CREST
CENTER FOR RESEARCH
IN ECONOMICS AND STATISTICS

WORKING PAPER SERIES

UNCONSTRAINED CHOICES? UNDERSTANDING THE POST-BIRTH DECLINE IN WORKING HOURS OF HIGHLY EDUCATED MOTHERS

Marion Brouard, Léa Dubreuil

N°13/Septembre 2025

CREST
Center for Research in Economics and Statistics
UMR 9194

5 Avenue Henry Le Chatelier
TSA 96642
91764 Palaiseau Cedex
FRANCE

Phone: +33 (0)1 70 26 67 00
Email: info@crest.science
https://crest.science/

Unconstrained Choices? Understanding the Post-Birth Decline in Working Hours of Highly Educated Mothers

Marion Brouard * Léa Dubreuil†

September 2025

Abstract

This paper investigates the respective roles of labor market constraints, childcare constraints, and maternal preferences in driving both the post-childbirth drop in mothers' working hours and their limited responsiveness to family policies. We develop a labor supply model that incorporates preferences for maternal care and conduct a survey of 1,400 highly educated women. We find that a substantial share of the post-birth decline in hours worked reflects unconstrained choices, suggesting that the reduction in hours for this group is unlikely to be dropped by policies that solely target constraints. We show that while both labor market and childcare constraints shape mothers' working hours, their effects are heterogeneous and, on average, offsetting, as constraints lead some women to work less than they would like, but others to work more. Consistent with the literature, we find that childcare subsidies have no net effect on hours worked, as heterogeneous constraint effects lead to varied positive and negative responses to the policy, which cancel each other out. Yet, these policies do effectively relax childcare constraints, thereby aligning actual drop in labor supply more closely with mothers' preferences. Finally, we examine the role of social norms and beliefs and find that perceived returns to maternal care on child well-being significantly influence mothers' preferences to stay at home.

* CREST, Ecole polytechnique, Institut Polytechnique de Paris, 5 avenue Henry Le Chatelier, 91128 Palaiseau, France. email: marion.brouard@ensae.fr.

† CREST, Ecole polytechnique, Institut Polytechnique de Paris, Paris School of Economics Labor Chair, 5 avenue Henry Le Chatelier, 91128 Palaiseau, France. email: lea.dubreuil@ensae.fr.

This paper presents the authors' views and should not be interpreted as reflecting those of their institutions.

1 Introduction

The primary factor contributing to gender inequality in the present-day labor market is childbirth, as mothers exhibit a higher propensity to reduce their working hours or exit the workforce compared to fathers. Furthermore, the share of the gender gap attributable to this phenomenon has steadily increased over the last decades [Kleven et al., 2019]. The impact of children on women's income and working hours is not only significant but also persistent over time, underscoring the central role of childbirth in perpetuating gender disparities in the labor market. Many family policies have sought to increase mothers' labor supply by expanding childcare access and reducing costs. Yet, the literature has pointed out their limited effectiveness (see, for instance, Givord and Marbot [2015], Olivetti and Petrongolo [2017], Pora et al. [2020], Rabaté and Rellstab [2021] and Kleven et al. [2024]). The low effect of family policies and our uncertainty about the reasons why reflect the fact that we still lack a clear understanding of what drives the reduction in working hours after childbirth in the first place. In particular, how much of it is truly driven by childcare constraints remains unclear. Unpacking the reasons behind this decline is key to explaining the limited policy impact and identifying more effective solutions.

We identify three main potential drivers behind the post-birth decline in working hours, each offering a different explanation for the limited impact of family policies. First, the decrease could be primarily driven by childcare constraints. In this case, low policy responsiveness could only be attributed to poorly targeted or insufficiently supportive interventions. Second, the drop in hours might not be explained by childcare constraints at all but rather by labour market constraints and/or mothers' intrinsic preferences to care for their children at home. If so, childcare-focused family policies would fail to increase working hours because they do not address what women actually need or want. Third, the decline in hours may stem from the combined influence of childcare constraints, labor market constraints, and preferences. In this scenario, the limited effectiveness of family policies may not simply reflect insufficient support but rather mask substantial heterogeneity. While constraints lead some mothers to reduce their working hours, they may push others to work more, which could result

in offsetting effects. Understanding the drivers behind the drop in hours is essential to explain why family policies have limited average impact. Often attributed mainly to constraints, this decline may instead reflect mothers' own preferences, insights that could reshape our understanding of this drop and guide the design of more effective public policies.

In this paper, we investigate how labor market constraints, childcare constraints, and maternal preferences each contribute to both the reduction in highly educated mothers' working hours after childbirth and their limited responsiveness to family policies. To explore this, we first develop a conceptual framework that accounts for mothers' preferences for maternal care. We then bring the model to data by designing a survey that elicits women's working hours under different hypothetical scenarios, allowing us to decompose the post-birth drop-in hours into the contributions of childcare constraints, labor market constraints, and preferences. Finally, using the same survey, we estimate labor supply responses to a scenario introducing a family policy. We then directly compare these responses to the identified impact of childcare constraints on mothers' working hours. Doing so allows us to assess not only the average effectiveness of the policy in influencing working hours but also its ability to lighten the pressure that childcare constraints place on mothers' working hours.

First, we develop a model of women's labor supply decisions, building on the frameworks of Andresen and Nix [2022] and Berlinski et al. [2024], but explicitly incorporating preferences for staying home with a child. This model ultimately allows us to decompose the post-birth decline in working hours into three components: the impact of labor market constraints, the effect of childcare constraints, and a residual term, the "unconstrained change in hours", which we interpret as a proxy for preferences for maternal care. To isolate each component, we show that one needs to measure the optimal working hours chosen by women under three progressively less constrained scenarios. First, the hours mothers would choose are subject to both labor market and childcare constraints, modelled as limited job availability, inflexible work schedules, low childcare availability, and high childcare costs. Second, hours in a scenario in which labor market constraints are relaxed. Third, optimal hours in a fully unconstrained setting, where both labor market and childcare constraints are relaxed. Comparing these scenarios allows us to identify the effects of labor market constraints, childcare

constraints and preferences separately.

Second, we develop and conduct our own survey to address the critical lack of data that stands out as the key obstacle in decomposing the drop in hours at childbirth. Indeed, no administrative data provide the needed counterfactual hours worked in scenarios that neutralized constraints. We conducted our survey in December 2024, interviewing over 1,400 highly educated mothers with children under three. This survey has three main objectives. First, we leverage the survey to break down the drop in hours into labor market constraint, childcare constraint and preference. To do so, we ask about the actual changes in hours worked after childbirth. We then elicit hours in scenarios alleviating constraints. Second, we aim to measure mother labor supply responses to public policies. To do so, we assess how mothers' labor supply would change in response to a policy scenario in which childcare subsidies are increased, unconditional on the employment status. This not only allows us to determine whether our results align with the generally observed low responsiveness of labor supply, but also helps clarify the relationship between the different effects of each component of our decomposition and policy responses. Third, we explore factors that may build up and influence preferences and the reduction in working hours after childbirth. To do so, we gathered information on social norms and elicited different beliefs, such as those related to maternal investment and child well-being.

This paper presents three key sets of results. First, we show that both labor market and childcare constraints have a limited average impact on reducing working hours among highly educated mothers at childbirth. On average, mothers reduce their working hours by about six hours per week after childbirth. Alleviating childcare constraints would enhance this decline by 0.4 hours, while removing labor market constraints would reduce it by 0.7 hours. However, These low average effects mask substantial heterogeneity, as both constraints together lead about 40% of mothers to work fewer hours than they would like, and about 40% to work more. These low average effects suggest that lifting constraints alone will unlikely eliminate the post-birth decline in hours. Indeed, we find that most of the reduction in hours reflects unconstrained choices, which we interpret as a proxy for preferences for maternal care. We show that in the absence of both constraints, the drop in hours would average to slightly more than five. These patterns hold across employment statuses, with unconstrained drops

of eight hours among unemployed mothers, seven hours among part-time workers, and five hours among those employed full-time.

Second, we find that public policies increasing childcare subsidies have limited average effects on mothers' working hours. This is consistent with Givord and Marbot [2015] and Olivetti and Petrongolo [2017], who also find an average null effect. However, we show that this overall effect masks significant heterogeneity among women, mirroring the heterogeneity in how childcare constraints affect labor supply. While the average effect on the drop in hours at childbirth is negligible, the policy meaningfully reduces the gap between mothers' desired and actual working hours. Thus, although such policies may appear ineffective at reducing the child penalty, they seem welfare-enhancing by alleviating constraints and allowing women to better align their labor supply with their preferences.

Finally, we find no clear and identified pattern between our measure of norms, such as origin, parents' background and partner background. However, we uncover a strong correlation between these preferences and beliefs about the returns to maternal care for child well-being. Specifically, the more mothers believe that their child would be negatively affected by them working, the larger the unconstrained drop-in hours. This finding aligns with the work of Boneva et al. [2022], who show that family outcomes, particularly child well-being, are perceived as best when mothers work part-time, leading to mothers decreasing their hours when the perceived benefit of staying at home increases. We show that this relationship holds even when considering unconstrained hours, which motivates the importance of further disentangling intrinsic preferences from belief-driven behavior.

Related Literature. This paper contributes to three key strands of the literature. First, we contribute to the literature investigating the drivers of the reduction in mothers' working hours following childbirth. Kleven et al. [2024] offers suggestive evidence that persistent social norms and preferences around maternal care may help explain the reduction in working hours following childbirth. Andresen and Nix [2022] suggests that the main reasons of the decline in hours should stem from either social norms, preferences or discrimination. However, overall, the underlying causes of the drop in hours remain unclear and debated. For instance, Kleven et al. [2021] show that

neither childbearing nor the potential income of men and women significantly affects the child penalty. We contribute by providing a structural decomposition of the decline in working hours at motherhood, highlighting the limited average role of both childcare and labor market constraints, and emphasizing the predominant role of unconstrained choices, which we interpret as reflecting maternal preferences.

Second, we contribute to the extensive literature examining the impact of family policies on mothers' labor supply. Prior studies such as Kleven et al. [2024], Rabaté and Rellstab [2021], and Pora et al. [2020] find that expanding access to daycare has not significantly narrowed the gender earnings gap. Similarly, Givord and Marbot [2015] and Olivetti and Petrongolo [2017] show that childcare subsidies have little or no impact on labor supply, while Gruber et al. [2023] reports that cash transfers to stay-at-home mothers reduce employment across all education levels. A parallel body of work also finds that paid parental leave policies have no long-term effects on female labor market outcomes or gender gaps (e.g., Lalive and Zweimüller [2009], Rossin-Slater et al. [2013], Lalive et al. [2014], Schönberg and Ludsteck [2014] and Dahl et al. [2016]). We contribute by providing new estimates that confirm the limited average effects of childcare subsidies on mothers' working hours, reinforcing the overall picture emerging from the existing literature. More importantly, we go beyond average effects by quantifying individual-level responses to policy. We show that the null average effect is not the result of uniformly zero impacts but rather masks substantial heterogeneity with childcare constraints pushing some mothers to work more than they would prefer and others to work less.

Finally, we contribute to the growing literature on how gender norms shape women's labor market outcomes. Prior work shows that exposure to working mothers or egalitarian environments increases maternal employment Olivetti et al. [2018], Cavapozzi et al. [2021], Boelmann et al. [2025], Andresen and Nix [2022], Rabaté and Rellstab [2021]. Building on this, we examine how norms influence mothers' preferences for providing care at home rather than observed hours. In particular, we extend Boneva et al. [2022] by showing that beliefs about the negative impact of maternal employment on child well-being shape hours worked through unconstrained labor supply decisions. This finding motivates a deeper investigation into how preferences and beliefs interact and which of the two ultimately drives maternal labor supply decisions.

The paper is organized as follows. Section II presents the conceptual framework that guides the survey design discussed in Section III. Section IV provides an overview of the data and institutional background, while Section V reports the results of our analysis. Section VI concludes the discussion, and Section VII addresses the study's limitations and suggests directions for future research.

2 Conceptual Framework

In this section, we develop a conceptual framework that aims to decompose the differences of mothers' hours worked before and after childbirth into childcare constraints, labor market constraints and non-constraints which we characterize hereafter as "preferences".

Environment. We develop a model of women's labor supply decisions, drawing on the frameworks of Andresen and Nix [2022] and Berlinski et al. [2024], and extending them to explicitly incorporate preferences for caring for children at home. The model is static and spans two periods: before and after childbirth. The pre-childbirth period refers to one year prior to pregnancy, while the post-childbirth period covers the three years following childbirth, excluding maternity leaves and parental leaves. This allows us to abstract from the months of pregnancy and the maternity leave itself, during which optimal labor supply decisions are likely to altered. We focus on households i composed of two individuals: a woman w and her partner m, modeled as a man.[1]

Before childbirth. Prior childbirth, the utility of a woman w is increasing and concave in household consumption c_i and in leisure ℓ_{wi}, and decreasing and convex in the number of hours worked h_{wi}. She chooses the optimal level of ℓ_{wi}, h_{wi} and c_{wi} by maximizing her utility subject to four constraints:

[1]This restriction is motivated by the paper of Andresen and Nix [2022] that shows that the drop in hours at childbirth in same sex couple is much lower.

$$
\begin{aligned}
\max \quad & \mathcal{U}^1_{wi} = u^1_{wi}(c^1_i, l^1_{wi}) \\
\text{s.t.} \quad & c^1_i = \omega_{wi} h^1_{wi} + \omega_{mi} h^1_{mi} \\
& 1 = h^1_{wi} + \ell^1_{wi} \\
& 1 = h^1_{mi} \\
& h^1_{wi} \in \mathcal{H}^1_{wi}
\end{aligned}
$$

The first constraint (BC^1) is the household's budget constraint, in which total consumption equals total earnings. Household earnings are the sum of the woman's and her partner's labor income, calculated as the product of their respective hourly wages and hours worked. The second and third constraints reflect time constraint: the woman must divide her time, normalized to one, between work and leisure, while her partner is assumed to work full-time ($h^1_{mi} = 1$). The fourth constraint captures labor market restrictions faced by the woman. Specifically, her feasible working hours are restricted to a discrete set $\mathcal{H}^1_{wi}$, which reflects available job opportunities determined by labor demand. If her optimal choice of h^1_{wi} is not contained in $\mathcal{H}^1_{wi}$, she selects the nearest feasible alternative that maximizes her indirect utility[2]. We treat $\mathcal{H}^1_{wi}$ as exogenous and do not model the underlying demand-side mechanisms, as doing so lies beyond the scope of this analysis.

Solving this maximization problem yields the optimal time allocation between work h^{1*}_{wi} and leisure ℓ^{1*}_{wi}, as well as the optimal consumption level c^{1*}_i.

After childbirth. After having a child, both the utility function and constraints are updated. The woman is now solving the following program:

[2]This could be due for instance to nonflexible working hours offered by the labor demand, discrimination or simply jobs unavailability.

$$
\begin{aligned}
\max \quad & \mathcal{U}^2_{wi} = u^2_{wi}(c^2_i, l^2_{wi}, t_{wi}) \\
\text{s.t.} \quad & c^2_i + a_i = \omega_{wi} h^2_{wi} + \omega_{mi} + b - p(t_{ci}) \\
& 1 = h^2_{wi} + l^2_{wi} + t_{wi} \\
& 1 = h^2_{mi} \\
& 1 = t_{wi} + t_{ci} \\
& t_{ci} < \bar{t} \\
& h^2_{wi} \in \mathcal{H}^2_{wi}
\end{aligned}
$$

The utility function in the second period differs from the pre-childbirth utility in two key aspects. First, it now includes utility derived from time spent on maternal childcare (t_{wi}). Second, we allow the woman's preferences over consumption and leisure to shift following childbirth. Importantly, we attribute any such shifts in preferences directly to the childbirth event itself, irrespective of whether their come from changing in utility for leisure, consumption or time spent with the child at home.

Childbirth also modifies the constraints faced by the household. First, the budget constraint of the second period (BC^2) is now adjusted to account for child-related factors: a_i captures additional consumption needs due to the child, b reflects government transfers associated with childbirth, and $p(t_{ci})$ represents the non-linear cost of formal childcare, as a function of hours enrolled. Second, the woman now allocates her time unit not only between work hours h^2_{wi} and leisure ℓ^2_{wi}, but also to maternal childcare time t_{wi}. Moreover, a new constraint arises: the child must receive full-time care, which can be provided either by the mother or through formal childcare (t_{ci}), subject to a maximum capacity $\bar{t}$. Finally, while the mother remains subject to labor market constraints, the set of available working hours in the market may evolve post-childbirth.

Two elements remain unchanged from the pre-childbirth period. We assume fixed hourly wages for both partners, and we continue assuming that the father remains employed full-time, in line with empirical evidences showing minimal adjustments in male labor supply following childbirth.

Solving this new maximization problem yields the optimal time allocation, between work h^{2*}_{wi}, leisure ℓ^{2*}_{wi} and maternal childcare t^{2*}_{wi}, along with the optimal consumption

level c_i^{2*}.

Counterfactual scenario. We recall that this framework seeks to disentangle two forces that shape changes in actual working hours after childbirth ($h_{wi}^{2*} - h_{wi}^{1*}$): constraints and preferences. On the one hand, constraints can stem from two sources. One constraint arise from labor market constraints. The second is directly introduced by the presence of the child, through financial costs (captured by $b - p(t_{ci}) - a$), and time constraints related to limited access to formal childcare: $t_{ci} < \bar{t_{ci}}$. On the other hand, preferences may also shift at childbirth through a change of utility function. Since both preferences and constraints vary simultaneously after childbirth, observing actual working optimal hours before and after the event is not sufficient to disentangle their respective effects. We therefore provide two counterfactual scenarios, allowing to isolate each effects.

First scenario: no labor market constraint— We define a first scenario in which labor market constraints are removed. In practice this corresponds to relaxing the constraint $h_{wi}^t \in \mathcal{H}_{wi}^t$ from the original optimization programs in both the pre and post-childbirth periods. We denote by h_{wi}^{topt}, ℓ_{wi}^{topt}, and c_i^{topt} the resulting optimal choices for period $t \in 1, 2$, representing the woman's preferred allocation of work hours, leisure, and consumption in the absence of any labor market frictions.

Second scenario: no labor market nor childcare constraint— To isolate the role of childcare-related constraints and preferences in the change of hours after childbirth, we construct a counterfactual scenario in which childcare constraint, and labor demand constraints are fully removed from the post-childbirth program. Childcare is assumed to be free ($a = 0, b = 0, p(t_{ci}) = 0$) and fully available ($\bar{t} = \infty$), and the constraint $h_{wi}^t \in \mathcal{H}_{wi}^t$ is dropped. In this setting, the utility function corresponds to the one post-childbirth, while the constraints are those of the pre-childbirth program in absence of labor demand constraint. Solving this maximization problem yields the optimal allocation in the absence of both labor market frictions and childcare constraints, denoted as $h_{wi}^{2ø}$, $\ell_{wi}^{2ø}$, $t_{wi}^{2ø}$, and $c_i^{2ø}$.

For clarity, the table below summarizes the key differences across the five main optimization programs:

Table 1: SUMMARY OF MAXIMIZATION PROGRAMS AND OUTCOMES

	(1) Before Childbirth		(2) After Childbirth		
	Actual hours	First scenario	Actual hours	First scenario	Second scenario
Utility function	$\mathcal{U}^1_{wi}$	$\mathcal{U}^1_{wi}$	$\mathcal{U}^2_{wi}$	$\mathcal{U}^2_{wi}$	$\mathcal{U}^2_{wi}$
Budget constraint	BC^1_{wi}	BC^1_{wi}	BC^2_{wi}	BC^2_{wi}	BC^1_{wi}
Labor market constraint	Yes	No	Yes	No	No
Optimal hours	h^{1*}_{wi}	h^{1opti}_{wi}	h^{2*}_{wi}	h^{2opti}_{wi}	$h^{2\varnothing}_{wi}$

Change in hours post-birth decomposition. The five-scenario framework described above enables a decomposition of the change in working hours following childbirth into the three mechanisms of interest: labor market frictions, childcare-related constraints, and shifts in preferences:

$$\underbrace{(h^{2*}_{wi} - h^{1*}_{wi})}_{\text{Change in hours}} = \underbrace{(h^{2*}_{wi} - h^{2opt}_{wi}) - (h^{1*}_{wi} - h^{1opt}_{wi})}_{\text{LM constraints}} + \underbrace{(h^{2opti}_{wi} - h^{2\varnothing}_{wi})}_{\text{Child constraints}} + \underbrace{(h^{2\varnothing}_{wi} - h^{1opti}_{wi})}_{\text{Unconstrained}} \quad (1)$$

The left-hand side represents the actual change in working hours after childbirth, incorporating all relevant constraints and preference changes.

The first term on the right-hand side captures the role of labor market constraints. It compares actual working hours before and after childbirth with the corresponding frictionless labor demand scenarios. This isolates the share of the change in hours attributable to limited flexibility, discrimination, or availability in the labor market (e.g., rigid schedules, lack of part-time or full-time, or job opportunities).

The second term identifies the contribution of childcare-related constraints. It compares the frictionless post-childbirth scenario (h^{2opt}_{wi}) to the fully unconstrained one ($h^{2\varnothing}_{wi}$). Since both settings share the same utility function and are free from labor market frictions, any difference must arise from constraints tied to the availability or cost of childcare (see columns (4) and (5) of Table 1).

The third term isolates the effect of preferences. It compares optimal hours in the pre-childbirth, frictionless scenario (h^{1opt}_{wi}) with the post-childbirth scenario absent both labor and childcare constraints ($h^{2\varnothing}_{wi}$). The constraints are the same in both scenarios, with only the utility function as a difference. The difference between the optimal hours worked in both scenarios therefore fully reflects changes in utility which we characterize

as "preferences".

This simple framework serves to clarify the mechanisms underlying the change in working hours following childbirth. It helps determine the relative importance of the factors introduced earlier: childcare constraints, labor market constraints, and individual preferences.

3 Survey Design

As highlighted in the conceptual framework, disentangling the roles of childcare constraints, labor market frictions, and preferences in shaping post-childbirth changes in working hours is empirically challenging. Administrative data only reveal actual hours worked, which is insufficient for identifying the underlying mechanisms. This would require a natural experiment that independently and exogenously relaxes both childcare and labor market constraints. To the best of our knowledge, such a setting does not exist. Survey data thus offer a natural alternative. We designed and implemented a survey to pursue three main objectives: (i) to decompose changes in working hours into constraints and preferences components; (ii) to assess how different public policies affect the magnitude of the child penalty; and (iii) to examine how social norms and individual beliefs shape mothers' labor supply decisions and their underlying drivers.

Targeting and recruitment strategy. To study changes in working hours around childbirth, we targeted mothers with at least one child under the age of three. This group is typically underrepresented in traditional survey panels, making standard sampling approaches inadequate. To overcome this limitation, we leveraged social media platforms, Facebook and Instagram, where young mothers are both numerous and easily targetable. We ran ads directed at women aged 20 to 45, using neutral language and two different images that minimize selection bias (See Figure 9 for visuals of the advertisement). The advertisements invited young mothers to participate in a short study about motherhood, mentioning that participation was incentivized through a lottery for a €100 gift card. Interested users were redirected to the survey platform, where they received detailed information about the study and provided informed consent before beginning the questionnaire.

Questions on working hours. First, we elicit the change in actual working hours by asking mothers to report their working hours before and after childbirth.[3] Second, to decompose the impact of childbirth on labor supply, we recover the counterfactual hours defined in the framework using hypothetical scenarios that isolate each mechanism. Finally, we examine how mothers would adjust their working hours under a policy intervention that increases childcare subsidies to assess their potential effects.

Change in hours post-birth decomposition— Following the conceptual framework, we decompose the change in working hours after childbirth by eliciting the hours worked in two different scenarios. First, we elicit the hours a woman would work in the absence of labor market frictions before and after childbirth (h_{wi}^{1opt} and h_{wi}^{2opt}). Second, we elicit the hours she would work after childbirth in a setting with no labor market constraint nor childcare-related constraints ($h_{wi}^{2\varnothing}$).

First, to recover the counterfactual hours in the absence of labor market frictions, we ask respondents to tell us how many hours they would work a week if they could choose freely, with a proportional change in earnings. We ask this question twice: once referring to the current period and once referring to one year before the birth of their child.[4] Second, to estimate working hours in the absence of childcare constraints, mothers are asked to imagine a situation in which formal childcare is free and fully available. We also specify that they can freely choose their working hours, meaning without any labor market frictions.[5]

Impact of public policies— To assess how public policies might affect mothers' labor supply, we present respondents with a hypothetical policy scenario where the government increases universal lump-sum childcare subsidy by €200 per month, unconditional on employment status. We ask them how many hours they would choose to work under this policy, assuming they can easily adjust their working hours (i.e., in the absence of labor market frictions).

[3] We winsorize working hours at 50 in the survey.

[4] The exact question is: *"Ideally if you could choose freely, how many hours per week would you like to work? If you would like to work more hours, you would earn more. You would earn less if you would like to work fewer hours."* Note that the wording of this question follows closely the one in the French Labor Force Survey so that our results can be directly compared to a national representative survey.

[5] The question is phrased as follows: *"Now imagine that childcare services are free, available full-time, and meet all your needs. In this situation, if you could choose freely, how many hours per week would you choose to work?"*

Demographic characteristics, income, childcare, and partners. To complete the picture and fully characterize our model, we collect several additional pieces of information. First, we collect information on the demographic characteristics of women, such as age, city of residence, and marital status. Additionally, we ask respondents about their current monthly earnings, the type of childcare they use (whether they care for the child themselves, rely on informal arrangements, or use formal care), and the associated costs. We also gather key information on their partner, including their working hours and monthly earnings. This allows us to account for household-level dynamics and perform heterogeneity analyses.

Norms and beliefs. We aim to capture respondents' beliefs and social norms to study whether they play a role in shaping labor supply decisions and preferences for providing childcare at home. Norms and beliefs are multifaceted, but we decided to narrow it down to a few aspects to limit the length of the survey: family background, intra-household task division, bargaining dynamics, and broader societal attitudes. First, we collect background information on respondents and respondents' parents, including their country of origin, education level, and occupation. Second, we ask detailed questions about the division of household responsibilities within the couple. This includes who handles domestic chores, who is responsible for finding another childcare method when the one normally used is unavailable, and who cares for the sick child. In addition, we include a set of statements measuring social norms, gender-role attitudes and beliefs. Respondents rate their own views, their perception of their partner's opinions, and their perception of what other women would believe in the same situation on a scale from 0 (Strongly Disagree) to 5 (Strongly Agree). These include views on maternal employment during early childhood, divorce, income dynamics within couples, and the acceptability of a woman choosing not to have children.

4 Data and Institutional Background

4.1 Sample

Data collection. We conducted the survey from December 11, 2024, to January 4, 2025, collecting responses from 2,513 women with a child under the age of three[6]. On average, it took respondents 15 minutes to complete the survey[7]. Although the advertisement was more widely distributed on Facebook, Instagram accounted for approximately 70% of our final sample recruitment (Table 2).

Sample selection. While using social media ads enables rapid collection of a large number of responses, it requires particular attention to the representativeness of the sample [Aridor et al., 2024]. Our sample may be biased both due to the potential non-representativeness of the social media population and because participation was based on self-selection. Comparing our sample to the French Labor Force Survey, we observe an over-representation of highly educated women: approximately 80% of our respondents hold at least a bachelor degree, compared to 33% in the general population of mothers with a child under three (Table 3). Similarly, comparisons with the French administrative dataset Échantillon Démographique Permanent reveal a higher proportion of executives, fewer employees, and fewer single mothers in our sample (Table 4). Rather than applying multiple weights to make the sample representative of the entire French population of mothers with children under three, we have chosen to focus our analysis on highly educated mothers, specifically those holding at least a bachelor's degree. Therefore, this paper's results should be interpreted with caution regarding external validity; our findings primarily reflect the behavior of educated women. We plan to extend this research to the broader population in future surveys.

Although this sample is selected and does not reflect the entire population, we find it interesting to study for several reasons. First, they tend to work the most hours on average before childbirth and also earn higher wages. As a result, any reduction in their labor supply after childbirth entails a greater economic cost, both for the household

[6]Additionally, we collected 244 responses from childless women and 169 responses from mothers with a child over the age of three for future analysis. Out of the 14,548 women who clicked on the link, 4,660 consented to participate, and 2,926 completed the survey in full.

[7]Figure 10 in the Appendix shows the distribution of survey completion times.

and from a public policy perspective, making this group particularly relevant to study. Second, highly educated mothers typically face smaller wage gaps with their partners, reducing the likelihood of labor supply adjustments driven by within-household specialization based on income. This helps to mitigate a key confounding factor in interpreting the drop-in hours. Third, our model does not disentangle pure preferences for childcare from shifts in the marginal utility of leisure and consumption. This makes it difficult to compare women based on inferred preferences, as such preferences are likely to be strongly correlated with income. By focusing on highly educated mothers, we examine a more homogeneous group facing similar constraints and opportunity sets, thereby improving the internal validity of our analysis.

We chose to exclude mothers on parental or maternity leave to focus on those actively participating in the labor market[8]. Our final sample comprises 1,402 highly educated mothers with a child under three. While the overall characteristics of the sample are broadly similar to those of highly educated mothers with young children in the French Labor Force Survey (see Table 5), there are some statistically significant differences[9]. However, the match becomes much closer when focusing specifically on executive mothers. This suggests that initial discrepancies in representativeness may stem from differences in occupational composition.

4.2 French Context

We focus on children under three, as school becomes mandatory in France at age three. Since we are interested in how mothers make decisions regarding the trade-off between participating in the labor market and caring for their child, we restrict our analysis to the preschool period, when such choices are most relevant. Before age three, parents choose among various childcare options, including parental care, in-home daycares, formal daycares, and informal arrangements[10]. Providing parental care typically requires being inactive, unemployed, working part-time or on parental leave, during which benefits

[8]Out of the 2,020 highly educated mothers with a child under three, 14% was on maternity leave and 17% on parental leave.

[9]We are currently working on applying weights to make the sample representative of highly educated mothers in the French Labor Force Survey.

[10]In our sample of highly educated mothers, 51% use formal daycare at least once a week, 43% use in-home daycares, and 20% rely on informal childcare. On average, mothers spend 12 hours per week personally caring for their child.

are modest (€280-€430 per month). Mothers are entitled to 16 weeks of maternity leave, while fathers receive 3 mandatory days and 25 optional days. As their working hours are not representative of labor market behavior, we exclude mothers currently on maternity or parental leave from the analysis, therefore, aligning with our conceptual framework.

French context in perspective. France experiences a child penalty of approximately 25%, meaning that women's working hours and income decline significantly relative to men's after childbirth. This figure closely aligns with the OECD average, making France a relevant and representative case for analysis (see Figure 11 in the Appendix). France also reflects average OECD attitudes toward gender roles and motherhood. Beliefs about the impact of maternal employment on child well-being are near the OECD mean. If anything, French respondents tend to hold slightly more egalitarian views, particularly regarding women's role in the household and their economic contribution. This normative context suggests that our findings are likely informative for other OECD countries and may even provide lower-bound estimates relative to societies with more traditional gender norms (see Figure 12 in the Appendix for details).

5 Results

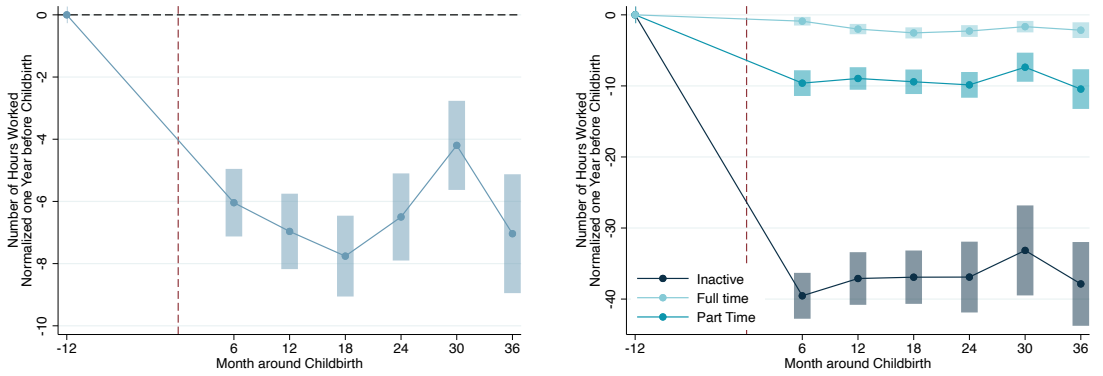
5.1 Decomposition of the Change in Hours Post-birth

Actual change in hours. Before turning to the decomposition of the observed change in working hours after childbirth, we start by documenting this change itself, measured as the difference in real hours worked before and after childbirth ($h_{wi}^{2*} - h_{wi}^{1*}$). To capture the dynamics over time, we group mothers by their child's age in six-month intervals and systematically compute the change in hours before and after childbirth, normalizing the pre-childbirth level to zero. Figure 1 presents the results of this cross-sectional analysis. Panel (a) reports the average change for the full sample, while Panel (b) disaggregates the results by post-childbirth employment status (full-time, part-time, or unemployed[11]).

[11]The number of women in each category is 1,070 for full-time, 226 for part-time, and 106 for unemployed

Figure 1: CHANGE IN HOURS FOLLOWING CHILDBIRTH

(a) AVERAGE FULL POPULATION (b) BY EMPLOYMENT STATUS



Notes: This figure shows the average change in mothers' working hours following childbirth, with pre-birth levels normalized to zero. The average change is computed in cross-section, comparing mothers by group of their child's age, in six-month intervals, with the x-axis indicating time since birth. Panel (a) presents results for the full sample, while Panel (b) disaggregates the analysis by the mother's post-childbirth employment status: unemployed, part-time, or full-time.

We observe a clear and significant decline in hours worked immediately following childbirth. Consistent with existing literature, this reduction remains stable over the subsequent three years. Panel (b) shows that all groups, including mothers who work full-time, exhibit a decline in working hours after childbirth.

Labor market constraints. Our decomposition of the change in hours after childbirth provided in Equation 1 isolates the effect of labor market rigidities by comparing the real hours worked, before and after childbirth, to the counterfactual scenario where women are freed of labor market constraint:

$$(h_{wi}^{2*} - h_{wi}^{2opt}) - (h_{wi}^{1*} - h_{wi}^{1opt})$$

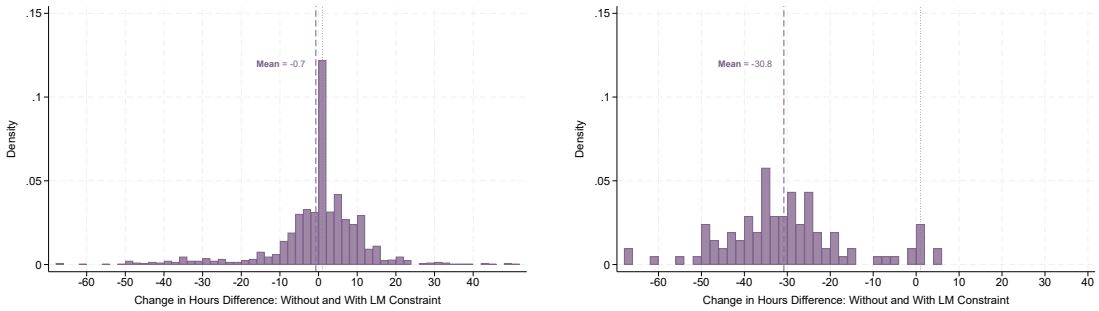
This measure can be interpreted as the difference in the change in hours after childbirth in a scenario without and with labor market constraints. On the one hand, a positive difference means that the change in hours would be larger in a scenario where women are freed of labor market constraints. On the other hand, if it's negative, the real drop is larger than it would be in a world with no labor market constraints. Figure 2 directly plots this measure's distribution. It shows that, on average labor market constraints slightly lower the overall reduction in working hours. In the absence of labor market constraint, the drop in hours would be larger by 0.7 hours than the actual

drop-in hours, on average. However, this modest average effect masks substantial heterogeneity. Labor market constraints significantly restrict unemployed mothers, deepening the drop in hours at childbirth, while at the same time attenuating the reduction in hours for full-time mothers, who would otherwise prefer to work less.

Figure 2: DISTRIBUTION LM CONSTRAINT EFFECTS BY EMPL STATUS

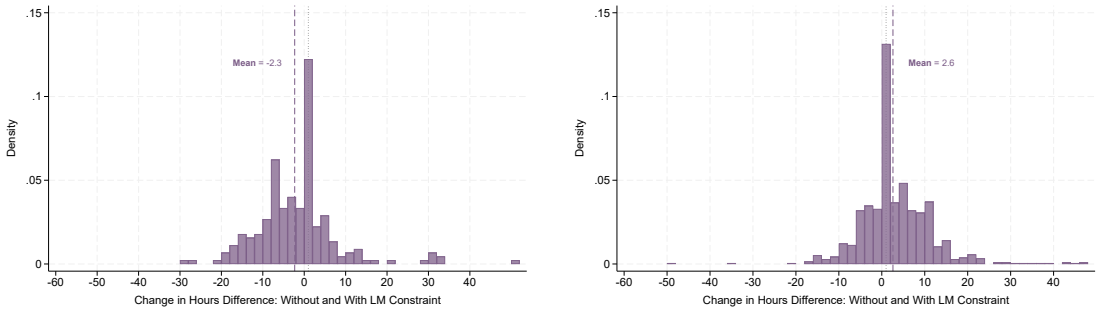
(a) AVERAGE FULL POPULATION

(b) UNEMPLOYED MOTHERS



(c) PART TIME MOTHERS

(d) FULL TIME MOTHERS



Notes: This Figure shows the distribution of the impact of labor market constraints on the drop of hours after childbirth $(h^{2*}_{wi} - h^{2opt}_{wi}) + (h^{1opt}_{wi} - h^{1*}_{wi})$. The violet dotted line highlights the mean of the distribution.

Figure 13 in the Appendix shows the average gap between actual hours worked and hours that would be worked in the absence of labor market constraints, separately for the periods before and after childbirth (represented by $(h^{1*}_{wi} - h^{1opt}_{wi})$ and $(h^{2*}_{wi} - h^{2opt}_{wi})$ respectively). This decomposition helps identify whether the average effect of labor market constraints arises from their impact on the hours before or after birth. Before childbirth, women across all post-birth employment statuses desired to reduce their working hours by roughly two hours on average. After childbirth, unemployed mothers face substantial labor market constraints pushing their working hours down, leading to the gap between actual and unconstrained hours exceeding 30 hours. This indicates that for this group, labor market constraints amplify the drop in hours through effects operating both before and after childbirth. In contrast, part-time mothers appear largely

unconstrained after childbirth, as their actual hours closely match their preferred ones on average. In their case, the constraint effect is concentrated in the pre-childbirth period. Finally, full-time mothers exhibit a larger gap between actual and unconstrained hours after than before childbirth. This indicates that the attenuating effect of labor market constraints on the drop in hours worked at childbirth comes from their stronger restraining impact on post-birth hours.

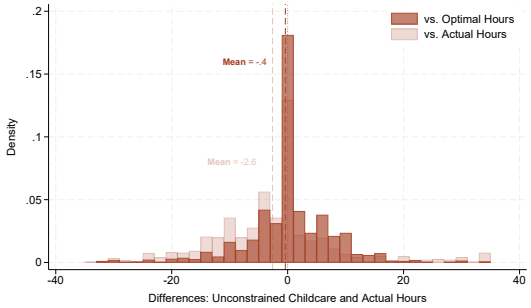
Child related constraints. Part of the decline in women's working hours after childbirth may stem from constraints directly related to the child, such as limited availability or high childcare costs. To isolate the role of childcare-related constraints, we asked mothers how many hours they would work after childbirth if childcare were fully available and free and assuming no labor market constraints ($h_{wi}^{2\varnothing}$). The difference between this scenario and their earlier counterfactual scenario without labor constraints but with existing childcare conditions (h_{wi}^{2opti}) therefore captures the effect of childcare constraints on working hours. The Figure 3 displays the distribution of this difference across employment statuses after childbirth. For comparison, it also shows the total difference between hours worked under the fully unconstrained scenario and the actual hours worked in light red.

On average, childcare-related constraints have a limited net effect on the change in working hours after childbirth, approximately -0.4 hours, with similar averages across all post-childbirth employment statuses. This means that in the absence of childcare constraints, highly educated mothers would, on average, reduce their hours post-birth, therefore increasing the child penalty. However, the effect of childcare constraints on post-birth working hours is largely heterogeneous. Across all groups, about 15–20% of mothers report that their working hours would remain unchanged even if childcare were fully available and free, implying that around 80-85% are affected by childcare constraints. Among these, the effects are nearly symmetrically distributed around zero: roughly half would work more without childcare constraints, while the other half would work less. In absolute value, the difference in hours worked in scenarios with and without childcare constraints is around 5 hours. This highlights that childcare constraints do not uniformly reduce labor supply; instead, they distort it in both directions, sometimes pushing mothers to work more than they would choose

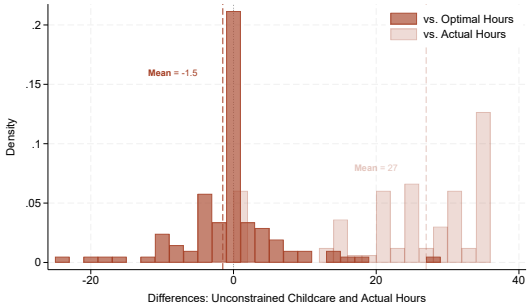
without such constraints.

Figure 3: DISTRIBUTION CHILDCARE CONSTRAINT EFFECTS BY EMPL STATUS

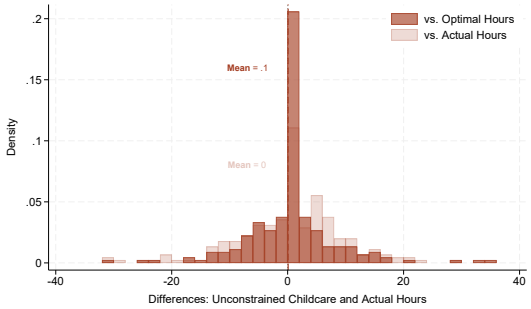
(a) AVERAGE FULL POPULATION



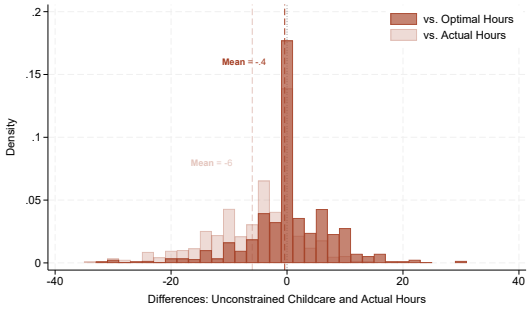
(b) UNEMPLOYED MOTHERS



(c) PART TIME MOTHERS



(d) FULL TIME MOTHERS

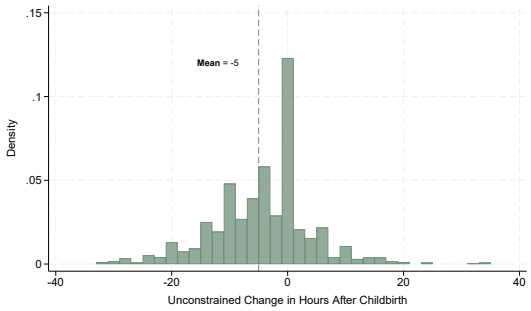


Notes: The dark red bars display the distribution of the isolated effect of childcare-related constraints on working hours after childbirth ($(h_{wi}^{2ø} - h_{wi}^{2opti})$). The red dotted line marks the mean of this distribution. For comparison, the light red distribution shows the difference between hours in the fully unconstrained scenario and actual hours worked ($h_{wi}^{2ø} - h_{wi}^{2*}$).

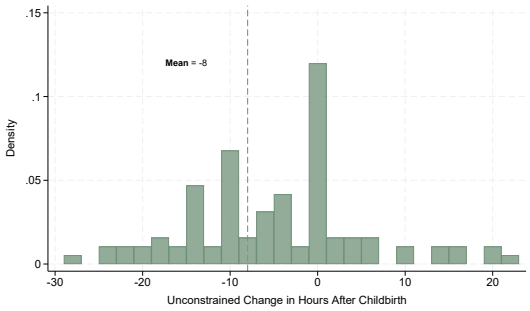
Unconstrained change in hours. The final component of interest in decomposing the change in hours after childbirth is the unconstrained change in hours. This is measured by comparing the number of hours a woman would have worked before childbirth, in the absence of labor market constraints (h_{wi}^{1opt}), with the number of hours she would choose to work after childbirth, if labor market and childcare constraints were removed ($h_{wi}^{2ø}$). This difference ($h_{wi}^{2ø} - h_{wi}^{1opt}$) captures the purely unconstrained-driven change in labor supply. A negative value indicates that the woman would reduce her working hours after childbirth, even without constraints. Figure 4 shows the distribution of this change in working hours by post-childbirth employment status.

Figure 4: DISTRIBUTION UNCONSTRAINED CHANGE IN HOURS BY EMPL STATUS

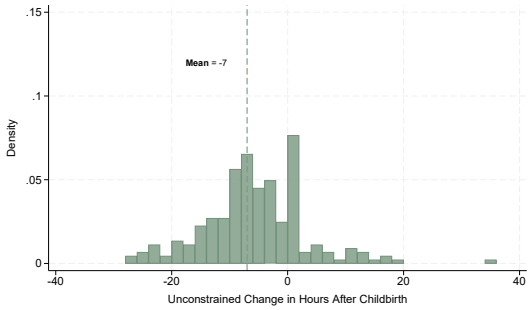
(a) AVERAGE FULL POPULATION



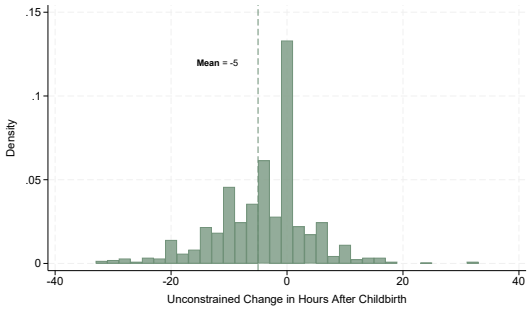
(b) UNEMPLOYED MOTHERS



(c) PART TIME MOTHERS



(d) FULL TIME MOTHERS

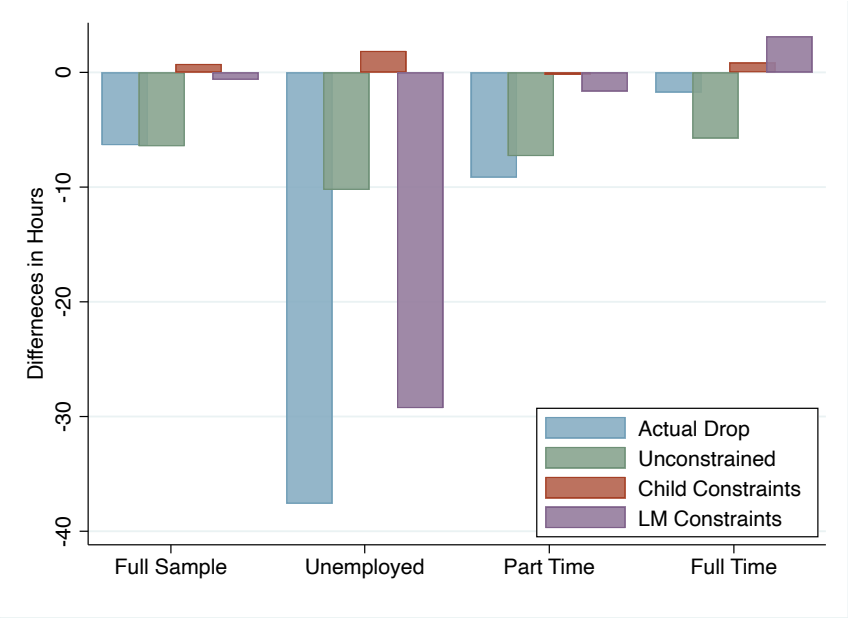


Notes: This Figure shows the distribution of the unconstrained change in hours after childbirth ($(h_{wi}^{2\phi} - h_{wi}^{1opt})$). The green dotted line highlights the mean of the distribution.

These figures reveal that even in the absence of constraints, mothers would reduce their working hours by an average of five hours in the three years following childbirth. This unconstrained-driven decline occurs across all post-childbirth employment statuses. Notably, the magnitude of the reduction is inversely correlated to actual working hours: unemployed mothers would choose to reduce their labor supply by approximately eight hours, part-time mothers by seven hours, and full-time mothers by five hours. These findings suggest that removing constraints alone would fail to eliminate the drop in hours after childbirth in labor supply.

Decomposition. The remaining question is how the drop in hours observed in the fully unconstrained scenario compares to the actual decline and, consequently, how constraints shape this difference. Figure 5 presents the decomposition of this gap by plotting each component defined in Equation 1, including the actual drop in hours. The figure also breaks down the results by the mother's employment status after childbirth.

Figure 5: CHANGE IN HOURS AT CHILDBIRTH DECOMPOSITION



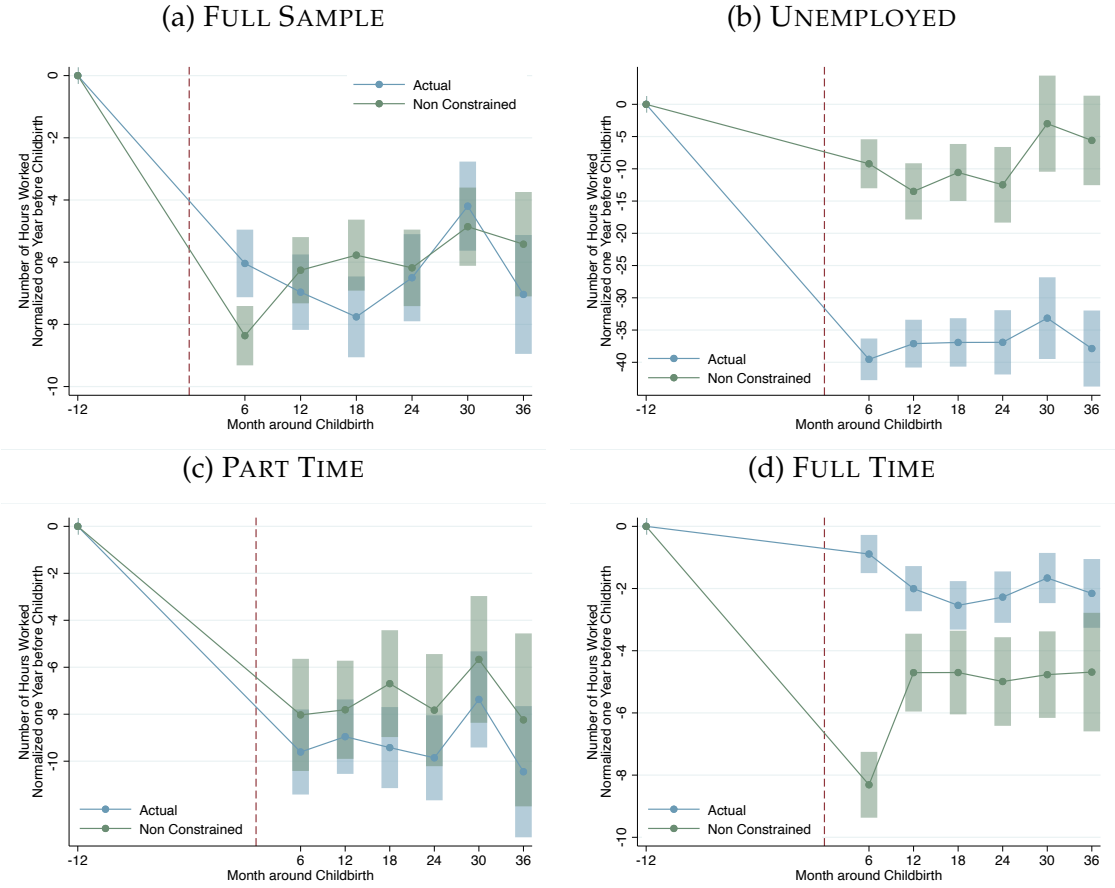
Notes: This bar plot displays the average effect of each component in the decomposition of hours change at childbirth, as described in Equation 1. The blue bar represents the average observed change in hours, the purple bar reflects the average effect of labor market constraints, and the red bar captures the average effect of childcare constraints. The green bars indicate the unconstrained change in working hours. Results are shown separately by mothers' employment status.

The figure presents the decomposition of the change in mothers' working hours before and after childbirth by employment status. The blue bar shows the actual observed change in hours. The red bar isolates the share attributable to childcare-related constraints, while the purple line indicates the contribution of labor market constraints. Finally, the green bar captures the residual, representing the change explained by our proxy of preferences. Among mothers unemployed after childbirth, most of the drop in working hours is explained by labor market constraints. Without such frictions, they would still reduce their hours, but by far less, underscoring the importance of access to suitable jobs. For part-time mothers, the actual reduction in hours is very close to what they would choose in an unconstrained setting. This suggests that constraints can hardly explain this group's average drop in hours. Full-time mothers show a different pattern. They would prefer to cut back their hours more than they actually do. In their case, constraints push them to work more than they would like.

Figure 6 reproduces the observed drop in working hours after childbirth shown in Figure 1, now adding a comparison with the change in hours that would occur in a world without constraints. This highlights the gap between the actual change in hours

and the change attributable to shifts in preferences alone.

Figure 6: CHANGE IN HOURS AROUND CHILDBIRTH



Notes: These figures show the average change in mothers' working hours following childbirth, with pre-birth levels normalized to zero. The blue dot represents the change in actual hours, while the green dot represents the change in fully unconstrained hours. The average change is computed in cross-section, comparing mothers by group of their child's age, in six-month intervals, with the x-axis indicating time since birth. Panel (a) presents results for the full sample, while Panel (b) disaggregates the analysis by the mother's post-childbirth employment status: unemployed, part-time, or full-time.

This figure extends the previous analysis by introducing a time dimension, allowing us to track how the gap between actual and unconstrained working hours evolves in the years following childbirth. It shows that while a substantial share of the decline in hours reflects underlying preferences, this preference-driven component remains relatively stable over time. The notable exception is among full-time mothers: the gap between actual and desired hours is particularly large during the first 3 to 9 months after birth before narrowing and then stabilizing over the following two years.

5.2 Pubic Policies

As shown in the previous section, the average impact of childcare constraints on mothers' labor supply is limited. This raises the following question: can policies specifically targeting childcare constraints offset the drop in hours after childbirth? This section addresses this question directly. Specifically, we study a policy that increases childcare subsidies by €200 per month, regardless of the mother's employment status.[12] We do so by asking women how many hours they would work in a situation where the government would introduce such a policy, and that they could choose freely their number of hours worked.[13] To estimate the effect of such a public policy, we compare the stated working hours under the policy scenario to the hours declared in a scenario without labor market constraints. Because the policy scenario assumes women can freely choose their working hours without labor market constraints, it must be compared to a baseline without both the policy and such constraints to isolate the policy's true effect. We find that, on average, mothers' labour supply responses to this policy are limited: on average, the policy leads to a decrease in post-childbirth working hours of 0.3 hours. Part-time mothers slightly increase their working hours by 0.1 hours per week, full-time mothers would decrease their hours by approximately 0.3 hours, and unemployed mothers would reduce their hours by 1.3 (Figure 14). These modest average responses suggest that the policy is largely insufficient to offset the reduction in working hours typically observed after childbirth. This finding aligns with prior research showing that financial subsidies alone tend to have limited effects on maternal labor supply (Givord and Marbot [2015], Olivetti and Petrongolo [2017]). However, although the average effect is close to zero, the policy does prompt significant individual adjustments, with roughly equal numbers of mothers increasing and decreasing their working hours (See Figure 14 in Appendix).

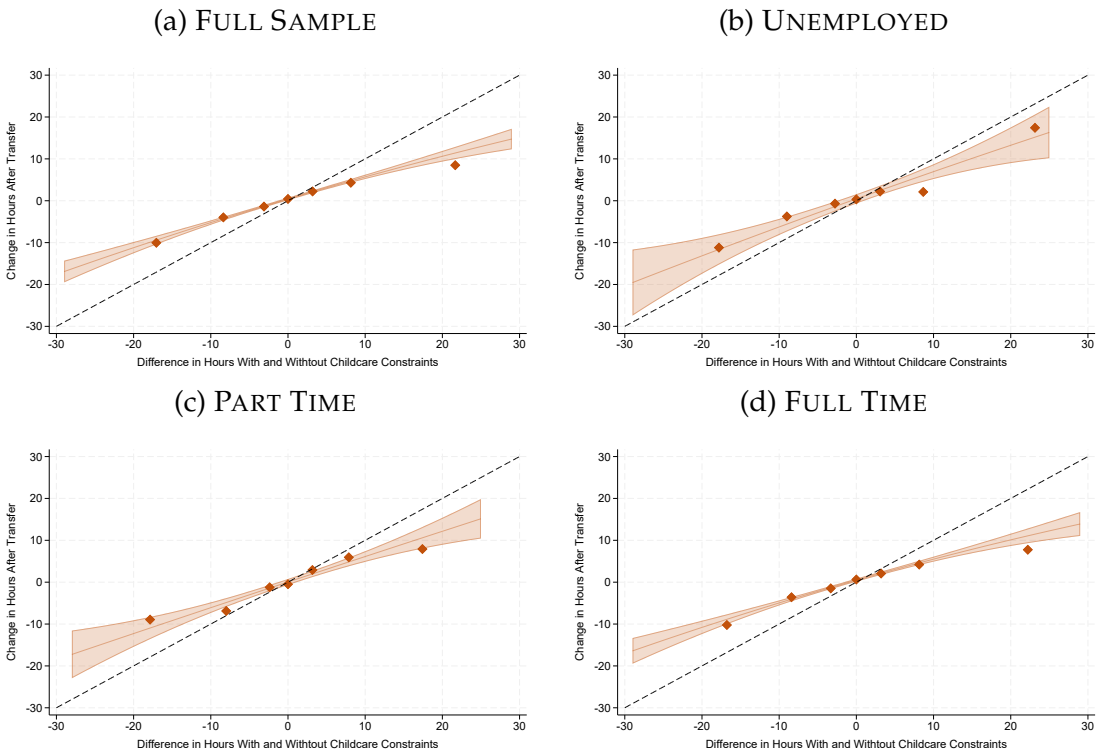
Figure 7 plots the change in hours worked induced by the subsidy against the change observed when all childcare constraints are hypothetically removed. Alignment along the 45-degree line would indicate that the policy fully offsets the effect of these

[12] We also elicit behavioral responses to two other public policies, namely a monthly income supplement and an expansion of childcare availability, which we plan to analyze in the coming months.

[13] The public policy analyzed in this section is described as: *"Imagine that the government increases your childcare assistance by €200/month. Also, imagine that you can easily adjust your work schedule as you wish"*.

constraints. We observe a substantial positive correlation between the two, suggesting that the subsidy helps mothers adjust their working hours toward the levels they would choose in the absence of childcare constraints. However, this correlation deviates from perfect alignment: mothers most affected by childcare constraints adjust their hours less under the policy than they would in an unconstrained scenario.

Figure 7: RELATIONSHIP: CHILDCARE CONSTRAINTS AND RESPONSES TO POLICY



Notes: The x-axis represents the difference in hours between the scenario with no labor market constraints and one with neither labor market nor childcare constraints. The change in hours refers to the difference between hours worked with no labor market constraints and hours worked under the policy described above.

These results show that, despite the policy having a negligible average effect on hours worked, it does mitigate the impact of childcare constraints on labor supply. On average, the absolute difference in hours worked between scenarios with and without childcare constraints is 5 hours. With the policy in place, this gap narrows to 4 hours. This suggests that the policy helps women better align their actual working hours with their desired levels. Consequently, such policies may have a welfare-enhancing effect, even if they do not prevent the overall decline in hours worked following childbirth.

5.3 The Role of Income, Beliefs and Social Norms

In this last part, we examine factors such as income or gender norms that may influence the unconstrained post-childbirth hours shift, referred to as *preferences* to care for a child at home.

The role of income. Our proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints and the number of hours worked before childbirth in the absence of labor market constraints. However, this measure does not isolate true maternal childcare preferences from consumption and leisure preferences. As a result, interpreting the ranking of this proxy as a direct reflection of childcare preferences is difficult, particularly given income heterogeneity. For instance, a low-income mother may have the same proxy preference as a high-income mother, yet her underlying preference for childcare could be stronger as she faces tighter budget constraints. Reducing her working hours may lead to a larger utility loss due to its higher sensitivity to changes in consumption and leisure, limiting her ability to adjust labor supply. In this case, observed average preferences could appear to increase with income, not because true preferences are higher but because higher-income mothers face fewer constraints in expressing those preferences. Conversely, if the opportunity cost of reducing hours is too high for low-income mothers (because of their limited resources), their true preferences for childcare may be lower, leading to smaller adjustments in labor supply. In this scenario, the observed average preferences may decrease with hourly income. In either case, income plays a confounding role in interpreting observed preferences.

To explore this relationship, we plot the correlation between hourly wages and our measure of preferences in Figure 15, providing suggestive evidence on how preferences may vary with income. The overall pattern between hourly wage and our proxy of preferences is relatively flat, indicating a weak correlation. While this provides only suggestive evidence and does not allow us to draw any conclusions about the role of income on the gap between true preferences and our proxy, it highlights promising directions for future research. In the next version of our survey, we aim to directly disentangle true preferences for childcare from the marginal utilities of leisure and consumption. Note that this result aligns with Kleven et al. [2021], who find no

correlation between the child penalty and the potential income of both men and women.

The role of gender norms and beliefs. We now study to what extent gender norms and beliefs shape preferences. First, using a simple OLS regression, we find no clear correlation between preferences and demographic characteristics that could proxy social norms, such as the woman's origin, her partner's background, her parents' origin and occupation, as well as marital status.

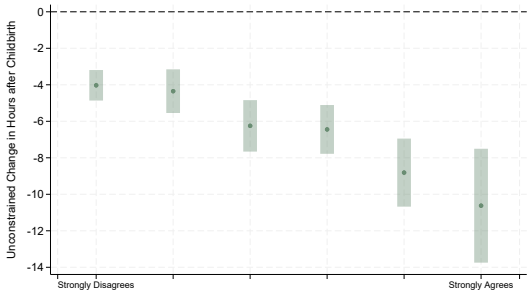
Second, we explore the relationship between stated preferences and an alternative measure of social norms and beliefs. In the survey, women are asked to indicate their own opinion, as well as how they believe their partner and the other women in the society would perceive their views on the following four statements:

1. A child under the age of three may suffer because their mother works.
2. If people are unhappy in a relationship, they can get divorced, even if they have children.
3. A woman earning more than her partner is bad for their relationship.
4. A woman can choose never to have children and be happy.

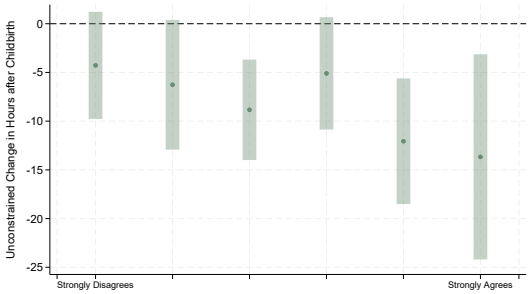
Responses are recorded on a scale from 0 (Strongly Disagree) to 5 (Strongly Agree). Hereafter, for portability and simplicity, we refer to mothers as "progressive" if they disagree with statements 1 and 3 and agree with statements 2 and 4 and as "conservative" if they fall on the opposite end of the spectrum. To assess the role of social norms, we estimate for each statement an OLS regression of preferences to reduce hours at childbirth on dummies of the six levels of agreement. We find no clear patterns between the level of preferences and the level of agreement to the statements 2, 3 and 4, as shown in Figure 16, 17 and 18 in the Appendix. However, we find a strong correlation with beliefs regarding statement 1 (i.e., maternal employment and child well-being), as shown in Figure 8.

Figure 8: PREFERENCES BY MOTHER'S BELIEF ON CHILD SUFFERING

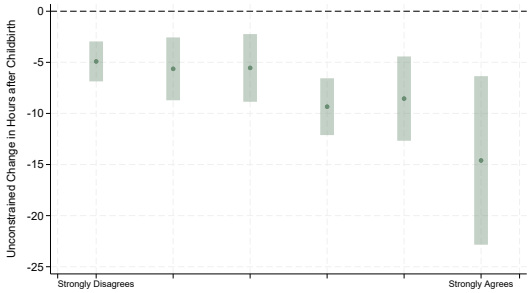
(a) FULL SAMPLE



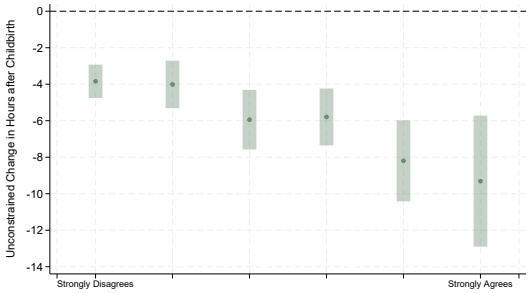
(b) UNEMPLOYED



(c) PART TIME



(d) FULL TIME



Notes: Our proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"A child under the age of three may suffer because their mother works"*.

First, across all employment statuses, we observe a clear decreasing pattern in preferences: the more conservative a woman is (toward the right end of the scale), the stronger her preference to care for the child at home. This pattern is particularly striking among full-time mothers, where the preferred reduction in working hours at childbirth in the absence of constraints is twice as large for more conservative women compared to the most progressive women.

We also examine whether preferences are linked to the woman's perception of her partner's views. To that end, we construct a categorical variable combining the woman's own opinion with what she believes to be her partner's opinion. This variable takes the following values:

$$\text{Couple Opinions}_i = \begin{cases} 1 : \text{Both woman and partner are progressive} \\ 2 : \text{Woman is progressive, partner is not} \\ 3 : \text{Woman is not progressive, partner is} \\ 4 : \text{Neither woman nor partner is progressive} \end{cases}$$

We then regress preferences on this agreement measure for our four different statements on norms and beliefs. Once again, we only find a significant correlation between the perceived impact of maternal employment on child well-being (Figure 19): more conservative views are linked to stronger preferences for reducing labour supply. This is especially true for full-time mothers, with an average desired reduction of 9 hours in conservative couples compared to 5 in progressive ones. The other three statements (Figures 20, 21, and 22, Appendix) show no clear pattern.

While this analysis is not causal, it suggests a potential strong link between preferences and beliefs about return to maternal childcare. This result is consistent with Boneva et al. [2022], who find that stronger beliefs in the benefits of maternal care are linked to lower labor supply and that correcting these beliefs can lead to increased working hours among mothers. Importantly, our proxy of preferences may reflect either genuine caregiving preferences or perceived impacts on maternal care on child well-being. Disentangling true preferences from perceived beliefs about these returns is beyond the scope of the actual version of the paper but would be a valuable direction for our future survey.

Note that our sample of highly educated mothers and their partners tends to express more progressive attitudes than the general population (see Figure 23 for the distribution of responses to four normative statements, including each woman's own beliefs, her perception of her partner's beliefs, and her perception of societal views). This pattern can be directly verified by comparing the responses to the statement "children suffer when their mother works" in our survey with those from the nationally representative IPPS survey. In our sample, only 27% of women agree with this statement, compared to 32% of women in the IPPS. This discrepancy is solely driven by the educational composition of our sample. When conditioning for education, the agreement rate

among our respondents closely aligns with that of similarly educated individuals in the IPPS survey (see Figure 24). Since societal beliefs become more progressive with higher levels of education, this explains why our sample appears more progressive overall. Therefore, if the observed relationship between beliefs and preferences holds across the broader population, our results likely represent a lower bound of the population preference for reducing working hours after childbirth.

6 Conclusion

This paper develops a framework to understand the decline in mothers' working hours following childbirth by decomposing it into three components: constraints related to childcare availability and cost, labor market constraints, and a residual component we interpret as reflecting preferences. To directly measure this decomposition, we designed and fielded a survey that elicits highly educated mothers' preferred working hours across a range of hypothetical scenarios in which constraints are progressively relaxed.

First, we show that among highly educated mothers, the average reduction in working hours they would choose in a world without labor market or childcare constraints is identical to the actual reduction observed after childbirth. This implies that, on average, the reduction in hours following childbirth is not primarily driven by external constraints but reflects underlying preferences. However, this average hides substantial heterogeneity: constraints matter, but not uniformly. We find that, on average, both labor market and childcare constraints distort hours worked in both directions: some women work more than they would prefer, others less.

Second, in line with previous research, we find that childcare subsidies have only modest average effects on maternal labor supply. However, consistent with the heterogeneous impact of childcare constraints, these policies still generate meaningful individual responses. Notably, we show that the subsidy reduces the misalignment between desired working hours and hours in a world without labor market constraints by about 20%. This suggests that while such policies may not prevent the average decline in hours worked, they do ease the pressure exerted by childcare constraints. By allowing mothers to align their actual labor supply more closely with their preferences,

these policies may still yield welfare gains, even in the presence of a null average effect on working hours.

Finally, we show that our proxy for preferences is largely uncorrelated with income or other measures of social background. However, we do find a relationship between preferences and perceptions of child well-being: mothers who believe that maternal employment harms the child's well-being exhibit stronger preferences for staying home to care for the child. An avenue for research would be to work on disentangling more finely preferences from beliefs about maternal childcare return on the child.

7 Limitations and Avenue for Research

This version of the paper evidences that it would be a mistake to systematically attribute highly educated mothers' decrease in childbirth hours to constraints. On the contrary, for many mothers, the reduction in working hours appears to result from choice rather than constraints. Our findings also suggest that targeting public policies only on childcare constraints might fall short of preventing the drop in hours at childbirth. Reducing this drop would require a much deeper understanding of what drives preferences to do so. These preferences may reflect bargaining power within couples or they may be shaped by social norms or beliefs about the benefits of maternal childcare for child development. These reflections open up important directions for future research. This is a direction we would like to explore in the next version of our survey.

In the next iteration of the survey, we would also like to focus more directly on improving our measurement of working hours. We believe there are several ways in which our current approach can be refined. First, we aim to enhance the clarity and consistency of the scenario questions in order to reduce the ambiguity that respondents may face. Second, we plan to broaden the scope of policy scenarios, both by diversifying the types of public policies considered and by varying the level of support offered. In addition, we want to elicit women's willingness to pay for guaranteed access to childcare services. Third, we intend to incorporate more open-ended questions to better understand the barriers that prevent women from working their desired hours. Fourth, we hope to leverage public policy reforms and administrative data to assess whether

women's stated attitudes in the survey are consistent with their actual behavioral responses.

Finally, we plan to conduct a similar survey targeting a broader range of educational backgrounds. Indeed, the current version of the paper focuses exclusively on highly educated mothers, but we acknowledged that highly educated women are unlikely to be representative of the full population.

References

Andresen, **M. E.**, & **Nix**, **E.** (2022). What causes the child penalty? evidence from adopting and same-sex couples. *Journal of labor economics*, *40*(4), 971–1004.

Aridor, **G.**, **Jiménez Durán**, **R.**, **Levy**, **R.**, & **Song**, **L.** (2024). Experiments on social media.

Berlinski, **S.**, **Ferreyra**, **M. M.**, **Flabbi**, **L.**, & **Martin**, **J. D.** (2024). Childcare markets, parental labor supply, and child development. *Journal of Political Economy*, *132*(6), 2113–2177.

Boelmann, **B.**, **Raute**, **A.**, & **Schönberg**, **U.** (2025). Wind of change? cultural determinants of maternal labor supply. *American Economic Journal: Applied Economics*, *17*(2), 41–74.

Boneva, **T.**, **Golin**, **M.**, **Kaufmann**, **K.**, & **Rauh**, **C.** (2022). Beliefs about maternal labor supply.

Cavapozzi, **D.**, **Francesconi**, **M.**, & **Nicoletti**, **C.** (2021). The impact of gender role norms on mothers' labor supply. *Journal of Economic Behavior & Organization*, *186*, 113–134.

Dahl, **G. B.**, **Løken**, **K. V.**, **Mogstad**, **M.**, & **Salvanes**, **K. V.** (2016). What is the case for paid maternity leave? *The Review of Economics and Statistics*, *98*(4), 655–670.

Givord, **P.**, & **Marbot**, **C.** (2015). Does the cost of child care affect female labor market participation? an evaluation of a french reform of childcare subsidies. *Labour Economics*, *36*, 99–111.

Gruber, **J.**, **Kosonen**, **T.**, & **Huttunen**, **K.** (2023, February). *Paying moms to stay home: Short and long run effects on parents and children* (Working Paper No. 30931). National Bureau of Economic Research.

Kleven, **H.**, **Landais**, **C.**, **Posch**, **J.**, **Steinhauer**, **A.**, & **Zweimüller**, **J.** (2024). Do family policies reduce gender inequality? evidence from 60 years of policy experimentation. *American Economic Journal: Economic Policy*, *16*(2), 110–149.

Kleven, **H.**, **Landais**, **C.**, & **Søgaard**, **J. E.** (2019). Children and gender inequality: Evidence from denmark. *American Economic Journal: Applied Economics*, *11*(4), 181–209.

Kleven, **H.**, **Landais**, **C.**, & **Søgaard**, **J. E.** (2021). Does biology drive child penalties? evidence from biological and adoptive families. *American Economic Review: Insights*, *3*(2), 183–198.

Lalive, **R.**, **Schlosser**, **A.**, **Steinhauer**, **A.**, & **Zweimüller**, **J.** (2014). Parental leave and mothers' careers: The relative importance of job protection and cash benefits. *The Review of Economic Studies*, *81*(1), 219–265.

Lalive, **R.**, & **Zweimüller**, **J.** (2009). How does parental leave affect fertility and return to work? evidence from two natural experiments*. *The Quarterly Journal of Economics*, *124*(3), 1363–1402.

Olivetti, **C.**, **Patacchini**, **E.**, & **Zenou**, **Y.** (2018). Mothers, peers, and gender-role identity. *Journal of the European Economic Association*, *18*(1), 266–301.

Olivetti, **C.**, & **Petrongolo**, **B.** (2017). The economic consequences of family policies: Lessons from a century of legislation in high-income countries. *Journal of Economic Perspectives*, *31*(1), 205–230.

Pora, **P.**, et al. (2020). *Keep working and spend less?: Collective childcare and parental earnings in france*. INSEE, Institut national de la statistique et des études économiques.

Rabaté, **S.**, & **Rellstab**, **S.** (2021). *The child penalty in the netherlands and its determinants* (tech. rep.). CPB Netherlands Bureau for Economic Policy Analysis.

Rossin-Slater, **M.**, **Ruhm**, **C. J.**, & **Waldfogel**, **J.** (2013). The effects of california's paid family leave program on mothers' leave-taking and subsequent labor market outcomes. *Journal of Policy Analysis and Management*, *32*(2), 224–245.

Schönberg, **U.**, & **Ludsteck**, **J.** (2014). Expansions in maternity leave coverage and mothers' labor market outcomes after childbirth [Publisher: The University of Chicago Press]. *Journal of Labor Economics*, *32*(3), 469–505.

Appendix

A Figures

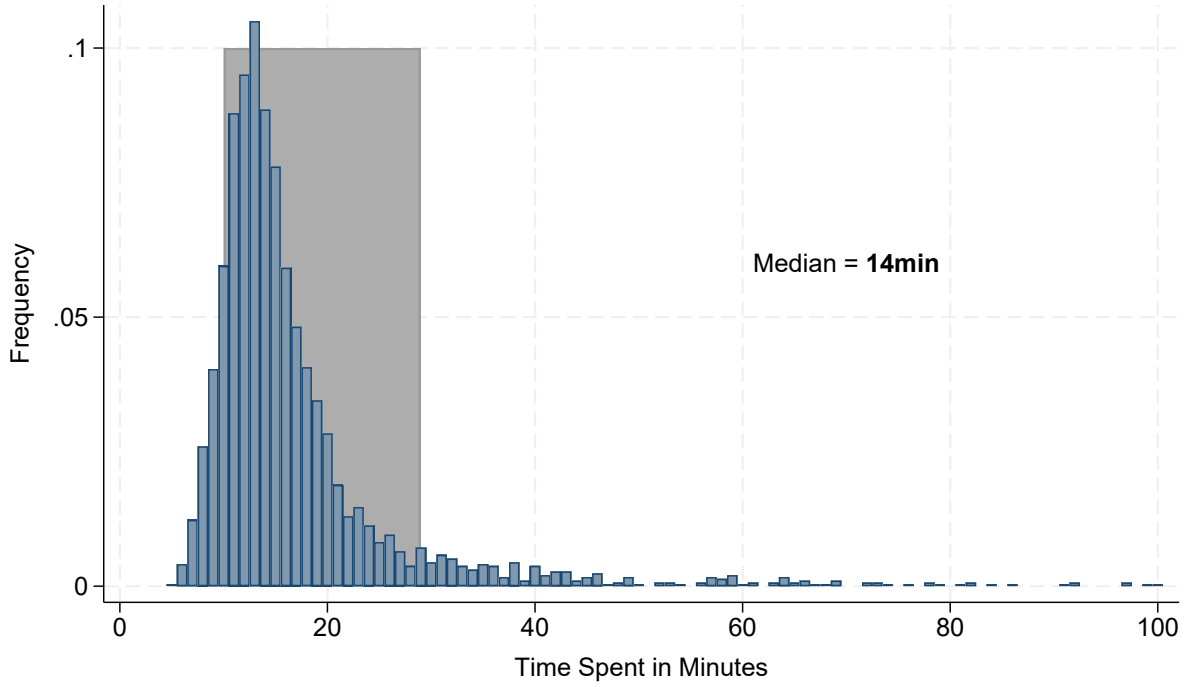
Figure 9: VISUAL REPRESENTATION OF THE INSTAGRAM ADVERTISEMENT

(a) VERSION 1

(b) VERSION 2

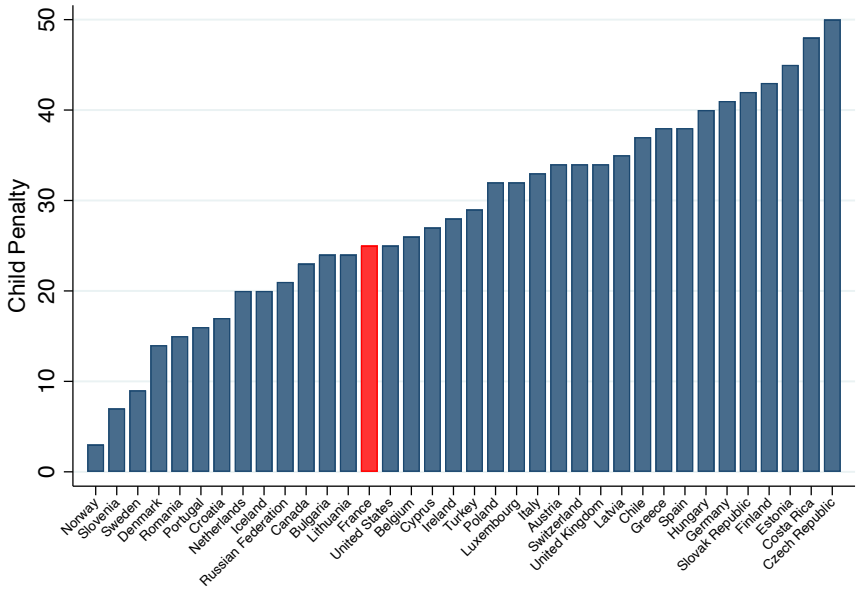
Notes: In English, Version 1: "Are you a mother of a child under 3 years old, or are you planning to have a child in the coming years? Take our survey and enter for a chance to win a €100 gift card!". Version 2: "Share your experience as a mother or future mother, and help research better understand your choices. A €100 gift card is up for grabs!"

Figure 10: DISTRIBUTION OF COMPLETION TIME IN MINUTES



Notes: We decide to exclude 10% of women who responded too quickly or too slowly. The average completion time is 15 minutes.

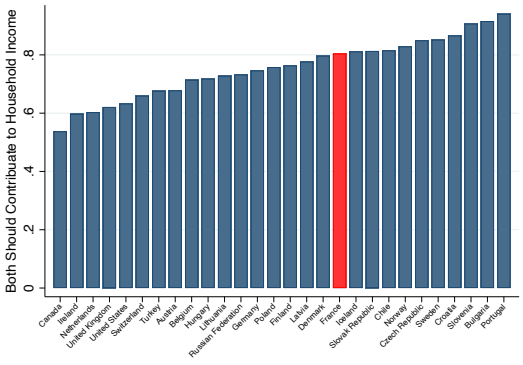
Figure 11: CHILD PENALTY IN OECD COUNTRIES



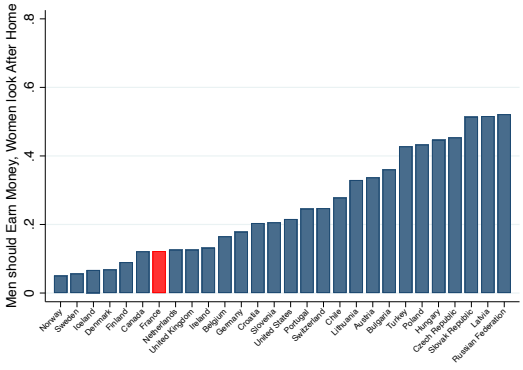
Notes: This Figure displays the child penalty by country of the OECD. The child-penalty is the difference in the change in employment after childbirth of mother relative to fathers. Data from the Child Penalty Atlas https://childpenaltyatlas.org.

Figure 12: SOCIAL NORMS IN OECD COUNTRIES

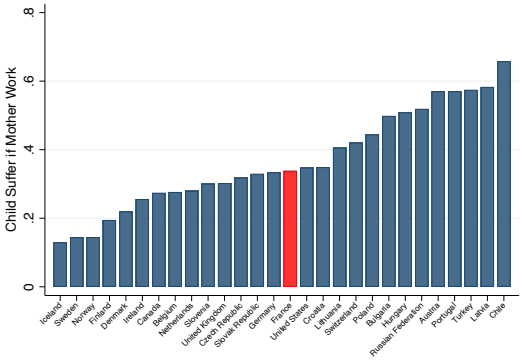
(a) CONTRIBUTION



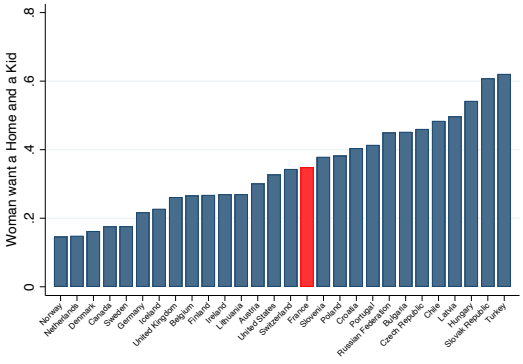
(b) TRADITIONAL GENDER ROLES



(c) CHILD SUFFERS IF MOTHER WORKS

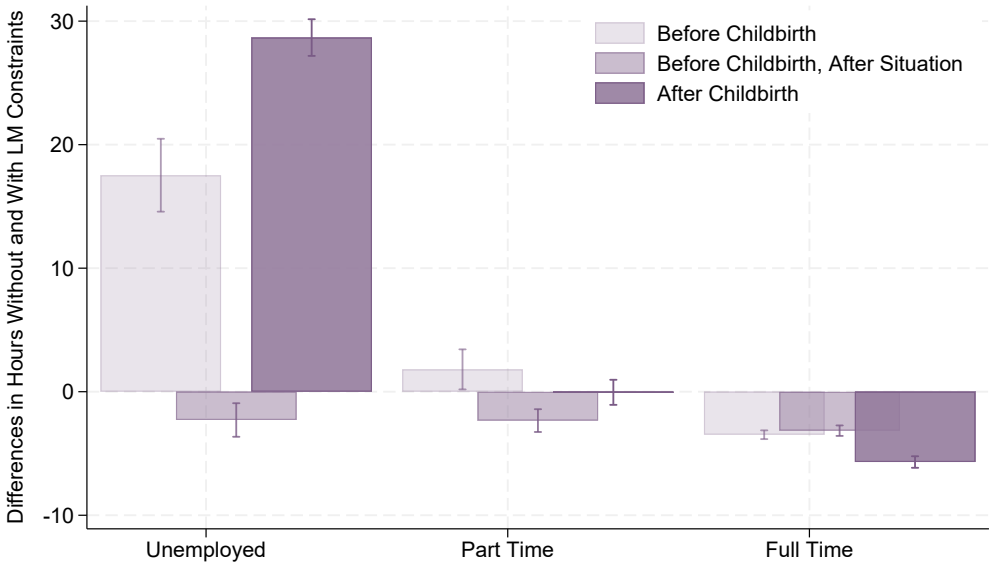


(d) WOMAN WANT HOME AND KIDS



Notes: These plots present the average agreement level to four statements by OECD countries. The data use is from International Social Survey Program (ISSP Research Group, 2012).

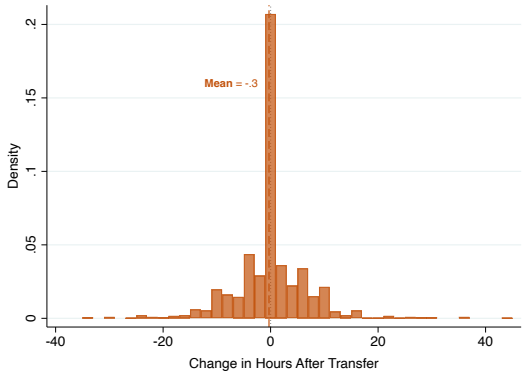
Figure 13: LABOR MARKET CONSTRAINTS BY EMPLOYMENT STATUS



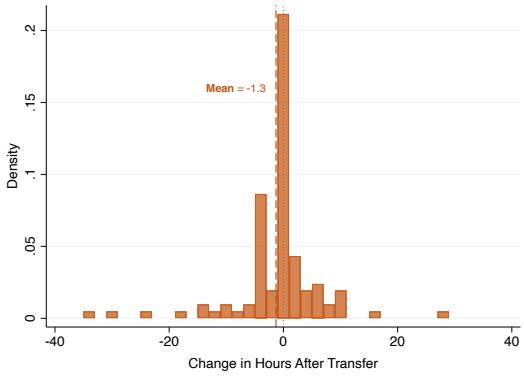
Notes: The bar of this Figure exhibits the average gap between the hours women would like to work in the absence of labor market constraints and their actual hours worked. This difference is shown for three employment statuses (unemployed, part-time, and full-time) and at three points: (i) In light purple, the difference before childbirth, for women in that employment status pre-childbirth (ii) in mid-purple, the difference before childbirth, for women who are in that status after childbirth (iii) in dark purple the difference after childbirth, for women in that status post-childbirth.

Figure 14: LABOR SUPPLY RESPONSES TO THE PUBLIC POLICY

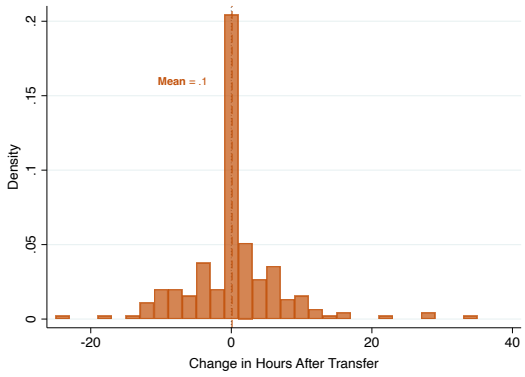
(a) FULL SAMPLE



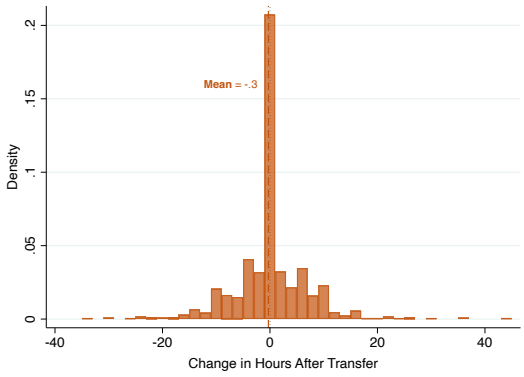
(b) UNEMPLOYED



(c) PART TIME



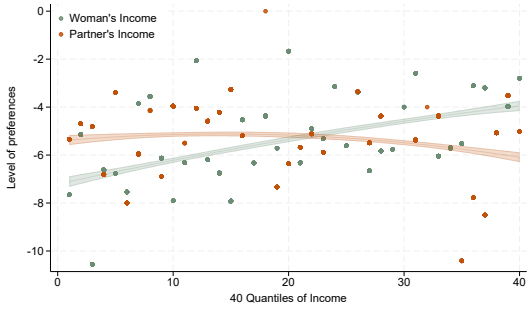
(d) FULL TIME



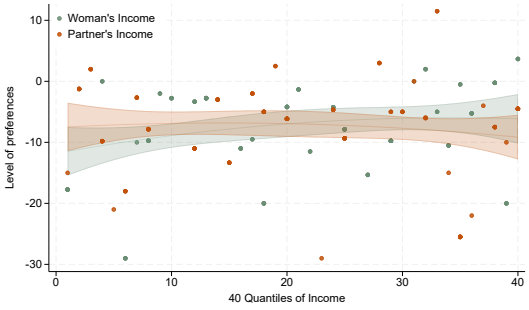
Notes: Women were asked: "Imagine the government increases your childcare assistance by €200/month, and you can adjust your work schedule freely." The change in hours reflects the difference between hours worked under this policy and in a scenario without labor market constraints.

Figure 15: RELATIONSHIP BETWEEN STATED PREFERENCES AND WOMEN'S INCOME

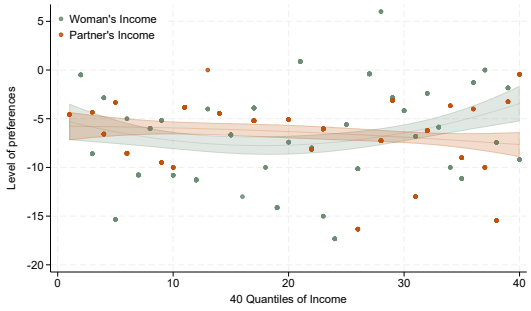
(a) FULL SAMPLE



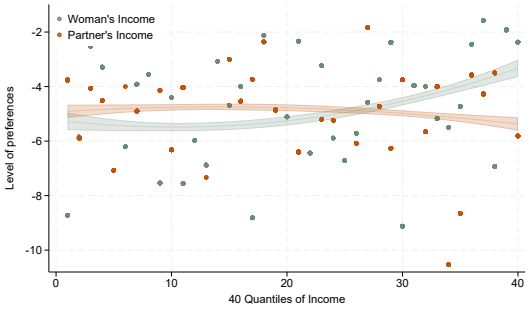
(b) UNEMPLOYED



(c) PART TIME



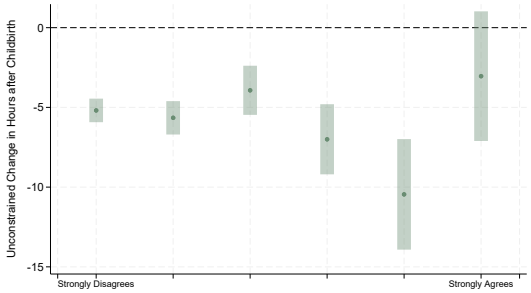
(d) FULL TIME



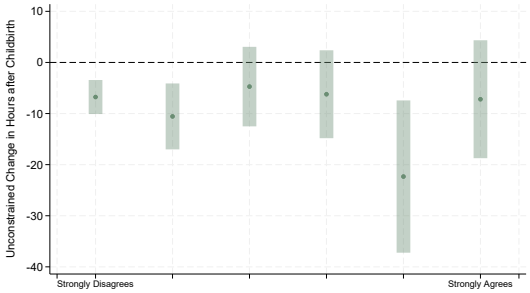
Notes: Preferences are defined as the difference between a mother's ideal working hours—absent labor market and childcare constraints—and her pre-childbirth working hours (without labor market constraints). More negative values indicate a stronger preference for staying home.

Figure 16: PREFERENCES BY MOTHER'S BELIEF ON DIVORCE

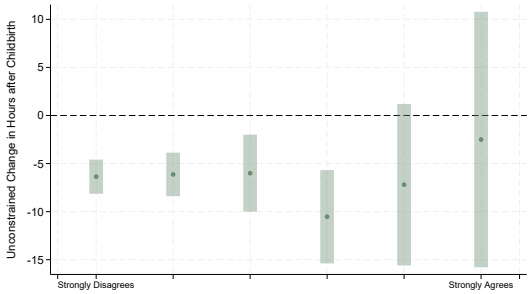
(a) FULL SAMPLE



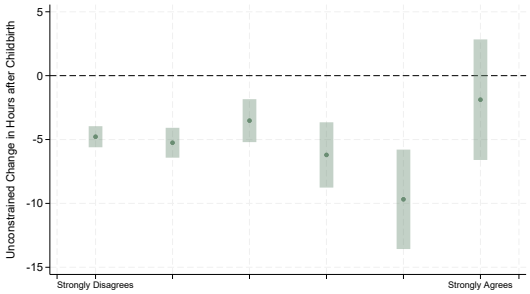
(b) UNEMPLOYED



(c) PART TIME



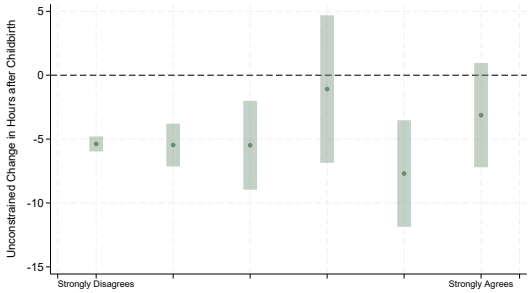
(d) FULL TIME



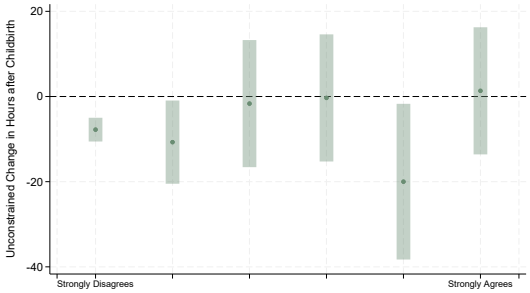
Notes: Our proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"If people are unhappy in a relationship, they can get divorced, even if they have children"*.

Figure 17: PREFERENCES BY MOTHER'S BELIEF ON CHILDLESS WOMEN

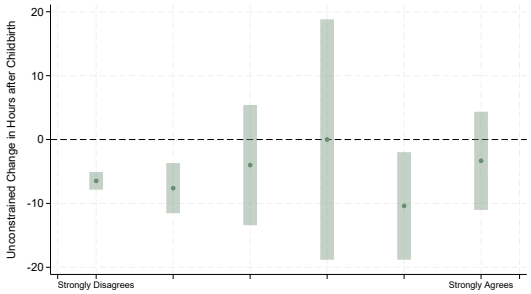
(a) FULL SAMPLE



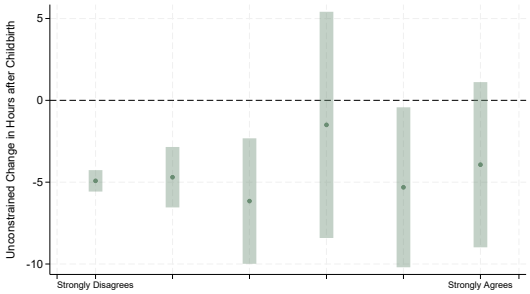
(b) UNEMPLOYED



(c) PART TIME



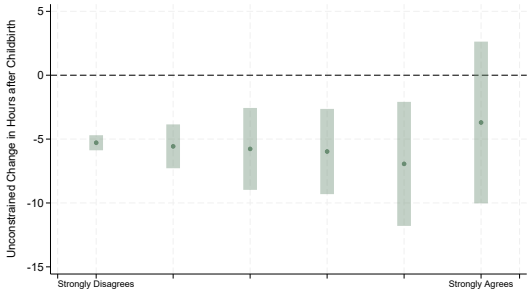
(d) FULL TIME



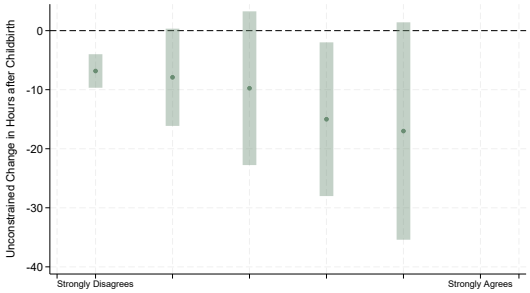
Notes: Our proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"A woman can choose to never have children and be happy with that choice"*.

Figure 18: PREFERENCES BY MOTHER'S BELIEF ON FEMALE BREADWINNER

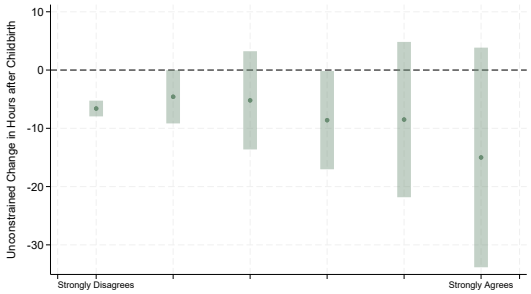
(a) FULL SAMPLE



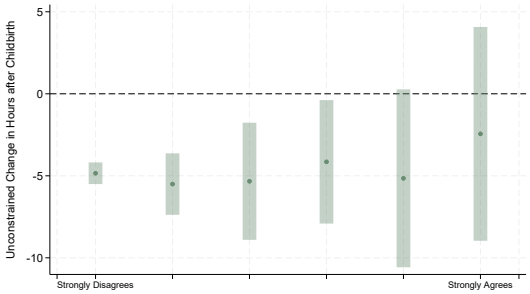
(b) UNEMPLOYED



(c) PART TIME



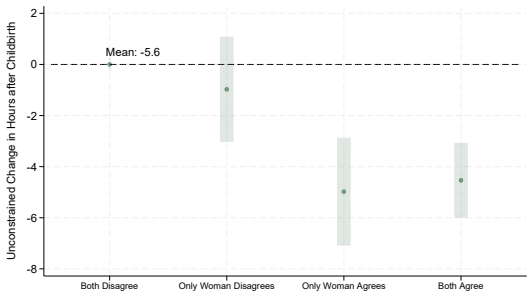
(d) FULL TIME



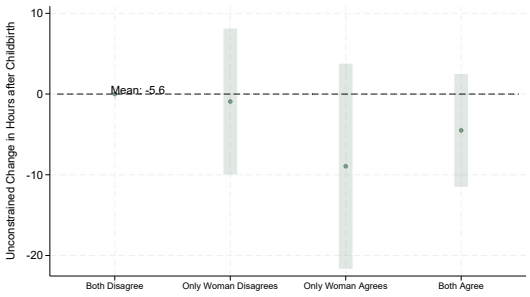
Notes: Our proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"If a woman earns more than her partner, it is bad for their relationship"*.

Figure 19: PREFERENCES BY COUPLE'S BELIEF ON CHILD SUFFERING

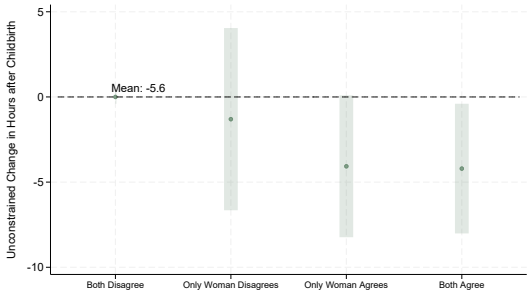
(a) FULL SAMPLE



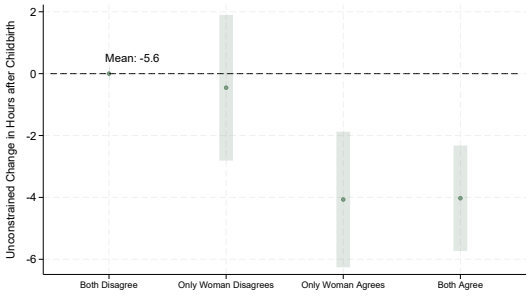
(b) UNEMPLOYED



(c) PART TIME



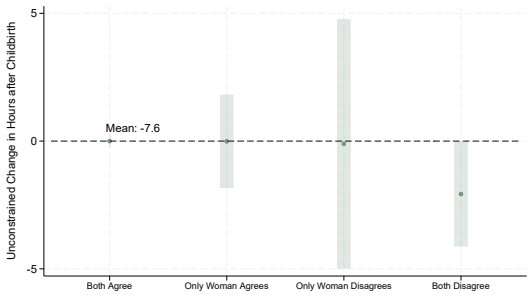
(d) FULL TIME



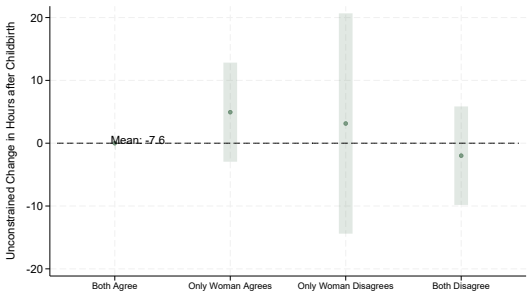
Notes: The proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"A child under the age of 3 may suffer because their mother works"*.

Figure 20: PREFERENCES BY COUPLE'S BELIEF ON DIVORCE

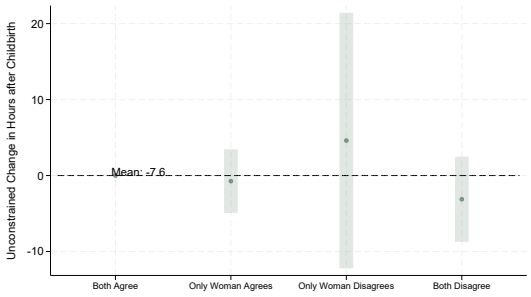
(a) FULL SAMPLE



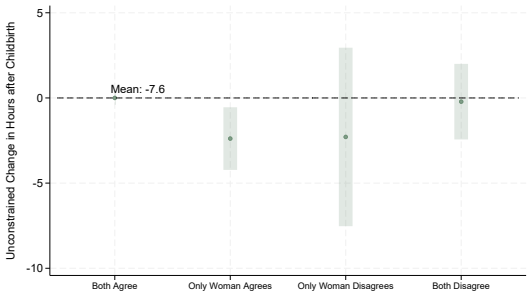
(b) UNEMPLOYED



(c) PART TIME



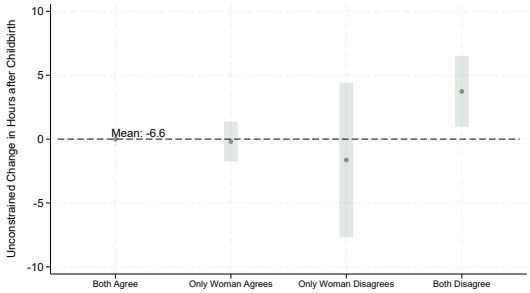
(d) FULL TIME



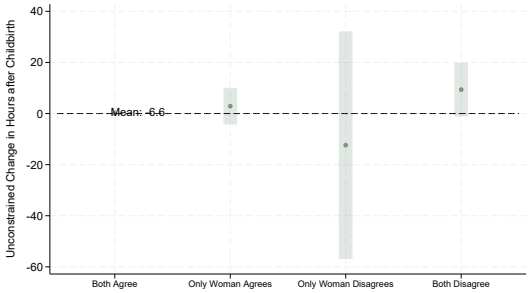
Notes: The proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"If people are unhappy in a relationship, they can get divorced, even if they have children"*.

Figure 21: PREFERENCES BY COUPLE'S BELIEF ON CHILDLESS WOMEN

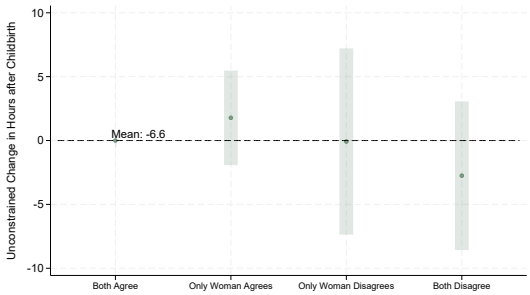
(a) FULL SAMPLE



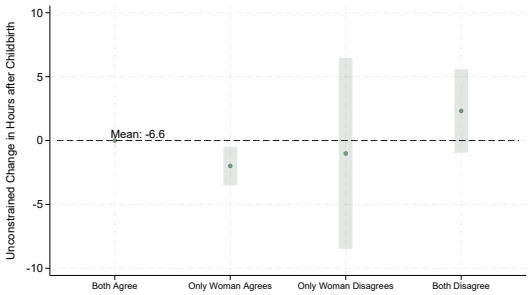
(b) UNEMPLOYED



(c) PART TIME



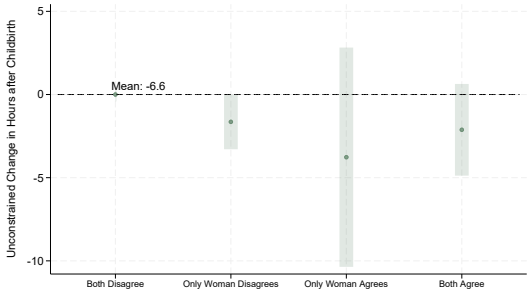
(d) FULL TIME



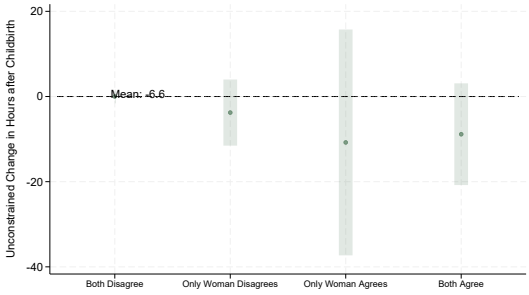
Notes: The proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"A woman can choose to never have children and be happy with that choice"*.

Figure 22: PREFERENCES BY COUPLE'S BELIEF ON FEMALE BREADWINNER

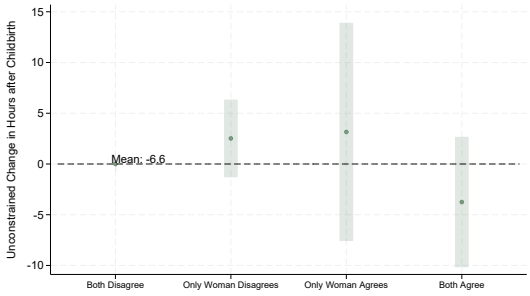
(a) FULL SAMPLE



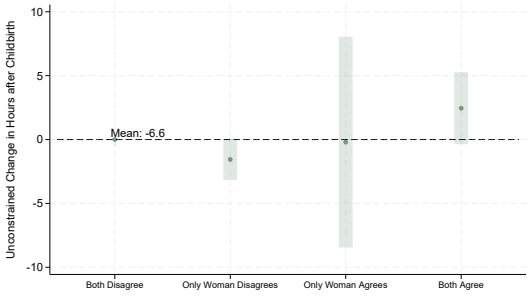
(b) UNEMPLOYED



(c) PART TIME



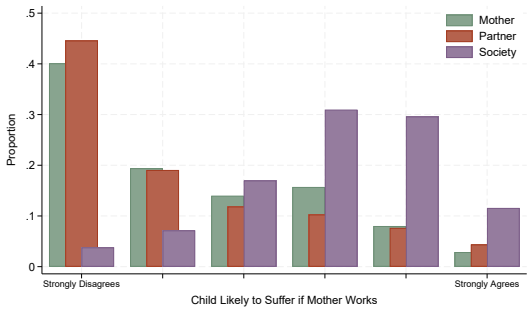
(d) FULL TIME



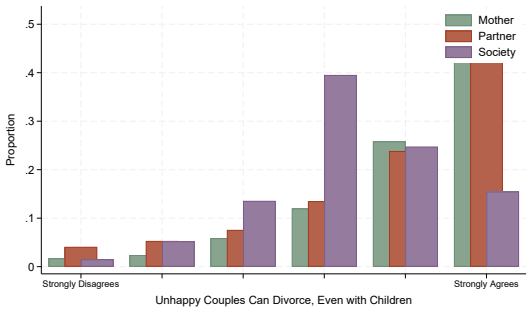
Notes: The proxy of preferences is defined as the difference between the number of hours a mother would ideally work in the absence of both labor and childcare constraints, and the number of hours worked before childbirth in the absence of labor market constraints. More negative values indicate a stronger preference for staying home to care for the child. The corresponding statement presented to mothers was: *"If a woman earns more than her partner, it is bad for their relationship"*.

Figure 23: POINT OF VIEWS OF MOTHERS ON DIFFERENT STATEMENTS

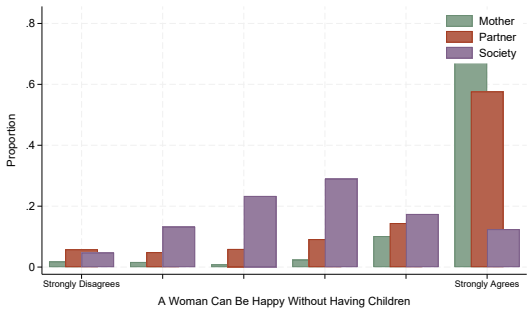
(a) CHILD SUFFERING



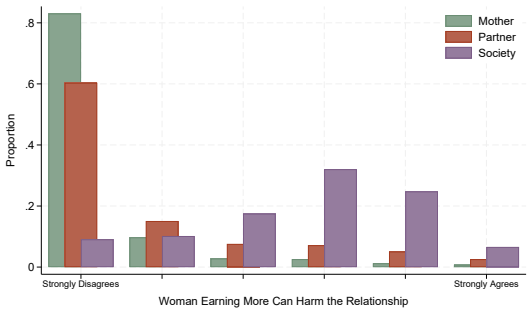
(b) DIVORCE



(c) CHILDLESS WOMEN

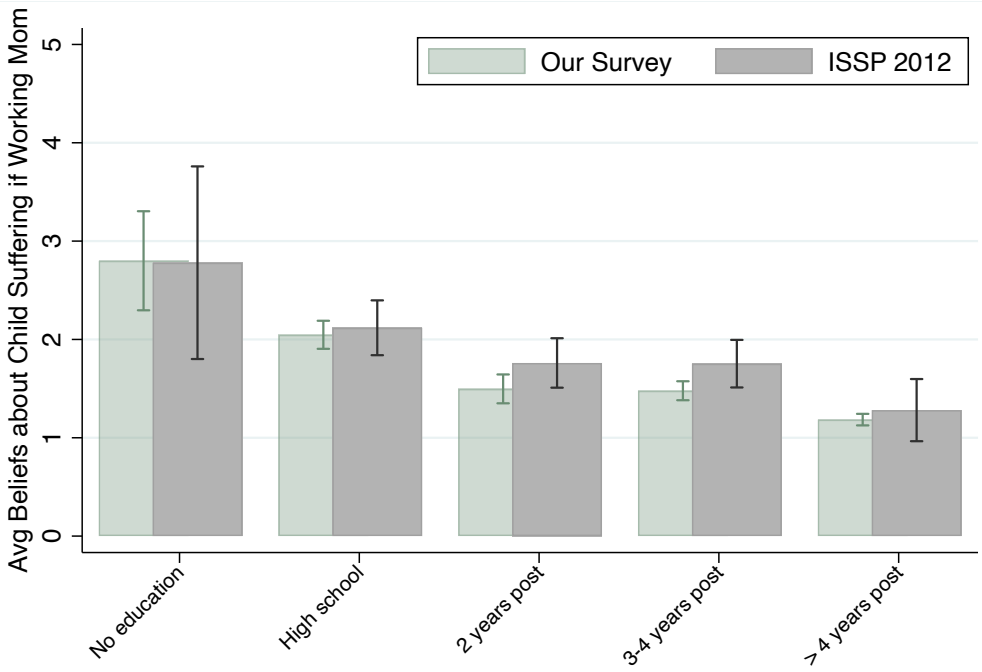


(d) FEMALE BREADWINNER



Notes: Preferences are defined as the difference between a mother's ideal working hours-absent labor market and childcare constraints-and her pre-childbirth working hours (without labor market constraints). More negative values indicate a stronger preference for staying home.

Figure 24: IPPS VS OUR SURVEY "CHILD SUFFER FROM A WORKING MOM"



Notes: This bar plot displays the average responses to the statement "A child under the age of 3 may suffer because their mother works" in the IPPS survey compared to our own survey. Responses range from 0 (strongly disagree) to 5 (strongly agree). The comparison is made by mothers' education level. The results from our survey reflect the full sample, before restricting to highly educated mothers. Note that the IPPS survey does not specify the age of the children. Therefor, these responses correspond to French mothers with at least one child under the age of 17.

B Tables

Table 2: TOTAL ADVERTISEMENT VIEWS AND FINAL OBSERVATIONS BY PLATFORM

	Advertisement Total Views			Final Sample of Observations	
	Version 1	Version 2	Total	Observations	Percentage
Facebook	336,250	172,038	508,288	740	30 %
Instagram	210,952	24,341	238,843	1,673	69 %
Other	–	–	–	29	1 %
Total	550,752	196,379	747,131	2,442	100 %

Notes: Total views are based on Meta data.

Table 3: DIPLOMA LEVELS

	Survey		Labor Force Survey	
	Observations	Percentages	Observations	Percentages
No diploma	21	1	1,434	12.4
Vocational diplomas (CAP, BEP)	50	2	1,848	16.2
High school diploma	195	7	2,423	21.2
Two-year post-secondary diploma	227	9	1,930	16.9
Bachelor degree	552	22	1,776	15.5
Master degree (or more)	1,468	59	2,032	17.8
Total	2,513	100	11,443	100

Notes: This table presents the education levels of mothers in the survey and in the Labor Force Survey.

Table 4: CHARACTERISTICS OF OUR SURVEY COMPARED TO ADMINISTRATIVE DATA

	Survey		EDP	
	Observations	Percentage	Observations	Percentage
Marital status				
Single	68	3 %	5,747	10 %
Cohabitant	472	19 %	12,414	21 %
Married	997	40 %	26,447	46 %
Civil union	966	38 %	13,026	23 %
Occupation				
Employee	369	15 %	14,230	25 %
Executive	1,055	42 %	7,446	13 %
Intermediary profession	596	24 %	11,699	20 %
Independent	99	4 %	2,873	5 %
Other situations	93	3 %	2,910	5 %
Unemployed	291	12 %	18,476	32 %
Total	2,503	100 %	57,634	100 %

Notes: Data are based on the French administrative dataset Échantillon Démographique Permanent with weighted statistics, restricted to women with a child under the age of three. The category "Unemployed" includes both inactive and unemployed mothers.

Table 5: CHARACTERISTICS OF OUR SURVEY COMPARED TO ADMINISTRATIVE DATA

	All Sample		Only Executives
	Our Survey	Labor Force Survey	Labor Force Survey
Age	33.1	33.2	34.2
Marital status			
Single	2.3 %	2.7 %	2.3 %
Married	41.4 %	49.8 %	51.3 %
Civil union	40.7 %	30.4 %	32.3 %
Cohabitant	15.7 %	17.1 %	13.7 %
Employment status			
Full-time	76.3 %	60.4 %	76.3 %
Part-time	16.1 %	26.2 %	23.5 %
Unemployed	7.6 %	13.4 %	0.2 %
Occupation			
Farmers, blue-collar workers, and shopkeepers	2.3 %	0.5 %	0 %
Executive	53 %	34.4 %	100 %
Intermediate occupations	23.7%	32.2 %	0 %
Employee	8.6 %	10.6 %	0 %
Self-employed	4.6 %	9.4 %	0 %
Unemployed	7.4 %	13 %	0 %
Working hours (if employed)			
Mean	38.6	35.9	38.2
p10	30	25	28
p25	35	32	35
p50	39	36.5	40
p75	42	40	45
p90	50	45	50
Occupation of the Partner			
Farmers, blue-collar workers, and shopkeepers	11.2 %	20.8 %	10.7 %
Executive	47.9 %	40 %	61.8 %
Intermediate occupations	17.7 %	27.3 %	20.1 %
Employee	11.2 %	9.6 %	6 %
Self-employed	7.7 %	-	-
Unemployed	2.1 %	2.3 %	1.4 %
Occupation of the Mother			
Farmers, blue-collar workers, and shopkeepers	7.6 %	10.8 %	8.6 %
Executive	18.5 %	14.5 %	21.1 %
Intermediate occupations	26.3 %	24.1 %	27.8 %
Employee	25.3 %	30.3 %	25.5 %
Self-employed	4.6 %	-	-
Unemployed	15.3 %	20.3 %	17 %
Occupation of the Father			
Farmers, blue-collar workers, and shopkeepers	21.5 %	26.3 %	30.2 %
Executive	39.9%	31.2 %	43.4 %
Intermediate occupations	14.3 %	18.2 %	16.5 %
Employee	9.9 %	9 %	6.5 %
Self-employed	5.6 %	-	-
Unemployed	2 %	5.3 %	3.4 %
Total	1,402	3,515	1,150

Notes: Data are based on the French Labor Force Survey dataset with weighted statistics, restricted to women with a child under the age of three. The category "Unemployed" includes both inactive and unemployed individuals.

CREST
CENTER FOR RESEARCH
IN ECONOMICS AND STATISTICS

CREST
Center for Research in Economics and Statistics
UMR 9194

5 Avenue Henry Le Chatelier
TSA 96642
91764 Palaiseau Cedex
FRANCE

Phone: +33 (0)1 70 26 67 00
Email: info@crest.science
https://crest.science/

The Center for Research in Economics and Statistics (CREST) is a leading French scientific institution for advanced research on quantitative methods applied to the social sciences.

CREST is a joint interdisciplinary unit of research and faculty members of CNRS, ENSAE Paris, ENSAI and the Economics Department of Ecole Polytechnique. Its activities are located physically in the ENSAE Paris building on the Palaiseau campus of Institut Polytechnique de Paris and secondarily on the Ker-Lann campus of ENSAI Rennes.

cnrs

GENES Groupe des écoles nationales d'économie et statistique