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# Working 37.5 hours per week: Who Truly Gains from Spain's new Workweek reform?

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#### Abstract

In December 2024, Spain's government reached an agreement with the country's major trade unions to reduce the standard workweek to 37.5 hours without wage cuts by the end of 2025. This paper provides an ex-ante assessment of the proposed reform using EUROLAB, a discrete choice labour supply model based on EU-SILC 2022 data for Spain. Simulations reveal modest increases in total hours worked, mainly via higher labour market participation, with notable gains among low-income women, non-parents, older, and younger workers. Fiscal simulations show a 1.3% increase in tax revenues and a 0.19% reduction in social expenditures, resulting in a budget surplus of 4.63%. The reform also slightly improves income distribution, including a reduction in in-work poverty and a slight narrowing of income inequality. However, the analysis does not account for fixed costs (e.g. childcare and commuting), equilibrium labour demand responses, and broader effects of increased leisure time on consumption and indirect taxation - elements to be addressed in future research.

**JEL-Code:** J20, J22, J23, J13

Keywords: Working time reforms, labour Supply, Discrete Choice Model

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#### 1. Introduction

In 1922, Henry Ford reduced the workweek from six to five days, arguing that "it is high time to rid ourselves of the notion that leisure for workmen is either 'lost time' or a class privilege." Ford believed that a shorter workweek would lead to greater efficiency and productivity among workers. Additionally, he recognized the economic potential of allowing workers more leisure time to purchase and enjoy consumer goods, thereby stimulating aggregate demand and boosting economic activity. Despite Ford's underlying motives, the five-day workweek quickly became a cultural norm. Interestingly, a decade earlier, Spain had already introduced a universal "eight hours" workday law applicable to all types of works making Spain the first country in the world to adopt such a law. Nearly a century later, and four decades after the Spanish Prime Minister, Felipe González reduced the working hours from 44 to current 40, Spain's left-wing government signed a historic agreement in December 2024 to reduce the maximum workweek to 37.5 hours without pay cuts, effective by December 31, 2025.<sup>1</sup> This marks the first major reform of Spain's workweek in over four decades, directly impacting approximately 12 million workers. Among them, 9 million are women, many of whom hold precarious jobs. The Spanish deputy prime minister and labour minister Yolanda Diaz, described the reform as "21st-century measure," "settling a debt with the working people of Spain ... with the new generations who understand that personal time is not a luxury, but a fundamental right."<sup>2</sup>

While both Ford's historical reform and the Spain's contemporary policy share the overarching goal of reducing working hours and increasing leisure time, their underlying motivations seem to diverge substantially.<sup>3</sup> However, it remains uncertain whether Spain's initiative is purely ideological or influenced by broader economic and labour market dynamics. A closer examination of labour market data offers an alternative perspective. According to EUROSTAT, Spain's employment rate reached a record high in 2023, and total hours worked have fully recovered. However, average hours per worker remain below their pre-COVID levels, and unemployment remains among the highest in the EU. This decline in average working hours appears to be structural, as noted by Astinova et al. (2022), reflecting long-term shifts such as the expansion of the services sector and the rise of part-time employment, trends that were further accelerated by the pandemic as shown by Cuadrado (2023).

Additionally, demographic ageing and increasing prevalence of part-time work suggest that this downward trend may persist. Astinova et al. (2022) highlights specific demographic preferences, particularly among young workers and fathers with young children, who increasingly opt for reduced working hours. These structural shifts adds complexity to understanding the true driving forces behind Spain's working time reform, suggesting that economic realities may be just as influential as ideological commitments. If younger individuals are inclined to reduce their working

<sup>&</sup>lt;sup>1</sup>Employers' associations opposed the mandatory reduction, advocating for collective bargaining instead.

<sup>&</sup>lt;sup>2</sup>The new weekly limit will be calculated on an annual average, with any additional hours worked considered overtime. Non-compliance will incur fines of EUR 10,000 per worker, with stricter enforcement of working time records. Diaz envisions to extend this reduction down to 35 or even 32 hours a week, that corresponds to 4 days week. <sup>3</sup>Ford's utilitarian approach prioritised consumerism and productivity, whereas Spain's left-wing government

frames its reform within progressive, social-democratic values, emphasizing workers' rights and work-life balance.

time, they are likely to support policies that align with this preference, favouring political parties advocating such reforms. However, recent voting trends among young men (aged 18 to 29) reveal significant backing for right-wing and far-right parties, as evidence in the 2023 general elections, where the conservative Popular Party and the far-right Vox party gained substantial support from this demographic group. Zagórski et al. (2024) highlights the trend among young Spanish men towards supporting right-wing and far-right parties, driven by economic pessimism and a perceived decline in democratic quality.

This political and economic context raises critical questions about the beneficiaries of Spain's 37.5hour workweek reform. How will the reduction in standard working hours influence labour supply behaviour in Spain? How will different groups - based on gender, parenthood, or age - respond to the policy in terms of labour supply and leisure time? What changes might occur in the extensive and intensive margins of labour? Could increased participation generate additional tax revenues? How will the reform affect inequality and poverty? This paper tackles these questions by providing an empirical assessment of reducing working time using the behavioural model EUROLAB ( Narazani et al. (2023)). EUROLAB is a labour supply-demand microsimulation model that relies on discrete-choice labour supply modelling (Aaberge et al. (1995), Van Soest (1995)) and is based on the Random Utility Maximization approach, McFadden (1974). The model enables the analysis of individual labour supply decisions, considering both the extensive margin - whether to enter the labour market - and the intensive margin - how many hours to work. It achieves this by estimating a set of behavioural parameters and applying them to predict labour supply responses to reforms that affect household disposable income and working hours. The model is run on a sample of couples and singles extracted from the 2022 Spanish module of EU-SILC data to simulate 1) a reduction of working time to 37.5 hours worked per week when it is between 37 and 40 hours and 2) adjust the wage rate of workers who work less than 40 hours while keeping unchanged the wage rate and working time for individuals working more than 40 hours per week.

The findings indicate that the reform is expected to mobilize underutilized labour, improving equity by benefiting women, low-income families, and younger and older workers. It is expected to increase total hours worked, via higher labour market participation, particularly among women and lower-income groups. Part-time work rises among men and full-time work among women. Older workers (55–67) show the strongest labour supply response, while young women's gains suggest potential NEET reductions. Fiscally, tax and social security contributions rise by 1.29%, while means-tested benefits decline by 0.19%, leading to a budget surplus of 4.63%. However, social welfare improves slightly, with reduced in-work poverty while child poverty sees little change.

The paper makes two key contributions. First, it provides a real-time evaluation of Spain's worktime reduction reform, analysing its labour supply, budgetary and distributional effects. These insights can guide policymakers in refining the reform, which is currently proposed by the Spanish government but not yet approved by the Parliament. This contribution is particularly significant given the limited availability of empirical evidence. Secondly, it proposes the use of behavioural modelling, typically used for assessing tax-benefit reforms that involve changes in tax-benefit system (Cruces et al. (2024)), to simulate work-time changes. To our knowledge, this is the first ex-ante microsimulation study of a statutory working time reduction using a behavioural labour supply model.

Despite these contributions, several caveats must be considered. The model does not account for fixed work-related costs like childcare and commuting, which may influence labour market participation, especially among parents and low-income workers. It also overlooks time-use reallocation and long-term productivity or health effects, limiting insights into work-life balance. Equilibrium labour demand effects are not modelled, potentially overstating employment gains if firms face wage constraints. Additionally, the impact of increased leisure time on consumer spending and indirect taxation remains unexplored. Future analysis should incorporate these factors for a more comprehensive assessment.

The paper is structured as follows. Section 2 provides a brief review of the literature on working time reduction. Section 3 examines the evolution of working hours in Spain. Section 4 outlines the modelling approach, while Section 5 presents the simulation results. Finally, Section 6 discusses the main conclusions, limitations and future research avenues.

#### 2. Literature review

#### 2.1. Theoretical and empirical perspective

The reduction of standard working hours is a debated topic in labour economics. From a firm perspective, neoclassical theory suggests that reducing hours without proportional wage cuts could increase labour costs per unit of output, potentially discouraging hiring, (Hamermesh, 1993). Conversely, efficiency wage theories argue that shorter work hours enhance worker productivity and satisfaction, mitigating negative employment impacts (Akerlof and Yellen, 1986). Similarly, the work-sharing approach argues that distributing available labour across more workers supports employment (Layard et al., 2005). However, while reducing working hours may lower unemployment in the short term, it does not address deeper structural labour market challenges, such as declining productivity, necessary wage adjustments for competitiveness, and disruptions from automation. Artificial intelligence, for example, could replace jobs, leading firms to hire fewer workers and reducing employment (Bessen, 2019). Additionally, reduced working time strategies may be ineffective if firms simply cut overtime rather than expand their workforce (Crépon and Kramarz, 2002).

From a worker perspective, theoretical models on time allocation (Becker, 1965) highlight tradeoffs between work, leisure, and household production. Reducing working hours without wage adjustments may lead to a substitution effect, where workers prioritize leisure, or an income effect, where they adjust work intensity or seek alternative employment to maintain their income levels, Blundell and MaCurdy (1999). Given these trade-offs between different concepts of time use, reducing working hours can increase participation in the labour force, particularly among individuals with care-giving responsibilities, such as women. Studies on part-time and flexible work arrangements confirm this pattern. For instance, Del Boca (2002) found that in European countries with flexible work schedules, mothers were more likely to participate in the labour market. Additionally, fixed costs associated with entering the labour market play an important role in shaping labour supply behaviour, particularly for married women. These costs help define reservation hours and influence employment decisions (Cogan, 1981). Ignoring such factors partly explains the high own-wage elasticities frequently observed in studies on married women's labour supply.

#### 2.2. Workweek reduction reforms and trials

Across the EU, reduced working time reforms have been implemented with varying degrees of success, shaped by national labour market structures, policy frameworks, and sectoral dynamics. While some countries have seen employment gains, others have faced challenges related to labour costs, productivity, and structural rigidities. France's transition to a 35-hour workweek in 2000 initially boosted employment but long-term results were mixed. Smaller firms struggled with higher labour costs, while larger firms managed workloads redistribution rather than job creation, (Crépon and Kramarz, 2002). Manufacturing sectors often responded to reduced hours through automation, whereas service sectors experienced higher employment gains due to labour-intensive processes (Askenazy, 2013). Germany's collective agreements and short-time work policies helped preserve jobs during economic downturns but but failed to generate sustained employment growth, (Dustmann, 2014). Nordic countries experienced positive labour market outcomes when working time reductions were complemented by flexible labour measures, (Böckerman, 2002). Spain's rigid labour market presented unique challenges, with sectoral variations shaping policy effectiveness, (Dolado et al., 2013).

The four-day workweek (4DWW) has gained traction in the post-COVID-19 era, with trials highlighting its potential benefits, including improved well-being, productivity, and environmental sustainability.<sup>4</sup> Numerous studies highlight advantages such as enhanced work-life balance, improved well-being, and better mental health (Campbell, 2024). Businesses report increased productivity, greater employee engagement, and improved recruitment and retention. However, its success largely depends on the design and implementation of policies (Bird, 2010). Research (Hamermesh and Biddle, 2022) on U.S. labour patterns from 1973 to 2018 reveals that the incidence of fourday workweeks among full-time employees tripled, mirroring trends in the Netherlands, Germany, and South Korea. This shift is driven by worker preferences and fixed daily work costs rather than employer production costs. Findings show that less-educated, younger, and white non-Hispanic men, as well as individuals with young children, are more likely to engage in four-day full-time work. Additionally, the wage penalty associated with 4DWW is higher where such arrangements are widespread, though it has declined over time.

<sup>&</sup>lt;sup>4</sup>Several EU nations have tested or adopted 4DWW approaches with varying results. Belgium allows compressed workweeks without reducing total hours, while Portugal conducted a pilot focusing on work-life balance and productivity. France launched a national trial in 2024, further reducing working hours while maintaining productivity. The Netherlands and Sweden have seen multiple company-led pilots emphasizing employee satisfaction and efficiency. Germany has witnessed trials and advocacy campaigns for shorter workweeks. Meanwhile, Spain initiated a three-year pilot exploring 4DWW effects on productivity and work-life balance.

Outside the EU, trials in North America and Ireland coordinated by 4 Day Week Global demonstrated increased revenue, reduced absenteeism, and higher employee satisfaction, with no companies reverting to five-day schedules. The UK's largest 4DWW trial—covering 61 organizations and 2,900 employees—reported reductions in stress, burnout, and sick leave, alongside improved mental health and work-life balance. Notably, 92% of participating companies decided to continue with the 4DWW, with some making it permanent.

#### 3. The evolution of working hours in Spain

In 1919, Spain became the first country in the world to introduce a universal law of "Eight hours", effective on all type of works. <sup>5</sup> Whether the "Eight Hours" decree of 1919 marked a clear break in Spain's working time trends or was part of a gradual reduction in working hours remains unclear. Between 1919 and 1945, working hours declined significantly, driven by industrialization, labour rights movements, and early regulations. The sharpest drops coincided with the Great Depression (1929–1939) and World War II (1939–1945), similarly to other European countries (see Figure 1). (Domenech, 2007) argues that Spain's unique trajectory resulted from a mix of early adoption of the international short-hour movement and industrial protectionism. Under the Franco regime, industrial growth and economic recovery were prioritized, resulting in long working hours with limited labour rights and protections. From 1950 onward, Spain, the UK, and France exhibited a similar downward trend in working hours, with occasional fluctuations.

In the 1970s, Spain's transition to democracy led to labour reforms, including the introduction of collective bargaining and unions advocating for shorter workweeks and improved conditions. By the 1980s, Spain aligned with European labor standards, reducing the standard workweek to 40 hours. This period also saw an increase in part-time employment, particularly among women, to balance work and family responsibilities. The 1990s and early 2000s brought further shifts, influenced by globalization and technological advancements. While the average workweek appeared to shorten, this was mainly due to the expansion of part-time and precarious jobs, particularly in the service and tourism sectors. Private-sector full-time workers frequently exceeded 40 hours per week, with unpaid overtime remaining a significant issue. By 2017, Spain, the UK, and France had similar working hours, reflecting a convergence in labour market conditions driven by labour reforms, productivity growth, and a shift to service industries.

<sup>&</sup>lt;sup>5</sup>The movement for an eight-hour workday began with a workers' strike in Alcoy in 1873, fuelled by anarchist agitation. In 1919, Barcelona saw a 44-day general strike involving over 100,000 workers, which crippled the Catalan economy. The government ultimately conceded to the strikers' demands, granting an eight-hour day, union recognition, and the rehiring of dismissed workers.



Figure 1: Annual working hours per worker, 1870-2017

Source: OurWorldinData.org/working-hours. Before 1950, the data comes only from full-time production workers (non-agricultural activities). From 1950, estimates cover total hours worked in the economy as measured primarily from National Accounts data.

Spain's average working hours have been consistently higher than the EU average. However, the gap has narrowed over time, indicating a convergence towards the EU norm. Over the past decade, Spain, has experienced a gradual decline in average actual weekly working hours with the average decreased from 38.0 hours in 2010 to 36.3 hours in 2024 (compared to the EU average declining from 37.5 to 36.0 hours during the same period). The drop in 2020 (Figure 2) reflects the impact of the COVID-19 pandemic on working hours, with a slight recovery observed in subsequent years.

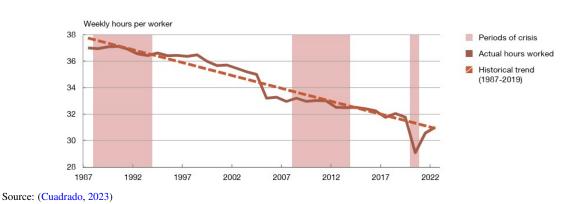


Figure 2: Weekly working hours per worker, 1987-2022

To analyse the effects of reduced working hours, I use the EUROLAB labour supply model (Narazani et al., 2023), which is a discrete choice model belonging to the family of random utility

<sup>4.</sup> Empirical modelling approach

maximisation models ((McFadden, 1974)). This model allows for the randomness of the utility function by incorporating a random component, which is specified as the extreme value distribution. This allows determining the optimal choice based on the utility level associated with each alternative (Aaberge and Colombino (2018)).

#### 4.1. Discrete choice labour supply model

The model assumes that households face a finite set of discrete alternatives, H, characterised by a given number of elements h (working hours). The choice set H includes non-market "jobs" (with h and earnings  $w_h$  equal to zero) and market jobs (with positive h and positive earnings  $w_h$ ). Given a policy regime  $\tau$  (a vector of tax-benefit rule parameters) that transforms an individual's earned income ( $w_h$ ) and unearned income (I) into net income (C), a rational decision maker characterised by a vector of attributes X will select the alternative that maximises utility U(H, C|Z). In addition, I assume that the utility attained by an individual i when choosing job type j is the sum of a systematic component, V(.) and a random component  $\epsilon_t$ .

$$U_{i,j} = V(\tau(w_{ij}h_j, X_i, I), T - h_j, \gamma_i) + \epsilon_{i,j}$$
(1)

where

 $T - h_j$  = hours of work required by the job j

 $\epsilon_{ij}$  = random component

 $\gamma_i$  is a vector of parameters that characterise the preferences of individual *i* for job type *j*.

Assuming an extreme value distribution for the random component  $\epsilon_{i,j}$  I can obtain the probability that decision maker *i* is willing to accept a job (*h*), and estimate the utility parameters  $\gamma_i$  through a straightforward analytical solution following McFadden (1974):

$$P_{i,j} = \frac{e^{V(\tau(w_{ij}h_{j},X_{i},I),T-h_{j},\gamma_{i})}}{\sum_{i \in H} e^{V(\tau(w_{ij}h_{j},X_{i},I),T-h_{j},\gamma_{i})}}$$
(2)

Probabilistic choice (2) ignores the density or demand of certain types of jobs and this can lead to an over-prediction of some alternatives. To correct for this bias in prediction, I follow Van Soest (1995) and Aaberge et al. (1995, 1999) and include alternative specific dummies for different types of jobs (part-time and full-time) with a density or relative frequency of alternatives of job type j for individual *i* denoted by the function  $g_{ij}$  and referred to as the opportunity density function. Adopting a convenient specification of the function  $g_{ij}$  The vector  $D_i(h, s)$  with 1[.] denoting the indicator function, contains two sets of variables that capture: i) the hour ranges [5 $\leq$ h<25] and [30 $\leq$ h<42] corresponding to part-time and full-time jobs, respectively, I obtain the probability that individual *i* is willing to accept a choice (*j*):

$$P_{i,j} = \frac{g_{i,j} e^{V\left(\tau(w_{ij}h_{j},X_{i},I),T-h_{j},\gamma_{i}+D_{i}(h)\delta_{i}\right)}}{\sum_{j\in H} g_{i,j} e^{V\left(\tau(w_{ij}h_{j},X_{i},I),T-h_{j},\gamma_{i}+D_{i}(h)\delta_{i}\right)}}$$
(3)

A reduction of working hours from 40 to 37.5 per week would be reflected in the utility of the full time choice in the following way:

$$V_{i,j} = V(\tau(w_{ihj}, X_k, I), T - min(37.5, h_j), \gamma_i)$$
(4)

where the hour (*h*) ranges  $[37 \le h < 40]$ 

For the work alternatives corresponding to less than 37.5 hours, the hours of work are kept the same but the hourly wage is adjusted by the factor k = 40/37.5 as leading to the following utility form:

$$V_{i,j} = V\left(\tau(kw_{ij}h_j, X_i, I), T - h_j), \gamma_i\right)$$
(5)

where the hour (*h*) ranges  $[5 \le h < 38]$ 

The systematic part of the utility function  $V_{i,j}$  is specified as a quadratic functional form on net household income and leisure. The preference parameters assigned to linear terms of leisure are allowed to differ by a range of individual characteristics such as age, age squared, and number of children. Additionally, I interact leisure with two dummy variables indicating whether the individual is a migrant in order to account for labour market integration constraints and holds a mortgage liability to control for other economic constraints like financial ones. On the other hand, income is interacted with leisure and household size.

#### 4.2. EUROMOD, EUROLAB and data description

To run the discrete choice model explained in Subsection 4.1, the EUROLAB model uses the static EU-wide microsimulation model EUROMOD to construct the budget constraints for each counterfactual choice. EUROMOD simulates cash benefit entitlements, direct tax, social insurance contribution on the basis of the tax-benefit rules in place in each EU country. Non-simulated benefits (mainly contributory pensions), as well as market incomes, are taken directly from the input datasets.

Counterfactual working hours are simulated based on the observed distribution of hours because in this way the distribution of the potential alternatives respects the proportion of women observed to work a specific number of hours within each interval sampled from the observed distribution. As such, the working hours per week of individuals are divided into 5 intervals (5–13, 14-22, 23–31, 32-40, 41-49) and their choice set of work (H) is made up of six alternatives: the actual choice (i.e. observed number of worked hours) plus other five potential alternatives.

The analysis are run over a sample of individuals extracted from the Spanish module of SILC, that is representative of Spanish population. For the purpose of this analysis I use the Spanish SILC wave 2022 and the policy year 2022. The individuals are in working age (18-65 years old), not receiving pension or disability benefits and not self-employed. In addition, individuals holding dual jobs are excluded in order to exclude behavioural changes across jobs. The final sample

consists of 7286 couples, 4372 single women and 4507 single men and they can be employed, unemployed or inactive.

#### 5. Simulation results

I begin by estimating the parameters that characterise individuals' preferences for income and leisure, as outlined in Section 4. The estimated utility parameters, along with model fit statistics, are presented in Table A.1 and Table A.2. Before exploring the potential effects of reducing working hours from 40 to 37.5 per week, I first examine changes in behavioural parameters and the labour market situation, as reflected by job density, before and after the COVID-19 pandemic. To do so, I use data from two waves of the SILC: the 2019 SILC wave, which serves as the pre-COVID benchmark, and the 2022 SILC wave, which provides the closest data available for the post-COVID period. Using these two waves, I first estimate a set of behavioural parameters based on the 2019 pre-COVID data, then apply these parameters to the 2022 post-COVID SILC data to estimate the counterfactual changes in labour supply assuming preferences remained unchanged (Step 1). Next, I estimate the actual labour supply based on the 2022 SILC data and behavioural parameters derived from the same wave (Step 2). The difference between the counterfactual labour supply from Step 1 and the observed labour supply from Step 2 will help assess whether post-COVID changes in labour supply align with pre-Covid patterns.

#### 5.1. Comparing Pre and Post-Covid labour supply changes

Figure 3 (Table B.1) presents the percentage change in working hours across different demographic groups in 2022, comparing current behavioural patterns with those under a counterfactual scenario based on pre-COVID behavioural parameters (estimated from 2019 SILC data). On average, individuals worked slightly more hours in 2022 (34.69 hours) than in 2019 (32.66 hours). The counterfactual estimate, using pre-COVID parameters, lies between the two at 33.54 hours. This corresponds to a 6% increase in working hours compared to 2019, and a 3% increase relative to the counterfactual, suggesting that the pandemic has influenced labour supply patterns. However, this impact differs across demographic groups. Men and women without children have notably increased their working hours relative to both 2019 and the counterfactual, indicating a stronger post-COVID labour supply among this group. Parents, by contrast, show only a modest increase in hours relative to 2019, with a smaller gain compared to the behavioural patterns before COVID. Among lone mothers, working hours have risen by 3% compared to 2019, but are 1% lower than in the counterfactual scenario, implying that their labour supply would have been slightly higher under pre-COVID patterns. These variations suggest that external factors - such as caregiving responsibilities and evolving labour market conditions - may have had a greater impact on post-pandemic labour patterns than changes in underlying preferences for work.

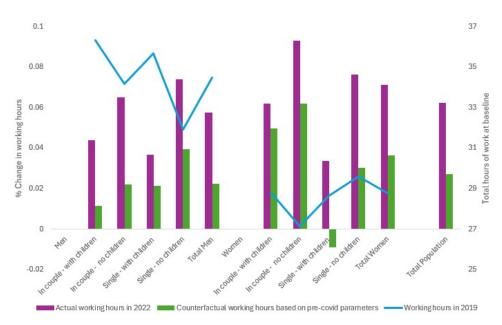


Figure 3: Actual and counterfactual labour supply percentage changes

#### 5.2. Labour supply effect of reducing working hours to 37.5

Next, I simulate the reform of working time following these assumptions: i) reduce working hours to 37.5 per week when the hours are between 37.5 and 40, ii) increase the hourly wages by the adjustment factor 40/37.5 to compensate workers who work less than 37.5 hours per week, and iii) keep unchanged the earnings of workers who provide more than 40 hours in the labour market.

#### 5.2.1. Labour supply by household type

To understand how individuals of different types of households respond to the hour reduction reform, I look at the impact of reducing the standard working week to 37.5 hours on labour supply, by gender and household type. Figure 4 shows the percentage changes in four key indicators of labour supply - hours of work, participation rates, part-time work, and full-time work. The hours of work category reflects the total number of hours all individuals work per week, including zero hours. The participation rate indicates the proportion of individuals who are either working or actively seeking employment and measures how many individuals are choosing to enter or remain in the workforce as a result of the reform while the part-time work, and full-time work indicate the proportion of individuals who are working part-time and full-time.

Note: Percentage changes in labour supply are computed as the difference between the observed total working hours based on 2019 SILC, actual total working hours based on 2022 SILC and counterfactual total working hours based on 2022 SILC and 2019 behavioural parameters. Source: Own calculations based on the EUROMOD and EUROLAB models.

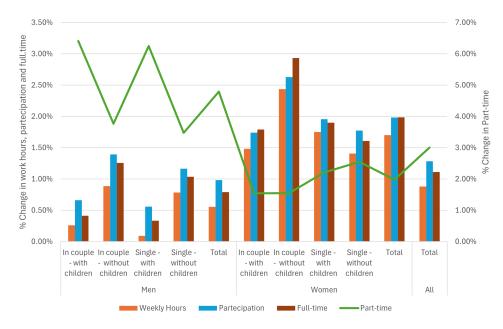


Figure 4: Percentage Labour supply changes by household type

The reform generally results to a modest increase in total hours worked of 0.88% for both genders; however, its impact on women is over three times greater than on men (1.7% versus 0.55%). Among men, the group experiencing the most pronounced increase comprises non-fathers (0.79%) for singles and 0.89% for partnered) whereas single fathers experience almost no change (a mere 0.09% increase). For women, partnered non-mothers see the most significant increase in total hours worked of 2.43%, while the other female groups experience similar increases of less than 2%. The general trend of slightly increased hours across all types of households may seem counterintuitive, given that reducing standard working week might logically lead to fewer hours worked. This apparent paradox can be attributed to increased participation in the labour market. Specifically, the overall participation rate rises by 1.3%, with women accounting for the majority of this increase. For men, the reform induces modest participation gains across all household types (0.98% overall), with the highest increases observed among non-fathers (1.16% for singles and 1.39% for partnered). In contrast, fathers see smaller increases recording the lowest increase for singles (0.56%) and partnered (0.66%). In comparison, women's participation rate grows substantially by 2% on average and, similarly to men, partnered non-mothers experience the most notable increase (2.63%). Single mothers increase their participation by 2% while partnered mothers and single non-mothers see a slightly smaller increase of 1.7%.

To better understand how different household groups respond to changes in working hours, wage elasticities - measuring the sensitivity of labour supply to changes in wages - are examined. The wage elasticity for men is 0.23 for total working hours (total elasticity) and 0.2 for labor market participation (extensive margin), (Table B.3). Among them, men without children show the highest

Note: Percentage changes in labour supply are computed as the difference between the baseline and working time reform. Source: Own calculations based on the EUROMOD and EUROLAB models.

responsiveness (0.28 for single men and 0.24 for partnered men). In contrast, fathers exhibit lower total elasticities, around 0.2. Labour supply responses to the reform (Figure 4), further support these findings, with the strongest responses observed among non-fathers - emphasizing the relevance of wage elasticity in explaining behavioural responses for men. In contrast, women demonstrate higher total wage elasticities than men, with an average of 0.4 for total elasticity and 0.33 for extensive margin elasticity. Within this group, single women are slightly more responsive than partnered women, although the variation across female groups is relatively small.

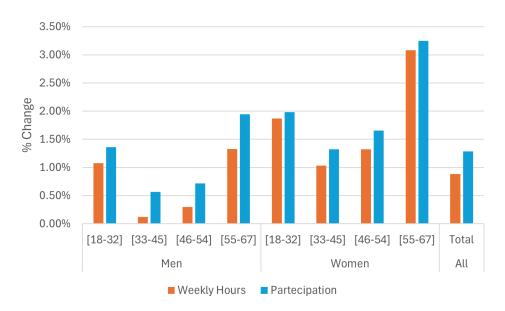
To gain a better understanding of labour supply responses, I break down the participation margin into part-time and full-time categories. Part-time work - defined here as working less than 33 hours per week - increases overall by 3%, a change largely driven by men (5%). Among men, the largest increases are observed among fathers (6.4% for partnered and 6.3% for single fathers). Non-fathers also show higher participation, though to a lesser extent (3.5% increase for single men and 3.8% increase for partnered men). In contrast, women exhibit more modest increases in part-time work, averaging 2%. Single women account for the largest gains - 2.5% for childless women and 2.2% for mothers - while partnered women show a smaller increase of 1.5%. Full-time work - defined here as working between 33 to 40 hours per week - rises by 1% overall, reflecting a modest shift towards this category. Men's full-time participation increases, by 0.8%, indicating limited responsiveness. Among men, non-fathers show the largest increase (1.3% for partnered and 1% for singles), while increases among fathers are minimal (0.41% for partnered and 0.34% for singles). For women, full-time work increases more significantly, averaging 2%. The largest gains are seen among partnered women without children (3%), followed by mothers (2%) while single women without children exhibit smaller increases (1.6%).

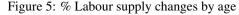
#### 5.2.2. Labour supply by age

One key questions explored in this paper is how labour supply responses across age groups. The simulation results, presented in Figure 5, highlight distinct differences in labour supply responses by age. The most significant increases in labour supply are observed among individuals aged 55–67. For men in this group, average weekly hours rise by 1.33% and participation by 1.94%. Among women, the response is even stronger, with 3.08% growth in hours and 3.25% in participation. These trends, likely reflect a combination of factors, including lower baseline participation - particularly among older women - and greater flexibility in later life stages due to fewer caregiving responsibilities. The 18-32 age group also shows a strong positive response, particularly among women, whose average hours and participation both increase by approximately 2%. Young men also show meaningful, albeit smaller, gains with a 1.07% increase in hours and 1.36% rise in participation. By contrast, responses among middle-aged groups (33-45 and 46-54) are more moderate but remain positive. For women, participation increases by 1.32% and 1.66%, with average weekly hours rising by 1.04% and 1.32%, respectively. Men in these age groups show more limited changes: hours increase by 0.12%, and 0.3%, while participation grows by 0.56% and 0.72%. These smaller increases may reflect already high baseline participation rates — especially among men, whose rates exceed 90% - as well as time constraints linked to family and childcare responsibilities, which may limit their capacity to expand labour market involvement.

These findings suggest that reducing standard working hours could be an effective strategy in en-

couraging labour market participation among older adults, potentially preventing early retirement or reductions in work intensity. Moreover, shorter standard working hours could serve as a valuable policy tool for re-engaging disengaged youth, particularly in regions with high NEET (not in education, employment, or training) rates.





Note: Percentage changes in labour supply are computed as the difference between the baseline and working time reform. Source: Own calculations based on the EUROMOD and EUROLAB models.

#### 5.2.3. Labour supply by income deciles

The analysis of labour supply responses across income deciles, as illustrated in Figure 6 and Table B.5, shows a consistent pattern for men and women with increases in labour supply concentrated in lower-income groups and diminishing as income rises. Among men, labour supply increases in the lowest income quantile reaching 1.65% for working hours 1.86% for participation, while those in the highest income deciles (IX-X deciles) experience a slight reduction in hours (-0.27%), likely due to the reform capping at 37.5, which limits work time for individuals already working long hours. For women, the labour supply response is even more pronounced at the lower end of the income distribution. Those in the lowest-income quantile (I-II deciles) see the strongest gains, with working hours increasing by 3.44% and participation by 3.23%. As income levels rise, this effect diminishes, with women in the highest deciles (IX-X) showing only a modest increase in working hours (+0.24%). These findings highlight the redistributive potential of the working time reform, with its most pronounced activation effects occurring among low-income individuals, particularly women.



#### Figure 6: Labour supply changes by income deciles

Note: Percentage changes in labour supply are computed as the difference between the baseline and working time reform. Income quintiles are constructed based on equivalised disposable income.

Source: Own calculations based on the EUROMOD and EUROLAB models.

#### 5.3. Budgetary and distributional effects

The reform is expected to have significant implications for public finances, primarily through its impact on tax revenues and social expenditures. Total tax and social security contributions are expected to increase by 1.29%, driven by higher labour supply and corresponding earnings, while spending on means-tested benefits is expected to decline slightly by 0.19% due to reduced reliance on income support. These changes result in a net improvement in the fiscal balance, with a projected budget surplus (revenues minus expenditures) of 4.63%.

Additionally, to assess the reform's distributional impacts, several social welfare indicators are computed, including social welfare index, defined as the product of average equivalized disposable income and income equality; income inequality, measured by the Gini index (where 0 represents perfect equality and 1 represents extreme inequality); poverty indicators, such as at-risk-of-poverty (AROP) rate, in-work poverty, and child poverty rates and gaps.

As shown in Table 1, the reform yields a modest improvement in social welfare, with a 1.62% increase in the distribution-adjusted measure of well-being suggesting that the policy enhances equity without significant efficiency losses. The Gini index declines by 1.01%, indicating a moderate reduction in income inequality. Poverty outcomes slightly improve. The AROP rates decreases by 2% and the AROP gap falls even more sharply, by 3.28%. This reflects a progressive shift in income distribution, benefiting low-income workers mainly through wage adjustment increases and increased participation in the labour market. Reductions in poverty gaps are even larger than in poverty rates, suggesting a meaningful increase in income among the poorest. Among the employed, the in-work poverty rate decreases by 1.78% and the in-work poverty gap by 2.4%,

confirming that low-wage workers are often stuck in substandard hours and that the wage compensation mechanism for workers below 37.5 hours seems to protect their income effectively. The increase in labour supply, particularly among lower-income workers and women, contributes to the observed reductions in poverty rates. For households with children, the child poverty rate falls by 1.02%, and the gap by 1.88%. These effects are more modest compared to general AROP outcomes, potentially because households with children are more concentrated among the employed sample that is less affected by the wage compensation mechanism.

These findings indicate that reducing working time without wage cut can be both targeted and inclusive. By adjusting hours for a specific subset of workers and compensating those with shorter hours, it remains non-regressive, avoiding negative income shocks for vulnerable groups. At the same time, by keeping the earnings of workers exceeding 40 hours per week unchanged, the reform ensures minimal disruption among higher earners, preserving incentives and productivity in intensive sectors.

| AROP rate            | -1.91% |
|----------------------|--------|
| AROP gap             | -3.28% |
| In-work poverty rate | -1.78% |
| In-work poverty gap  | -2.40% |
| Child poverty rate   | -1.02% |
| Child poverty gap    | -1.88% |
| Social welfare       | 1.62%  |
| Gini Index           | -1.01% |

Table 1: Percentage changes in inequality and poverty indicators

Note: Poverty indicators are measured based on 60% of equivalized disposable income.

#### 6. Conclusion

This paper provides an ex-ante evaluation of the announced working-time reform that is likely to be implemented from December 2025 in Spain. The reform consists in reducing working hours to 37.5 per week when the hours are between 37.5 and 40 and increasing the hourly wages to compensate workers who work less than 37.5 hours per week while keeping unchanged the earnings of workers working overtime. The simulation of this working-time reform is performed using EUROLAB, the EU labour supply-demand microsimulation model, based on a sample of women and men extracted from the Spanish module of EU-SILC 2022.

Simulation results show that the reform leads to a modest overall increase in total hours worked (0.88%), driven primarily by higher labour market participation. Women and non-parent groups see the most notable gains. These labour supply improvements are concentrated in lower-income deciles for both genders, with the strongest increases observed among low-income women, high-lighting the reform's redistributive and inclusive potential. Part-time work expands more among men (+5%), while full-time work rises among women (+2%), reflecting distinct behavioural responses. Age-specific trends indicate that older workers (55–67) experience the most significant

increases in both hours and participation, demonstrating the reform's effectiveness in supporting later-life labour force engagement. Meanwhile, youth (18–32), particularly young women, show also strong positive responses, suggesting potential for reducing NEET rates.

From a fiscal and distributional perspective, the reform is expected to strengthen public finances by increasing tax revenues and slightly reducing social expenditures. Overall, tax and social security contributions are expected to grow by 1.29%, driven by higher labour supply and earnings, while spending on means-tested benefits is expected to decline by 0.19%, due to reduced reliance on income support. These combined effects contribute to a budget surplus of 4.63%. These findings suggest that the reform enhances the fiscal balance primarily by mobilising under-utilised labour, especially among women, low-income families, and both younger and older population. Social welfare indicators show modest improvements, including a slight reduction in income inequality and declines in at-risk-of-poverty rates. In-work poverty decreases significantly, though child poverty remains largely unchanged, with minimal reductions in its severity.

Despite these findings, several caveats must be considered. First, the model does not account for fixed costs of working, such childcare and commuting, which may significantly affect labour market participation. For example, for parents a reduction in working hours may not lead to higher participation if the cost of childcare is considerably high and remains unchanged or even increases due to a shift in work schedules. Similarly, commuting costs may disproportionately affect lowincome workers, potentially affecting labour supply effects observed in this study. Incorporating external data on these expenses could improve accuracy of analysis. Second, time-use reallocation (e.g. to unpaid care work, leisure, or physical activity) and long-term health or productivity effects are not modelled, limiting insights into broader work-life balance outcomes. Incorporating time-use data would shed light on potential long-term effects of the reform on productivity, wellbeing, and household dynamics. Third, equilibrium effects on labour demand are not modelled, potentially overestimating positive employment responses if firms face wage constraints. Modelling general equilibrium effects or employer responses would provide a more comprehensive assessment of reform feasibility. Finally, the economic impact of increased leisure time spent on consumer goods is not considered. Future analysis could explore indirect taxation effects, such as VAT and excise duties, to assess the broader fiscal implications of the reform.

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## Appendix A. Tables of utility parameters and fit statistics

## Table A.1 Estimates of Utility Coefficients

|                                    | Couples               | Single Women | Single Men   |
|------------------------------------|-----------------------|--------------|--------------|
| In-work dummy Male                 | -4.315***             |              | -4.570***    |
|                                    | (-7.80)               |              | (-11.86)     |
| Part-time dummy - Male             | -1.134***             |              | -1.021***    |
|                                    | (-4.67)               |              | (-4.66)      |
| Full-time dummy - Male             | 1.555***              |              | 1.622***     |
|                                    | (10.13)               |              | (11.10)      |
| In-work dummy Female               | -3.815***             | -3.356***    |              |
|                                    | (-10.56)              | (-9.53)      |              |
| Part-time dummy - Female           | 0.290                 | 0.366        |              |
| 2                                  | (1.31)                | (1.85)       |              |
| Full-time dummy - Female           | 1.828***              | 1.977***     |              |
|                                    | (10.84)               | (12.89)      |              |
| Leisure - Male                     | 0.324***              | ()           | 0.252***     |
|                                    | (3.50)                |              | (4.05)       |
| Leisure square - Male              | -0.00279***           |              | -0.00203***  |
| Leisure square mare                | (-4.31)               |              | (-3.61)      |
| Leisure x age - Male               | -0.00385              |              | -0.00563***  |
| Leisure x uge mule                 | (-1.29)               |              | (-5.03)      |
| Leisure x age square - Male        | 0.0000584             |              | 0.0000707*** |
| Leisure x uge square mare          | (1.77)                |              | (5.48)       |
| Leisure x #children <3 year - Male | -0.00367              |              | -0.00142     |
| Leisure x #emilaren <5 year Ware   | (-0.39)               |              | (-0.15)      |
| Leisure x #children <6 year - Male | 0.00789               |              | -0.00211     |
| Leisure x #emilaren <0 year iviare | (1.27)                |              | (-0.30)      |
| Leisure x #children - Male         | -0.00784*             |              | -0.00759**   |
|                                    | (-2.47)               |              | (-2.97)      |
| Leisure x Migrant - Male           | 0.0261**              |              | 0.00986      |
| Leisure x lvingrant - lviale       | (3.11)                |              | (1.89)       |
| Leisure x Mortgage - Male          | -0.000279             |              | -0.00121***  |
| Leisure x Mongage - Mare           |                       |              |              |
| Leisure - Female                   | (-1.29)<br>0.266**    | 0.286***     | (-5.95)      |
| Leisure - Female                   |                       |              |              |
| Leioure equare Fermale             | (2.74)<br>-0.00296*** | (4.35)       |              |
| Leisure square - Female            |                       | -0.00145*    |              |
| Leinen and Englis                  | (-4.66)               | (-2.54)      |              |
| Leisure x age - Female             | 0.00313               | -0.00708***  |              |
| T                                  | (1.13)                | (-5.58)      |              |
| Leisure x age square - Female      | -0.0000240            | 0.0000897*** |              |
|                                    | (-0.81)               | (6.15)       |              |

| Table A.1 con                        | itinued from previous | page         |             |
|--------------------------------------|-----------------------|--------------|-------------|
|                                      | Couples               | Single Women | Single Men  |
| Leisure x #children <3 year - Female | 0.0180**              | -0.00129     |             |
|                                      | (2.82)                | (-0.18)      |             |
| Leisure x #children <6 year - Female | 0.00361               | 0.0125**     |             |
| -                                    | (0.83)                | (2.59)       |             |
| Leisure x #children - Female         | -0.00383              | -0.000458    |             |
|                                      | (-1.31)               | (-0.20)      |             |
| Leisure x Migrant - Female           | 0.0143                | 0.00700      |             |
| -                                    | (1.81)                | (1.34)       |             |
| Leisure x Mortgage - Female          | -0.000342*            | -0.000536*** |             |
|                                      | (-2.12)               | (-3.84)      |             |
| Leisure Male x Leisure Female        | 0.000237              |              |             |
|                                      | (1.14)                |              |             |
| Net income x hhsize                  | -0.000837**           | -0.000957*** | -0.000273   |
|                                      | (-2.69)               | (-4.69)      | (-1.31)     |
| Net income                           | 0.0165***             | 0.00867***   | 0.00372*    |
|                                      | (7.42)                | (6.25)       | (2.21)      |
| Net income square                    | -0.00000171***        | 0.000000869  | 0.00000920  |
| -                                    | (-3.39)               | (1.55)       | (1.25)      |
| Net income x Leisure - Male          | -0.00000504           |              | 0.0000434** |
|                                      | (-0.37)               |              | (3.02)      |
| Net income x Leisure - Female        | -0.0000408**          | 0.0000107    |             |
|                                      | (-3.14)               | (1.00)       |             |
| Observations                         | 7286                  | 4372         | 4507        |
| R2                                   | 0.444                 | 0.336        | 0.465       |
| AIC                                  | 11131073.6            | 7690555.6    | 7350344.9   |
| BIC                                  | 11131367.1            | 7690686.3    | 7350476.2   |
|                                      | 1110100711            |              |             |

## Table A.1 continued from previous page

|       |                 | Cou       | ples     | Singles   |          |  |
|-------|-----------------|-----------|----------|-----------|----------|--|
|       | Hours intervals | Predicted | Observed | Predicted | Observed |  |
| Men   | 0               | 0.080421  | 0.080421 | 0.158548  | 0.158548 |  |
|       | 5-14            | 0.005515  | 0.005297 | 0.007009  | 0.005231 |  |
|       | 15-23           | 0.011095  | 0.010919 | 0.012295  | 0.016975 |  |
|       | 24-32           | 0.026391  | 0.026165 | 0.026239  | 0.021356 |  |
|       | 33-41           | 0.715128  | 0.716735 | 0.649059  | 0.650358 |  |
|       | 42-50           | 0.16145   | 0.160463 | 0.14685   | 0.147533 |  |
| Women | 0               | 0.156064  | 0.156064 | 0.211607  | 0.211607 |  |
|       | 5-14            | 0.015003  | 0.011277 | 0.01707   | 0.015385 |  |
|       | 15-23           | 0.058839  | 0.060507 | 0.050715  | 0.051413 |  |
|       | 24-32           | 0.108647  | 0.110949 | 0.083056  | 0.08458  |  |
|       | 33-41           | 0.587921  | 0.589717 | 0.554823  | 0.555673 |  |
|       | 42- 50          | 0.073526  | 0.071486 | 0.082728  | 0.081342 |  |

Table A.2: Predicted and observed probabilities for each work alternative

#### Appendix B. Labour supply tables

Table B.1: Current and counterfactual labour supply changes, by household type and gender

|       |                              | Working hours in 2019 | Actual % change | Counterfactual % change |
|-------|------------------------------|-----------------------|-----------------|-------------------------|
| Men   | In couple - with children    | 36.33                 | 4.41%           | 1.16%                   |
|       | In couple - without children | 34.16                 | 6.50%           | 2.20%                   |
|       | Single - with children       | 35.66                 | 3.68%           | 2.13%                   |
|       | Single - without children    | 31.90                 | 7.40%           | 3.96%                   |
|       | Total                        | 34.49                 | 5.77%           | 2.23%                   |
| Women | In couple - with children    | 28.81                 | 6.20%           | 4.96%                   |
|       | In couple - without children | 27.15                 | 9.32%           | 6.20%                   |
|       | Single - with children       | 28.65                 | 3.36%           | -0.90%                  |
|       | Single - without children    | 29.58                 | 7.63%           | 3.04%                   |
|       | Total                        | 28.77                 | 7.13%           | 3.65%                   |
| All   | Total                        | 32.66                 | 6.24%           | 2.72%                   |

Source: Column "Working hours, 2019" shows estimated total working hours based on 2019 SILC and policy year 2018. Column "Actual % changes" shows % changes from working hours in 2019 of total working hours estimated based on 2022 SILC data and policy year 2021. Column "Counterfactual % changes" shows estimated total working hours based on 2022 SILC, policy year 2021 and behavioural parameters estimated with SILC 2019. The percentage change is expressed relative to 2019 figures.

| Table B.2: Labour s | supply changes b | by household type and gender |
|---------------------|------------------|------------------------------|
|---------------------|------------------|------------------------------|

|       |                              | Weekly Hours of work |        | Participation |        | Part-time |        | <b>Full-time</b> |        |
|-------|------------------------------|----------------------|--------|---------------|--------|-----------|--------|------------------|--------|
|       |                              | Baseline             | Change | Baseline      | Change | Baseline  | Change | Baseline         | Change |
| Men   | In couple - with children    | 36.79                | 0.26%  | 0.91          | 0.66%  | 0.04      | 6.41%  | 0.87             | 0.41%  |
|       | In couple - without children | 34.06                | 0.89%  | 0.85          | 1.39%  | 0.05      | 3.77%  | 0.81             | 1.26%  |
|       | Single - with children       | 35.21                | 0.09%  | 0.87          | 0.56%  | 0.03      | 6.25%  | 0.84             | 0.34%  |
|       | Single - without children    | 33.02                | 0.79%  | 0.83          | 1.16%  | 0.04      | 3.48%  | 0.78             | 1.03%  |
|       | Total                        | 35.04                | 0.55%  | 0.87          | 0.98%  | 0.04      | 4.80%  | 0.83             | 0.79%  |
| Women | In couple - with children    | 28.98                | 1.48%  | 0.79          | 1.74%  | 0.16      | 1.54%  | 0.64             | 1.79%  |
|       | In couple - without children | 26.78                | 2.43%  | 0.74          | 2.63%  | 0.16      | 1.55%  | 0.58             | 2.93%  |
|       | Single - with children       | 28.16                | 1.75%  | 0.76          | 1.96%  | 0.14      | 2.21%  | 0.63             | 1.90%  |
|       | Single - without children    | 29.67                | 1.41%  | 0.80          | 1.77%  | 0.14      | 2.55%  | 0.66             | 1.61%  |
|       | Total                        | 28.61                | 1.70%  | 0.78          | 1.98%  | 0.15      | 1.98%  | 0.63             | 1.98%  |
| All   | Total                        | 32.93                | 0.88%  | 0.84          | 1.29%  | 0.08      | 3.00%  | 0.76             | 1.11%  |

Note: Children are defined as son-daughter of the decision-making unit. They are not older than 18 years, or if older, they are in education.

|       |                           | Total | Extensive |
|-------|---------------------------|-------|-----------|
| Men   | In couple - with children | 0.192 | 0.158     |
|       | In couple - no children   | 0.238 | 0.197     |
|       | Single - with children    | 0.182 | 0.157     |
|       | Single - no children      | 0.284 | 0.256     |
|       | Total                     | 0.231 | 0.201     |
| Women | In couple - with children | 0.395 | 0.312     |
|       | In couple - no children   | 0.380 | 0.301     |
|       | Single - with children    | 0.413 | 0.339     |
|       | Single - no children      | 0.424 | 0.352     |
|       | Total                     | 0.406 | 0.329     |
| All   | Total                     | 0.314 | 0.262     |

Table B.3: Total and Extensive margin wage elasticities

Table B.4: Labour supply changes by age category and gender

|       | Age category | Baseline | Weekly Hours | Baseline | Partecipation |
|-------|--------------|----------|--------------|----------|---------------|
| Men   | [18-32]      | 33.02    | 1.07%        | 0.83     | 1.36%         |
|       | [33-45]      | 36.81    | 0.12%        | 0.91     | 0.56%         |
|       | [46-54]      | 36.31    | 0.30%        | 0.90     | 0.72%         |
|       | [55-67]      | 31.52    | 1.33%        | 0.80     | 1.94%         |
| Women | [18-32]      | 28.44    | 1.87%        | 0.78     | 1.98%         |
|       | [33-45]      | 30.94    | 1.04%        | 0.83     | 1.32%         |
|       | [46-54]      | 29.91    | 1.32%        | 0.81     | 1.66%         |
|       | [55-67]      | 24.81    | 3.08%        | 0.69     | 3.25%         |
| All   | Total        | 32.93    | 0.88%        | 0.84     | 1.29%         |

Table B.5: Labour supply changes by income decile and gender

|       |                | Hours of work |          | Participat | ion      |
|-------|----------------|---------------|----------|------------|----------|
|       | Income Deciles | Baseline      | % Change | Baseline   | % Change |
| Men   | I-II           | 29.43         | 1.65%    | 0.74       | 1.86%    |
|       | III-IV         | 32.78         | 1.15%    | 0.82       | 1.36%    |
|       | V-VI           | 34.49         | 0.79%    | 0.86       | 1.08%    |
|       | VII-VIII       | 36.15         | 0.35%    | 0.90       | 0.87%    |
|       | IX-X           | 38.46         | -0.27%   | 0.95       | 0.48%    |
|       |                |               |          |            |          |
| Women | I-II           | 22.36         | 3.44%    | 0.63       | 3.23%    |
|       | III-IV         | 25.40         | 2.60%    | 0.71       | 2.66%    |
|       | V-VI           | 27.74         | 2.16%    | 0.77       | 2.21%    |
|       | VII-VIII       | 31.18         | 1.28%    | 0.84       | 1.56%    |
|       | IX-X           | 34.34         | 0.41%    | 0.90       | 1.08%    |