Firms, Flexibility, and Fertility*

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Abstract

This paper examines the impact of workplace flexibility on female labor market outcomes and fertility, with a particular focus on the Spanish labor market. Using a variety of data sources—including labor force surveys, time-use surveys, and administrative records—we document that rigid schedules, split-shift work arrangements, and long working hours increase the time cost of childcare, reducing women's participation, wage growth, and career progression. Flexible arrangements, by contrast, facilitate work–family balance but are unevenly distributed across firms, sectors, and occupations. We present a simple model in which job inflexibility lowers both labor force participation and fertility, especially among mothers. We also provide a survey of the literature on the value of flexibility, the costs of family-friendly policies, and equilibrium models linking firm behavior to fertility decisions.

Keywords: Fertility, Flexibility, Family-Friendly Policies, Gender Gaps
JEL Codes: E24, J08, J13, J18

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1 Introduction

Low fertility has become a defining demographic challenge for many high-income countries. Birth rates in much of Europe, East Asia, and North America have fallen significantly below the replacement level, raising concerns about the sustainability of welfare systems, pension financing, and the long-term economic growth potential of these regions. These changes are not unique to high-income countries and are part of what one might call a global fertility decline (Delventhal et al., 2024). Population aging, driven by longer life expectancy and declining birth rates, will shrink the working-age population, increasing the fiscal burden on younger generations and potentially altering the balance between work, family, and leisure worldwide. Understanding the forces behind low fertility is therefore a pressing priority for both researchers and policymakers.

A rich literature has examined the role of economic conditions, cultural norms, and family policies in shaping fertility trends; see Greenwood et al. (2017), Doepke et al. (2023), Bloom et al. (2024), and Kearney and Levine (2025) for recent reviews. Yet, the role of firms and workplace arrangements has received comparatively less attention. The organization of work is central to the ability of individuals—particularly women—to combine employment and family life. Jobs that require long, rigid hours, offer little control over schedules, or involve long commutes increase the time cost of children and can make childbearing less feasible. In contrast, workplace flexibility and supportive family-friendly policies can reduce this time cost and facilitate higher fertility rates. At the same time, such policies may also entail costs for firms, affecting their willingness to hire, promote, or retain workers with caregiving responsibilities. Such firms' reactions, coupled with social norms that place an unequal burden of childcare on women, can lead to persistent gender inequalities and low fertility - Feyrer et al. (2008) and Doepke and Kindermann (2019).

In this paper, we examine how job flexibility interacts with female labor market outcomes and fertility decisions, with a particular focus on the Spanish labor market. Spain provides a useful case study because its institutional and cultural context features both low fertility and relatively non-flexible work arrangements, such as the prevalence of split-shift schedules and long working hours. Furthermore, the distribution of caregiving within households remains highly unequal, with mothers assuming a disproportionate share of responsibilities (Sánchez-Marcos, 2023). We begin in Section 2 by measuring flexibility using several data sources that capture distinct dimensions, including control over schedules, non-standard working times, and the incidence of long hours. We also document the relationship between flexibility, female

employment, and fertility decisions. To interpret these facts, in Section 3, we present a simple model in which job inflexibility raises the time cost of childcare, reducing both female labor force participation and fertility. Finally, in Section 4, we situate our findings within the broader literature, drawing on recent evidence about the value of flexibility, the costs of family-friendly policies, and equilibrium models that link firm behavior and household decisions.

2 Flexibility, Work and Children

This section presents various measures of job flexibility and their relationship with female labor force participation, wages, and fertility, focusing on Spain. The concept of flexibility and its relevance for gender gaps in labor market outcomes was prominently introduced by Goldin (2014), who emphasized that gender pay gaps might persist because firms disproportionately reward long and rigid working hours. Flexibility is multidimensional, encompassing not only the number of hours worked but also the specific timing, unpredictability, and regularity of those hours.

As Goldin (2014, p. 1092) noted, "The gender gap in pay would be considerably reduced and might even vanish if firms did not have an incentive to disproportionately reward individuals who worked long hours and who worked particular hours." Flexible jobs enable workers—especially women balancing family responsibilities—to adjust their hours or schedules without incurring wage or promotion penalties. Non-flexible jobs, by contrast, reward face time, predictability, and continuous availability, disadvantaging workers with caregiving duties. Clearly, non-flexible workplace arrangements will make having children costly for women, forcing them to trade off having children with their earnings and careers.

Building on this concept, we next examine multiple empirical measures of flexibility, combining survey and administrative data sources that capture different aspects of work schedules in Spain. First, we use the Encuesta de Población Activa (EPA) by the Spanish Statistical Agency (INE), which constitutes the Spanish section of the EU Labor Force Survey. The EPA, which we refer to below as the Labor Force Survey, is a quarterly household survey designed to measure the labor market situation in Spain. It covers approximately 50,000 households (approximately 120,000 individuals), providing key indicators on employment, unemployment, participation rates, and other labor market characteristics for the entire country and by region. In particular, we utilize two specialized modules of EPA, focusing on questions related to organization and workday length, as well as caregiving responsibilities. These modules enable us to document workers' ability to organize and adjust their work schedules, as well as

the impact this has on their caregiving responsibilities.

Second, we utilize the Encuesta de Empleo del Tiempo (EET) by the INE, the Spanish Time Use Survey, to document the prevalence and cost of split-shift schedules in Spain. The EET, with a sample size of approximately 9,500 individuals, is a periodic survey that tracks how people in Spain allocate their time. With editions in 2002–2003, 2009–2010, and the latest slated for 2024–2025, it enables analysis of daily activity patterns—spanning employment, unpaid care, personal time, and more.

Finally, we focus on occupations that require long working hours, as another measure of inflexibility. Using Spanish Social Security records, Continuous Sample of Working Lives (Muestra Continua de Vidas Laborales con Datos Fiscales, MCVL), we classify industries as flexible or non-flexible, and document gender differences in employment and wage growth in those industries. The MCVL is a 4% random sample of individuals registered with Spain's Social Security in a given year—covering those who were employed or receiving unemployment benefits. It provides retrospective, spell-level labor market histories back to first employment (or 1980), detailing start and end dates, employer identifiers, contract type, working hours, occupation, sector, industry, and monthly censored earnings, along with unemployment spells.

2.1 Flexible Work Arrangements

Table 1 presents several indicators of job flexibility. We construct these indicators using the 2019 Spanish Labor Force Survey special module on work arrangements, which asks workers questions on their ability to adjust their work schedules. The data show that 79.8% of women and 78.9% of men report that their daily work schedule is set entirely by their employer, while only about 5–6% report full autonomy. This suggests rather limited control over working time for both genders, with a marginally greater limitation for women. Regarding taking one or two days off on short notice, 61.4% of men and 58.9% of women said it was fairly or very easy to take 1–2 days off on three days' notice. On the other hand, unexpected changes in work schedules requested by firms are rather infrequent: only 8.2% of women and 11.0% of men report experiencing unexpected changes in their work schedules at least weekly. Most respondents (over 75%) face little unpredictability, though the rate is higher for women.

A notable gender difference appears in the incidence of split-shift work. While 38.1% of men work split shifts, only 25.8% of women do—a 12.3 percentage point gender gap. This discrepancy likely reflects both supply- and demand-side factors. On the one hand, women may avoid these schedules due to incompatibility with caregiving responsibilities. On the other hand, employers may steer women away from jobs

Table 1: Work Schedule Flexibility

	Men	Women
Who decides the start/end of the daily work schedule?		
Worker without restrictions	6.0	5.1
Worker with restrictions	15.1	15.1
Employer	78.9	79.8
How easy is it to take 1 or 2 days off on 3 days' notice?		
Very Easy	21.2	20.5
Fairly Easy	40.2	38.4
Frequency of unexpected changes in work schedule		
At least once per week	11.0	8.2
At least once per month	10.3	9.8
Less than once per month or never	75.3	79.9
Incidence of split-shift work schedule	38.1	25.8

NOTES: The sample refers to employees aged 25-54. Entries show the share of workers in each category. SOURCE: The Spanish Labor Force Survey, 2019 Special Module on Organization and Length of Workdays.

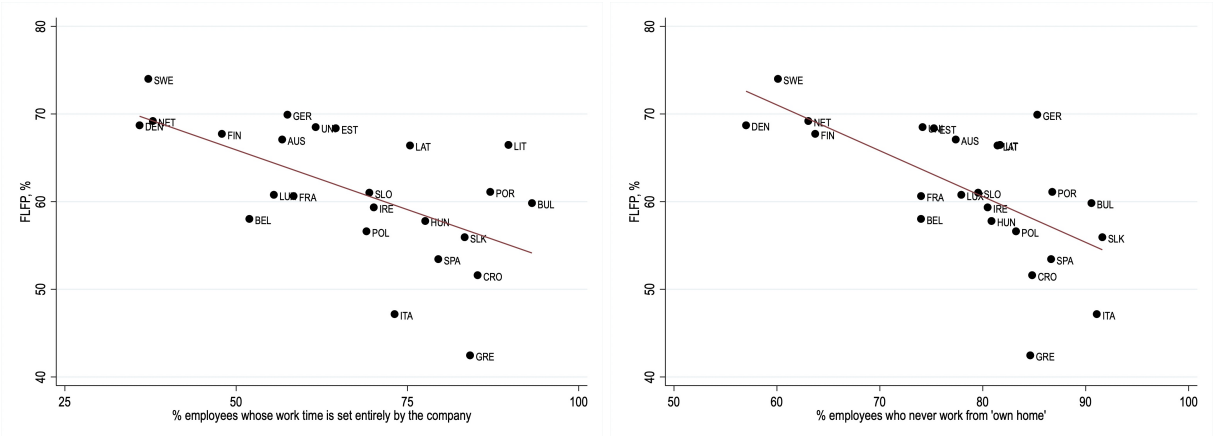
requiring long or staggered hours. These findings highlight that although headline flexibility indicators do not differ sharply by gender, underlying job structure—such as the prevalence of split shifts—reveals meaningful gender asymmetries in work organization.

How does Spain compare with other countries? Figure 1 shows a clear negative relationship between schedule rigidity (Panel A) and lack of remote work (Panel B) and women's labor force participation across OECD countries. Countries with more rigid schedules and fewer opportunities to work from home tend to exhibit consistently lower female participation rates. Spain lies toward the less flexible end of both measures, with participation rates below those of the OECD leaders. The measure of flexibility in Panel A is comparable to the one reported in Table 1. In Spain, nearly 80% of females report that their work hours are entirely set by their employers. This is significantly higher than in countries such as Sweden, Denmark, and the Netherlands, where the share is less than 50%. Panel B reveals a similar negative relationship between female labor force participation and the share of employees who never work from home. Spain again does not fare well; around 85% of women indicated that they never work from home. These results suggest that rigid scheduling and a lack of remote work options are associated with lower female attachment to the labor market.

Figure 2 reveals that these same measures of inflexibility are also associated with lower total fertility rates. Countries where employers fully control schedules and

Figure 1: Job Flexibility and Labor Force Participation

(A) Rigid working schedule **(B)** Never working from home

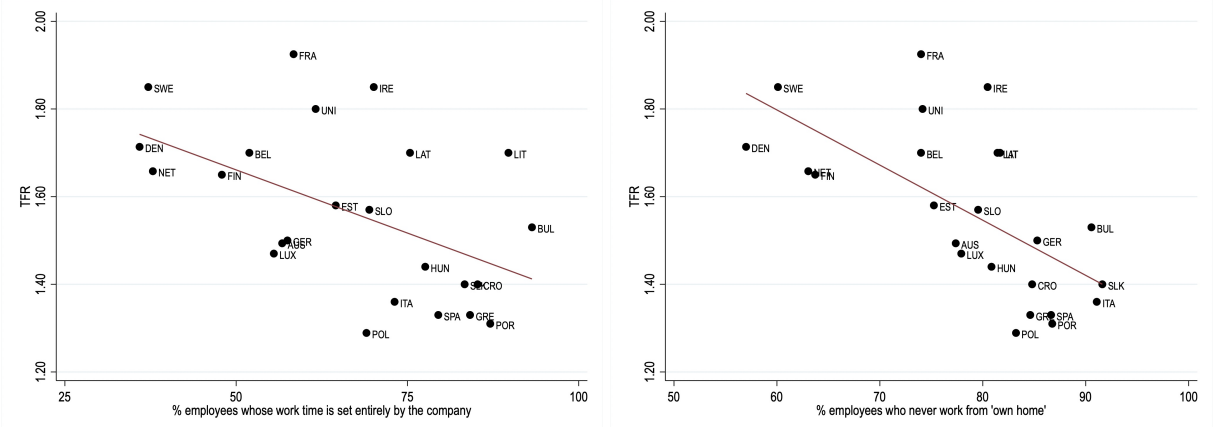


NOTES: This figure shows female labor force participation (FLFP) across OECD countries against the percent of employees whose work time is entirely set by the employers (panel A) and the percent of employees who never work from home (panel B). FLFP refers to the proportion of employed women among those in the working-age population in 2015, expressed as a percentage. The sample refers to employees aged 16 years and older. SOURCE: The OECD Family Database.

where remote work is rare tend to have fewer births per woman, suggesting that rigid work arrangements not only limit women's labor supply but also reduce their likelihood of having children.

Figure 2: Flexibility and Total Fertility Rate

(A) Rigid working schedule **(B)** Never working from home



NOTES: This figure shows total fertility rate (TFR) across OECD countries against the percent of employees whose work time is entirely set by the employers (panel A) and the percent of employees who never work from home (panel B). TFR refers to the number of births per woman in 2015. The sample refers to employees aged 16 years and older. SOURCE: The OECD Family Database.

While these indicators highlight the general relationship between flexibility and participation, they do not capture how specific family responsibilities affect workers' ability to adapt their schedules. We turn next to caregiving responsibilities as a key driver of gender differences in flexibility use.

2.2 Balancing Family and Work

Table 2 shows that caregiving for children under 15 is reported by 42.2% of employed men and 41.1% of employed women. Among the unemployed, 27.4% of men and 42.4% of women report caregiving, while among non-participants, caregiving is reported by only 15.0% of men but by 42.1% of women. These figures highlight how caregiving responsibilities differ markedly by gender and labor market status. For women, caregiving is a persistent influence regardless of employment status, while for men, it is more strongly linked to being employed.

Caregiving for other relatives is also more frequently reported by women across all statuses: 3.8% among employed women versus 2.3% among employed men, and 8.1% versus 4.9% among non-participants. The share of women reporting both types of caregiving (children and other relatives) is also slightly higher. Consequently, a majority of men—79% of non-participants—report no caregiving responsibility at all, while this figure is only 44.9% among non-participant women. These disparities underscore that caregiving is a major determinant of labor force participation for women, much more so than for men. These pronounced gender differences in caregiving responsibilities during unemployment spells may lead to divergent job search intensities between men and women. Consequently, it would not be surprising if they contribute to gender disparities in unemployment incidence.

Table 2: Caregiving Responsibilities

	Employed	Unemployed	Non-participants
Men			
Children younger than 15	42.2	27.4	15.0
Other relatives	2.3	4.0	4.9
Both	2.1	2.1	1.1
No responsibility	53.3	66.3	79.0
No answer	0.1	0.2	0.1
Women			
Children younger than 15	41.1	42.4	42.1
Other relatives	3.8	6.1	8.1
Both	2.5	2.8	4.8
No responsibility	52.4	48.6	44.9
No answer	0.2	0.1	0.1

NOTES: The sample refers to employees aged 25-54. Entries show the share of workers in each category. SOURCE: The Spanish Labor Force Survey, 2018 Special Module on Reconciliation of Work and Family.

These gendered patterns in caregiving responsibilities are also reflected in job-related adjustments made for caregiving purposes. As Table 3 shows, the most com-

monly reported job-related change due to caregiving is reduced working hours, with a striking gender gap: 20.7% of women versus only 2.3% of men report cutting back hours. The large number of women in reduced hours is the result of the 1999 Work and Family Reconciliation Act (Law 39/1999), which granted parents of children under 6 the right to reduce their workweek by one-third to one-half of full-time hours with protection from dismissal. The child age limit was later raised to 8 (2007) and 12 (2012).

Other adaptations, such as changing occupations, self-selecting into less demanding tasks, or adjusting start and end times, are far less common. Roughly 5.2% of women and 4.3% of men report adjusting their daily work schedules, suggesting slightly more scheduling adaptation among women. Meanwhile, very few workers—just 1.1% of men and 1.7% of women—report having changed firms or occupations in response to caregiving responsibilities. This indicates that many adjustments likely occur within existing jobs rather than through mobility.

Table 3: Labor Market Changes due to Caregiving Responsibilities

	Men	**Women**
Changes in employment to earn more money	1.2	0.7
Work hours reduction	2.3	20.7
Self-select into less demanding tasks	0.5	0.7
Change in occupation or firm to balance family and work	1.1	1.7
Caregiving leave	0.2	1.0
Adjust start/end	4.3	5.2

NOTES: The sample refers to employees aged 25-54 with caregiving responsibility of children younger than 15. SOURCE: The Spanish Labor Force Survey, 2018 Special Module on Reconciliation of Work and Family.

Additionally, caregiving leave is reported more often by women (1.0%) than men (0.2%), consistent with broader patterns of gendered caregiving intensity. Taken together, these results reveal that caregiving constraints are overwhelmingly internalized through a reduction in work intensity, rather than job switching or formal leave—an asymmetry especially pronounced for women. This is possibly because women anticipating motherhood select into less demanding roles in the first place.

These gendered impacts on working hours are closely related to differences in work schedule flexibility. Table 4 provides further details on work schedule flexibility among employees with caregiving responsibilities for children under 15. The data show that 49.5% of women and 42.4% of men in this group report that adjusting the start and end of their daily work schedule is generally possible. Conversely, 38.2% of women and 44.3% of men state that such adjustments are not possible, indicating that while women are slightly more likely to report flexibility, rigid schedules remain

common among caregivers.

Notably, the incidence of split-shift schedules is much higher among caregiving men (37.4%) than caregiving women (26.7%). This supports the view that women with caregiving duties either avoid or are excluded from split-shift roles, likely due to the incompatibility of those schedules with childcare demands. Together, these figures reinforce the idea that schedule structure—not just total work hours—critically shapes gendered labor force participation patterns among parents.

Table 4: Work Schedule Flexibility, Caregivers

	Men	Women
Employee adjusts start/end of daily work schedule		
In general it is possible	42.4	49.5
Almost never possible	8.6	8.2
Not possible	44.3	38.2
Incidence split-shift work schedule	37.4	26.7

NOTES: The sample refers to employees aged 25-54 with caregiving responsibility of children younger than 15. SOURCE: The Spanish Labor Force Survey, 2018 Special Module on Reconciliation of Work and Family.

Finally, we look at gender differences in occupational structure. Table 5 breaks down responsibilities at work by gender and shows persistent disparities in occupational hierarchies. Panel A shows that, while 64.1% of men and 76.0% of women are in non-supervisory employee roles, men are more likely to hold higher-responsibility positions. Specifically, 8.1% of men are supervisors compared to 5.3% of women, and 8.1% of men are intermediate managers versus 6.6% of women. The gap widens at the top: 7.6% of men are managers in small firms, compared to 4.9% of women, and just 0.3% of women hold managerial positions in large firms versus 0.9% of men. Men are also significantly more likely to be self-employed (11.2% vs. 6.7%). These figures illustrate how occupational sorting—especially into management and self-employment, remains strongly gendered, limiting women's access to roles typically associated with greater autonomy, decision-making, and pay. Such sorting might be a result of occupations with more responsibilities penalizing flexible work arrangements that women demand.

Panel B of Table 5 shows that the presence of children further amplifies gender gaps in workplace responsibilities. Among parents with children under 15, 73.4% of women hold employee positions, compared to 59.1% of men. In contrast, 9.2% of fathers are supervisors compared to only 5.2% of mothers, and 9.5% of men are intermediate managers versus 8% of women. The gap persists in managerial roles: 9.6% of men are small-firm managers, compared to 5.5% of women, and 1.1% of men hold

Table 5: Responsibilities at Work

	Men (%)	Women (%)
	A.Overall	
Employee	64.1	76.0
Supervisor	8.1	5.3
Intermediate Manager	8.1	6.6
Manager (Small Firm)	7.6	4.9
Manager (Large Firm)	0.9	0.3
Self-employed	11.2	6.7
	B.If children younger than 15 years	
Employee	59.1	73.4
Supervisor	9.2	5.2
Intermediate Manager	9.5	8.0
Manager (Small Firm)	9.6	5.5
Manager (Large Firm)	1.1	0.3
Self-employed	11.4	7.3

NOTES: The sample refers to employees aged 25-54 (Panel A), with children under 15 (Panel B). Entries show the share of workers in each category. SOURCE: The Spanish Labor Force Survey, 2018 Special Module on Reconciliation of Work and Family.

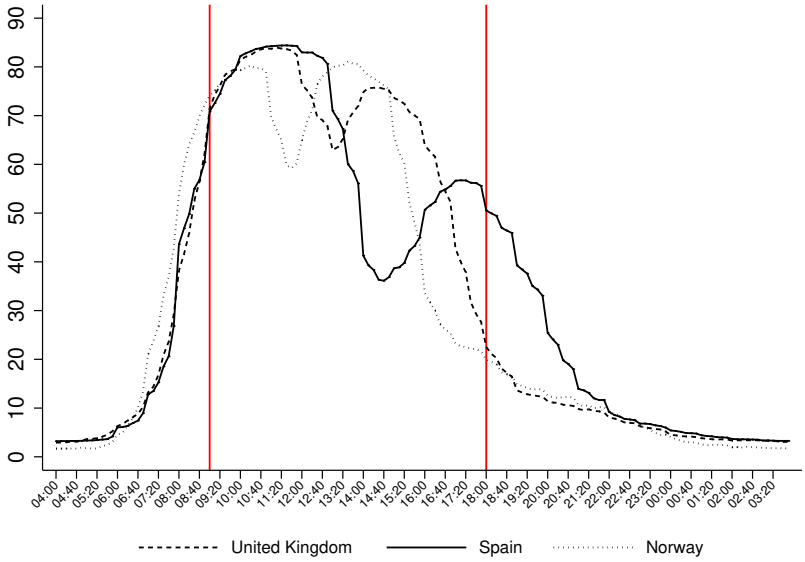
senior managerial positions in large firms versus just 0.3% of women. Fathers are also more likely to be self-employed (11.4%) than mothers (7.3%). These figures show that not only do gender gaps in responsibility persist at the top of the occupational hierarchy, but they also widen in the presence of children. This suggests that parenthood exacerbates occupational sorting and limits women's progression into more autonomous and flexible roles.—22.1% of fathers versus only 13.1% of mothers hold such roles.

2.3 Split-Shift Work Schedules

In Spain, many jobs have a long lunch break that splits the workday, pushing the end time well past 5 pm. These split-shift schedules, a distinctive feature of the Spanish labor market, exemplify non-flexible work arrangements and impose fixed time costs, especially for women (Guner et al., 2024). As shown in Figure 3, by 6 pm, fewer than 20% of workers remain at work in Norway and the UK, compared to 50% in Spain, making it harder to combine work and childcare.

Using Spanish Time Use data, Tables 6 through 10 offer further insight into the gendered nature of split-shift scheduling. Table 6 shows that men are substantially more likely than women to work split shifts, with 44.7% of men versus 30.5% of women reporting this type of schedule. Flexible work schedules, however, are reported at

Figure 3: Fraction of People at Work at Different Times of the Day



NOTES: The sample is restricted to 25-54-year-old employees who filled the diary on an ordinary working day. The figure shows the fraction who report employment as the main activity (main or second job and activities related to employment) at different hours of the day. The vertical lines mark 9 am and 6 pm. SOURCE: Harmonized European Time Use Surveys (HETUS) database, www.tus.scb.se (accessed on 8/11/2018).

similar rates—23.5% for men and 24.6% for women—indicating that once such flexibility is available, access appears broadly gender-neutral. In contrast, part-time employment is highly gendered: 23.0% of women report working part-time compared to only 3.6% of men. This large gap highlights that women may use part-time work as a substitute for within-job flexibility that remains scarce. Together, these indicators underscore that while men are more likely to be exposed to fragmented schedules, women disproportionately bear the cost of reduced working hours through part-time arrangements, reflecting the different constraints and trade-offs they face in balancing work and caregiving. This likely reflects both occupational sorting—where men are overrepresented in industries with such schedules—and gendered preferences regarding work-life balance.

Table 6: Work Schedule Characteristics by Gender

	Men (%)	Women (%)
Split-shift work schedule	44.68	30.49
Flexible work schedule	23.53	24.58
Part-time employment	3.64	22.99

NOTES: The sample refers to employees aged 25-54. SOURCE: Spanish Time Use Survey 2009-2010.

Table 7 provides a more detailed look at the incidence of split-shift work across

occupations. While split-shift schedules are prevalent across different occupations, there are notable gender differences. Across nearly all occupational groups, men are more likely than women to report working split shifts. The differences are particularly large in craft and manual jobs: for example, 60.8% of male workers in business and public administration and 58.4% of craftsmen and qualified manufacturing workers report working split shifts, compared to only 56.7% and 29.5% of women, respectively. Among unskilled workers, 41.0% of men and 20.6% of women work split shifts. Even in higher-skilled occupations such as scientific and technical professions, men are more likely to be subject to such schedules. These differences suggest that occupational sorting plays a critical role in shaping gender gaps in exposure to nonstandard work schedules.

Table 7: Incidence of Split-shift Schedule Jobs by Occupation and Gender

	Men (%)	Women (%)
Business administration and public administration	60.80	56.67
Scientific technicians, professionals, and intellectuals	44.22	33.05
Support technicians and professionals	50.55	38.44
Administrative-type employees	38.05	31.19
Catering, personal, and protection services and trade salespersons	34.69	29.81
Craftsperson, qualified manufacturing, construction, mining workers	58.44	29.51
Machine operators/drivers, fixed machinery fitters	37.00	18.52
Unskilled workers	41.00	20.62

NOTES: The sample refers to employees aged 25-54. SOURCE: Spanish Time Use Survey 2009-2010.

Table 8 extends this occupational picture to regional patterns. In all Spanish regions, men are more likely than women to work split-shift schedules. The highest incidences are observed in Galicia, Asturias, and Cantabria (49.5% for men vs. 33.2% for women), as well as in Catalonia, Valencia, and the Balearic Islands (52.7% vs. 38.9%). The lowest rates occur in the Canary Islands, Ceuta, and Melilla, where only 29.3% of men and 21.2% of women work split shifts. These regional differences reflect variation in industrial structure and local labor market practices.

Finally, Table 9 examines the relationship between schedule type, weekly hours, and hourly pay. For both men and women, split-shift schedules are associated with longer weekly hours—42.8 hours for men and 38.4 hours for women—compared to 39.4 and 33.9 hours, respectively, under regular schedules. However, hourly pay is lower in split-shift jobs: €8.03/hour for men and €7.52/hour for women, versus €8.95 and €7.97 in regular schedule jobs. These figures confirm that split shifts impose a time penalty without compensating with wage benefits, reinforcing the view that constrained availability rather than preference may be driving differences in observed flexibility outcomes (Amuedo-Dorantes and de la Rica, 2009).

Table 8: Incidence of Split-shift Schedule Jobs by Region and Gender

	Men (%)	Women (%)
Galicia, Asturias, Cantabria	49.46	33.24
Community of Madrid	44.69	32.25
Basque Country, Navarre, La Rioja, Aragon	44.13	29.08
Catalonia, Valencian Community, Balearic Islands	52.72	38.86
Castile and Leon, Castile-La Mancha, Extremadura	43.96	28.48
Andalusia, Region of Murcia	36.98	20.00
Canary Islands, Ceuta, Melilla	29.26	21.18

NOTES: The sample refers to employees aged 25-54. SOURCE: Spanish Time Use Survey 2009-2010.

Table 9: Weekly Hours and Hourly Pay, by Work Schedule and Gender

		Men	Women
Weekly hours			
	Regular schedule	39.43	33.88
	Split-shift schedule	42.81	38.39
Hourly pay			
	Regular schedule	8.95	7.97
	Split-shift schedule	8.03	7.52

NOTES: The sample refers to employees aged 25-54. Hourly pay is constructed using the midpoint of monthly pay intervals, divided by 52/12 times the reported weekly hours. SOURCE: Spanish Time Use Survey 2009-2010.

Next, following Guner et al. (2024), we examine the relationship between motherhood and the probability of working with a split-shift schedule. For this purpose, we estimate a series of logistic regression models, with the most expanded specification taking the following form:

$$\Pr(y_i = 1|F_i, P_i, F_i \times P_i, X_i, I_i, Z_i) = L(\alpha + \beta F_i + \gamma P_i + \delta(F_i \times P_i) + \theta X_i + \lambda I_i + \eta Z_i), \quad (1)$$

where the dependent variable y_i, indicating the probability of employment in a split-shift job, equals 1 if employee i works with a split-shift schedule and 0 otherwise. The main predictors are a binary (female) gender indicator (F_i), a binary indicator for having children (P_i), and their interaction ($F_i \times P_i$). Other controls include personal characteristics such as age, education, and region, represented by X_i; household income, denoted by I_i; and work-related characteristics, including full-time employment, temporary contract status, occupation, industry, the presence of a second job, and an indicator for flexible working hours, captured by Z_i; and α is a constant term.

Table 10 presents estimates from Equation (1). Column (1) includes only a (female) gender indicator, while Column (2) includes only an indicator for having own children

in the household. Column (3) introduces both indicators and their interaction, allowing the association between parenthood and split-shift work to differ by gender. The estimates indicate that parenthood is associated with a significantly lower likelihood of working a split-shift schedule for women, but not for men. In particular, mothers have odds of working split shifts that are about 56% lower than those of men and women without children.[1] Columns (4)–(6) progressively add controls for personal characteristics, household income, and work-related characteristics. The association for mothers remains statistically significant and similar in magnitude throughout. In the most expanded specification (Column (6)), mothers' odds of working a split-shift schedule are about 50% lower than those for men and women without children.

Table 10: Motherhood and the Probability of Working with a Split-shift Schedule

	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.422***	-	0.800	0.758	0.757	1.002
	(0.043)		(0.179)	(0.175)	(0.175)	(0.245)
Parent	-	0.691***	1.017	1.143	1.135	1.100
		(0.086)	(0.181)	(0.210)	(0.208)	(0.207)
Female × Parent	-	-	0.445***	0.455***	0.458***	0.503**
			(0.112)	(0.117)	(0.118)	(0.135)
Personal controls	No	No	No	Yes	Yes	Yes
Household income	No	No	No	No	Yes	Yes
Work-related controls	No	No	No	No	No	Yes
N.Obs.	1708	1708	1708	1708	1708	1708

NOTES: The sample refers to married and native employees aged 25-44. Reported are odds ratios with robust standard errors in parentheses. Personal characteristics include age, (college) education, and regional dummies (seven categories). Household income is net average monthly household income (four categories <1200 euros, between 1201 and 2000 euros, between 2001 and 3000 euros, and >3000 euros). Work-related characteristics include a binary indicator for full-time employment, the National Classification of Occupations (CNO) one-digit occupation dummies (regrouped, five categories), National Classification of Economic Activities (CNAE) one-digit industry dummies (regrouped, nine categories), a binary indicator for having a second job, a binary indicator for having flexible working hours, and a binary indicator for having a temporary contract. All models include a constant term. * p<0.10, ** p<0.05, *** p<0.01. SOURCE: Spanish Time Use Survey 2009-2010.

2.4 Long Working Hours

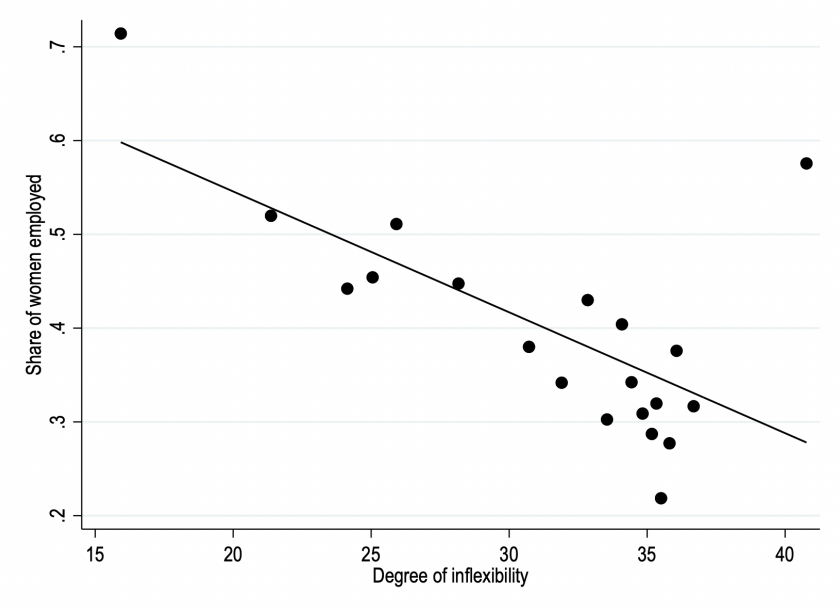
In this section, we focus on occupations with long working hours as another measure of inflexibility. The basic idea is that such jobs are difficult to combine with household duties and childcare responsibilities for women - Cortés and Pan (2017) and Erosa et al. (2022). As in Bover et al. (2025), we first calculate the share of men working more than

[1] An odds ratio (OR) below 1 indicates lower odds relative to the reference category. The percentage change is calculated as $(OR - 1) \times 100$.

50 hours per week in each industry. Then, across industries, we label the ones with a below median share of men working more than 50 hours per week as flexible, and the others as non-flexible.[2]

Figure 4 illustrates that sectors with a higher prevalence of long working hours among men employ far fewer women. Each point in the figure represents a sector, with the x-axis measuring the degree of inflexibility—defined based on the share of male workers exceeding 50 hours per week—and the y-axis representing the share of women in sectoral employment. Female representation exceeds 60% in highly flexible sectors such as education, but drops below 25% in non-flexible sectors, like construction, highlighting how overwork requirements drive occupational segregation.

Figure 4: Non-flexible Jobs and Women's Employment



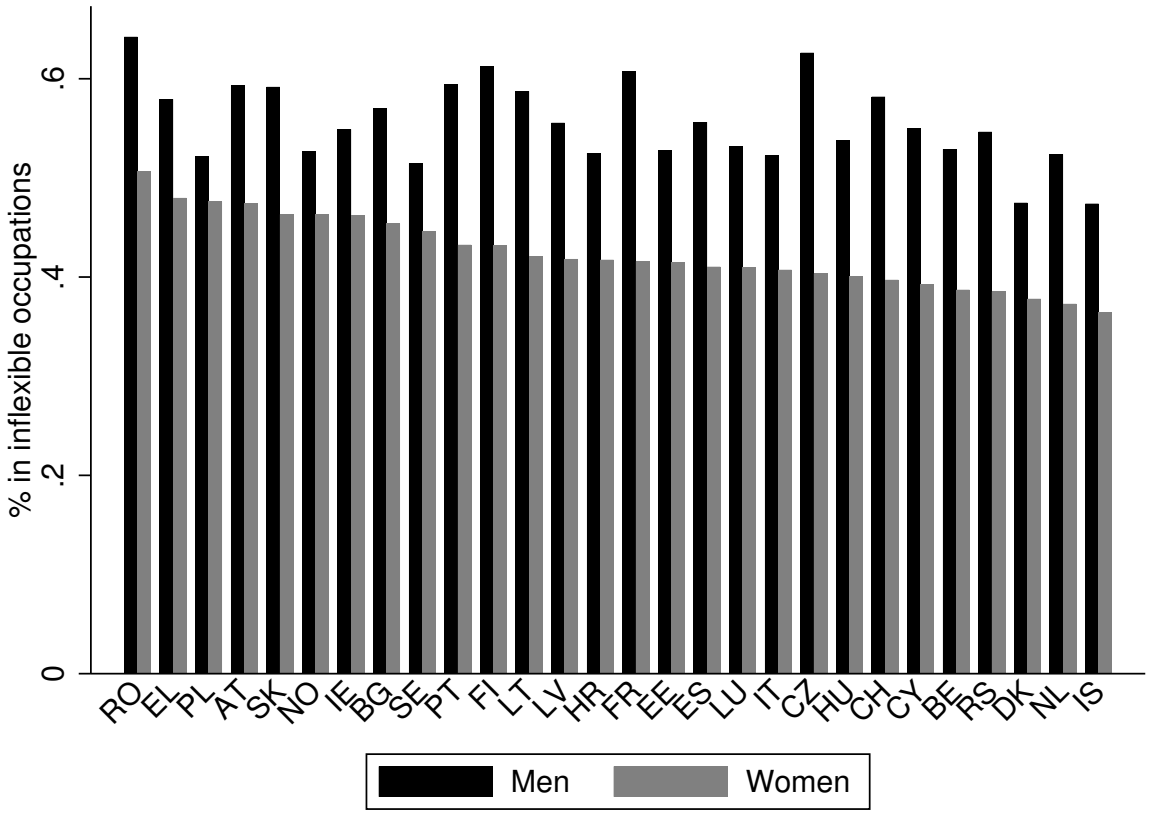
NOTES: The figure reports women's employment as a share of total employment across sectors with different degrees of inflexibility. The sample refers to native workers aged 25 to 44 who are employed in the quarter of reference. SOURCE: MCVL 2011-2015.

The low representation of women in occupations and industries with a high prevalence of long working hours is not unique to Spain. Using the EU Statistics on Income and Living Conditions (EU-SILC) and the same definition of flexible and non-flexible occupations, Figure 5 shows that, across all EU countries, women are underrepresented in non-flexible occupations, and the gap with men is consistently positive. The average gender gap is sizable, indicating that the pattern is pervasive and not specific

[2]Using the 2010 American Community Survey (ACS), first, the share of men working over 50 hours in each Standard Occupational Classification (SOC) occupation is calculated. We use the occupational distribution in the US, rather than one for Spain, because it is less affected by parallel policies in Spain. Then, we aggregate these occupational shares to the industry level using occupational employment shares and map US industry codes (NAICS) to Spain's CNAE-2009 codes to merge with the MCVL dataset.

to Spain. Countries are ranked by the female share, from the highest (Romania, 50.6%) to the lowest (Iceland, 36.4%). In every country, women's share is below men's, with an average gap of about 23.4% relative to men's share.[3]

Figure 5: Non-flexible Employment by Country and Gender, 2019



NOTES: The sample refers to employees aged 25-54. Inflexibility is defined as an occupation score at or above the country median. The occupation score is constructed based on the US share of male workers working more than 50 hours/week by occupation. SOURCE: EU-SILC 2019 cross-sectional data.

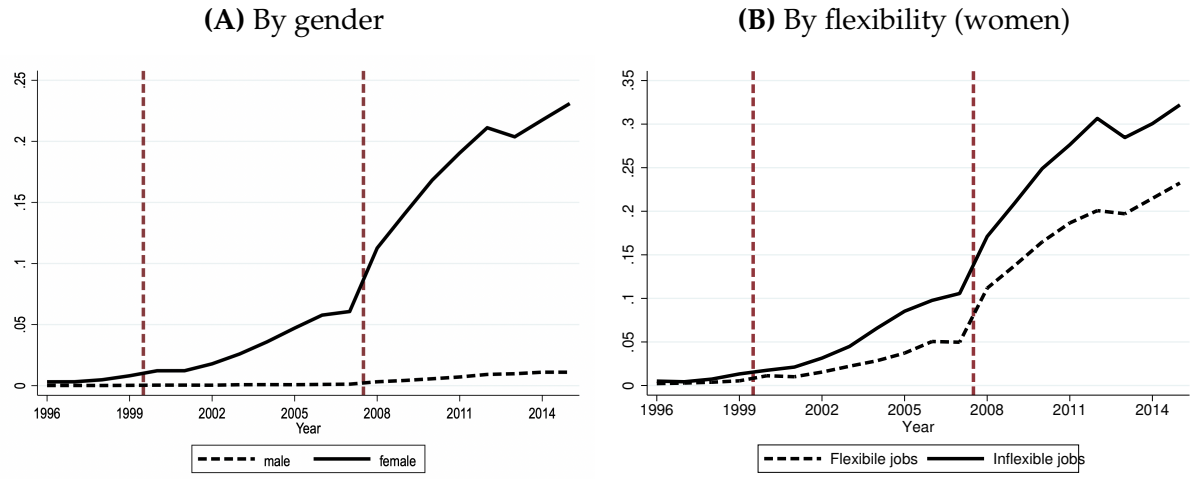
Building on the evidence in Table 3, Figure 6 further illustrates how the use of reduced working hours varies by gender and sectoral flexibility. Panel A shows that the incidence of hours reduction is heavily gendered: following the introduction of statutory rights to reduce working hours for parents, take-up among women rose sharply, peaking at over 30%, whereas men's take-up remained below 5% throughout. This large and persistent gap reflects the fact that the policy has been used predominantly by mothers to accommodate caregiving needs, consistent with Table 3, which shows that one in five women with young children report reducing their hours, compared to only about 2% of men.

Panel B shows that, among women, the prevalence of reduced hours is much

[3]The EU-SILC provides harmonized cross-sectional and longitudinal data on income, poverty, social exclusion, and living conditions across EU countries.

higher in non-flexible industries than in flexible ones. While non-flexible sectors already had higher take-up before the policy expansions of the early 2000s, the gap widened over time, suggesting that flexibility provided by reduced hours is much more valuable for workers in non-flexible sectors. Flexible sectors, by contrast, combine lower take-up with slower growth in usage, indicating that either these jobs are less compatible with part-time arrangements or that such arrangements are less valuable for workers in these sectors. Together, the two panels highlight that both gender norms and sectoral flexibility influence the actual use of reduced hours, with potential implications for women's long-term earnings and career progression.

Figure 6: Workweek Reduction Take-Up



NOTES: The sample refers to native women and men, between 25 and 44, employed in the quarter of reference. The dashed red lines refer to the year work-week reduction was introduced (1999, for women with children of up to age 6), and extended (2007, for women with children of up to age 8). SOURCE: MCVL 2011-2015.

Finally, we focus on how inflexibility affects the accumulation of female human capital and fertility in Spain. We begin by studying the likelihood of having a child for women employed in flexible and non-flexible jobs. Table 11 reports the estimates of the regression model:

$$\text{new-born}_{it+4} = \beta \text{non-flexible}_{s(it)} \times \mathbf{1}[\geq \text{1child}]_{it} + \mu_i + \mu_t + \mu_{s(it)} + \mu_{n(it)} + \alpha X_{it} + \epsilon_{it}, \quad (2)$$

where the dependent variable, new-born_{it+4} is a dummy taking the value 1 if there is a newborn recorded in the household four quarters ahead relative to the quarter of reference, 0 otherwise. The main explanatory variable, $\text{non-flexible}_{s(it)} \times \mathbf{1}[\geq \text{1child}]_{it}$ is the interaction between being employed in a non-flexible sector s in the quarter of reference t, $\text{non-flexible}_{s(it)}$, and being a mother, i.e., having at least one child, $\mathbf{1}[\geq \text{1child}]_{it}$ in the same quarter. The regressions also include worker fixed effects, μ_i, time fixed effects, μ_t, sector fixed effects, $\mu_{s(it)}$, dummies for the number of children

in the household, $\mu_{n(it)}$ (six categories, i.e., 0 children, 1 child, 2, 3, 4, and 5 or more children), and other controls (X_{it}).

Table 11 reports the estimates of Equation (2). Column (1) includes only the indicator for non-flexibility, while columns (2) and (3) also include its interaction with an indicator for being a mother. Columns (4) and (5) control for sector fixed effects. Women currently employed in non-flexible jobs are less likely to have a newborn by about 0.8 percentage points, relative to those employed in flexible jobs (column 1). This effect is large and amounts to about 20% of the average probability of having a newborn for women between 25 and 44 years old in the sample period. This result is particularly strong for women who already have at least one child in the household (column 2), and it remains robust even with the inclusion of several worker-level controls (column 3).

Table 11: Motherhood in Non-flexible Jobs

	Probability of having an extra child				
	(1)	(2)	(3)	(4)	(5)
non-flexible$_{s(it)}$	-0.0083***	-0.0022	-0.0046**		
	(0.002)	(0.002)	(0.002)		
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[\geq$ 1child$]_{it}$		-0.0179***	-0.0166***	-0.0174***	
		(0.004)	(0.004)	(0.004)	
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[=$ 1child$]_{it}$					-0.0164***
					(0.004)
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[\geq$ 2children$]_{it}$					-0.0215***
					(0.006)
Individual FE	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes
Number of children FE	Yes	Yes	Yes	Yes	Yes
Sector FE	No	No	No	Yes	Yes
Controls	No	No	Yes	Yes	Yes
N.Obs.	1421045	1421045	1421043	1421043	1421043
Adjusted R-squared	0.53	0.53	0.54	0.54	0.54

NOTES: The sample refers to native women, age 25-44 y.o., employed in the quarter of reference. The outcome variable is a dummy variable taking the value 1 if a newborn is observed in a household 4 quarters ahead relative to the quarter of reference, 0 otherwise. The independent variables are a dummy taking the value 1 if a worker is employed in a non-flexible job in the initial quarter, 0 otherwise, and its interaction with a dummy for the number of children in the household. Standard errors are robust. Controls include dummies for age, experience in the labor market, tenure on the job, occupational skill groups, and having a spouse in the household. *** p<0.01, ** p<0.05, * p<0.1. SOURCE: MCVL 2011-2015.

We conclude by studying the wage growth of women in flexible and non-flexible jobs - Bover et al. (2025). Table 12 reports the estimates of the regression model:

$$\Delta \log w_{it} = \beta \text{non-flexible}_{s(it)} \times \mathbf{1}[\geq \text{1child}]_{it} + \mu_i + \mu_t + \mu_{s(it)} + \mu_{n(it)} + \alpha X_{it} + \epsilon_{it}. \quad (3)$$

Equation (3) relates quarterly log changes in daily wage, $\Delta \log w_{it}$, to job flexibility,

focusing on the interaction between being a mother, i.e., having at least one child, $\mathbf{1}[\geq 1\text{child}]_{it}$, and working in a non-flexible sector s in reference quarter t, non-flexible$_{s(it)}$. Fixed effects and controls are the same as those included in Equation (2).

The results reveal that mothers employed in non-flexible jobs experience significantly slower wage growth compared to those in more flexible jobs. The wage growth penalty is substantial and amounts to -0.0035 (column 2), a magnitude comparable to the average quarterly wage growth of employed women during the sample period. These patterns underscore that rigid work structures can impede women's human capital accumulation and wage trajectories after childbirth. Flexibility, by contrast, allows for continued earnings progression, likely by better accommodating caregiving needs and preserving attachment to higher-productivity tasks.

Table 12: Wage Growth Penalty of Non-flexible Jobs

	Quarterly growth of daily wage				
	(1)	(2)	(3)	(4)	(5)
non-flexible$_{s(it)}$	-0.0017	-0.0004	0.0023		
	(0.002)	(0.002)	(0.002)		
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[\geq 1\text{child}]_{it}$		-0.0035**	-0.0035**	-0.0032**	
		(0.002)	(0.002)	(0.002)	
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[= 1\text{child}]_{it}$					-0.0022
					(0.002)
non-flexible$_{s(it)}$ $\times$ $\mathbf{1}[\geq 2\text{children}]_{it}$					-0.0073***
					(0.002)
Individual FE	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes
Number of children FE	Yes	Yes	Yes	Yes	Yes
Sector FE	No	No	No	Yes	Yes
Controls	No	No	Yes	Yes	Yes
N.Obs.	1845569	1845569	1845568	1845567	1845567
Adjusted R-squared	0.06	0.06	0.06	0.06	0.06

NOTES: The sample refers to native women, age 25-44 y.o., employed in the quarter of reference. The outcome variable is the daily wage growth rate between two consecutive quarters. The independent variable is a dummy variable taking the value 1 if a worker is employed in a non-flexible job in the initial quarter, and 0 otherwise, interacted with a dummy variable for the number of children in the household. Standard errors are robust. Controls include dummies for age, labor market experience, tenure on the job, occupational skill groups, and having a spouse in the household. *** p<0.01, ** p<0.05, * p<0.1. SOURCE: MCVL 2011-2015.

2.5 Key Facts

1. *Schedule control is limited*: Most employees—slightly more women than men—have working hours entirely set by their employer, with few enjoying full autonomy over start and end times. Internationally, countries with more rigid schedules and less remote work have lower female labor force participation and fertility rates.

2. *Caregiving responsibilities constrain women more*: Women are more likely than men to reduce working hours when caring for children and to report caregiving across all labor force statuses. Adjustments typically occur within the same job, through reduced hours rather than job changes.

3. *Split-shift schedules are common and costly*: Common in Spain, these long, fragmented days are more prevalent among men but are especially incompatible with women's caregiving responsibilities. Mothers are less likely to work in split-shift schedule jobs, which are often associated with longer hours and lower hourly pay.

4. *Long working hours shape occupational segregation and fertility*: Industries where many employees work 50+ hours per week employ far fewer women. Non-flexible jobs reduce the likelihood of having an additional child and slow women's wage growth after childbirth.

These patterns suggest that the time cost of children—shaped by workplace flexibility—plays a central role in labor supply and fertility decisions. The next section formalizes these mechanisms in a simple model.

3 A Simple Model to Illustrate the Mechanisms

The evidence presented in Section 2 documents strong relationships between job inflexibility, reduced hours, and gender gaps in participation, wages, and career progression. To formalize these mechanisms and assess their implications for fertility, we now present a simple model in which job inflexibility raises the time cost of children, reducing both female labor force participation and fertility.

The model is static and is populated by a unit measure of ex-ante homogeneous women who choose how many children to have and whether to participate in the labor market. Women value consumption, C, and leisure, L, and have increasing and concave preferences over children, denoted by $u(n)$.

Timing within a period is as follows. Women first decide how many children, n, to have. Then, they draw a utility of staying home, a taste shock, denoted by ϵ, distributed across women with a density function $\gamma(\epsilon)$, assumed, for simplicity, to be Frechet with shape 1. Hence, fertility decisions are made before the utility shocks are realized. Finally, given n and ϵ, they decide whether to work or not. If they do not work, they consume b, which captures home production, and enjoy full leisure and ϵ. If they choose to work, they supply $\bar{h}$ hours and their consumption is given by their labor earnings, $w\bar{h}$. A working mother, however, enjoys less leisure.

Besides h, their leisure is reduced by Tn, where T captures the time cost of working with children. In our context, T summarizes all sources of job inflexibility documented in Section 2 — for example, the prevalence of split-shift schedules, long working hours, and lack of control over start/end times. Higher T can also capture the increased time burden from commuting during rigid hours or the extra childcare costs of late workdays. If T is low, one can think of jobs as flexible, and the cost of working for mothers is low. On the other hand, if T is high, jobs are non-flexible, squeezing leisure time for mothers. We formalize these ideas in the following way.

The problem of a woman reads as follows:

$$V = \max_{n} \quad \left[\int_{\epsilon} V(n, \epsilon) \gamma(\epsilon) d\epsilon + u(n) \right], \tag{4}$$

where $V(n, \epsilon)$ is the maximum between the value of participating in the labor market, $V^w(n)$, and the value of staying out of the labor force, $V^o(\epsilon)$, and it is equal to

$$V(n, \epsilon) = \max \left\{ V^w(n); V^o(\epsilon) \right\}. \tag{5}$$

The value of working is given by

$$V^w(n) = \log(w\bar{h}) + \log(L\bar{T} - Tn - \bar{h}), \tag{6}$$

while the value of not working is

$$V^o(\epsilon) = \log(b) + \log(\bar{T}) + \log(\epsilon), \tag{7}$$

where $\bar{T}$ is the amount of time available to devote to work and leisure.

Participation decision. Conditional on the number of children n in the household, and a realization of the taste shock ϵ, women choose to work if

$$V^w(n) \geq V^o(\epsilon)$$

Substituting Equations (6) and (7) above, this condition becomes:

$$\log\left(w\bar{h}\right) + \log(\bar{T} - Tn - \bar{h}) \geq \log(b) + \log(\bar{T}) + \log(\epsilon)$$

Because ϵ is Frechet distributed with shape 1, then $\log(\epsilon)$ is a Gumbel random variable with location 0 and scale 1. Therefore, as the Gumbel distribution leads to the logit-like structure of participation, we can write the female labor force participation rate

(FLFP), i.e., the share of women who participate in the labor market, as:

$$\text{FLFP}(n) = \frac{\exp(\log(w\bar{h}) + \log(\bar{T} - Tn - \bar{h}))}{\exp(\log(w\bar{h}) + \log(\bar{T} - Tn - \bar{h})) + \exp(\log(b) + \log(\bar{T}))}, \tag{8}$$

which simplifies to

$$= \frac{w\bar{h}[\bar{T} - Tn - \bar{h}]}{w\bar{h}[\bar{T} - Tn - \bar{h}] + b\bar{T}} = \frac{1}{1 + \frac{b\bar{T}}{w\bar{h}[\bar{T} - Tn - \bar{h}]}}.$$

How does the labor force participation change with T, the level of inflexibility? When the number of children in the household is positive, i.e., $n > 0$, then

$$\frac{\partial \text{FLFP}(n)}{\partial T} < 0 \quad \text{and} \quad \frac{\partial^2 \text{FLFP}(n)}{\partial T \partial n} < 0.$$

Hence, a higher T makes mothers less likely to work, and the effect is stronger for women with a higher number of children. These results follow from

$$\frac{\partial \frac{b\bar{T}}{w\bar{h}[\bar{T} - Tn - \bar{h}]}}{\partial T} = \frac{-b\bar{T}w\bar{h}(-n)}{\left(w\bar{h}[\bar{T} - Tn - \bar{h}]\right)^2} > 0,$$

and

$$\frac{\partial^2 \frac{b\bar{T}}{w\bar{h}[\bar{T} - Tn - \bar{h}]}}{\partial T \partial n} = \frac{b\bar{T}w\bar{h}\left(w\bar{h}[\bar{T} - Tn - \bar{h}]\right)^2 - b\bar{T}w\bar{h}n2(w\bar{h}[\bar{T} - Tn - \bar{h}])w\bar{h}(-T)}{\left(w\bar{h}[\bar{T} - Tn - \bar{h}]\right)^4} > 0,$$

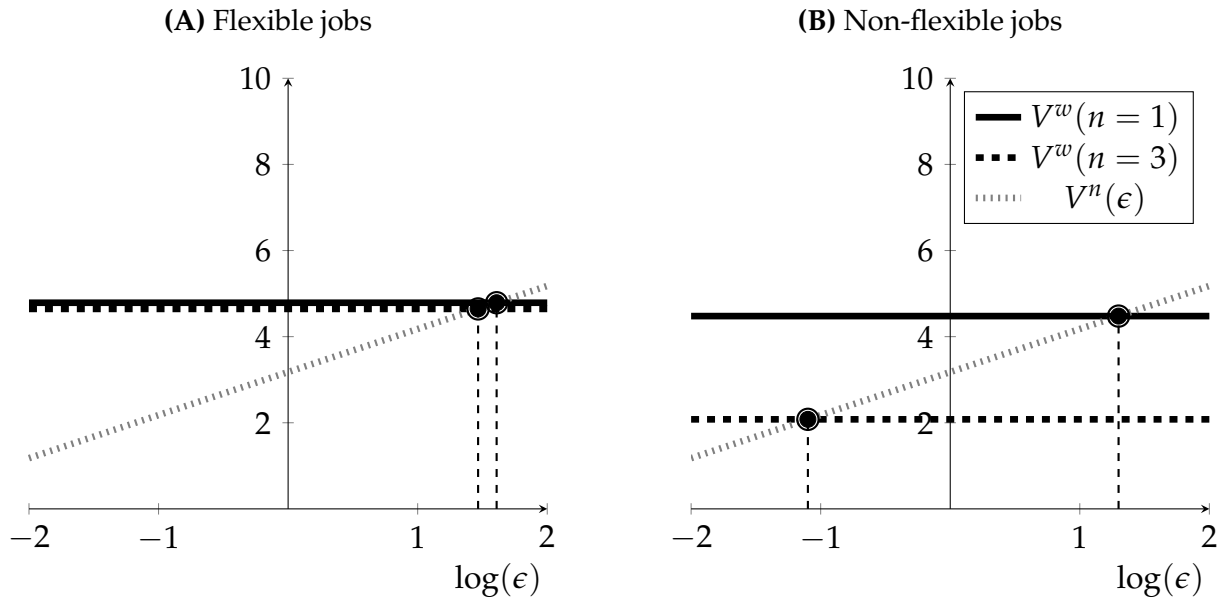
which, given Equation (8), characterize how FLFP(n) changes with T. Proposition 1 formalizes the empirical patterns documented in Section 2, showing that female labor force participation is lower in sectors or countries with more rigid schedules and longer hours.

Proposition 1. *The labor force participation rate of mothers is lower when job schedule is more inflexible, and more so when the number of children in the households increases.*

In the model, job inflexibility is captured by a higher T, which reduces participation, especially for mothers, consistent with the sharp drop in participation documented for women with caregiving duties (Tables 3 and 4).

Figure 7 compares the values of being employed for women with different numbers of children against the value of being non-employed. The horizontal axis in both panels reports the taste shock to the value from staying home, ϵ. The dotted lines in both figures are the value of not working for the women, which are increasing in ϵ,

Figure 7: Participation Decision



NOTES: $\bar{T} = 24, \bar{h} = 8, w = 1, b = 1$. $T = 1$ if jobs are flexible. $T = 5$ if jobs are non-flexible.

and, given our assumptions, independent of the number of children, n. The horizontal lines show the value of working with different numbers of children.

Panel A reports a case where the flexibility parameter T is relatively low. Hence, the value of working is pretty much independent of the number of children. The labor force participation is given by all women ϵ draws are to the right of the horizontal line that indicates the threshold. Note first that when jobs are non-flexible, the value of being employed is, on average, lower. Furthermore, the labor force participation decisions depend critically on the number of children, with women with more children being less likely to participate.

Fertility choice How does job inflexibility affect fertility? Women choose how many children n to have before the realization of a taste shock, ϵ. Because the latter is assumed to be Frechet distributed with shape 1, we can rewrite equation (4) as:

$$\max_n \quad \log[\exp(V^w(n)) + \exp(V^o(\epsilon))] + u(n). \tag{9}$$

Substituting $V^w(n)$ and $V^o(\epsilon)$ from Equations (6) and (7) into Equation (9), we get:

$$\max_n \quad \log(w\bar{h}[\bar{T} - Tn - \bar{h}] + b\bar{T}) + u(n)$$

An interior solution for the optimal number of children, n, satisfies the following first-order condition:

$$\frac{-w\bar{h}T}{(w\bar{h}[\bar{T}-Tn-\bar{h}]+b\bar{T})}+\frac{\partial u(n)}{\partial n}=0$$

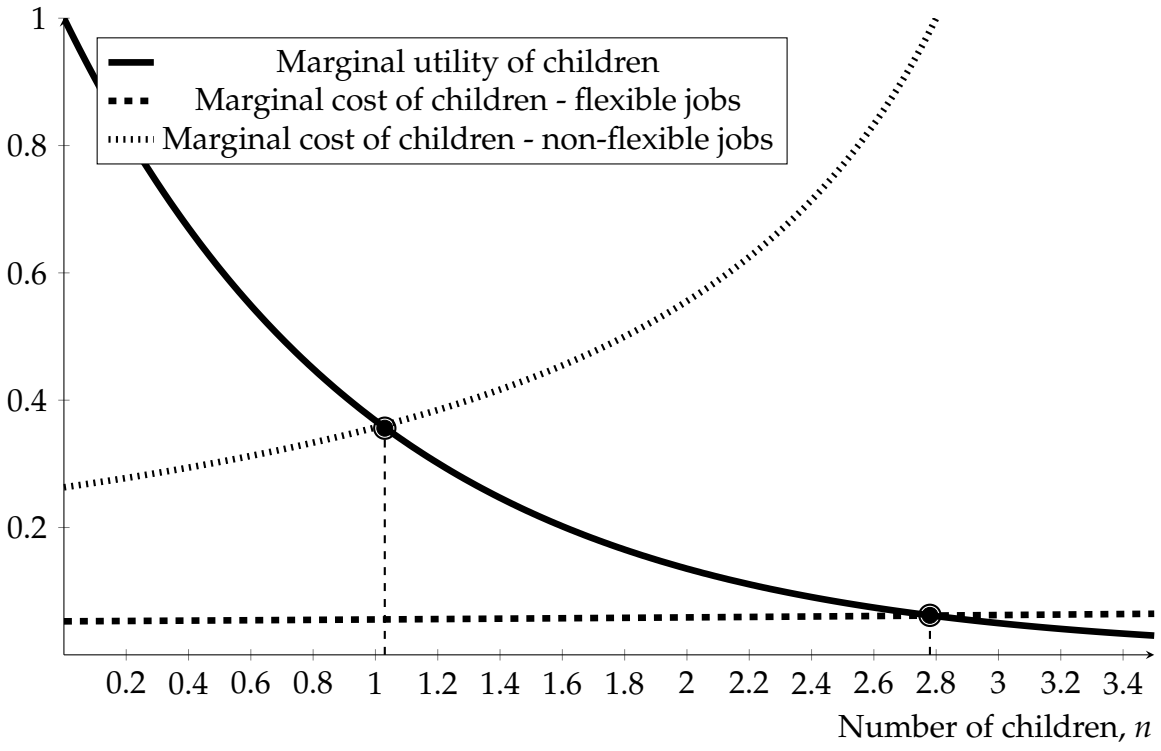
where the marginal utility of an extra child equates the expected marginal costs. By the implicit function theorem, we obtain that:

$$\frac{\partial n}{\partial T}=-\frac{\frac{-w\bar{h}(w\bar{h}[\bar{T}-Tn-\bar{h}]+b\bar{T})-w\bar{h}T(w\bar{h}n)}{(w\bar{h}[\bar{T}-Tn-\bar{h}]+b\bar{T})^2}}{\frac{-w\bar{h}w\bar{h}T^2}{(w\bar{h}[\bar{T}-Tn-\bar{h}]+b\bar{T})^2}+\frac{\partial^2 u(n)}{\partial n\partial n}}<0$$

which leads to our second proposition.

Proposition 2. *The optimal fertility choice in the model is lower when job inflexibility increases.*

Figure 8: Fertility decision



NOTES: $\bar{T}=24, \bar{h}=8, w=1, b=1, u(n)=-\exp^{-n}$

Proposition 2 mirrors the cross-country evidence in Figure 2, where higher inflexibility correlates with lower fertility. In our model, higher T reduces the marginal utility-adjusted net return to having children, leading to lower optimal fertility, which

aligns with the finding that countries and sectors with rigid schedules have lower TFRs. In Figure 8, the gap between the marginal cost lines for flexible vs. non-flexible jobs reflects the wage penalties and time burdens we observed for split-shift jobs (Table 12) and long-hour occupations (Figure 4), which compress available leisure and make childbearing more costly.

4 Literature in Perspective

The model's emphasis on the value of flexibility, the cost of family-friendly policies, and the joint determination of fertility and career outcomes resonates with a growing literature in labor economics and macroeconomics. This section situates our findings within that body of work, drawing on studies that quantify the value workers—especially women—place on flexibility, examine how workplace structures and policies shape gender gaps, and develop equilibrium models linking occupational choice and firm behavior to fertility.

4.1 Value of Flexibility

A central insight from the literature is that persistent gender earnings gaps—especially among highly educated workers—are closely tied to how firms structure pay and hours. In her seminal contribution, Goldin (2014) argues that many high-paying occupations have convex earnings schedules, meaning that long and non-flexible hours are disproportionately rewarded. Jobs in law or business, for example, penalize those needing flexibility—often women after childbirth—while occupations with more linear pay structures, such as pharmacy or technology, display far smaller gaps. Her framework links residual gender inequality to the cost of substituting across workers, implying that job redesign to promote temporal flexibility is essential for achieving gender equality.

Evidence on willingness to trade earnings for flexibility reinforces this point. In a large-scale field experiment, Mas and Pallais (2017) find that workers are willing to accept up to 8% lower wages for flexible start times or remote work, with higher willingness among women, and particularly among mothers. These patterns are consistent with the model in Section 3, where inflexibility raises the time cost of children, and with the empirical evidence in Section 2 linking rigid schedules to lower female participation. Complementing this, Wiswall and Zafar (2018) use survey experiments with university students to show that women prefer flexibility and shorter hours, while men place more value on earnings growth. Such ex ante differences in preferences can

reinforce occupational sorting, as documented in Section 2.

Other studies highlight commuting, which can be interpreted as part of T in the model of the previous section, as an important dimension of flexibility. Using French administrative data, Le Barbanchon et al. (2021) show that women apply to jobs closer to home than men, accepting lower wages in exchange for shorter commutes, and that these preferences persist after re-employment, explaining part of the gender wage gap. In the UK, Petrongolo and Ronchi (2020) find that women's shorter commutes—especially during child-rearing years—reflect a stronger willingness to trade wages for proximity, narrowing their feasible job set and contributing to wage disparities. For the US, Black et al. (2014) document that US cities with longer commutes have lower labor force participation rates among married women. In a more recent work, Farré et al. (2023) exploit the shape of cities, how closely a city's shape resembles a circle, as an exogenous source of variation. They find that a 10-minute increase in commuting time decreases the probability of married women participating in the labor market by 4.4 percentage points.

4.2 Flexibility and Gender Gaps

A large body of research connects gender differences in labor market outcomes to work structures that limit flexibility. Non-flexible hours, misalignment with institutional schedules such as school hours, and restricted occupational mobility all interact with caregiving norms to sustain gender gaps.

One recurring theme is the interaction between pay structures and caregiving demands. Goldin (2014) emphasizes that temporal flexibility is key: in many high-paying occupations, pay rises convexly with hours and timing, disadvantaging those who need flexibility—disproportionately women. Early in careers, Gicheva (2013) shows that among highly educated workers, extra long hours yield faster wage growth (about 1% annually for five additional hours beyond roughly 47 per week), helping explain why gaps widen when women cannot supply those hours. In medicine, Wasserman (2022) provides causal evidence that reducing time demands matters: after resident hours were capped at 80 per week, more women entered the affected specialties, with little change for men, implying that time demands deter female entry and that relaxing them can narrow gaps within a profession.

Institutional changes can also make a difference. In France, aligning school and work schedules by adding Wednesday classes nudged mothers into regular Monday–Friday full-time work and reduced the parental pay gap by roughly 6%, with no parallel effect for fathers (Duchini and Van Effenterre, 2024). On workplace design,

Ciasulla and Uccioli (2023) show from the Australian Fair Work Act that mothers often request predictable schedules; greater regularity reduces the average child penalty in hours from about 47% to 40%, and by nearly 30% for the most affected.

Several studies examine the role of coordination in work schedules. Cubas et al. (2023) measure how synchronized work hours are across occupations and find that higher coordination commands a wage premium but also widens the gender gap. Women—especially mothers—are penalized for missing peak hours, and their model suggests that lowering coordination needs could halve the within-occupation gap. Complementary evidence from Cortés and Pan (2019) shows that easing home-production constraints, for example through increased low-skill immigration, enables highly educated women to enter occupations that reward overwork and boosts their relative earnings—though female representation at the very top remains unchanged, suggesting other bottlenecks persist. Similarly, Farré et al. (2011) find that female immigration in Spain increased the local availability of household services and reduced their price. As a result, the labor supply of skilled native women increased by allowing them to return to work earlier after childbirth.

At a structural level, Erosa et al. (2022) quantify how nonmarket responsibilities, convex returns to hours, and household comparative advantage jointly generate both occupational sorting and sizable within-occupation wage gaps. In their model, exogenously given higher home production responsibilities for women make them more likely to choose occupations with less convex return to hours. But the flexibility provided by less convex jobs endogenously results in a gender wage gap. Yanagimoto (2024) extends the framework in Erosa et al. (2022) to allow for social norms that penalize women who earn more than their husbands. With such norms, women endogenously choose to have longer hours at home, and if they work, opt for less convex jobs, which allow them to work fewer hours.

Finally, in an early and important contribution, Flabbi and Moro (2012) embed the idea of flexible and non-flexible jobs within a general equilibrium search and matching model. Flexibility is modeled as an amenity, the ability to work fewer hours, which workers value. Providing such an amenity is costly for the firm, beyond any direct cost of a reduction in hours. In equilibrium, flexible jobs tend to pay less but attract more women who value flexibility, thereby generating a gender pay gap. More recent papers that study gender gaps in employment and wages within search and matching models include, among others, Morchio and Moser (2024) and Xiao (2024).

4.3 Cost of Family-Friendly Policies

While family-friendly policies can improve work–family balance, recent research highlights potential costs that shape firm behavior and long-run gender gaps. Firm-level evidence suggests that the average costs of parental leave are often modest, but the margins of adjustment — and their broader consequences — differ across settings. In Denmark, Brenøe et al. (2024) track small firms through female employees' childbirths and find that most cope by increasing coworkers' hours, hiring temporary staff, and raising the wage bill, with public reimbursements softening the blow; only smaller and younger firms show more strain. Looking to Norway, Corekcioglu et al. (2018) show that extended maternity leave can reshape careers: while it helps mothers remain attached to their firms, it also slows wage growth and promotion prospects, reinforcing gender gaps in advancement. In Sweden, Ginja et al. (2023) exploit an unexpected 1989 leave extension to reveal that each additional long-leave case pushes coworker hours and temporary hiring up enough to raise the wage bill by the equivalent of ten full-time months — with costs peaking when no obvious internal substitute exists. Even the later "daddy month" reform, designed to boost paternal uptake, imposed smaller but still noticeable adjustments.

Evidence from Germany, in Huebener et al. (2024), adds a cautionary note: while firms similarly bridge leave absences through internal reallocation and temporary hires, they also become more reluctant to hire women of childbearing age, hinting at unintended long-run consequences for gender equity in hiring. Similarly, Carta et al. (2024) find that changes in unemployment insurance policy in Italy, which led to higher quit rates among mothers, increased the probability that firms hire young women in temporary contracts as a precaution.

Complementing the firm-level perspective, Hotz et al. (2018) examine how workplace characteristics interact with the earnings trajectories of new parents in Sweden. Using matched employer–employee data, they estimate workers' preferences for job attributes before childbirth and construct a "family-friendliness" index based on mothers' pre-birth choices. They find that mothers who move to more family-friendly workplaces after childbirth increase their contracted hours and annual earnings compared to staying put, which helps narrow the income gap with fathers. However, these gains come at the cost of slower wage growth and reduced occupational skill content, suggesting that the jobs enabling work–family compatibility often provide fewer opportunities for career advancement. Survey evidence indicates that the defining feature of family-friendly workplaces is not schedule flexibility per se, but greater substitutability among workers, which facilitates coverage during parental absences but may limit skill accumulation and promotion prospects.

Finally, two studies examine Spain's 1999 reform, which granted parents of children under six the right to reduce working hours by up to half with strong dismissal protection, but reach sharply different conclusions. Using Social Security panel data and a difference-in-differences approach, Fernández-Kranz and Rodríguez-Planas (2021) find that the policy's almost exclusively female take-up triggered strong negative employer responses: firms became less likely to hire women of childbearing age, more likely to separate from them, and less likely to offer permanent contracts, with effects spilling over to non-mothers and concentrated in small firms and low-skill sectors. In contrast, De Quinto and González (2025) exploit variation in eligibility length at the time of reform in a regression kink design and focus on mothers' own outcomes. They find that longer eligibility modestly increased part-time work during a child's early years, substituting for unemployment rather than replacing full-time work. It also raised earnings on average, with gains persisting into the long run. However, for women with strong labor market attachment before childbirth — those on permanent contracts pre-birth — eligibility led to persistently higher part-time work after the entitlement ended, slightly lowering their earnings. Overall, the policy appears to have strengthened labor market attachment for the average mother, even as it reduced hours and earnings for a subset of more attached women.

4.4 Equilibrium Models of Occupations and Fertility

A growing body of research develops equilibrium models that jointly capture fertility decisions, labor supply, occupational choice, and firm behavior. In an early contribution, Erosa et al. (2010) develop a search-and-matching framework in which firms and workers bargain over wages, vacancies respond to labor market tightness, and parental leave policies introduce temporary separations. Mandated leave in this setting raises female welfare and fertility but can reduce male welfare and aggregate efficiency when leaves are long and paid, as they encourage inefficient matches and leave-taking. The bargaining between workers and firms is central to these effects, and the model highlights how even well-intentioned policies can have offsetting general-equilibrium consequences.

Adda et al. (2017) build on related ideas by developing a dynamic structural model of German women's labor supply, occupational mobility, wage growth, and fertility timing, allowing for skill depreciation during career breaks. They show that the long-run career costs of children operate mainly through lost experience and the shift into child-friendlier but slower-growth occupations. Moderate parental leave helps preserve job matches and mitigates losses, whereas very long leave amplifies deprecia-

tion. This framework highlights how fertility decisions and occupational dynamics interact over the life cycle, with important implications for the optimal design of leave policies.

Several recent studies have adapted these tools to specific institutional contexts, with a particular focus on Spain. Guner et al. (2024) build a life-cycle model for married women that incorporates Spain's dual labor market (temporary vs. permanent contracts) and the prevalence of split-shift schedules with long midday breaks, both of which raise the time cost of work and reduce job security early in careers. Calibrated to Spanish data, the model shows that eliminating duality and split shifts—along with expanding childcare—would boost maternal participation, reduce employment gaps, and raise fertility toward 1.8 children per married woman.

Bover et al. (2025) develop a search-and-matching model with dual contracts, flexible and non-flexible jobs, and firm decisions over hiring, promotion, and firing. Mothers in non-flexible jobs accumulate human capital more slowly, and work-week reductions (as under Spain's Law 39/1999) come with dismissal protection. The model, estimated on Spanish administrative data, shows that once firms adjust optimally, many policies that raise fertility—such as longer paid leave, higher firing costs, shorter temporary contracts, or child subsidies—also reduce women's lifetime earnings and participation by making them more costly to employ or promote. Exceptions are promotion subsidies, which counteract under-promotion and can raise both fertility and earnings, underscoring the importance of incorporating firm responses into policy evaluation.

Finally, Almar et al. (2025) offer a different perspective by developing a joint equilibrium of marriage and labor markets in which families choose fertility and labor supply, while firms decide on managerial training and promotions under incomplete information about workers' family commitments. Spousal ambition influences observed labor supply, shaping firm promotion decisions via statistical inference. Policies such as gender-equal parental leave can narrow promotion gaps but may lead to skill depreciation, while managerial quotas for women enhance firms' training of women, shift marital sorting toward more career-oriented matches, and increase aggregate welfare.

Together, these models highlight that fertility and career outcomes stem from the interplay of household decisions, labor market frictions, and firm behavior. They show that the design of family-friendly policies must account for how both workers and firms adjust in equilibrium, as ignoring firm responses can reverse welfare rankings and obscure the true trade-offs between fertility and gender equality.

4.5 Main Takeaways and Policy Lessons

Evidence from both empirical studies and equilibrium models underscores three interconnected lessons.

First, flexibility and control over hours, predictable schedules, and the ability to reduce hours without career penalties have substantial value for workers, particularly women. In Spain, the widespread use of split-shift schedules is an important constraint. These institutional features raise the time cost of children, discouraging both female labor force participation and fertility.

Second, family-friendly policies such as extended parental leave or statutory rights to reduced hours can help reconcile work and family responsibilities. However, these policies impose costs on firms; they may slow female promotion, depress wage growth, and reduce long-term earnings.

Third, equilibrium models make clear that fertility and labor market outcomes are jointly determined by worker preferences, household choices, and firm responses. Failing to consider these interactions risks designing policies with unintended consequences. In Spain's case, effective reform would combine job redesign to lower the time cost of children (e.g., reducing split shifts, aligning work and school hours) with carefully crafted family policies that limit firm disincentives to hire or promote caregivers.

Finally, building on the previous point, fostering a more gender-balanced distribution of caregiving responsibilities within households could mitigate employers' disincentives to hire and promote women, thereby supporting greater gender equality in the labor market.

5 Conclusions

This paper has examined how workplace flexibility—defined as the ability to adjust work schedules and hours without substantial career penalties—affects women's labor supply and fertility decisions. Drawing on a wide range of evidence, we have documented key patterns (Section 2.6) that shape these outcomes. Women are more likely than men to reduce hours when caring for children, often within the same job. Gender gaps in managerial positions persist, and long and fragmented split-shift schedules are especially incompatible with caregiving. Additionally, industries with a high share of employees working 50+ hours per week employ far fewer women. These features are associated with lower fertility and slower post-childbirth wage growth for women.

The simple model in Section 3 formalizes these patterns by highlighting the time

cost of children as the key mechanism linking job inflexibility to female labor supply and fertility. In the model, non-flexible jobs increase this time cost, causing women to reduce participation altogether, which in turn lowers fertility when income effects dominate. This framework captures the main empirical regularities observed in Spain and other countries, aligning theory with data.

The literature reviewed in Section 4 reinforces this alignment. Evidence consistently shows that temporal flexibility is highly valued by workers, particularly mothers. Policies aimed at enhancing flexibility can raise participation and fertility rates. However, when such policies impose costs on firms, they may have unintended side effects, such as slower promotion or wage growth for women. Equilibrium models emphasize that these outcomes emerge from the interaction of worker preferences, household choices, and firm responses.

In the Spanish context, the combination of split-shift schedules and long working hours may be an obstacle to balancing family and work. Furthermore, empirical evidence shows a negative impact of these types of policies on female promotion and wage growth, and equilibrium models indicate a negative effect on female lifetime earnings once firms' reactions are considered. Addressing these constraints requires a dual approach: job redesign—such as reducing split shifts and better aligning work and school hours—to directly lower the time cost of children, and targeted family policies—such as parental leave or reduced-hours rights—designed to minimize firm disincentives to hire or promote caregivers. Changes in social norms that support a more gender-equitable allocation of caregiving responsibilities could also help reduce gender gaps in the labor market.

By integrating detailed empirical facts with a simple theoretical framework, this paper highlights a central lesson: policies aimed at increasing flexibility can support both female employment and fertility, but their effectiveness depends critically on firm incentives and the institutional context in which they are implemented.

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