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DISCUSSION PAPER SERIES

IZA DP No. 18035

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ISSN: 2365-9793

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ABSTRACT

From Joint to Individual: The Distributional and Labour Supply Effect of Tax Individualisation in Ireland*

This paper evaluates the redistributive and labour supply effects of transitioning from a joint to a fully individualised income tax system in Ireland. The current Irish tax system, which remains partially joint since the early 2000's, provides a financial advantage to married couples by allowing them to to share tax bands and credits. However, it also creates a financial disincentive for secondary earners (who are typically women) to work. Using the microsimulation model, SWITCH, we estimate the distributional effect of moving to a fully individualised tax system in Ireland. We find that this would result in income losses, which increase with the level of income. Linking SWITCH to a discrete choice labour supply model, we then estimate the behavioural response of married couples to a fully individualised tax regime. We find that a shift to individualised taxation would result in increased labour supply of married women, and a reduction in the hours worked by married men due to intra-household labour substitution effects. We explore the implications of this for a range of outcomes linked to womens' financial independence.

JEL Classification: E24, E32, J22

Keywords: taxation of couples, labour supply, tax-benefit system

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* The results presented here are based on the ESRI's tax-benefit model, SWITCH version 7.0 which makes use of the EUROMOD platform. 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. We are grateful to the Central Statistics Office (CSO) for providing access to the Survey of Income and Living Conditions (SILC) Research Microdata File, on which the SWITCH tax-benefit model is based. This work was carried out as part of the ESRI's Tax, Welfare and Pensions work program. Funding from the Department of Social Protection, the Department of Children, Equality, Disability, Integration and Youth, the Department of Public Expenditure, NDP Delivery and Reform, the Department of Health and the Department of Finance is gratefully acknowledged.

1 Introduction

Recent years have witnessed growing advocacy, including a significant push from the European Parliament in 2019 (Parliament, 2019), for countries to transition from joint to individualised tax systems. The United States and a number of European countries, including Ireland, still have a joint taxation system in place. Between 2000 and 2002, Ireland began the process of individualising the income tax system. However, faced with opposition both politically and from the general public, the process was halted before the system became fully individualised. Ireland currently operates an income tax system which is neither fully joint nor fully individualised.

The Commission on Taxation and Welfare (COTW (2022)) recently recommended a phased move towards a full individualisation of the income tax system in Ireland. This proposal is supported by a large body of evidence indicating that tax and benefit systems influence labour supply and the intra-household division of labour (EIGE (2024), Bick and Fuchs-Schündeln (2017)). Specifically, joint taxation systems often lead to the specialisation of the secondary earners, who are usually women, in unpaid work. This dynamic, coupled with progressive income tax structures, imposes disproportionately high marginal tax rates on secondary earners — typically women, thereby discouraging their labour supply and human capital accumulation. This reinforces historic patterns of gender divisions between work and caring roles. (McCaffery, 2009; Sainsbury, 1999; Apps and Rees, 1999; Blundell and MaCurdy, 1999).

Indeed, optimal tax theory indicates that marginal tax rates for secondary earners should be lower than those for primary earners, suggesting that joint taxation is only optimal under very restrictive conditions (Alesina et al., 2011; Boskin and Sheshinski, 1983; Cremer et al., 2012).

Empirical evidence supports the notion that individualised tax systems enhance the labour supply of secondary workers. Studies across various countries, including 17 EU nations and the US (Bick and Fuchs-Schündeln, 2017), France (Kabatek et al., 2014), and Ireland (Callan

et al., 2009), have shown that tax reforms towards individualisation result in increased female labour market participation. Notably, Ireland's move to a partially individualised system between 2000 and 2002 led to a 5 percentage point increase in married women's labour market participation (Doorley, 2018).

Beyond labour market outcomes, switching to an individual income tax system can also enhance women's economic independence, a key dimension of gender equality. Through increased financial incentives to work and a shift in the tax burden, an individual income tax system can increase women's income relative to that of their partners. This improves their financial autonomy and intra-household bargaining power (Hobson, 1990; Lundberg and Pollak, 1996; Lise and Seitz, 2011a). Greater control over personal income also strengthens womens' abilities to make financial decisions, save, and cope with economic shocks, while reducing their vulnerability in the case of separation or unemployment (Sainsbury, 1999; Findlay and Wright, 1996). In this sense, tax individualisation has the potential to shift the balance of economic power within households and reduce women's dependency on marriage as a condition for material security.

Tax individualisation can therefore have societal implications, such as increasing the economic independence of women, reducing their poverty risk (Findlay and Wright, 1996), and potentially mitigating the risk of domestic violence (Bowlus and Seitz, 2006).

This paper employs the SWITCH microsimulation model for Ireland (Keane et al., 2022), linked to a discrete choice labour supply model for married couples, to simulate the effect of individualising the Irish income tax system on the distribution of income and the labour supply of married men and women. The SWITCH model is based on the Survey of Income and Living Conditions (SILC) survey data, linked to administrative information on income and benefits, allowing for a detailed simulation of the impact of the reform. Our model integrates potential childcare costs, one of the major barriers to secondary work, providing a comprehensive framework to explore the relationship between income taxation regimes and labour supply. By estimating the behavioural response to a fully individualised income tax

system in Ireland, we offer detailed insights into its effects on income distribution and the public finances.

This analysis is particularly pertinent given the persistent gender gap in labour market participation across many European countries, where the average employment rate difference between men and women was still 10.7 pp in 2022 (Eurostat[1]). Indeed, recent work by Doorley and Keane (2024a) indicates that Ireland has one of the highest gender gaps in income in the EU and that this gap is largely driven by the gender gap in employment, with the gender wage gap playing a smaller role.

As a robustness exercise, we also estimate an alternative structural labour supply model that abstracts from gender and instead classifies individuals based on their role within the household as either the primary or secondary earner, using predicted potential earnings. This complementary specification allows us to isolate behavioural responses to financial incentives associated with earnership status, irrespective of gender. By comparing results across both models, we are able to assess the extent to which labour supply responses are driven by economic positioning within the household, and what portion may be attributed to broader gendered constraints, such as norms, unpaid care responsibilities, or institutional factors. This approach contributes to the literature by offering an empirical strategy to approximate the "residual gender effect" beyond economic incentives alone.

Our study contributes to the economic literature in several ways. First, it provides a robust empirical assessment of the labour supply responses to tax individualisation in a contemporary European context, using Ireland as a case study. Second, we incorporate childcare costs into the analysis, highlighting an often-overlooked aspect of labour supply decisions that strongly affect women (Kornstad and Thoresen, 2007; Doorley and Keane, 2023; Doorley et al., 2025). Third, we provide crucial evidence to inform any future changes to the Irish tax code. Fourth, we propose an alternative modeling strategy based on earnership status. This comparison helps identify the extent to which labour supply responses are explained

[1]See Eurostat statistics here.

by tax-induced economic incentives versus unobserved gendered factors, contributing to the literature on intra-household decision-making and gender equality.

2 Institutional setting

There are two primary systems for the joint taxation of couples. The aggregation system combines the incomes of both spouses and taxes the total as a single amount, using the same rates and bands that apply to individuals. To offset the financial disadvantage this creates for married couples, it is typically supplemented with a couple's allowance or tax credit. In contrast, the income splitting system combines both spouses' incomes but then divides the total equally, taxing each spouse as if they had earned half. This approach provides a financial advantage to married couples by allowing full transferability of tax rates and bands. From 1980 to 1999, Ireland operated an income splitting approach, enabling married couples to lower their tax liabilities compared to cohabiting couples by sharing allowances and rate bands.

Between 2000 to 2002, the amount of the standard rate tax band that could be shared between members of a one-earner married couple decreased by around two-thirds.[2] As noted by Doorley (2018), in 1999 100% of the standard rate band was transferable between couples. This decreased incrementally in the two subsequent Budgets, reaching 32% transferability in 2002. This ratio has remained fairly stable since then.

Table 1 shows the way that singles, one-earner couples and two-earner couples were assessed for income tax in Ireland in 2022, the year to which our study pertains. There are two rates of income tax. The standard rate is 20% while the higher rate is 40%. For singles, the cut-off point, above which the individual pays tax at the higher rate, was €36,800 in 2022. Singles could avail of a personal tax credit, of €1,700, and either an earned income tax credit of €1,700 if they were self-employed or an employee tax credit for the same amount if they were employees.

[2]Civil partners are treated the same as married couples.

For one-earner couples, the standard rate band was €9,000 higher than for singles (or 28% of the standard rate band higher). The personal tax credit can be transferred between members of a one-earner couple to reduce the earner's final tax bill. However, the earned income tax credit and the employee tax credit are individual (and linked to earning) and are not transferable.

Dual-earner couples can benefit from a maximum standard rate band of €73,600 (exactly twice the amount of the standard rate band for singles) but only if the secondary earner's income is high enough. The standard rate band for dual-income couples is increased by the lower of €36,800 and the income of the secondary earner. Similar to one-earner couples, the personal tax credit can be shared between members of a two-earner couple but the employee/earned income tax credit cannot.

Table 1: The tax assessment of singles and couples in Ireland in 2022

	Single	One-earner couple	Two-earner couple
Standard income tax rate	20%	20%	20%
Higher income tax rate	40%	40%	40%
Standard-rate cut-off	36,800	45,800	73,600
Personal tax credit per person (fully transferable)	1,700	3,400	3,400
Earned income tax credit per self-employed person	1,700	1,700	1,700
Employee tax credit per employee	1,700	1,700	1,700

Notes: The standard rate cut-off (SRCO) for two-earner couples is increased (compared to the SRCO for singles) by the lower of €36,800 and the earnings of the secondary earner.

3 The model

We estimate a discrete choice structural labour supply model to describe the labour supply of couples in Ireland, following the work of Aaberge et al. (1999); Van Soest (1995); Bargain et al. (2014a); Doorley et al. (2025). A discrete choice labour supply model allows us to simulate labour supply decisions within households, accounting for both partners' labour supply and their interactions. Additionally, the model allows for flexible specifications of both the

utility function and the budget constraint. In particular, it provides a straightforward way to account for the non-linear and non-convex budget sets of tax and benefit systems when modeling labour supply of couples. A key feature of this framework is the discretisation of the choice set, where the labour supply decision is limited to a defined set of alternatives. This setup effectively represents non-participation (inactivity), part-time, and full-time employment, thus enabling the estimation of both extensive and intensive margins and being broadly representitive of the contract choices typically available to workers.

We model the labour supply decision of individuals, defined as the utility maximizing choice between a set of discrete hours choices. Let $U(C, H^m, H^w)$ 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 $j = 1, ..., J$ can be written as:

$$U_{ij} = V(C_{ij}, H^m_{ij}, H^w_{ij}, Z_i) + \epsilon_{ij}$$

where V_{ij} is a deterministic function which depends on households' characteristics and the alternatives and ϵ_{ij} is a random error term. If ϵ_{ij} 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:

$$P_{ij} = \frac{\exp V(C_{ij}, H^m_{ij}, H^w_{ij}, Z_i)}{\sum_{k=1}^{J} \exp V(C_{ik}, H^m_{ik}, H^w_{ik}, Z_i)}$$

Identification is conditional on the a-priori functional form of the structural utility term. Following Soest (1995) and Blundell et al. (2000), we assume a quadratic form in income and leisure. This specification offers flexibility and ease of estimation, as it is linear in its parameters and can accommodate the analysis of both linear and nonlinear benefit changes.[3]

[3] A comprehensive review of the sensitivity of the estimates to modelling choices by Löffler et al. (2018) reveals that the choice of a quadratic specification over a translog or Box-Cox, for example, does not unduly influence the result of a labour supply model.

The deterministic utility function of a couple is specified as follows:

$$\begin{aligned} V_{ij} =& \beta_{ci} C_{ij} + \beta_{cc} C_{ij}^2 + \beta_{h_w i} H_{ij}^w + \beta_{h_m i} H_{ij}^m + \beta_{h_{ww}} (H_{ij}^w)^2 + \beta_{h_{mm}} (H_{ij}^m)^2 + \beta_{ch_w} C_{ij} H_{ij}^w \\ &+ \beta_{ch_m} C_{ij} H_{ij}^m + \beta_{h_m h_w} H_{ij}^w H_{ij}^m - \alpha_j^w * 1(H_{ij}^w > 0) - \alpha_j^m * 1(H_{ij}^m > 0) \end{aligned} \tag{1}$$

where C_{ij} is the household's consumption in choice j, H_{wi} and H_{mi} are the hours worked by women and men, respectively. The β coefficients represent the preferences for consumption and hours worked, and the α coefficients represent the fixed costs of participating in the labour market.

More specifically, β_{ci} is the coefficient for household i reflecting the marginal utility of consumption, β_{cc} is the coefficient capturing the curvature of the utility function with respect to consumption, β_{hwi} and β_{hmi} are the coefficients representing the marginal utility of hours worked for women and men, respectively, β_{hww} and β_{hmm} are the coefficients representing the quadratic terms for hours worked, indicating diminishing returns to labour. β_{chw} and β_{chm} capture the interaction between consumption and hours worked for women and men, and β_{hmhw} represents the interaction term between the hours worked by both partners.

The fixed costs of labour market participation are captured by α_w and α_m, which represent the fixed costs for the woman and the man to participate in the labour market, respectively. These fixed costs are included as binary indicators $1(H_{wi} > 0)$ and $1(H_{mi} > 0)$, which take the value of 1 if the individual works any positive amount of hours and 0 otherwise. The introduction of these fixed costs of work improves the fit of the model and allows to implicitly account for differences in demand-side constraints and the availability of jobs (Callan et al., 2009). This detailed specification of the utility function allows us to model both the intensive and extensive margins of labour supply decisions, providing a comprehensive framework for evaluating the impact of tax and benefit policies on household labour supply.

We assume that preferences vary across households through taste-shifters on coefficients on consumption and work hours:

$$\beta_{ci} = \beta_c^0 + z_i^c \beta_c + v_i \tag{2}$$

$$\beta_{h_w i} = \beta_{hw}^0 + z_i^w \beta_{hw} \tag{3}$$

$$\beta_{h_m i} = \beta_{hm}^0 + z_i^m \beta_{hm} \tag{4}$$

where z_i^c, z_i^w and z_i^m are vectors including age groups, number of children and their age, other income, education level, living in an urban area, and childcare costs. The term β_{ci} 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 a choice between three alternatives for each individual, which corresponds to $J = 3 * 2 = 6$ alternatives in total for the couple. The alternatives are chosen based on observed clustering in the data around certain hours choices. The possible choices for women are: Non-Participation (0 hours of work), Part-time work (1-25 hours of work), Full-time work (26 or more hours of work). For men, the working hours set are restricted to: Non-Participation (0 hours of work) and Full-time work (1-49 hours of work).

For each discrete choice, disposable income (equivalent to aggregate household consumption in a static framework) is calculated as a function of the hourly wage rate (w_i), hours of work by women and men (H_{ij}^m, H_{ij}^w), non-labour income (y_i) and household characteristics (z_i). The consumption function can then be theoretically derived as follow:

$$C_{ij} = d(w_i^m H_{ij}^m, w_i^w H_{ij}^w, y_i, z_i)$$

The function d is computed using the national microsimulation model SWITCH (Keane et al., 2022).This microsimulation model allows us to compute disposable income by simulating the national tax and benefit system applied to counterfactual earnings scenarios. Wage rates for women and men in each household i (w_i^m, w_i^w) are computed using gross earnings divided by working hours. To predict wages for non-workers, we estimate a Heckman-corrected

wage equation (Heckman, 1979), which accounts for the differences in characteristics between workers and non-workers. Assuming that the error terms in the wage models are normally distributed, we add a single random error term to each wage prediction as ignoring these in a nonlinear labour supply model would lead to inconsistent estimates of the structural parameters. For wages that are predicted to be less than 90% of the National Minimum Wage (NMW), we re-draw an error term until each potential worker has a predicted wage that is at least 90% of the NMW.[4] To address the division bias issue (Borjas, 1990) (inaccuracies in hourly wage estimates caused by using wages divided by hours of work, which can vary significantly due to irregular work patterns and non-reporting of actual hours worked), we use predicted wages for all observations.[5] This two-stage procedure, which is a common practice (Creedy and Kalb, 2005), allows us to minimize division bias by avoiding direct calculations of wages divided by hours. This approach also avoids the issue of having two distinct wage distributions for non-workers and workers.

In addition, we introduce potential childcare costs to the labour supply model. This consideration is motivated by the understanding that childcare expenses significantly influence parents' employment decisions, particularly for women. Research consistently shows that childcare costs are a major determinant of labour supply, as high costs can substantially reduce the financial benefits of working, often leading to reduced hours or complete withdrawal from the labour force (Del Boca and Vuri, 2007; Hofferth and Collins, 2000). Specifically for Ireland, successive OECD reports have suggested that childcare costs in Ireland are among the highest in the OECD.[6] Despite their importance, these costs are frequently overlooked in traditional labour supply models.

To address this gap, we compute potential childcare costs using SWITCH. For each set of working hours, we determine the corresponding childcare expenses based on the number of

[4]Research by Bargain et al. (2019) and McGuinness et al. (2020) suggests that non-compliance with the Irish NMW is low

[5]See also Aaberge et al. (1999) and Bargain et al. (2014b).

[6]The out-of-pocket childcare costs for a two-earner couple with two children in full-time care were estimated to exceed one-third of women's median full-time earnings in Ireland in 2019. This was one of the highest ratios in the OECD (OECD (2020)

hours worked by the couple member working the fewest hours. Out-of-pocket childcare costs for those children in childcare are available in the SILC data and we average the hourly cost by age of the child cared for. This hourly cost is combined with the minimum working hours within each couple to derive the potential cost of childcare at each labour supply alternative. The net cost of childcare is then added in the taste-shifters of preferences for leisure of women and in the fixed cost of working for both partners. By incorporating these costs, our model provides a more comprehensive and realistic analysis of labour supply decisions, accounting for both the pecuniary and non-pecuniary attributes that influence parents' choices.

To simulate the effect of individualising the taxation system in Ireland, we create an alternative tax-benefit policy system in SWITCH which is used to approximate the function d. This counterfactual treats members of both one-earner and two-earner married couples as if they were single for the purpose of taxation by (i) not allowing them to share any of their standard rate band (as outlined in Table 1) and (ii) not allowing them to share their personal tax credit.[7] Applying this alternative tax-benefit system to our representative survey data, we recover a new disposable income distribution, before any behavioural response. We use this counterfactual income distribution to estimate the distributional effect of individualising the income tax system. Applying the paramaters of the estimated labour supply model to this new disposable income distribution allows us to simulate the new, optimal labour supply choices of married couples. This behaviourally-adjusted scenario is then compared to the baseline to ascertain the likely labour supply response to individualing the Irish tax system.

4 Data

This analysis makes use of the Irish microsimulation model, SWITCH, as described and validated in Keane et al. (2022). This model is connected to the 2022 Irish Survey on Income and Living Conditions (SILC 2022), which is linked to administrative data on earnings and welfare from the Irish Revenue Commissioners and the Department of Social Protection. The

[7]The Home Carer's tax credit is retained under the reform scenario.

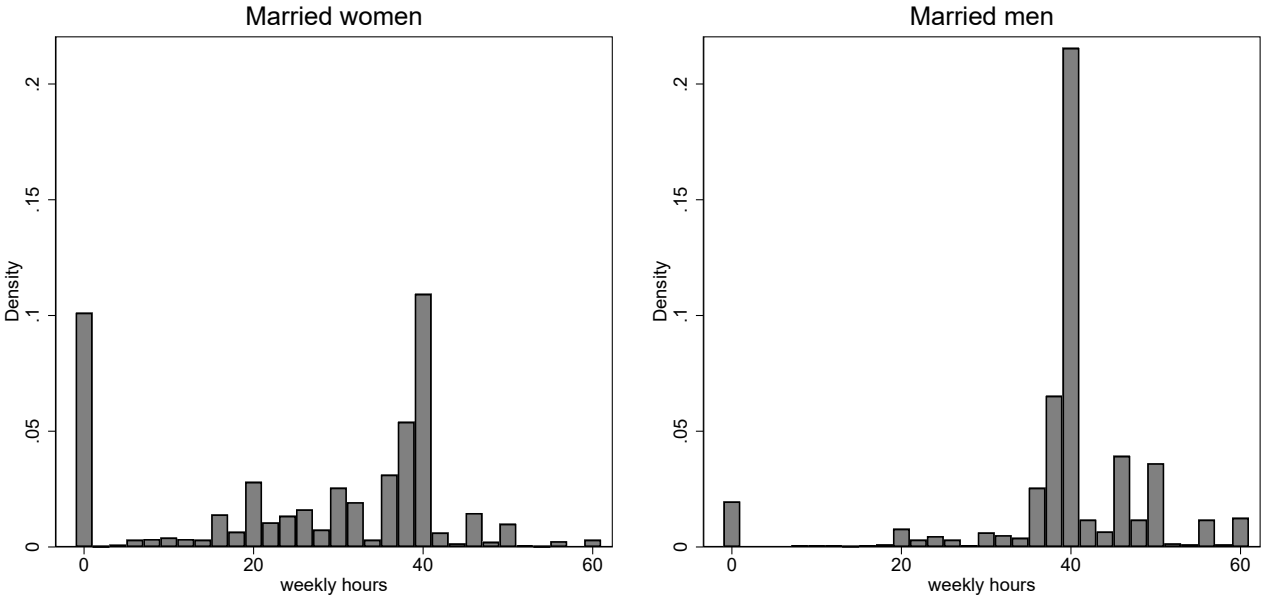
survey information, combined with administrative data, provides a comprehensive overview that includes current income, primarily sourced from administrative records for most income variables and specific benefit receipt. Additionally, the model accounts for non-cash benefits, such as childcare subsidies. For the estimation of labour supply, we restrict our sample to married couples, aged between 19 to 65 years old who are neither students, self-employed, disabled nor retired. We have a sample of 1,070 couples, for which both spouses are available for the labour market.

Figure 1 shows the distribution of hours worked by married women and men in the selected sample. The typical spikes in labour supply for women are observable at 0, 20, and 40 hours per week. For men, we observe spikes at 0 and 40 mainly, with a significant share working over 40 hours per week as well. In our model, we discretise actual hours of work for women as follows: 1-25 corresponds to 20 hours (part-time), 26 or more corresponds to 40 hours (full-time). For men, we consider non-participation, corresponding to 0 hours, or full-time participation.

The significant proportion of women working 0 hours compared to men reflects their relatively lower labour market attachment. The discretised working hours data indicate that the non-participation rate for married women is 17.31%, while it is just 3.97% for married men. Additionally, there is a noticeable concentration of women working 20 hours per week. This suggests that there is potential for women to increase their working hours in response to a taxation reform that reduces their marginal effective tax rate.

Table 2 shows descriptive statistics for married women and men in our sample. The data indicate that men are, on average, slightly older than women, with mean ages of 46 and 44 years, respectively. Educational attainment shows a notable gender difference: 80% of women have tertiary education, compared to 69% of men, confirming the recent trend of women outperforming men in education in Ireland Bercholz and FitzGerald (2016). A tiny minority of the estimation sample (both men and women) have only primary education. Women's working hours, at 29 per week, are significantly lower than men's, at 40 per

Figure 1: Weekly working hours distribution by gender



Notes: Average weekly hours of work for married women and men in Ireland. Sample is married couples aged 18-65 who are fit to work and not self-employed. Source: 2022 SILC.

Table 2: Selected sample descriptive statistics

	N	Mean	SD	Min	Max
Age women	1070	44.33	8.13	26.00	63.00
Age men	1070	46.14	8.38	28.00	65.00
Urban	1070	0.35	0.48	0.00	1.00
Prim. educ. women	1070	0.01	0.10	0.00	1.00
Prim. educ. men	1070	0.01	0.11	0.00	1.00
Tert. educ. women	1070	0.80	0.40	0.00	1.00
Tert. educ. men	1070	0.69	0.46	0.00	1.00
Market income	1070	2317.22	1121.54	0.00	42234.92
Disposable income	1070	1711.53	671.49	2.00	33468.88
Mean hours women	1070	28.68	15.39	0.00	40.00
Mean hours men	1070	39.84	8.82	0.00	50.00
Hourly wage women	1070	25.68	13.09	9.45	80.00
Hourly wage men	1070	37.47	17.02	9.45	103.35
Number of children	1070	0.89	1.03	0.00	4.00
Non-labour income	1070	180.40	1892.80	0.00	175087.69
Observations	1070				

Notes: Calculations using the microsimulation model, SWITCH linked to 2022 SILC. Sample is married couples aged 18-65 who are fit to work and not self-employed.

week, largely due to a higher proportion of women either not working or working part-time. Additionally, the predicted hourly wage remains higher for men, averaging €37 compared to €26 for women. This highlights a persistent and substantial gender wage and gender work gap among the Irish population.

5 Results

5.1 Employment effects

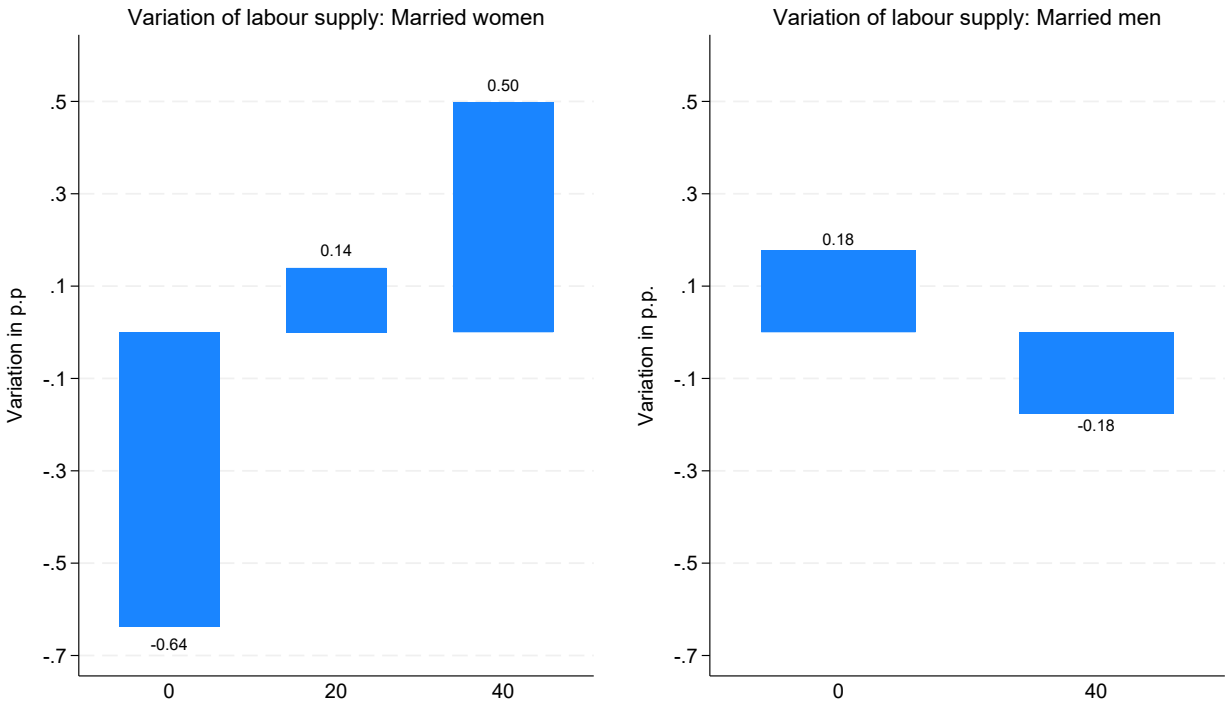
In this section, we present our estimates of the behavioural response to the hypothetical move to individual taxation using the discrete choice labour supply model outlined in Section 3. Figure A.1 in the Appendix shows how well the model fits the observed data. In general, we find that the model has difficulty in distinguishing between the two working choices of women, over predicting full-time work for women, compared to part-time work and under-predicting non-participation of women. Our results should be interpreted in light of this misalignment as potentially representing an under-estimate of the female labour supply response to tax individualisation.

We estimate the effect of the individual tax reform on the labour supply of men and women at the intensive (decision to work) and extensive (number of hours) margins. Figure 2 shows the effect of the reform on the decision to work. For married women, we find that individualising the tax system would increase labour supply. We find a 0.64 percentage points reduction in the number of women who do not work. Most of these women shift from non-participation to full-time work (0.5 p.p. increase in full-time work), and a smaller proportion shifts to part-time work (+0.14 p.p.). This is consistent with women who are secondary earners having a higher financial incentive to work in an individualized taxation system. For married men, we find smaller changes to labour supply, with a decrease in the participation rate of 0.18 p.p. We thus observe a small intra-household substitution effect, as the increase

in working hours for women is coupled with a decrease in labour supply for men.

Table 3 shows how these results translate into average working hours for men and women. We find that the average working hours for women increase by 0.64% while avearge working hours of men decrease by around half this, at 0.37%.

Figure 2: Employment effect of the reform



Notes: Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data. Sample is married women and men who are fit to work and not self-employed. Predictions for 0, 20 and 40 hours for women and 0 and 40 hours for men are based on the labour supply model described in Section 3.

Table 3: Mean working hours by gender

Gender	Baseline	Reform	Difference (%)
Married women	35.55	35.78	+0.64
Married men	48.00	47.82	-0.37

Notes: Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data. Sample is married women and men who are fit to work and not self-employed. Predictions are based on the labour supply model described in Section 3.

5.2 Distributional effects

5.2.1 Effect on income and poverty

In this section, we examine the distributional impact of switching from a partially joint to a fully individualised tax system. We present here both the static (morning-after) effect and the distributional effects after accounting for the behavioural adjustments. Figure 3 shows the effect of the reform by income level where the population is divided into equally sized groups ranging from the lowest income fifth (quintile 1) to the highest income fifth (quintile 5) for both the static (day-after effect) and the post-behavioural effects. The blue bar shows the static effect. We find that the reform mainly affects higher income households (quintiles 4-5 are the most affected). The lower parts of the income distribution are less affected as many of these households have one or no earners and are thus not affected by the switch from joint to individual taxation. Alternatively, two-earner couples at the lower end of the income distribution may not earn enough to pay the higher rate of tax and are therefore unaffected by the reform. Losses average 5.1% of disposable income across all households but reach 7.1% of disposable income for the highest income quintile.

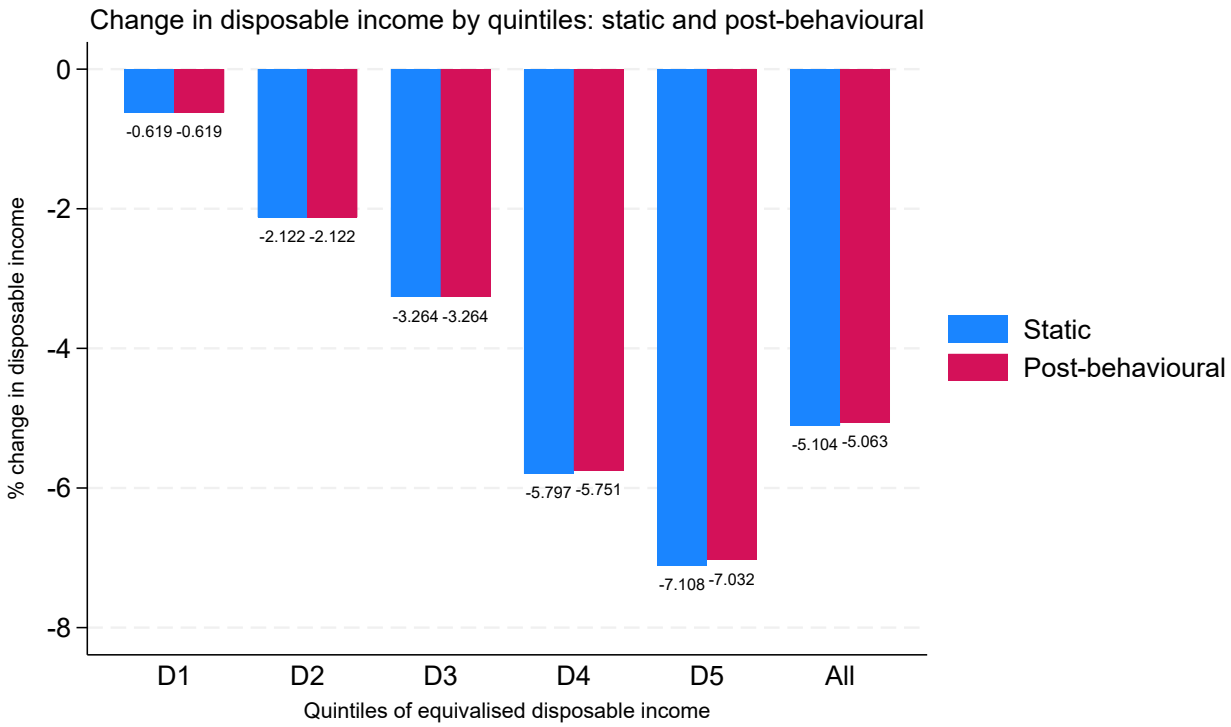
We next investigate how the behavioural responses estimated in the previous section affect the impact of tax individualisation on income distribution.

The red bars in Figure 3 show the reform's impact after the behavioural adjustment. Accounting for labour supply adjustments slightly reduces the negative effect of the reform

on household disposable income. The attenuation effect is very small on average, reflecting the modest labour supply increase of women and the counteracting small labour supply decrease of men.

Even after accounting for the behavioural response, tax individualisation would lead to a net reduction in disposable income. It does so in a relatively progressive manner, affecting higher-income groups more acutely. This results in a reduction in income inequality as measured by the Gini coefficient. We estimate that the Gini coefficient would decrease from 0.27 to 0.26 as a result of the reform.

Figure 3: The change in disposable income due to tax individualisation by income quintiles



Notes: Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data. Sample is married women and men who are fit to work and not self-employed. Predictions are based on the labour supply model described in Section 3.

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5.2.2 Effects on women's economic independence

A large literature points to the gender gap in financial independence and its consequences in the European Union (EIGE, 2024) and elsewhere (Wang, 2014; Stevenson and Wolfers, 2006; Doepke and Tertilt, 2009). Being financially dependent is linked to a number of negative outcomes, such as diminished physical and mental health and limited access to education, paid work, and entrepreneurial opportunities. It also decreases the "outside options" of women (Doss (2013); McElroy and Horney (1981)) and increases the risk of experiencing domestic and intimate partner violence. One policy tool for reducing the gender gap in financial independence is the tax and welfare system which, by redistributing between rich and poor, also performs some redistribution by gender. Avram and Popova (2022) and Doorley and Keane (2024b) show that, in Europe, taxes and social transfers (with the notable exception of retirement pensions) tend to reduce the gender income gap, although insufficiently to compensate for gaps in earnings and participation.

An individual income tax system, as well as redistributing between primary and secondary earners, also maintains a financial incentive for secondary earners to participate or participate more in the labour market. This makes it a powerful tool for promoting women's economic independence, which enhances their bargaining power within households and reduces their vulnerability in the face of separation, job loss, or shifts in household composition.

Moving beyond their impact on employment, it is crucial to examine how reforms which promote gender equality impact women's individual economic situations. We assess a range of outcomes that speak to women's economic autonomy. These include changes in individual earnings, the number of women in paid employment, and their contribution to total household income. Analysing these indicators allows us to better understand how the reform may shift intra-household dynamics and support greater financial autonomy for women.

As a result of the reform, the weighted number of married women not participating in the labour market decreases from 32,739 to 29,628, representing a reduction of approximately 9.5%. This shift suggests that the reform may contribute to weakening the male breadwin-

ner model by encouraging more equal labour market participation within couples, thereby supporting the economic independence of women.

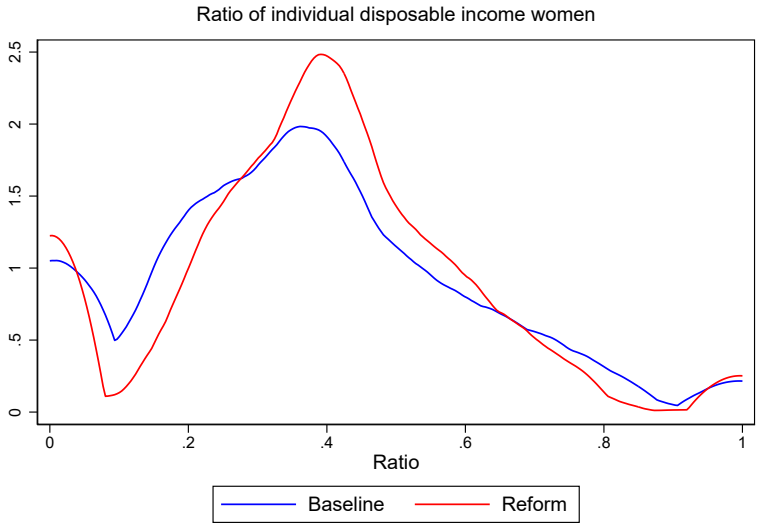
In evaluating the reform's impact on women's economic independence, we consider both the distribution of individual earnings among married women and their relative contribution to total household income.

Figure 4 illustrates the distribution of the ratio of women's disposable income to total household disposable income, a widely used indicator of intra-household financial autonomy. The reform leads to a visible shift in this distribution, with a greater proportion of women contributing a higher share of household income. This change reflects a movement towards more equitable intra-household income dynamics which previous work has shown to influence the final allocation of resources within a household (Chiappori, 1988; Doss, 2013).

Figure 5 shows the ratio of women's disposable income to that of their male partner. We also observe a shift to the right in the distribution, indicating a decline in the number of households where women earn less than their partner (i.e. where the ratio is below 1). Nevertheless, in the majority of cases, women's disposable income remains lower than their male partner's.

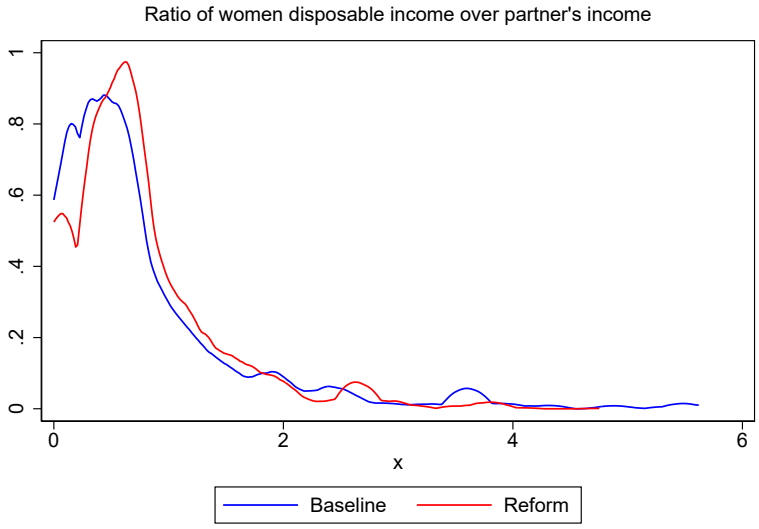
While the magnitude of these changes may be considered moderate, they are nonetheless meaningful. Further progress could be made in improving the economic independence of women in Ireland by tackling other barriers to work, such as affordable childcare and elder care. These could potentially be financed by the additional revenue generated by the reform, discussed in the next Section.

Figure 4: Distribution of women's economic independence ratio



Notes: Distribution of women's disposable income over the total household disposable income before and after the tax reform and the predicted labour supply adjustment. Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data. Sample is restricted to married women and men who are fit to work and not self-employed.

Figure 5: Ratio of women's income over partner's income



Notes: Distribution of the ratio of women's disposable income over their partner's before and after the tax reform and the predicted labour supply adjustment. Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data. Sample is restricted to married women and men who are fit to work and not self-employed.

5.3 Budgetary effects

Table 4 presents the estimated net budgetary effects of the individualisation of income taxation, comparing the immediate "day-after" static results with those that incorporate behavioural adjustments. Under the static scenario, which assumes no change in individuals' labour supply or consumption behaviour, the reform yields a substantial net revenue gain of approximately €6.66 billion, largely driven by an increase of €6.69 billion in revenues from income taxes and social contributions. This increase reflects the direct effect of higher effective tax liabilities for many dual-earner couples.

On the expenditure side, the increase in revenue is accompanied by a modest rise in certain social transfers and in-kind benefits. Notably, spending on family and education benefits increases by €22.28 million, mainly driven by a slight increase in the Working Family Payment (an in-work benefit). Expenditure on the National Childcare Scheme, which provides universal and means-tested childcare subsidies, and on medical and GP visit cards, which provide free medical care to low income households, also rise slightly. These increases occur because some households, now subject to higher taxation under the reform, experience a reduction in assessable income and consequently become newly eligible for income-tested benefits. Nevertheless, the increase in benefit payments remains small in comparison to the additional revenue generated, indicating that the reform has a strongly positive fiscal impact even before accounting for any behavioural responses.

The behavioural response to the reform slightly amplifies the reform's positive fiscal impact. Revenue from taxes and social security contributions increases by €36.15 million. This reflects the higher participation and hours worked by women. At the same time, some benefit categories (e.g., NCS and means-tested GP cards) remain stable.

The resulting net fiscal gain rises to €6.73 billion post-behavioural adjustment, confirming the reform's strong potential to improve the public budget position. This surplus could be used to mitigate some of the income losses for households by increasing tax bands or to finance complementary social policies, such as subsidised childcare, in-work benefits, or active labour

market programmes, which would further strengthen women's labour force attachment and economic independence.

Table 4: Annual budgetary effects of the reform: static and post-behavioural adjustments

Variable	**Static**		**Post-behavioural**	
	Variation (€M)	**Variation (%)**	**Variation (€M)**	**Variation (%)**
+ Revenues (taxes and social contributions)	6,693.40	23.48	6,729.55	23.55
- Family and education benefits	22.28	0.52	22.28	0.52
- National childcare scheme	2.49	1.72	2.49	1,72
- Medical and GP visit cards	10.03	0.09	10.03	0.09
Change in net revenue	**6,658.60**		**6,694.76**	

Notes: Fiscal overview of the individual tax reform without behavioural adjustment (Static) and post-behavioural adjustment. Author's own calculations using the microsimulation model SWITCH linked to 2022 SILC data.

6 Robustness Check: A labour supply model by earnership status

Our main analysis, employing a discrete choice structural labour supply model for couples, indicates that the transition to a fully individualised tax system significantly impacts household labour supply, with particularly pronounced effects for married women. As highlighted, the current hybrid Irish tax system creates specific financial disincentives for secondary earners, a group predominantly composed of women. This strong correlation between gender and earner status makes it challenging to fully disentangle the extent to which the observed labour supply responses are driven by the altered economic incentives tied purely to being a primary versus a secondary earner, versus other gender-related factors such as differing preferences, social norms, or unobserved constraints. To further examine the mechanisms underlying the observed behavioural responses and assess the role of earner-specific incentives, we conduct

a complementary analysis using an alternative modelling approach. Specifically, we estimate a structural labour supply model that abstracts from gender within the couple and instead categorises partners based on their earnership status, identifying them as either the primary or secondary earner within the household. The purpose of this specification is to isolate labour supply elasticities and behavioural responses that arise directly from differences in economic incentives, particularly the distinct marginal effective tax rate associated with an individual's relative earnings position within the household.

This approach is particularly useful given that the existing economics literature has long established that women's labour supply is shaped not only by economic incentives but also by gendered norms, the unequal distribution of unpaid care work, and broader institutional and social constraints (Budlender, 2008; Antonopoulos, 2009; Himmelweit, 2002; Himmelweit et al., 2013). These factors are unlikely to be captured by a model based solely on differences in income contribution, and yet they significantly influence women's participation in paid work. By drawing on this body of work, we acknowledge that the labour supply responses observed in our main model are likely driven by more than just changes in financial incentives, and that a portion of the response, particularly for married women, may reflect these broader gender-related dynamics.

Comparing the predictions of the earnership-based model with those of our main couple model, which explicitly accounts for gender, allows us to estimate the extent to which these gender-specific factors contribute to the overall response. Any substantial divergence between the two models would suggest the presence of an additional effect tied not to earnership but to gendered experiences, preferences, or constraints. Our analysis thus provides an empirical way to approximate the impact of these unobserved factors, contributing to a wider critique of unitary economic models (Apps and Rees, 2009; Himmelweit, 2002). Finally, this modelling strategy could also be applied to same-gender couples, where earnership status may be a more meaningful dimension of analysis, thereby helping to separate structural from socio-normative drivers of labour supply.

We first estimate the labour supply model specific to primary and secondary earners and then we compare the labour supply reactions to the tax individualisation reform with those obtained from our main couple-based model presented earlier. In this specification, we identify the primary earner within each couple as the partner with the higher predicted hourly wage, based on a wage equation estimated using a Heckman selection model (Tables A.0.1 and A.0.2). This approach allows us to classify earners according to their potential earning capacity, rather than their observed earnings, thereby accounting for the fact that some individuals with high earning potential may not currently be in paid employment. Based on this definition, we find that 71.35% of primary earners are men, with the remainder being women.

To simplify the modelling framework and facilitate comparison across earners, we restrict the choice set for both primary and secondary earners to two discrete working hour options: 0 and 40 hours per week. Even though this simplification can be a strong assumption, it ensures consistency in how both earners are treated and avoids the complications that would arise from offering part-time options only to secondary earners. We also made slight adjustments to the model relative to our main specification in order to improve the fit, particularly for secondary earners. This analysis should be seen as a robustness check and a suggested direction for future research rather than a fully optimised alternative specification.

Tables A.0.5 and A.0.6 presents the results of the labour supply model by earnership status and can be compared to the gender-based model in Tables A.0.3 and A.0.4. The key difference between the two specifications lies in how preferences for leisure and income are shaped by individual and household roles. In the gender model, the negative leisure coefficient for women suggests an average disutility from not working. In contrast, the earnership model shows a positive leisure coefficient for secondary earners, indicating that non-participation is associated with higher disutility for women, possibly reflecting greater exposure to care responsibilities. Education and income positively influence labour supply in both models, the size and direction of these effects differ by specification. Tertiary education, for instance,

increases labour supply among men and primary earners, but the effect is weaker or even negative among women and secondary earners, possibly reflecting opportunity costs or different labour market attachments.

Age, education, children, and income have broadly similar effects across both models, but their magnitudes and interpretations differ. Labour supply follows a U-shaped pattern with age, with older secondary earners less likely to work and older primary earners more likely to participate. Education generally increases participation, though more strongly for men and primary earners, while secondary earners with higher education may face greater opportunity costs. The presence of young children significantly reduces participation for secondary earners, consistent with higher fixed costs of work. Finally, income positively affects labour supply in both models, with a particularly strong marginal utility of income for women in the gender model.

Tables A.0.7 and A.0.8 show the variation in working hours as a result of the individual tax reform for primary and secondary earners respectively. The much smaller labour supply response to the reform in the earnership-based model (+0.05 percentage points for secondary earners) compared to the gender-based model (+0.65 percentage points for women) suggests that economic incentives related to earnership status alone cannot fully explain the behavioural adjustment. This difference is consistent with the coefficient patterns: secondary earners display a positive utility from non-participation and face large fixed costs related to children, both of which reduce their responsiveness to tax changes. In contrast, the gender model captures a stronger disutility from non-work among women and significant interactions with age and income, indicating a more elastic response to financial incentives among those most affected by joint taxation.

These results reinforce the idea that a substantial part of the labour supply response is not explained by role-based economic incentives alone but reflects broader gender specific factors which influence preferences, such as unpaid care responsibilities, social norms, or institutional barriers (Budlender, 2008; Antonopoulos, 2009; Himmelweit, 2002; Apps and

Rees, 2009).

7 Conclusion

This paper has investigated the effect of individualising the income tax system in Ireland on the distribution of income, the exchequer and the labour supply of married couples. Since the partial individualisation of the income tax system in 2000, Ireland has operated a hybrid system which is neither fully joint nor fully individualised. A move to full individualisation on a phased basis has been suggested, among others, by the Commission on Taxation and Welfare COTW (2022).

We find that individualising the income tax system, without any compensating mechanisms, would increase exchequer revenue by €6.69 bn per annum before any behavioural response. The reform would result in income losses across the income distribution, which are progressive in nature. Low-income households (in the lowest two income quintiles) would lose 1-2% of disposable income, on average, while high income households (in the top two income quintiles) would lose 6-7% of disposable income, on average.

We estimate the behavioural response of married couples to a move to individualised taxation. We find that the reform would increase the participation rate of married women (by 0.65 pp). By contrast, we also find that the reform would decrease the hours worked of married men. This reflects the current gender division of work and caring roles in Ireland and elsewhere which results in most secondary earners being women. This result signifies that moving to individual taxation could result in some convergence between the labour supply of married men and women. This could have important knock-on effects on the the relative consumption of spouses (Lise and Seitz, 2011b; Lundberg et al., 1997) and the financial independence of women (EIGE, 2024) with consequences for the wider macroeconomy Elborgh-Woytek et al. (2013).

As a robustness check, we also estimate an alternative model that classifies individuals

by earnership status rather than gender. The labour supply response under this specification is much smaller, suggesting that a substantial part of the female response is not driven by financial incentives alone, but reflects broader gendered constraints which affect preferences for work, such as unpaid care responsibilities and social norms. This marks a contribution to feminist economic debates on the importance of considering structural and institutional barriers to the financial independence of women.

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A Appendix

Table A.0.1: Heckman selection model estimates for hourly wages

	Coefficient	Standard-error
Hourly wage		
Age	0.569	0.173
Age^2	-0.005	0.002
Secondary education		
Tertiary education	13.114	0.789
Irish	2.299	0.753
Married	0.825	0.445
Child	-0.288	0.308
Constant	-5.824	3.897
Select		
Tertiary education	0.829	0.055
Non-labour income	-0.000	0.000
Child	-0.064	0.022
Child¡3	0.084	0.044
Child 3-6	-0.002	0.038
Constant	0.308	0.050
Inverse Mills Ratio	15.787	
N	2529.000	

Notes: Sample is married women aged 18-65 years old fit to work, using 2022 SILC data.

Table A.0.2: Heckman corrected model of hourly wages for men

	Coefficient	Standard-error
Hourly wage		
Age	0.897	0.289
Age^2	-0.007	0.003
Secondary education	-0.403	3.499
Tertiary education	10.600	3.454
Irish	3.486	1.474
Married	6.481	1.141
Child	0.806	0.445
Urban	4.981	0.866
Constant	-10.020	6.834
select		
Tertiary education	0.520	0.087
Non-labour income	0.000	0.000
Child	0.106	0.041
Constant	1.004	0.070
Inverse Mills Ratio	-4.721	
N	2074.000	

Notes: Sample is married men aged 18-65 years old fit to work, using 2022 SILC data.

Table A.0.3: Labour supply estimates : Leisure and income

	choice
Mean	
Leisure women	-1.669***
	(-45.76)
Leisure women^2	0.0136***
	(46.87)
Leisure women^2 * Children	0.00879
	(0.45)
Leisure women * Age	-0.0120***
	(-11.45)
Leisure women * Age^2	0.000165***
	(7.18)
Leisure women * Age^3	-0.000000437**
	(-2.60)
Leisure women * Children < 12	-0.836
	(-0.43)
Leisure women * Children < 6	-0.0570
	(-0.41)
Leisure women * Income	0.0000120***
	(72.83)
Leisure women * Childcare cost	0.00604
	(0.40)
Leisure men	-0.125***
	(-9.89)
Leisure men * Age	0.00764***
	(8.94)
Leisure men * Age^2	-0.000164***
	(-8.72)
Leisure men * Age^3	0.00000119***
	(8.82)
Leisure men * Tertiary educ	0.00891***
	(25.70)
Leisure men * Primary educ	0.00310***
	(3.79)
Income * Tertiary men	0.000257***
	(19.20)
Income * Nb children	-0.000414***
	(-74.41)
Income * Nb children <3	-0.000512***
	(-41.94)
Income * Nb children <6	0.000215***
	(17.15)
Income * Tertiary women	0.0000680***
	(7.08)
Income	0.000292***
	(17.51)
l11	
_cons	-0.00000145
	(-0.30)
N	9630

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Discrete choice model of labour supply choices estimated by maximum simulated likelihood using the Stata command mixlogit (Hole, 2013). Counterfactual income is calculated using the microsimulation model, SWITCH, linked to SILC 2022. Sample is restricted to married couples aged 18-65, who are available for the workforce and are not self-employed.

Table A.0.4: Labour supply estimates : Fixed costs

	choice
[0em] Fixed cost* Children <3	31.99
	(0.41)
Fixed cost* Children <6	29.35
	(0.41)
Fixed cost * Nb children	7.802
	(0.50)
Fixed cost * Experience women	0.134***
	(231.56)
Fixed cost * Age women	-0.444***
	(-42.27)
Fixed cost * Age^2 women	0.00355***
	(30.57)
Fixed cost * Urban	0.889***
	(89.85)
Fixed cost * Childcare costs	-0.232
	(-0.38)
l11	
_cons	-0.00000145
	(-0.30)
N	9630

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Discrete choice model of labour supply choices estimated by maximum simulated likelihood using the Stata command mixlogit (Hole, 2013). Counterfactual income is calculated using the microsimulation model, SWITCH, linked to SILC 2022. Sample is restricted to married couples aged 18-65, who are available for the workforce and are not self-employed.

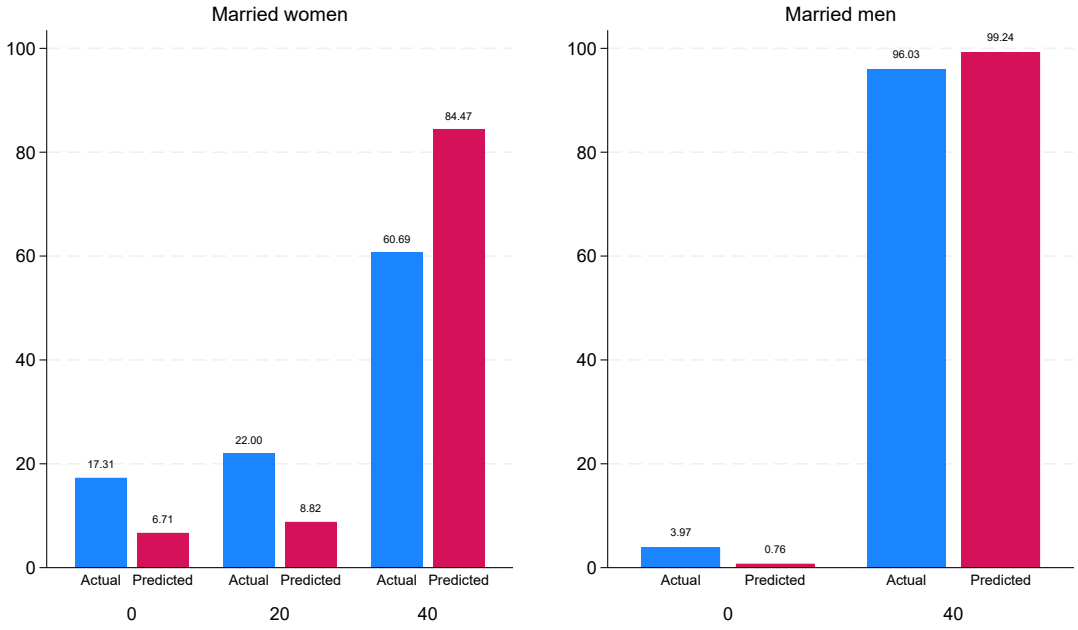

Figure A.1: Actual and predicted working hours

Notes: Prediction based on the labour supply model presented in Section 3. Counterfactual income is calculated using the microsimulation model, SWITCH, linked to SILC 2022. Sample is restricted to married couples aged 18-65, who are available for the workforce (i.e. not disabled, in education or retired). We also exclude the self-employed.

Table A.0.5: Labour supply estimates by earnership status : Leisure and income coefficients

	Choice
Leisure (secondary)	0.618***
	(26.11)
Leisure × Age (secondary)	-0.0441***
	(-26.58)
Leisure × Age^2 (secondary)	0.00108***
	(28.44)
Leisure × Age^3 (secondary)	-0.00000768***
	(-26.92)
Leisure × Tertiary (secondary)	-0.0248***
	(-64.42)
Leisure × Childcare cost (sec.)	-0.000174***
	(-27.35)
Leisure × Male (secondary)	-0.0291***
	(-57.02)
Leisure (primary)	-1.026***
	(-36.43)
Leisure × Age (primary)	0.0611***
	(33.09)
Leisure × Age^2 (primary)	-0.00127***
	(-32.29)
Leisure × Tertiary (primary)	0.0342***
	(43.84)
Leisure × Age^3 (primary)	0.00000884***
	(32.14)
Leisure × Income (primary)	0.00000124***
	(4.79)
Leisure (sec.) × Leisure (prim.)	-0.000877***
	(-30.05)
Leisure × Female (primary)	0.0478***
	(92.46)
Income × Nb. of children	-0.000544***
	(-27.67)
Income × Children < 3	-0.00405***
	(-84.91)
Income × Children < 6	0.00118***
	(34.27)
Income × Tertiary (primary)	0.00169***
	(56.01)
Income × Tertiary (secondary)	-0.00164***
	(-68.43)
Income × Urban	0.00155***
	(42.43)
Income (total)	0.00218***
	(43.24)
SD of income coefficient	-0.00192***
	(-60.15)
N	4304

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Discrete choice model of labour supply choices estimated by maximum simulated likelihood using the Stata command mixlogit (Hole, 2013). Counterfactual income is calculated using the microsimulation model, SWITCH, linked to SILC 2022. Sample is restricted to married couples aged 18-65, who are available for the workforce and not self-employed.

Table A.0.6: Labour supply estimates by earnership status : Fixed costs

	Choice
Fixed cost (sec.) × Child < 6	-0.876***
	(-43.72)
Fixed cost (sec.) × Nb. children	0.117**
	(3.21)
Fixed cost (sec.) × Child < 12	-1.413***
	(-32.47)
Fixed cost (sec.) × Experience	0.253***
	(198.66)
Fixed cost (sec.) × Urban	-0.00913
	(-0.55)
Fixed cost (sec.) × Partner inc. for child	1.626***
	(36.01)
Fixed cost (prim.) × 3 children	4.052***
	(73.06)
Fixed cost (prim.) × Child < 6	-0.435***
	(-11.81)
Fixed cost (prim.) × Child < 12	-0.491***
	(-16.28)
Fixed cost (prim.) × Urban	-0.130***
	(-3.86)
SD of income coefficient	-0.00192***
	(-60.15)
N	4304

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Discrete choice model of labour supply choices estimated by maximum simulated likelihood using the Stata command mixlogit (Hole, 2013). Counterfactual income is calculated using the microsimulation model, SWITCH, linked to SILC 2022. Sample is restricted to married couples aged 18-65, who are available for the workforce and not self-employed.

Table A.0.7: Working hours: Primary earners

Hours type	Actual (%)	Predicted (%)	Counterfactual (%)
0	7.09	0.15	0.15
40	92.91	99.85	99.85
Total	100.00	100.00	100.00

Notes: Prediction based on the labour supply model presented in Section 6. Sample is restricted to married couples aged 18-65, who are available for the workforce (i.e. not disabled, in education or retired). We also exclude the self-employed.

Table A.0.8: Working hours: secondary earners

Hours type	Actual (%)	Predicted (%)	Counterfactual (%)
0	14.11	8.79	8.73
40	85.89	91.21	91.27
Total	100.00	100.00	100.00

Notes: Prediction based on the labour supply model presented in Section 6. Sample is restricted to married couples aged 18-65, who are available for the workforce (i.e. not disabled, in education or retired). We also exclude the self-employed.