |  |  |  |
| Cx |  |  |  |  |  |  |
| Age | $\begin{gathered} 0.820^{*} \\ (0.35) \end{gathered}$ | $\begin{aligned} & 0.010 \\ & (0.14) \end{aligned}$ | $\begin{aligned} & 0.014 \\ & (0.39) \end{aligned}$ | $\begin{gathered} 0.414^{*} \\ (0.21) \end{gathered}$ | $\begin{aligned} & 0.237 \\ & (0.15) \end{aligned}$ | $\begin{gathered} -0.171 \\ (0.78) \end{gathered}$ |
| Age squared | $\begin{gathered} -0.085^{*} \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.003 \\ (0.04) \end{gathered}$ | $\begin{gathered} -0.043 \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.025 \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.08) \end{aligned}$ |
| Number of children | $\begin{gathered} -0.016 \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.065 \\ & (0.04) \end{aligned}$ | $\begin{gathered} -0.012 \\ (0.08) \end{gathered}$ | $\begin{gathered} -0.040^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.145 \\ (0.17) \end{gathered}$ |
| _cons | $\begin{gathered} -1.922^{*} \\ (0.86) \\ \hline \end{gathered}$ | $\begin{gathered} -0.868^{* *} \\ (0.33) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.593 \\ & (0.83) \end{aligned}$ | $\begin{array}{r} -0.513 \\ (0.51) \\ \hline \end{array}$ | $\begin{gathered} -0.483 \\ (0.35) \\ \hline \end{gathered}$ | $\begin{aligned} & 2.587 \\ & (1.93) \end{aligned}$ |
| $\begin{aligned} & \overline{\mathrm{CxC}} \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.004^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.027 \\ (0.02) \\ \hline \end{gathered}$ |
| CxL1 _cons | $\begin{aligned} & 0.001 \\ & (0.00) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.004^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.005^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.001 \\ (0.00) \\ \hline \end{array}$ | $\begin{array}{r} -0.000 \\ (0.00) \\ \hline \end{array}$ | $\begin{gathered} -0.008 \\ (0.01) \\ \hline \end{gathered}$ |
| L1x Age | $\begin{aligned} & 0.102 \\ & (0.08) \end{aligned}$ | $\begin{gathered} -0.084^{* *} \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.046^{*} \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.035 \\ & (0.08) \end{aligned}$ | $\begin{aligned} & 0.051 \\ & (0.03) \end{aligned}$ | $\begin{gathered} -0.038 \\ (0.07) \end{gathered}$ |
| Age squared | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.011^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.007^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.003 \\ & (0.01) \end{aligned}$ |
| Presence of children | $\begin{aligned} & 0.025 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.017 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.034^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.008 \\ (0.03) \end{gathered}$ |
| \# of children <2 y/o | $\begin{aligned} & 0.004 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.028 \\ & (0.02) \end{aligned}$ | $\begin{gathered} 0.038^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.010 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.010 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.028 \\ (0.03) \end{gathered}$ |
| \# of children <6 y/o | $\begin{gathered} -0.021 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.020^{*} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.016 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.019 \\ (0.02) \end{gathered}$ |
| Presence of elderly | $\begin{gathered} 0.023^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.039^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.006 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.016 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.015 \\ (0.01) \end{gathered}$ |
| _cons | $\begin{gathered} 2.652^{* * *} \\ (0.31) \end{gathered}$ | $\begin{gathered} 2.520^{* * *} \\ (0.18) \end{gathered}$ | $\begin{gathered} 3.033^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} 2.714^{* * *} \\ (0.41) \end{gathered}$ | $\begin{gathered} -0.160 \\ (0.11) \end{gathered}$ | $\begin{gathered} 3.767^{* * *} \\ (0.38) \end{gathered}$ |
| $\begin{aligned} & \hline \text { L1xL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.010^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \\ & \hline \end{aligned}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\overline{\text { IND }}$ fixed_cost | $\begin{gathered} -10.136^{* * *} \\ (0.67) \\ \hline \end{gathered}$ | $\begin{gathered} -8.459^{* * *} \\ (0.59) \\ \hline \end{gathered}$ | $\begin{gathered} -8.887^{* * *} \\ (0.46) \\ \hline \end{gathered}$ | $\begin{gathered} -8.830^{* * *} \\ (1.15) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.039 \\ & (0.35) \\ & \hline \end{aligned}$ | $\begin{gathered} -11.619^{* * *} \\ (1.15) \end{gathered}$ |
| sd_1 _cons | $\begin{gathered} -0.028^{* * *} \\ (0.01) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.003 \\ (0.01) \\ \hline \end{array}$ | $\begin{aligned} & 0.050 \\ & (0.03) \\ & \hline \end{aligned}$ | $\begin{aligned} & -0.000 \\ & (0.02) \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.001 \\ & (0.02) \\ & \hline \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.03) \\ \hline \end{gathered}$ |
| $\bar{N}$ <br> pseudo $R^{2}$ | $\begin{gathered} 798 \\ 0.276 \end{gathered}$ | $\begin{gathered} 654 \\ 0.308 \end{gathered}$ | $\begin{gathered} 1062 \\ 0.368 \end{gathered}$ | $\begin{gathered} 431 \\ 0.322 \end{gathered}$ | $\begin{aligned} & 1505 \\ & 0.003 \end{aligned}$ | $\begin{gathered} 229 \\ 0.429 \end{gathered}$ |

Standard errors in parentheses

* $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.5: Labour supply estimates: Single women


Standard errors in parentheses
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.6: Labour supply estimates: Single men

|  | (AT) | (BE) | (CY) | (DE) | (EE) | (EL) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mp_choic | emp_choic | emp_choic | mp_choic | emp_choi | mp_choice |
| Cx |  |  |  |  |  |  |
| Age | $\begin{aligned} & 0.154 \\ & (0.26) \end{aligned}$ | $\begin{gathered} -0.041 \\ (0.56) \end{gathered}$ | $\begin{aligned} & 0.225 \\ & (0.56) \end{aligned}$ | $\begin{aligned} & 0.034 \\ & (0.12) \end{aligned}$ | $\begin{aligned} & 1.475 \\ & (1.37) \end{aligned}$ | $\begin{gathered} -0.687 \\ (1.38) \end{gathered}$ |
| Age squared | $\begin{gathered} -0.021 \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.07) \end{aligned}$ | $\begin{gathered} -0.037 \\ (0.06) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.153 \\ (0.14) \end{gathered}$ | $\begin{aligned} & 0.085 \\ & (0.16) \end{aligned}$ |
| Number of children | $\begin{gathered} -0.893 \\ (0.87) \end{gathered}$ | $\begin{aligned} & 0.092 \\ & (0.09) \end{aligned}$ | $\begin{gathered} -0.034 \\ (0.49) \end{gathered}$ | $\begin{gathered} -0.018 \\ (0.11) \end{gathered}$ | $\begin{aligned} & 0.048 \\ & (0.53) \end{aligned}$ | $\begin{aligned} & 0.321 \\ & (1.27) \end{aligned}$ |
| _cons | $\begin{gathered} -2.006^{*} \\ (0.87) \end{gathered}$ | $\begin{aligned} & 0.237 \\ & (1.97) \end{aligned}$ | $\begin{gathered} -1.418 \\ (1.29) \end{gathered}$ | $\begin{gathered} -0.532 \\ (0.34) \end{gathered}$ | $\begin{aligned} & 2.123 \\ & (2.59) \end{aligned}$ | $\begin{aligned} & 3.795 \\ & (2.95) \end{aligned}$ |
| $\begin{aligned} & \hline \mathrm{CxC} \\ & \text { _cons } \end{aligned}$ | $\begin{aligned} & 0.013^{*} \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.003 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.012 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.003 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.074 \\ (0.05) \end{gathered}$ | $\begin{gathered} -0.093 \\ (0.05) \end{gathered}$ |
| CxL1 _cons | $\begin{gathered} 0.011^{*} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.01) \\ \hline \end{gathered}$ | $\begin{gathered} 0.006 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.004^{*} \\ & (0.00) \\ & \hline \end{aligned}$ | $\begin{array}{r} -0.027 \\ (0.02) \\ \hline \end{array}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \hline \text { L1x } \\ & \text { Age } \end{aligned}$ | $\begin{gathered} -0.056 \\ \hline(0.08) \end{gathered}$ | $\begin{gathered} -0.154 \\ (0.21) \end{gathered}$ | $\begin{aligned} & 0.006 \\ & (0.15) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.360 \\ & (0.27) \end{aligned}$ | $\begin{gathered} -0.017 \\ (0.02) \end{gathered}$ |
| Age squared | $\begin{aligned} & 0.006 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.024 \\ & (0.03) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.002 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.038 \\ (0.03) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{gathered} -0.492 \\ (0.39) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.06) \end{gathered}$ | $\begin{aligned} & -0.060 \\ & (0.22) \end{aligned}$ | $\begin{gathered} -0.060 \\ (0.06) \end{gathered}$ | $\begin{gathered} -0.060 \\ (0.13) \end{gathered}$ | $\begin{gathered} -0.014 \\ (0.03) \end{gathered}$ |
| Presence of elderly | $\begin{aligned} & 0.021 \\ & (0.03) \end{aligned}$ | $\begin{aligned} & 0.008 \\ & (0.02) \end{aligned}$ | $\begin{gathered} 0.045^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.005 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.008 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.014^{* *} \\ (0.00) \end{gathered}$ |
| _cons | $\begin{gathered} 2.428^{* * *} \\ (0.31) \end{gathered}$ | $\begin{gathered} 3.850^{* * *} \\ (0.94) \end{gathered}$ | $\begin{gathered} 2.366^{* * *} \\ (0.48) \end{gathered}$ | $\begin{gathered} 2.601^{* * *} \\ (0.17) \end{gathered}$ | $\begin{gathered} 2.807^{* * *} \\ (0.56) \end{gathered}$ | $\begin{gathered} 2.514^{* * *} \\ (0.14) \end{gathered}$ |
| $\begin{aligned} & \hline \text { L1xL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.010^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| IND fixed_cost | $\begin{gathered} -9.958^{* * *} \\ (0.90) \\ \hline \end{gathered}$ | $\begin{gathered} -11.020^{* * *} \\ (1.26) \\ \hline \end{gathered}$ | $\begin{gathered} -10.262^{* * *} \\ (1.28) \\ \hline \end{gathered}$ | $\begin{gathered} -11.753^{* * *} \\ (0.55) \end{gathered}$ | $\begin{gathered} -9.122^{* * *} \\ (1.05) \\ \hline \end{gathered}$ | $\begin{gathered} -8.828^{* * *} \\ (0.53) \end{gathered}$ |
| $\overline{\text { sd_1 }}$ _cons | $\begin{aligned} & 0.035^{*} \\ & (0.02) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.067^{* *} \\ (0.02) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.021 \\ & (0.02) \\ & \hline \end{aligned}$ | $\begin{array}{r} -0.000 \\ (0.01) \\ \hline \end{array}$ | $\begin{gathered} 0.032 \\ (0.06) \\ \hline \end{gathered}$ | $\begin{array}{r} -0.000 \\ (0.06) \\ \hline \end{array}$ |
| $N$ | 444 | 280 | 172 | 1003 | 267 | 782 |
| pseudo $R^{2}$ | 0.366 | 0.294 | 0.329 | 0.353 | 0.404 | 0.361 |
| Standard errors in paren ${ }^{*} p<0.05,{ }^{* *} p<0.01,$ | $\begin{aligned} & \text { heses } \\ & { }^{* *} p<0.001 \end{aligned}$ |  |  |  |  |  |

Table A.7: Labour supply estimates: Single men

|  | (ES) | (FR) | (FI) | (IE) | (IT) | (LT) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mp_choic | mp_choic | emp_choic | mp_choi | mp_cho | mp_choice |
| Cx |  |  |  |  |  |  |
| Age | $\begin{aligned} & 0.204 \\ & (0.29) \end{aligned}$ | $\begin{aligned} & 0.198 \\ & (0.20) \end{aligned}$ | $\begin{gathered} -0.806 \\ (0.63) \end{gathered}$ | $\begin{gathered} -1.359 \\ (0.80) \end{gathered}$ | $\begin{aligned} & -0.058 \\ & (0.16) \end{aligned}$ | $\begin{aligned} & 0.256 \\ & (1.54) \end{aligned}$ |
| Age squared | $\begin{gathered} -0.019 \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.015 \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.114 \\ & (0.08) \end{aligned}$ | $\begin{aligned} & 0.137 \\ & (0.08) \end{aligned}$ | $\begin{aligned} & 0.006 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.038 \\ (0.16) \end{gathered}$ |
| Number of children | $\begin{gathered} -0.045 \\ (0.10) \end{gathered}$ | $\begin{gathered} -0.030 \\ (0.07) \end{gathered}$ | $\begin{aligned} & 0.279 \\ & (0.24) \end{aligned}$ | $\begin{aligned} & 0.136 \\ & (0.14) \end{aligned}$ | $\begin{gathered} -0.044 \\ (0.06) \end{gathered}$ | $\begin{gathered} -1.419 \\ (1.23) \end{gathered}$ |
| _cons | $\begin{aligned} & -0.425 \\ & (0.80) \end{aligned}$ | $\begin{gathered} -2.397^{* * *} \\ (0.65) \end{gathered}$ | $\begin{aligned} & 2.197 \\ & (1.28) \end{aligned}$ | $\begin{aligned} & 3.656 \\ & (2.35) \end{aligned}$ | $\begin{aligned} & 0.050 \\ & (0.35) \end{aligned}$ | $\begin{aligned} & 0.570 \\ & (4.45) \end{aligned}$ |
| $\begin{aligned} & \hline \mathrm{CxC} \\ & \text { _cons } \end{aligned}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.008^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & -0.014 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.05) \end{aligned}$ |
| $\begin{aligned} & \hline \text { CxL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.012^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.006^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.01) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.01) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \hline \text { L1x } \\ & \text { Age } \end{aligned}$ | $\begin{array}{r} -0.097 \\ (0.09) \end{array}$ | $\begin{aligned} & -0.081 \\ & (0.05) \end{aligned}$ | $\begin{aligned} & 0.033 \\ & (0.02) \end{aligned}$ | $\begin{array}{r} -0.395 \\ (0.33) \end{array}$ | $\begin{aligned} & -0.014 \\ & (0.04) \end{aligned}$ | $\begin{aligned} & 0.053 \\ & (0.12) \end{aligned}$ |
| Age squared | $\begin{aligned} & 0.017 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.012 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.045 \\ & (0.04) \end{aligned}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ |
| Number of children | $\begin{gathered} -0.026 \\ (0.06) \end{gathered}$ | $\begin{aligned} & -0.058 \\ & (0.05) \end{aligned}$ | $\begin{aligned} & 0.018 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & -0.023 \\ & (0.09) \end{aligned}$ | $\begin{aligned} & -0.010 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.316 \\ (0.24) \end{gathered}$ |
| Presence of elderly | $\begin{gathered} -0.004 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.025 \\ & (0.03) \end{aligned}$ | $\begin{gathered} -0.006^{*} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.01) \end{aligned}$ |
| _cons | $\begin{gathered} 2.563^{* * *} \\ (0.35) \end{gathered}$ | $\begin{gathered} 1.853^{* * *} \\ (0.27) \end{gathered}$ | $\begin{gathered} 3.114^{* * *} \\ (0.15) \end{gathered}$ | $\begin{gathered} 3.633^{* *} \\ (1.26) \end{gathered}$ | $\begin{aligned} & 0.103 \\ & (0.12) \\ & \hline \end{aligned}$ | $\begin{gathered} 2.835^{* * *} \\ (0.63) \end{gathered}$ |
| $\begin{aligned} & \hline \text { L1xL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.007^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.009^{* *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\overline{\text { IND }}$ fixed_cost | $\begin{gathered} -8.611^{* * *} \\ (0.71) \\ \hline \end{gathered}$ | $\begin{gathered} -8.336^{* * *} \\ (0.69) \\ \hline \end{gathered}$ | $\begin{gathered} -10.909^{* * *} \\ (0.58) \\ \hline \end{gathered}$ | $\begin{gathered} -9.560^{* * *} \\ (1.83) \end{gathered}$ | $\begin{gathered} -0.330 \\ (0.38) \end{gathered}$ | $\begin{gathered} -9.263^{* * *} \\ (1.60) \end{gathered}$ |
| $\begin{aligned} & \hline \text { sd_1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.033^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.049^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.131 \\ (0.08) \end{gathered}$ | $\begin{aligned} & 0.048 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.03) \end{aligned}$ |
| $N$ | 457 | 615 | 854 | 205 | 1231 | 107 |
| pseudo $R^{2}$ | 0.204 | 0.237 | 0.464 | 0.328 | 0.003 | 0.292 |

Standard errors in parentheses

* $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.8: Labour supply estimates: Single men


[^13]Table A.9: Labour supply estimates: Couple

|  | $\begin{gathered} \hline \text { (AT) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \hline \hline \text { (BE) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{aligned} & \hline \hline \text { (CY) } \\ & \text { temp_c } \\ & \hline \end{aligned}$ | $\begin{gathered} \hline \text { (DE) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \hline \text { (EE) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \hline \hline \text { (EL) } \\ \text { temp_c } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cx |  |  |  |  |  |  |
| Age women | $\begin{aligned} & 0.008 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.018^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.016^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.037 \\ & (0.03) \end{aligned}$ | $\begin{gathered} 0.020^{*} \\ (0.01) \end{gathered}$ |
| Age men | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.010^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.052^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.031^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.019 \\ (0.01) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.026 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.032 \\ & (0.02) \end{aligned}$ | $\begin{gathered} 0.099^{* *} \\ (0.03) \end{gathered}$ | $\begin{gathered} 0.115^{* * *} \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.046 \\ & (0.08) \end{aligned}$ | $\begin{aligned} & 0.056 \\ & (0.03) \end{aligned}$ |
| _cons | $\begin{aligned} & -0.028 \\ & (0.03) \\ & \hline \end{aligned}$ | $\begin{gathered} -0.123 \\ (0.07) \\ \hline \end{gathered}$ | $\begin{gathered} -0.335^{*} \\ (0.17) \end{gathered}$ | $\begin{aligned} & -0.112 \\ & (0.09) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.961^{*} \\ (0.48) \\ \hline \end{gathered}$ | $\begin{gathered} -0.143 \\ (0.16) \end{gathered}$ |
| CxC <br> _cons | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.002^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.008^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.002^{*} \\ (0.00) \end{gathered}$ |
| CxL1 <br> _cons | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.001^{*} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ |
| $\begin{aligned} & \text { CxL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.002^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ |
| L1x <br> Age women | $\begin{gathered} -0.124^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.080^{* *} \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.070^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.078^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.040^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.108^{* * *} \\ (0.01) \end{gathered}$ |
| Age women squared | $\begin{gathered} 0.018^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.011^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.008^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.006^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.014^{* * *} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{gathered} 0.083^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.015 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.017 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.058^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.021 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.015 \\ & (0.01) \end{aligned}$ |
| \# of children <2 y/o | $\begin{gathered} 0.029^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.010 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.005 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.013^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.033^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ |
| \# of children <6 y/o | $\begin{gathered} 0.018^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.018^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.008 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.022^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.005 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ |
| \# of children <12 y/o | $\begin{gathered} 0.013^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.011^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ |
| \# of children < $17 \mathrm{y} / \mathrm{o}$ | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.013^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ |
| Presence of elderly | $\begin{aligned} & -0.027 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.034 \\ & (0.03) \end{aligned}$ | $\begin{gathered} -0.052 \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.031 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.011 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.010 \\ & (0.01) \end{aligned}$ |
| _cons | $\begin{gathered} 3.284^{* * *} \\ (0.18) \end{gathered}$ | $\begin{gathered} 3.150^{* * *} \\ (0.21) \end{gathered}$ | $\begin{gathered} 4.304^{* * *} \\ (0.32) \end{gathered}$ | $\begin{gathered} 3.377^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} 3.305^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} 2.909^{* * *} \\ (0.10) \end{gathered}$ |
| L1xL1 _cons | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.016^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.010^{* * *} \\ (0.00) \end{gathered}$ |
| L2x <br> Age men | $\begin{gathered} -0.158^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.061^{* *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.048 \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.114^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.060^{* *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.101^{* * *} \\ (0.01) \end{gathered}$ |
| Age squared men | $\begin{gathered} 0.020^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.008^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.009^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.013^{* * *} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.021 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.012 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.028 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.071^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.009 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.010 \\ & (0.01) \end{aligned}$ |
| _cons | $\begin{gathered} 3.224^{* * *} \\ (0.11) \end{gathered}$ | $\begin{gathered} 2.843^{* * *} \\ (0.13) \end{gathered}$ | $\begin{gathered} 3.194^{* * *} \\ (0.18) \end{gathered}$ | $\begin{gathered} 3.530^{* * *} \\ (0.12) \end{gathered}$ | $\begin{gathered} 3.902^{* * *} \\ (0.18) \end{gathered}$ | $\begin{gathered} 2.468^{* * *} \\ (0.09) \end{gathered}$ |
| L2xL2 <br> _cons | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.009^{* * *} \\ (0.00) \end{gathered}$ |
| $\begin{aligned} & \text { L1xL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.001^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.001^{*} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000^{* *} \\ (0.00) \end{gathered}$ |
| IND fixed_cost1 | $\begin{gathered} -7.764^{* * *} \\ (0.50) \end{gathered}$ | $\begin{gathered} -9.612^{* * *} \\ (0.58) \end{gathered}$ | $\begin{gathered} -14.547^{* * *} \\ (0.97) \end{gathered}$ | $\begin{gathered} -9.740^{* * *} \\ (0.41) \end{gathered}$ | $\begin{gathered} -11.016^{* * *} \\ (0.42) \end{gathered}$ | $\begin{gathered} -10.143^{* * *} \\ (0.30) \end{gathered}$ |
| fixed_cost2 | $\begin{gathered} -11.290^{* * *} \\ (0.45) \\ \hline \end{gathered}$ | $\begin{gathered} -12.213^{* * *} \\ (0.53) \\ \hline \end{gathered}$ | $\begin{gathered} -12.911^{* * *} \\ (0.62) \\ \hline \end{gathered}$ | $\begin{gathered} -13.106^{* * *} \\ (0.35) \\ \hline \end{gathered}$ | $\begin{gathered} -13.799^{* * *} \\ (0.49) \\ \hline \end{gathered}$ | $\begin{gathered} -9.845^{* * *} \\ (0.28) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { sd_1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.004^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.004^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.009^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.010^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.030^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.022^{* * *} \\ (0.00) \end{gathered}$ |
| $N$ pseudo $R^{2}$ | $\begin{aligned} & 1550 \\ & 0.377 \end{aligned}$ | $\begin{aligned} & 4187 \\ & 0.344 \end{aligned}$ | $\begin{gathered} 882 \\ 0.378 \end{gathered}$ | $\begin{aligned} & 2846 \\ & 0.337 \end{aligned}$ | $\begin{aligned} & 1598 \\ & 0.437 \end{aligned}$ | $\begin{gathered} 3763 \\ 0.251 \end{gathered}$ |

Standard errors in parentheses
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.10: Labour supply estimates: Couple

|  | $\begin{gathered} \hline \text { (ES) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \hline \text { (FI) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \hline \text { (FR) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \text { (IE) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \text { (IT) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \text { (LT) } \\ \text { temp_c } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cx |  |  |  |  |  |  |
| Age women | $\begin{gathered} 0.034^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.008 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.08) \end{gathered}$ | $\begin{aligned} & 0.012 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.037^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.008 \\ & (0.04) \end{aligned}$ |
| Age men | $\begin{gathered} -0.029^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.015^{*} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.063 \\ & (0.08) \end{aligned}$ | $\begin{gathered} -0.025^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.05) \end{aligned}$ |
| temp_children | $\begin{gathered} 0.037^{*} \\ (0.02) \end{gathered}$ | $\begin{aligned} & 0.011 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.201^{*} \\ (0.08) \end{gathered}$ | $\begin{gathered} 0.050^{*} \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.043^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.062 \\ & (0.17) \end{aligned}$ |
| _cons | $\begin{aligned} & 0.009 \\ & (0.09) \end{aligned}$ | $\begin{gathered} 0.310^{* * *} \\ (0.09) \end{gathered}$ | $\begin{aligned} & 0.203 \\ & (0.15) \end{aligned}$ | $\begin{gathered} 1.127^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} -0.177^{* *} \\ (0.06) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.437 \\ & (0.45) \end{aligned}$ |
| $\begin{aligned} & \text { CxC } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{*} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.004^{*} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.002^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.00) \end{aligned}$ |
| $\begin{aligned} & \text { CxL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.002^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ |
| $\begin{aligned} & \hline \text { CxL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.002^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.004^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ |
| L1x <br> Age women | $\begin{gathered} -0.099^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.058^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.096^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.056^{* *} \\ (0.02) \end{gathered}$ | $\begin{gathered} 0.158^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.069^{* * *} \\ (0.02) \end{gathered}$ |
| Age squared women | $\begin{gathered} 0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.007^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.007^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.019^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.008^{* * *} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{gathered} 0.021^{*} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.028^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.035^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.02) \end{gathered}$ |
| \# of children <2 y/o | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.033^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.01) \end{gathered}$ |
| \# of children < 6 y/o | $\begin{aligned} & 0.006 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.016^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.010^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.002 \\ & (0.01) \end{aligned}$ |
| \# of children <12 y/o | $\begin{gathered} 0.010^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.002 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.019^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.017^{*} \\ (0.01) \end{gathered}$ |
| \# of children <17 y/o | $\begin{gathered} 0.011^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.012^{* *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & -0.001 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.013 \\ & (0.01) \end{aligned}$ |
| Presence of elderly | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.008 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & -0.013 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & -0.002 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.009 \\ (0.01) \end{gathered}$ |
| _cons | $\begin{gathered} 3.363^{* * *} \\ (0.13) \\ \hline \end{gathered}$ | $\begin{gathered} 3.021^{* * *} \\ (0.08) \\ \hline \end{gathered}$ | $\begin{gathered} 3.584^{* * *} \\ (0.11) \\ \hline \end{gathered}$ | $\begin{gathered} 3.900^{* * *} \\ (0.25) \\ \hline \end{gathered}$ | $\begin{gathered} 3.406^{* * *} \\ (0.17) \\ \hline \end{gathered}$ | $\begin{gathered} 3.629^{* * *} \\ (0.20) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { L1xL1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \end{gathered}$ |
| L2x <br> Age men | $\begin{gathered} -0.068^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.042^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.120^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.016 \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.179^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.041 \\ (0.03) \end{gathered}$ |
| Age squared men | $\begin{gathered} 0.009^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.009^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.016^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.002 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.023^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.006^{*} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.004 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.015^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.031^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.03) \end{gathered}$ |
| _cons | $\begin{gathered} 2.919^{* * *} \\ (0.09) \\ \hline \end{gathered}$ | $\begin{gathered} 2.955^{* * *} \\ (0.09) \\ \hline \end{gathered}$ | $\begin{gathered} 3.379^{* * *} \\ (0.08) \\ \hline \end{gathered}$ | $\begin{gathered} 3.242^{* * *} \\ (0.15) \\ \hline \end{gathered}$ | $\begin{gathered} 3.812^{* * *} \\ (0.09) \\ \hline \end{gathered}$ | $\begin{gathered} 3.706^{* * *} \\ (0.20) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { L2xL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.010^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { L1xL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ |
| IND fixed_cost1 | $\begin{gathered} -10.487^{* * *} \\ (0.35) \end{gathered}$ | $\begin{gathered} -9.383^{* * *} \\ (0.26) \end{gathered}$ | $\begin{gathered} -11.289^{* * *} \\ (0.34) \end{gathered}$ | $\begin{gathered} -10.670^{* * *} \\ (0.72) \end{gathered}$ | $\begin{gathered} -10.752^{* * *} \\ (0.46) \end{gathered}$ | $\begin{gathered} -13.026^{* * *} \\ (0.68) \end{gathered}$ |
| fixed_cost2 | $\begin{gathered} -11.135^{* * *} \\ (0.31) \\ \hline \end{gathered}$ | $\begin{gathered} -9.670^{* * *} \\ (0.25) \end{gathered}$ | $\begin{gathered} -12.087^{* * *} \\ (0.33) \\ \hline \end{gathered}$ | $\begin{gathered} -9.776^{* * *} \\ (0.40) \end{gathered}$ | $\begin{gathered} -12.578^{* * *} \\ (0.30) \\ \hline \end{gathered}$ | $\begin{gathered} -14.703^{* * *} \\ (0.73) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { sd_1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.007^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.007^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.102^{* * *} \\ (0.02) \\ \hline \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{array}{r} -0.000 \\ (0.00) \\ \hline \end{array}$ | $\begin{gathered} -0.000 \\ (0.01) \\ \hline \end{gathered}$ |
| $N$ $\text { pseudo } R^{2}$ | $\begin{aligned} & 2805 \\ & 0.312 \end{aligned}$ | $\begin{aligned} & 3 \mathrm{AB} \\ & 0.357 \end{aligned}$ | $\begin{aligned} & 2936 \\ & 0.429 \end{aligned}$ | $\begin{gathered} 1410 \\ 0.288 \end{gathered}$ | $\begin{aligned} & 3521 \\ & 0.373 \end{aligned}$ | $\begin{gathered} 750 \\ 0.411 \\ \hline \end{gathered}$ |

Standard errors in parentheses
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.11: Labour supply estimates: Couple

|  | $\begin{gathered} \hline \text { (LU) } \\ \text { temp_c } \end{gathered}$ | $\begin{gathered} \hline \text { (LV) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { (MT) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { (NL) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { (PT) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { (SI) } \\ \text { temp_c } \\ \hline \end{gathered}$ | $\begin{gathered} \hline \text { (SK) } \\ \text { temp_c } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cx |  |  |  |  |  |  |  |
| Age women | $\begin{aligned} & 0.000 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.077 \\ & (0.04) \end{aligned}$ | $\begin{aligned} & 0.280 \\ & (0.88) \end{aligned}$ | $\begin{gathered} 0.013^{* *} * \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -140.327 \\ (19813.34) \end{gathered}$ |
| Age men | $\begin{gathered} -0.028^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.035 \\ & (0.04) \end{aligned}$ | $\begin{aligned} & -0.786 \\ & (0.89) \end{aligned}$ | $\begin{gathered} -0.008^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.019 \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.017^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 133.297 \\ (18050.28) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.017 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.119 \\ & (0.11) \end{aligned}$ | $\begin{gathered} -0.418 \\ (0.87) \end{gathered}$ | $\begin{gathered} 0.087^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.052 \\ & (0.03) \end{aligned}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -59.992 \\ (7453.41) \end{gathered}$ |
| _cons | $\begin{gathered} 0.221^{*} \\ (0.10) \\ \hline \end{gathered}$ | $\begin{aligned} & 0.385 \\ & (0.45) \\ & \hline \end{aligned}$ | $\begin{array}{r} -2.574 \\ (2.05) \\ \hline \end{array}$ | $\begin{gathered} 0.336^{* * *} \\ (0.07) \\ \hline \end{gathered}$ | $\begin{gathered} 0.404^{* * *} \\ (0.10) \\ \hline \end{gathered}$ | $\begin{gathered} -0.083^{* * *} \\ (0.02) \\ \hline \end{gathered}$ | $\begin{gathered} 9.940 \\ (10088.85) \\ \hline \end{gathered}$ |
| CxC <br> _cons | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{aligned} & -0.003 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.005 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.000^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \\ \hline \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -1.648 \\ (261.85) \end{gathered}$ |
| CxL1 <br> _cons | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.005^{* * *} \\ (0.00) \end{gathered}$ |
| CxL2 <br> _cons | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.003^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.001^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.007^{* * *} \\ (0.00) \end{gathered}$ |
| $\begin{aligned} & \text { L1x } \\ & \text { Age } \end{aligned}$ | $\begin{gathered} -0.124^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.041^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.043 \\ & (0.03) \end{aligned}$ | $\begin{aligned} & -0.029 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.082^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.119^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.139^{* * *} \\ (0.02) \end{gathered}$ |
| Age squared | $\begin{gathered} 0.017^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.006^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.008^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.009^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.015^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.017^{* * *} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.022 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.002 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.020 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.104^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.007 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.038^{* * *} \\ (0.01) \end{gathered}$ |
| \# of children <2 y/o | $\begin{gathered} 0.032^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.023^{* *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.022^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.015^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.014^{* *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.063^{* * *} \\ (0.01) \end{gathered}$ |
| \# of children < 6 y/o | $\begin{gathered} 0.021^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.013^{*} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.010 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.029^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.006 \\ & (0.00) \end{aligned}$ |
| \# of children <12 y/o | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.004 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.023^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.019^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.004 \\ & (0.00) \end{aligned}$ |
| \# of children <17 y/o | $\begin{aligned} & 0.002 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.012 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} 0.021^{* * *} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.021^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.01) \end{gathered}$ |
| Presence of elderly | $\begin{gathered} -0.028 \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.003 \\ (0.01) \end{gathered}$ | $\begin{aligned} & -0.012 \\ & (0.02) \end{aligned}$ | $\begin{aligned} & 0.087 \\ & (0.06) \end{aligned}$ | $\begin{aligned} & 0.009 \\ & (0.01) \end{aligned}$ | $\begin{gathered} -0.000 \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.004 \\ & (0.01) \end{aligned}$ |
| _cons | $\begin{gathered} 3.297^{* * *} \\ (0.20) \end{gathered}$ | $\begin{gathered} 3.330^{* * *} \\ (0.16) \end{gathered}$ | $\begin{gathered} 4.301^{* * *} \\ (0.31) \end{gathered}$ | $\begin{gathered} 3.389^{* * *} \\ (0.17) \end{gathered}$ | $\begin{gathered} 3.824^{* * *} \\ (0.12) \end{gathered}$ | $\begin{gathered} 4.175^{* * *} \\ (0.17) \end{gathered}$ | $\begin{gathered} 4.690^{* * *} \\ (0.22) \end{gathered}$ |
| L1xL1 _cons | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.015^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.015^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.016^{* * *} \\ (0.00) \end{gathered}$ |
| L2x <br> Age men | $\begin{gathered} -0.139^{* * *} \\ (0.03) \end{gathered}$ | $\begin{aligned} & 0.009 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.075^{*} \\ (0.04) \end{gathered}$ | $\begin{gathered} -0.039^{*} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.101^{* * *} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.080^{*} \\ (0.03) \end{gathered}$ | $\begin{gathered} -0.120^{* * *} \\ (0.02) \end{gathered}$ |
| Age squared men | $\begin{gathered} 0.018^{* * *} \\ (0.00) \end{gathered}$ | $\begin{aligned} & 0.001 \\ & (0.00) \end{aligned}$ | $\begin{gathered} 0.010^{*} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.009^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.015^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.011^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.016^{* * *} \\ (0.00) \end{gathered}$ |
| Number of children | $\begin{aligned} & 0.010 \\ & (0.02) \end{aligned}$ | $\begin{gathered} -0.010 \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.025^{*} \\ (0.01) \end{gathered}$ | $\begin{gathered} 0.089^{* * *} \\ (0.01) \end{gathered}$ | $\begin{aligned} & 0.015 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & -0.008 \\ & (0.01) \end{aligned}$ | $\begin{aligned} & 0.006 \\ & (0.01) \end{aligned}$ |
| _cons | $\begin{gathered} 3.360^{* * *} \\ (0.18) \end{gathered}$ | $\begin{gathered} 3.687^{* * *} \\ (0.19) \end{gathered}$ | $\begin{gathered} 3.942^{* * *} \\ (0.19) \end{gathered}$ | $\begin{gathered} 3.862^{* * *} \\ (0.12) \end{gathered}$ | $\begin{gathered} 3.404^{* * *} \\ (0.10) \end{gathered}$ | $\begin{gathered} 3.740^{* * *} \\ (0.14) \end{gathered}$ | $\begin{gathered} 4.612^{* * *} \\ (0.19) \end{gathered}$ |
| $\begin{aligned} & \mathrm{L} 2 \times \mathrm{L} 2 \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} -0.011^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.013^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.012^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.014^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.016^{* * *} \\ (0.00) \end{gathered}$ |
| $\begin{aligned} & \text { L1xL2 } \\ & \text { _cons } \end{aligned}$ | $\begin{aligned} & -0.001 \\ & (0.00) \end{aligned}$ | $\begin{aligned} & 0.000 \\ & (0.00) \end{aligned}$ | $\begin{gathered} -0.001^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.002^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.000 \\ (0.00) \end{gathered}$ |
| IND fixed_cost1 | $\begin{gathered} -9.136^{* * *} \\ (0.55) \end{gathered}$ | $\begin{gathered} -11.999^{* * *} \\ (0.52) \end{gathered}$ | $\begin{gathered} -16.348^{* * *} \\ (0.96) \end{gathered}$ | $\begin{gathered} -7.587^{* * *} \\ (0.47) \end{gathered}$ | $\begin{gathered} -14.359^{* * *} \\ (0.42) \end{gathered}$ | $\begin{gathered} -14.547^{* * *} \\ (0.55) \end{gathered}$ | $\begin{gathered} -16.797^{* * *} \\ (0.77) \end{gathered}$ |
| fixed_cost2 | $\begin{gathered} -12.000^{* * *} \\ (0.59) \\ \hline \end{gathered}$ | $\begin{gathered} -13.693^{* * *} \\ (0.56) \\ \hline \end{gathered}$ | $\begin{gathered} -16.183^{* * *} \\ (0.82) \\ \hline \end{gathered}$ | $\begin{gathered} -12.652^{* * *} \\ (0.33) \\ \hline \end{gathered}$ | $\begin{gathered} -14.579^{* * *} \\ (0.48) \\ \hline \end{gathered}$ | $\begin{gathered} -13.196^{* *} * \\ (0.51) \\ \hline \end{gathered}$ | $\begin{gathered} -18.368^{* * *} \\ (0.93) \\ \hline \end{gathered}$ |
| $\begin{aligned} & \hline \text { sd_1 } \\ & \text { _cons } \end{aligned}$ | $\begin{gathered} 0.010^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.041^{*} \\ (0.02) \end{gathered}$ | $\begin{gathered} -0.053 \\ (0.37) \end{gathered}$ | $\begin{gathered} 0.004^{* * *} \\ (0.00) \end{gathered}$ | $\begin{gathered} -0.008^{* *} \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.00) \end{gathered}$ | $\begin{gathered} 0.000 \\ (597.90) \end{gathered}$ |
| $N$ pseudo $R^{2}$ | $\begin{gathered} \hline 1056 \\ 0.368 \\ \hline \end{gathered}$ | $\begin{array}{ll} 1137 & 44 \\ 0.407 & \\ \hline \end{array}$ | $\begin{gathered} 807 \\ 0.617 \end{gathered}$ | $\begin{aligned} & 2948 \\ & 0.387 \\ & \hline \end{aligned}$ | $\begin{aligned} & 2314 \\ & 0.423 \end{aligned}$ | $\begin{gathered} 1508 \\ 0.471 \\ \hline \end{gathered}$ | $\begin{gathered} 1002 \\ 0.557 \\ \hline \end{gathered}$ |

Standard errors in parentheses
${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

Table A.12: Gross wage elasticities

|  | AT | BE | CY | DE | EE | EL | ES | FI | FR | IE | IT | LT | LU | LV | MT | NL | PT | SI | SK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Single women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own wage | 0,38 | 0,43 | 0,06 | 0,14 | 0,01 | 0,57 | -0,52 | 0,28 | 0,11 | 0,52 | 0,04 | 0,66 | 0,84 | 0,2 | 0,16 | 0,07 | 0,54 | -0,19 | 0,18 |
|  | Single men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own wage | 0,42 | 0,5 | 0,17 | 0,3 | 0,41 | 0,11 | 0,42 | 0,34 | 0,16 | 0,82 | 0,14 | 0,87 | 0,21 | 0,04 | 0,58 | -0,16 | 0,09 | 0,86 | 0,11 |
|  | Couple: women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own wage | -0,01 | 0,01 | 0,04 | -0,08 | 0,23 | -0,2 | 0,56 | 0,37 | 0,06 | 0,48 | 0,9 | 0,4 | 0,7 | 0,39 | 0,13 | 0,83 | 0,3 | -0,1 | 0,11 |
| Cross wage | 0.05 | -0,03 | 0,03 | -0,04 | -0,01 | 0,01 | -0,43 | 0,05 | 0,07 | 0,49 | -0,04 | -0,34 | -0,4 | 0,08 | 0,1 | 0,16 | -0,01 | -0,05 | 0,27 |
| Couple: men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Own wage | -0.07 | -0,2 | 0,06 | -0,17 | 0,15 | -0,03 | 0,48 | 0,6 | 0,08 | 0,43 | 0,07 | 0,8 | 0,16 | 0,25 | 0,28 | 0,3 | 0,44 | 0,03 | 0,07 |
| Cross wage | -0,01 | -0,11 | -0,01 | -0,42 | -0,01 | 0,05 | 0,07 | 0,05 | 0,04 | 0,08 | -0,06 | 0,3 | -0,03 | -0,02 | 0,01 | -0,1 | 0,06 | 0,01 | 0,07 |

Table A.13: Income elasticities

| AT | BE | CY | DE | EE | EL | ES | FI | FR | IE | IT | LT | LU | LV | MT | NL | PT | SI | SK |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Single: women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -0,196 | -0,04 | -0,098 | -0,113 | -0,07 | 0,036 | -0,12 | -0,31 | 0,138 | -0,279 | -0,023 | -0,106 | -0,104 | -0,03 | 0,08 | -0,16 | 0,5 | 0,08 | 0,05 |
| Single: men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -0,25 | -0,14 | 0,02 | -0,117 | -0,06 | 0,325 | -0,07 | -0,639 | 0,09 | -0,352 | 0,021 | -0,26 | -0,336 | 0,079 | 0,06 | -0,25 | 0,17 | 0,13 | 0,05 |
| Couple: women |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0,009 | 0,007 | 0,009 | 0,02 | -0,008 | 0,07 | 0,008 | -0,085 | 0,08 | 0,01 | 0,08 | -0,02 | -0,04 | -0,009 | -0,01 | -0,032 | -0,037 | 0,008 | 0,096 |
| Couple: men |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -0,002 | -0,02 | -0,061 | -0,002 | -0,012 | 0,04 | 0,006 | -0,13 | 0,06 | -0,008 | -0,002 | -0,01 | -0,06 | 0,007 | 0,017 | -0,06 | -0,029 | -0,002 | 0,046 |

Table A.14: Change in full-time equivalent: Single

|  | Single women |  |  |  |  | Single men |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FTE Baseline Scenario 1 Scenario 2 Scenario 3 Scenario 4 |  |  | FTE Baseline Scenario 1 Scenario 2 Scenario 3 Scenario 4 |  |  |  |  |  |  |  |
| AT | 408.25 | 0.00 | -0.25 | -0.25 | 0.26 AT | 417.50 | 0.00 | -0.12 | -0.24 | 0.00 |
| BE | 225.50 | -2.50 | -2.50 | -1.65 | 0.00 BE | 241.25 | -6.42 | -6.42 | -5.52 | 0.00 |
| CY | 308.50 | -1.52 | -1.52 | -1.52 | 0.34 CY | 134.25 | 0.00 | 0.00 | 0.00 | 0.00 |
| DE | 1151.25 | 0.00 | -0.50 | -1.20 | 0.00 DE | 812.00 | 0.00 | -0.62 | -0.86 | 0.00 |
| EE | 434.25 | 0.00 | 0.00 | 0.00 | 0.00 EE | 253.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| EL | 523.25 | -0.06 | -2.52 | -2.52 | -0.06 EL | 543.50 | -0.46 | -1.69 | -2.34 | -0.46 |
| ES | 429.50 | -0.24 | -0.35 | -0.52 | 0.12 ES | 339.50 | -1.99 | -2.58 | -3.17 | 0.45 |
| FR | 867.50 | 0.23 | 0.29 | 0.30 | -0.29 FR | 759.75 | 0.00 | -0.07 | -0.07 | -0.16 |
| FI | 510.50 | 0.00 | 0.00 | 0.00 | 1.63 FI | 500.25 | 0.00 | 0.00 | 0.00 | 4.70 |
| IE | 196.75 | 0.00 | 0.00 | 0.00 | 0.51 IE | 126.75 | 0.00 | 0.00 | -0.79 | 0.40 |
| IT | 1051.50 | -1.12 | -1.24 | -2.04 | 0.25 IT | 1105.50 | -0.77 | -0.77 | -1.26 | -0.40 |
| LT | 189.25 | -0.26 | -0.79 | -1.58 | -0.63 LT | 79.75 | 0.00 | -1.90 | -3.17 | 1.32 |
| LU | 208.75 | 0.00 | 0.00 | 0.00 | 0.00 LU | 244.50 | 0.00 | 0.00 | 0.00 | 0.20 |
| LV | 507.50 | 0.00 | 0.00 | -0.10 | 0.38 LV | 253.50 | 0.19 | 0.19 | 0.00 | 0.00 |
| MT | 126.50 | -1.58 | -1.56 | -1.56 | -1.56 MT | 197.75 | -1.14 | -1.39 | -1.90 | -0.51 |
| NL | 681.50 | 0.00 | -0.29 | -1.32 | 0.29 NL | 601.50 | 0.00 | -0.33 | -0.83 | 1.88 |
| PT | 565.25 | -1.37 | -1.37 | -0.84 | -1.37 PT | 295.75 | -3.11 | -3.11 | -2.85 | -3.11 |
| SI | 265.00 | -0.38 | -0.38 | -0.75 | 0.00 SI | 298.00 | 0.00 | 0.00 | -0.67 | -0.67 |
| SK | 284.75 | 0.00 | -0.35 | -0.35 | 0.00 SK | 194.75 | 0.00 | 0.00 | 0.51 | 0.00 |

Table A.15: Change in full-time equivalent: Couple

|  | Couple: Women |  |  |  | Couple: Men |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | FTE Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | FTE Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| AT | 1046.5 | 0 | 0 | 0 | 0 | 1407.25 | 0 | 0 | 0 | 0 |
| BE | 775.25 | 0.3 | 0.3 | 0 | 1.18 | 970 | 0.2 | 0.26 | 0 | 0.62 |
| CY | 721.25 | 0.08 | 0.08 | 0.08 | 0 | 720.25 | -0.14 | -0.14 | -0.27 | -0.27 |
| DE | 1854.75 | 0 | 0.02 | 0.11 | 0 | 2422.25 | 0 | 0 | 0.1 | 0 |
| EE | 1265 | 0 | -0.32 | -0.71 | 0.08 | 1487.75 | -0.08 | -0.1 | -0.12 | -0.1 |
| EL | 1811.75 | -0.05 | -1.13 | -1.09 | -0.09 | 2894.5 | 0.07 | -0.26 | -0.3 | 0.03 |
| ES | 1859 | 0 | 0 | -0.56 | -0.21 | 2433.25 | 0 | 0 | -0.26 | -0.06 |
| FI | 3043.25 | 0 | 0 | 0 | 0.1 | 3329.25 | 0 | 0 | 0 | -0.02 |
| FR | 2316.75 | 0.21 | 0.21 | 0.11 | -0.06 | 2617.5 | 0.12 | 0.12 | 0.08 | -0.03 |
| IE | 758.5 | -0.03 | -0.03 | -0.13 | 0 | 1136.5 | -0.18 | -0.18 | -0.13 | -0.22 |
| IT | 966.25 | 0.74 | 0.8 | -4.2 | 1.07 | 1408 | 0.07 | 0.11 | -1.82 | 0.16 |
| LT | 573.5 | 0 | -0.17 | -0.44 | 0.26 | 632.25 | 0 | 0 | -0.79 | 0.16 |
| LU | 682.5 | 0 | -0.15 | -0.15 | -0.17 | 922.5 | 0 | 0.08 | 0.08 | 0 |
| LV | 876 | -0.26 | -0.26 | -1.11 | 0.03 | 991.5 | -0.35 | -0.35 | -0.53 | -0.09 |
| MT | 469.75 | 0 | 0 | 0 | 0 | 715.75 | 0 | 0 | 0 | 0.14 |
| NL | 1759.25 | 0 | -0.28 | -0.57 | 0.49 | 2636.25 | 0 | -0.18 | -0.38 | 0.56 |
| PT | 1755.75 | -1.04 | -1.04 | -0.47 | -0.9 | 1953.75 | -1.37 | -1.37 | -0.17 | -1.03 |
| SI | 1182 | 0 | 0 | 0 | 0,08 | 1328.75 | 0 | 0 | 0 | 0 |
| SK | 701.5 | 0 | 0 | 0.14 | 0 | 874.5 | 0 | 0 | 0 | 0 |

Table A.16: Variation in labour market participation by country

|  | Non-participation rate |  |  |  |  | Full-time working rate |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| AT | 11.92 | 0.03 | 0.03 | 0.03 | 0 | 64.16 | -0.02 | -0.02 | -0.02 | 0 |
| BE | 22.04 | 0.78 | 0.78 | 0.66 | -0.04 | 52.54 | -0.5 | -0.53 | -0.54 | 0.06 |
| CY | 22.52 | 0.13 | 0.17 | 0.08 | 0 | 63.99 | -0.13 | -0.17 | -0.04 | -0.11 |
| DE | 16.96 | 0 | 0.09 | 0.21 | 0 | 61.81 | 0 | -0.08 | -0.19 | 0 |
| EE | 9.32 | 0 | 0.08 | 0.21 | -0.02 | 76.02 | 0 | -0.1 | -0.23 | 0.03 |
| EL | 33.42 | 0.03 | 0.5 | 0.53 | 0.04 | 47.75 | -0.01 | -0.38 | -0.43 | -0.02 |
| ES | 21.19 | 0.09 | 0.11 | 0.22 | 0.02 | 59.93 | -0.09 | -0.1 | -0.15 | -0.11 |
| FI | 10.16 | 0 | 0 | 0 | 0 | 68.9 | 0 | 2.08 | 0 | 0 |
| FR | 11.25 | -0.05 | -0.1 | -0.12 | 0.02 | 70.04 | 0.04 | 0.08 | 0.12 | -0.01 |
| IE | 24.83 | 0.08 | 0.08 | 0.08 | -0.18 | 50.35 | -0.06 | -0.06 | -0.06 | 0 |
| IT | 21.34 | -0.44 | -0.35 | -0.22 | -0.44 | 49.74 | 0.25 | 0.25 | 0.22 | 0.25 |
| LT | 14.87 | 0.16 | 1.52 | 0.76 | -0.3 | 71.3 | -0.11 | -2.4 | -0.6 | 0.37 |
| LV | 12.87 | 0.19 | 0.22 | 0.48 | 0.07 | 72.7 | -0.19 | -0.19 | -0.38 | -0.09 |
| MT | 26.45 | 0.14 | 0.14 | 0.19 | 0.09 | 61.39 | -0.19 | -0.19 | -0.24 | -0.15 |
| NL | 15.68 | 0 | 0.22 | 0.58 | -0.61 | 54.65 | 0 | 0 | -0.32 | 0.36 |
| PT | 19.43 | 0.92 | 0.92 | 0.37 | 0.9 | 67.85 | -0.92 | -0.92 | -0.37 | -0.92 |
| SI | 13.9 | 0 | 0.03 | 0.03 | 0.03 | 73.15 | 0 | -0.02 | -0.02 | 0 |
| SK | 18.93 | 0 | 0.04 | 0 | 0 | 72.13 | 0 | -0.04 | 0 | 0 |

Table A.17: Variation in mean hours in percentage by country

|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| AT | 32.21 | 0.0 | 0.0 | -0.1 | 0.0 |
| BE | 27.07 | -1.0 | -1.0 | -1.4 | 0.4 |
| CY | 29.17 | -0.2 | -0.2 | -0.1 | -0.1 |
| DE | 30.39 | 0.0 | -0.1 | -0.3 | 0.0 |
| EE | 35.12 | 0.0 | -0.1 | -0.2 | 0.0 |
| EL | 25.5 | -0.4 | -0.8 | -0.9 | -0.1 |
| ES | 26.88 | 0.0 | 0.1 | 0.1 | -0.4 |
| FI | 33.96 | 0.0 | 0.0 | 0.0 | 0.1 |
| FR | 33.63 | 0.0 | 0.1 | 0.1 | 0.0 |
| IE | 26.41 | -0.1 | -0.1 | -0.1 | 0.1 |
| IT | 28.64 | 0.5 | 0.5 | 0.3 | 0.5 |
| LT | 32.69 | -0.1 | -2.8 | -0.8 | 0.5 |
| LV | 33.7 | -0.3 | -0.3 | -0.5 | -0.3 |
| MT | 28.51 | -0.2 | -0.2 | -0.3 | -0.1 |
| NL | 28.81 | 0.0 | -0.2 | -0.6 | 0.7 |
| PT | 31.88 | -1.1 | -1.1 | -0.4 | -1.0 |
| SI | 33.37 | 0.0 | 0.0 | 0.0 | 0.0 |
| SK | 32.13 | 0.0 | -0.1 | 0.1 | 0.0 |

Table A.18: Impact of the reform on Gini coefficient: Single

|  |  | Single women |  |  |  |  | Single men |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |  |  |  |
| AT | 0.19415 | -2.47 | -2.89 | -3.21 | -8.61 | 0.20774 | -6.77 | -6.77 | -6.77 | -7.13 |  |  |  |
| BE | 0.24493 | -2.72 | -2.72 | -0.85 | -0.38 | 0.24493 | -38.19 | -38.19 | -37.78 | -31.38 |  |  |  |
| CY | 0.33536 | 0.13 | 0.13 | 0.13 | 1.89 | 0.31094 | -0.36 | -0.36 | -0.34 | -0.78 |  |  |  |
| DE | 0.22683 | -1.45 | -1.70 | -1.68 | -1.45 | 0.26947 | 1.24 | 0.84 | 0.65 | 1.82 |  |  |  |
| EE | 0.17367 | 0.18 | 0.20 | 0.24 | -0.43 | 0.19345 | -6.32 | -6.43 | -6.43 | -6.32 |  |  |  |
| EL | 0.30703 | -3.03 | -9.33 | -9.51 | -3.02 | 0.25298 | -1.62 | -0.15 | -0.15 | -1.62 |  |  |  |
| ES | 0.46789 | -18.30 | -18.38 | -18.59 | -18.16 | 0.33835 | -8.60 | -8.90 | -9.27 | -12.63 |  |  |  |
| FI | 0.16944 | 3.75 | 5.19 | 5.19 | 5.59 | 0.20866 | -15.55 | -15.55 | -15.55 | -17.67 |  |  |  |
| FR | 0.27874 | 0.18 | 0.10 | -0.04 | 0.55 | 0.28518 | 0.92 | 0.76 | -0.70 | 1.38 |  |  |  |
| IE | 0.27845 | -5.09 | -5.09 | -5.09 | -4.96 | 0.23724 | -8.44 | -8.44 | -8.44 | -12.20 |  |  |  |
| IT | 0.35719 | 0.44 | 0.36 | 0.00 | 0.44 | 0.36541 | 0.25 | 0.17 | -0.13 | 0.25 |  |  |  |
| LT | 0.34399 | 0.40 | 0.08 | -1.00 | 1.62 | 0.37348 | -0.19 | -1.50 | -2.37 | 3.85 |  |  |  |
| LU | 0.24868 | 2.92 | 2.92 | 2.93 | 2.92 | 0.20897 | -4.56 | -4.56 | -4.56 | -3.31 |  |  |  |
| LV | 0.24416 | 0.48 | 0.41 | -0.34 | 0.65 | 0.30292 | 0.57 | 0.57 | -0.13 | 0.90 |  |  |  |
| MT | 0.32048 | 0.38 | 0.60 | 0.69 | 0.38 | 0.20809 | -3.37 | -2.48 | -1.97 | -4.45 |  |  |  |
| NL | 0.2686 | -0.47 | -0.79 | -1.15 | 0.33 | 0.19005 | 4.29 | 3.96 | 3.44 | 6.45 |  |  |  |
| PT | 0.27392 | -8.35 | -8.35 | -7.88 | -8.33 | 0.29835 | -7.83 | -7.83 | -6.58 | -7.03 |  |  |  |
| SI | 0.27359 | 0.58 | 0.46 | 0.19 | 0.58 | 0.30141 | -0.69 | -0.79 | -0.85 | -0.67 |  |  |  |
| SK | 0.21726 | 0.00 | 0.00 | 0.00 | 0.00 | 0.31266 | -1.00 | -1.17 | -1.64 | -1.00 |  |  |  |

Table A.19: Impact of the reform on Gini coefficient: Couple

|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| AT | 0.28555 | -13.59 | -13.64 | -13.72 | 0.06 |
| BE | 0.2275 | -9.35 | -7.46 | -7.50 | -7.16 |
| CY | 0.24248 | -0.42 | 0.00 | -0.49 | 0.19 |
| DE | 0.23751 | -1.67 | -1.82 | -1.92 | -0.75 |
| EE | 0.17091 | -5.89 | -5.94 | -5.98 | 0.00 |
| EL | 0.29748 | -1.03 | -3.82 | -3.82 | -0.13 |
| ES | 0.2636 | -4.74 | -7.29 | -7.38 | 0.24 |
| FI | 0.18206 | -0.93 | -0.93 | -0.93 | 0.13 |
| FR | 0.27568 | 0.08 | 0.05 | 0.01 | 0.12 |
| IE | 0.21588 | 5.09 | 5.06 | 5.03 | -2.26 |
| IT | 0.30607 | -7.50 | -7.33 | -7.50 | -0.77 |
| LT | 0.28507 | -2.50 | -2.60 | -2.84 | 0.09 |
| LU | 0.1821 | -6.45 | -6.47 | -6.47 | 0.39 |
| LV | 0.24885 | 0.38 | 0.29 | -0.58 | -0.08 |
| MT | 0.29684 | 0.02 | -0.06 | -0.09 | 0.02 |
| NL | 0.23554 | -5.86 | -6.02 | -6.22 | 1.15 |
| PT | 0.23458 | -0.14 | -0.14 | 0.07 | -2.04 |
| SI | 0.45418 | -2.64 | -2.65 | -2.65 | -0.04 |
| SK | 0.24118 | -0.02 | -0.07 | -0.18 | -0.01 |

Note:Change are expressed in variation rate in percentage.

Table A.20: Reforms impact on poverty in percentage points: Single

|  | Single women |  |  |  |  | Single men |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| AT | 8.42 | 0 | -0.4 | -0.4 | 0 | 3.38 | 0 | 0 | 0 | 0 |
| BE | 19.28 | -6.25 | -6.25 | -5.97 | 3.38 | 19.28 | -12.14 | -12.14 | -12.14 | 0 |
| CY | 24.66 | -0.27 | -0.27 | -0.27 | 0.41 | 20.93 | 0 | 0 | 0 | -0.34 |
| DE | 14.62 | 0 | -0.53 | -0.54 | 0.06 | 14.76 | 0 | -0.2 | -0.2 | 0 |
| EE | 3.31 | 0 | -0.01 | -0.01 | 0 | 5.99 | 0 | 0 | 0 | 0 |
| EL | 28.82 | -0.59 | 3.35 | 3.35 | -0.59 | 23.11 | -3.62 | -3.11 | -2.79 | -3.62 |
| ES | 41.98 | 0 | 0 | 0 | 0.18 | 28.01 | 0 | -0.22 | -0.66 | 0.4 |
| FI | 3.97 | 0 | 0 | 0 | -0.14 | 10.08 | 0 | 0 | 0 | -0.16 |
| FR | 20.62 | 0 | 0 | -0.09 | 0.47 | 19.67 | 0 | -0.47 | -0.7 | -0.23 |
| IE | 26.68 | 0 | 0 | 0 | 0.19 | 20 | 0 | 0 | 0 | 0 |
| IT | 25.98 | -0.4 | -0.17 | -0.73 | -0.4 | 27.86 | -0.4 | -0.4 | -0.65 | -0.4 |
| LT | 13.97 | 0 | 0 | -0.43 | 0 | 22.43 | 0 | -0.94 | -0.94 | 0.93 |
| LU | 8.13 | 0 | 0 | 0 | 0 | 9.84 | -0.4 | -0.4 | -0.4 | 0 |
| LV | 9.36 | -0.18 | -0.18 | -0.7 | -0.18 | 13.86 | -0.33 | -0.33 | -0.33 | 0 |
| MT | 33.1 | 0 | 0 | 0 | 0 | 6.45 | -0.46 | -0.46 | -0.46 | -0.46 |
| NL | 20.27 | 0 | 0 | -0.6 | 1.28 | 8.31 | 0 | -0.39 | -0.52 | 2.49 |
| PT | 19.68 | -1.03 | -1.03 | -0.59 | -0.74 | 17.11 | -0.53 | -0.53 | -0.27 | -0.53 |
| SI | 18.97 | 0 | 0 | -0.32 | -0.32 | 15.79 | 0 | 0 | 0 | 0 |
| SK | 16.09 | 0 | 0 | 0 | 0.01 | 26.09 | -0.44 | -0.44 | -0.44 | -0.44 |

Table A.21: Reforms impact on poverty in percentage points: Couple

|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| AT | 10.39 | 0 | 0 | -0.13 | 0 |
| BE | 14.77 | -3.31 | -2.05 | -2.03 | -14.77 |
| CY | 14.97 | 0 | 0 | 0 | 0.24 |
| DE | 11.28 | 0 | -1.1 | -0.28 | 0 |
| EE | 3.75 | -0.06 | -0.06 | -0.06 | -0.06 |
| EL | 27.34 | -0.98 | 0.1 | 0.08 | 0 |
| ES | 14.83 | -0.04 | -0.04 | -0.07 | 0.14 |
| FI | 4.74 | 0 | 0 | 0 | 0.22 |
| FR | 15.71 | -0.07 | -0.1 | -0.26 | 0.06 |
| IE | 12.55 | 0 | 0 | 0 | -1.45 |
| IT | 26.04 | -0.48 | -0.41 | -0.42 | -0.48 |
| LT | 12.67 | 0 | -0.14 | -0.14 | -0.1 |
| LU | 5.59 | 0.09 | 0 | 0 | 0.19 |
| LV | 8.89 | -0.27 | -0.27 | -0.62 | -0.09 |
| MT | 22.92 | 0.13 | 0 | -0.12 | 0.13 |
| NL | 9.43 | 0 | -0.07 | -0.2 | 0.56 |
| PT | 10.85 | -1.26 | -1.26 | -0.18 | -1.13 |
| SI | 9.08 | 0 | 0 | -0.87 | -9.08 |
| SK | 15.47 | 0 | 0 | 0 | -15.47 |

Table A.22: Reforms impact on poverty and Gini by country

|  | Poverty |  |  |  |  | Gini |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| AT | 16.88 | 0 | -0.04 | -0.14 | 0.05 | 0.1924 | 0.00 | -0.22 | -0.44 | 0.22 |
| BE | 20.27 | -1.97 | -1.15 | -1.2 | -1.92 | 0.21153 | -6.36 | -6.36 | -4.91 | 0.00 |
| CY | 26.91 | -0.07 | -0.14 | -0.14 | -0.04 | 0.35157 | -0.02 | -0.02 | -0.03 | 0.25 |
| DE | 18.28 | 0.02 | -0.15 | -0.3 | 0 | 0.24728 | 0.00 | -0.40 | -0.57 | 0.00 |
| EE | 9.62 | -0.09 | -0.17 | -0.17 | -0.04 | 0.17817 | -0.02 | -0.01 | -0.03 | -0.02 |
| EL | 20.52 | -0.13 | -0.99 | -1.05 | -0.12 | 0.36934 | -0.19 | -3.95 | -3.98 | -0.22 |
| ES | 25.84 | -0.03 | -0.05 | -0.11 | 0.01 | 0.30005 | -0.49 | -0.76 | -1.19 | 0.64 |
| FI | 13.5 | 0.03 | 0.03 | 0.03 | 0.24 | 0.18327 | 0.00 | 0.00 | 0.00 | 0.38 |
| FR | 17.85 | -0.02 | -0.11 | -0.17 | 0.14 | 0.28401 | -0.32 | -0.10 | -0.32 | 0.33 |
| IE | 21.7 | 0 | 0.04 | -0.05 | 0.24 | 0.43032 | -0.04 | -0.05 | -0.17 | -0.16 |
| IT | 17.26 | -0.44 | -0.29 | -0.23 | -0.43 | 0.4551 | -0.87 | -0.63 | -0.48 | -0.87 |
| LT | 14.82 | -0.18 | -0.27 | -0.18 | -0.15 | 0.40275 | -0.08 | -0.37 | -0.77 | 0.28 |
| LU | 11.55 | 0.06 | 0 | -0.06 | 0.06 | 0.25471 | 0.00 | 0.01 | 0.03 | 0.00 |
| LV | 16.66 | -0.1 | -0.1 | -0.65 | -0.05 | 0.27861 | -0.26 | -0.31 | -0.99 | -0.05 |
| MT | 23.34 | 0 | 0 | 0 | 0 | 0.48148 | 0.00 | 0.00 | 0.00 | 0.00 |
| NL | 13.15 | 0 | -0.23 | -0.51 | 0.1 | 0.34445 | 0.00 | -0.47 | -1.10 | 1.17 |
| PT | 16.69 | -0.7 | -0.7 | -0.07 | -0.66 | 0.3515 | -1.99 | -1.99 | -0.83 | -1.99 |
| SI | 16.57 | 0 | 0 | 0 | 0.04 | 0.32152 | 0.00 | -0.19 | 0.00 | . 000 |
| SK | 19.69 | -0.07 | -0.07 | -0.07 | -0.07 | 0.26982 | -0.64 | -0.75 | -1.06 | -0.64 |

Table A.23: UI systems by country in 2018

| Country | Eligibilty conditions | Amount | Duration | UI assistance |
| :---: | :---: | :---: | :---: | :---: |
| BE | $\begin{aligned} & 12 / 21(\text { age }<36) ; 18 / 33(\text { age }>36 \& \\ & \text { age }<50) ; 24 / 42(\text { age }>50) \end{aligned}$ | $65 \%$ of previous salary ;Decreasing to $40 \%$ | Unlimited | N/A |
| DE | 12/24months | With children: $67 \%$ of net earnings; Without children: $60 \%$ of net earnings | 6-24 months | Mean tested |
| EE | 12/36 months | $50 \%$ of previous earning decreasing to $40 \%$ | 6-12 months | Mean tested |
| IE | 9/12 months | Flat-rate benefits with amount depending on previous earnings | 6-9 months | Mean tested |
| EL | 6/14months ; Additional requirement of $3 / 24$ months first time claimants | Flat benefit | 5-12 months | Mean tested |
| ES | 12/72months | $70 \%$ of previous earning falling to $50 \%$ | 4-24 months | Mean tested |
| FR | 4/28months ; >53y/o: 4/36months | 40,4\% of daily wage + a fixed allocation or $57 \%$ of daily wage | 24 (36 if age>53) | Mean tested |
| IT | 3/12 months | $75 \%$ of monthly earning decreasing by $3 \%$ every months from the 4th month | 10-12 months | N/A |
| CY | 6 months | 60\% of weekly earnings | 6 months | N/A |
| LV | 12/16months | Rate depending on previous contributions; From 50\% to 65\% Decreasing with unemployment duration | 9 months | N/A |
| LT | 12/30months | Flat rate $+38,79 \%$ of average earning falling to $23,27 \%$ | $9+2$ extra months for special groups | N/A |
| LU | 6/12 months | $80 \%$ of previous earning $85 \%$ with dependent children | 12 months | N/A |
| MT | 5/24 months | Flat rate depending on marital status | 6 months | Mean tested |
| NL | 6/8months | 75\% of daily wage falling to 70\% | 3-24 months | N/A |
| AT | 12/24months ; <25 y/o: 26/12 | $55 \%$ of the daily net income | 4,6-36 months | Mean-tested |
| PT | 12/24 months | $65 \%$ of previous earning falling to $55 \%$ after 6 months | 5-18 months | Mean tested |
| SI | 9/24months | 1-3months: $80 \%$; 4-12 months: $60 \%$; >12months: $50 \%$ | 2-25 months | N/A |
| SK | 24/48 months | $50 \%$ of previous earnings | 6 months | N/A |
| FI | 6/28months ; selfemployed:15/48months of entrepreneurship | Basic allowance $+45 \%$ of the diff between daily wage and the allowance $+20 \%$ of the difference between monthly wage and the basic allowance if monthly wage is at least 95 times the allowance | 13 months | Mean tested |

Authors' elaboration using information from Euromod country reports (https://www.euromod.ac.uk/using-euromod/country-reports), MISSOC database (https://www.missoc.org) for 2019 systems

Single: women



Single: men

Couple


Figure A.1: Poverty rates with threshold at $60 \%$ of median equivalised income by subgroup: baseline scenario

Single women

Single men


Couple


Figure A.2: Gini coefficient by subgroup
The Gini coefficient is decomposed by subgroup here, meaning that it represents the disposable income inequality across single women, single men and couple respectively


[^0]:    *We would like to thank the participants of the International Institute of Public Finance (IIPF) Conference and the 7th European User Conference for EU-Microdata. This work was supported by the French National Research Agency Grant ANR-17-EURE-0020, by the Excellence Initiative of Aix-Marseille University - A*MIDEX, and by the Excellence Initiative of University of Strasbourg - CAPSE IDEX
    ${ }^{\dagger}$ Corresponding author: Agathe Simon, agathesimon@unistra.fr
    *Aix Marseille Univ, CNRS, AMSE, Marseille, France.
    ${ }^{\text {§ }}$ Université de Strasbourg, Université de Lorraine, CNRS, BETA UMR 7522, F-67000,Strasbourg, France.

[^1]:    ${ }^{1}$ Herman Van Rompuy, as a President of the European Council in the Van Rompuy report of 2011, suggested that an EMU budgetary capacity with a limited asymmetric shock absorption function could take the form of an unemployment insurance. Jean-Claude Juncker, in the Five Presidents' report, also puts forward the idea of an EMU-UI (Dullien, 2014; Claeys et al. 2014; Andor, 2014).
    ${ }^{2}$ Treaty on the Functioning of the European Union.

[^2]:    ${ }^{3}$ See among others Dullien (2014), Andor $(2014)$ and Claeys et al. (2014).

[^3]:    ${ }^{4}$ In practice, this could be administratively complex to hang from national to supranational scheme in the third month of unemployment. It could be easier to start EMU-UI payments from the first month of unemployment, as

[^4]:    ${ }^{7}$ We chose this set of hours in order to alleviate the computational burden especially for the estimation for couple. We find a similar fit of the model with this set of hours compare to a larger set such as 7 discrete choices. Bargain et al. (2014) estimated a structural labour supply model for European countries and found that results was similar with 13, 7 or 4 hours categories.
    ${ }^{8}$ Results are presented in Tables A. 1 and A. 2 the Appendix.
    ${ }^{9}$ see also Aaberge et al. (1999) and Bargain et al. (2014). This two-stage procedure is common practice (Creedy and Kalb, 2005).

[^5]:    ${ }^{10}$ The results presented here are based on EUROMOD version I3.0+. Originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 EUROMOD is maintained, developed and managed by the Joint Research Centre (JRC) of the European Commission, in collaboration with EUROSTAT and national teams from the EU countries. We are indebted to the many people who have contributed to the development of EUROMOD. The results and their interpretation are the author's(') responsibility. For more details on EUROMOD, see Sutherland (2001) and Sutherland and Figari (2013).
    ${ }^{11}$ In most EMU-UI proposals, self-employed are excluded from it as many self-employed do not have access to current national UI (and do not pay contributions) or have access to specific unemployment assistance. We based mainly our reform scenarios on EMU-UI alternatives simulated by Beblavý and Lenaerts (2017) and none of them include self-employed.

[^6]:    ${ }^{12}$ Table A. 1 and A. 2 in the appendix presents also the results of the estimation of the wage equation for women and men respectively.

[^7]:    ${ }^{13} \mathrm{We}$ find similar elasticities with an increase of $10 \%$.
    ${ }^{14}$ Tables A. 12 and A. 13 in the appendix present fully detailed estimations of the elasticities.

[^8]:    ${ }^{15}$ In the appendix, Tables A. 14 and A. 15 present the employment level and the number of hours worked as measured by the number of full-time equivalent positions for singles and couples respectively and for each scenario. Tables A.14 and A. 15 also show the variation of FTE in percentage for each scenario. Table A. 16 presents the variation in the labour force participation and Table A. 17 presents the change in the average means hours worked.

[^9]:    ${ }^{16}$ Interestingly, most single individuals who change their labour supply are older than 50 and goes from full-time working to non-participation. This is true in many countries of the sample. Being closer to retirement thus has an impact which is not surprising given the important effect of the variable age in the labour supply model.

[^10]:    ${ }^{17}$ See more details on national UI systems in Table A. 23
    ${ }^{18}$ In 2018, the share of individual at risk of poverty (AROP) while unemployed was at $50.6 \%$ for Belgium, which is above the EMU average. See Eurostat data: At-risk-of-poverty rate by poverty threshold and most frequent activity in the previous year - EU-SILC and ECHP surveys. https://ec.europa.eu/eurostat/cache/metadata/en/ilc_esms.htm

[^11]:    ${ }^{19}$ For more details, see Fana et al. 2020).

[^12]:    | pseudo $R^{2}$ |
    | :--- |
    | Standard errors in parentheses |
    | ${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$ |

[^13]:    Standard errors in parentheses

    * $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$

