

# What do women want in a job?

Household constraints, gender-biased decisions and the reservation wage

gap

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## Abstract

Recent explanations of the gender wage gap emphasize the role of gender differences in job search, yet the role of childcare constraints remains underexplored. This paper uses French administrative data to investigate how childcare constraints shape women's reservation wage and job search strategies. First, I assess the types of occupations that men and women apply for and the implications for the reservation wage gap. Using text analysis, I create a novel dataset classifying occupations based on amenities and job content. Quantile decomposition methods allow me to document an unequal gap in reservation wage, intensifying along the distribution, partially explained by gender biased choices in the temporal flexibility associated with the desired job. Given that gender differences in targeted amenities may be shaped by childcare constraints, could a reduction in childcare costs change women's job search strategies? To address this question, I assess to which extent a 2018 reform, which increased childcare benefits for single-parent households by 30%, influenced the reservation wage and job-search strategies of women. Using a difference-in-difference strategy and spatial variation in childcare service availability, results indicate that the reduction in childcare costs led women to lower their reservation wages. However, I also find that more affordable access to flexible childcare increases the likelihood of targeting occupations requiring greater temporal flexibility and the desired maximum commute, thereby enabling them to secure more stable jobs and improve their reemployment outcomes. Lastly, I show that policies of childcare cost reduction are only truly effective when combined with childcare services availability.

**Keywords:** Gender gaps, Job search, Childcare

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# 1 Introduction

Despite decades of convergence in labour market outcomes, an important gender wage gap persists across all OECD countries. Currently, disparities stemming from differences in labour supply are more prevalent than other factors, such as discrimination or educational attainment (Goldin, 2014). Understanding the complex and interconnected sources of the gender wage gap emerging from the supply side is challenging. Indeed, the decisions made by workers which determine their labour supply are shaped by household composition, child penalties, institutional and family policies, and prevailing social norms. Despite the recent emergence of studies examining the gendered dimension of job search (Le Barbanchon et al., 2021; Cortés et al., 2023; Roussille, 2024), the topic remains relatively understudied with a focus on household constraints due to the lack of available adequate data. Yet, job search is an essential aspect of the labour supply, as the latter impacts wages and working conditions for many years or even decades ahead. Particularly, one key component, the reservation wage, plays an essential role in determining employment outcomes. In addition, despite the importance of the motherhood penalty (Kleven et al., 2019), the aggregate of job search characteristics, such as reservation wage, desired occupation and its specificities, along with the family constraints is rarely studied jointly. Still, in Europe, mothers experience a reduction in the employment rate of 29% after having children (Kleven et al., 2024). This paper addresses this gap by exploring the determinants of women's reservation wages and temporal flexibility in desired occupation and commute during the job search, with a specific focus on the impact of childcare constraints. Using a combination of French administrative and collected text data, I analyse how a reduction in childcare costs influences the job search behaviour of women and their re-employment outcomes.

To address this question, the paper adopts a dual approach, combining both descriptive and causal analyses. First, to understand how temporal flexibility shapes female reservation wages strategies, I decompose the reservation wage gap by employment characteristics linked to both the content and amenities of the desired occupation. Since this dimension is traditionally omitted from the labour supply equation, I use text analysis and text mining techniques to extract this information from job descriptions, including required skills and job amenities. I then combine these data with administrative panel data matching employment and unemployment spells, to decompose the role of occupational segregation determinants in the gender reservation wage gap. The findings reveal that the reservation wage gap intensifies along its distribution, and is partly explained by the occupational segregation linked to the temporal flexibility. As documented in the literature, this gender difference in temporal flexibility is likely to be driven by childcare constraints.

However, as content and amenities in occupation are highly correlated, the second part seeks to disentangle the role of childcare constraints on job search and reservation wage strategies exploiting a change in childcare benefits. Using data collected on jobs' characteristics with the text mining approach, I also focus on the flexibility of mothers during job search. This causal analysis investigates the impact of a policy reform in 2018 that increased childcare benefits for single-parent households by 30% on women's reservation wages and job search behaviour. Using a Difference-in-Differences approach and the spatial variation in childcare services availability, I estimate how a change in childcare costs affects the female job search and following re-employment outcomes. The results indicate that reduced childcare costs for single mothers lead to a decrease in reservation wages. However, it also increased the likelihood of targeting jobs requiring higher flexibility and maximum desired commuting time by 0.4 km. By expanding their temporal flexibility, the reform expanded the set of available job offers, thereby increasing re-employment likelihood by 1 p.p and enabling them to secure better jobs in terms of stability and wages. Lastly, this effect is more important in areas with high childcare availability, suggesting that policy interventions are most effective when paired with adequate childcare infrastructure.

Why is it important to examine women's job search strategies in terms of both reservation wages and flexibility? First, occupational sorting, the dissimilar concentration of women and men in different sectors, occupations, and jobs ([Groshen, 1991](#)), plays a crucial role in the gender gap in the labour market. Occupational segregation has complex origins, such as different choices driven by gender norms, family constraints, and discrimination. In this paper, using text-mining tools on the description of targeted occupations, I classify the occupations based on the two aspects of occupational segregation: content and amenities. My results show that occupational segregation occurs as early as the job search stage when gender-biased decisions and constraints shape the wages and amenities that men and women are willing to accept to work for. In addition, I find that alleviating childcare constraints leads women to be more likely to target occupations requiring greater temporal flexibility, highlighting the role of household constraints in occupational segregation.

Besides, the reservation wage, the minimum wage an individual is willing to accept employment, is also a key determinant of observed wage. Additionally, the reservation wage is also an essential feature of job search since it reflects a job seeker's preferences and determines whether a job seeker accepts or rejects a job offer. The latter is shaped by labour market features as well as gender-biased preferences and household constraints. For women, these household constraints are often stronger and burdened by childcare duties, as they often are the main caregivers in the household. As a result, women's job search strategies reflect the need for time flexibility and amenities that accommodate

these constraints, leading them to accept different occupations and industries with varying earnings, job security, earnings stability, and working conditions. In line with theoretical predictions and existing literature, I show that increasing childcare benefits lowers women's reservation wages. However, the decrease in reservation wage paired with lower unemployment duration and increase in flexibility, both in terms of desired commute and amenities, lead these women to obtain better employment outcomes in terms of stability and wages.

Hence, these choices during the job search have important implications for labour market outcomes in the following years. Therefore, understanding the determinants of female reservation wages and flexibility during the job search is particularly important for understanding the origins of the gender wage gap. Besides, it is also essential to disentangle the role of gender-biased decisions and discrimination in occupational segregation to better understand the root of gender disparities in the labour market and implement effective policies to address them. Exploring choices made during the job search process enables one to capture mostly decisions and preferences, rather than discrimination by employers, and thus capture self-selection.

For these reasons, this paper addresses how a change in childcare constraints can improve the employment outcomes of women through a change of behaviour during the job search. Findings demonstrate that, even if the decrease in childcare costs leads treated women to lower the reservation wage, it also results in a positive impact on temporal flexibility through the targeted occupation and commute. These combined effects expand the set of available job offers and allow women with reduced childcare costs to secure better jobs in terms of stability and re-employment outcomes. Consequently, temporarily alleviating childcare constraints during the vulnerable period of the motherhood penalty for single women improves their re-employment outcomes through changed job search strategies. Nevertheless, while my results demonstrate that policies that reduce childcare costs can be effective in stimulating maternal employment, their impact is limited to areas where childcare services are available.

This paper contributes to three strands of literature. First, it complements the recent literature on gender differences in job search behaviour. Empirical studies find that there is, on average, a gender reservation wage gap ([Brown et al., 2011](#); [Krueger and Mueller, 2016](#); [Le Barbanchon et al., 2021](#)). [Le Barbanchon et al. \(2021\)](#) also using unemployment data from the French Employment Services, relate the gender pay gap to the gender difference in willingness to commute affecting downward the reservation wage. [Cortés et al. \(2023\)](#) use survey data on risk preferences, to show that men's higher degree of risk tolerance and overconfidence in the entry of the labour market impact the gender pay gap through a significant difference in the timing of job acceptance. Lastly, [Roussille \(2024\)](#) documents the role of the ask gap in generating wage inequality in the United States.

However, this literature is more descriptive and does not focus on the role of childcare constraints. By providing a causal analysis of the policy's effect, this paper contributes to this literature by showing that female job search behaviour can be changed by policies affecting childcare constraints.

Household constraints, and more specifically childcare constraints, have been widely documented in the literature. Building on the work of [Kleven et al. \(2019\)](#) and [Andresen and Nix \(2022\)](#), there is multiple evidence of the existence of the “*motherhood penalty*”, which denotes the earnings and employment loss of women following childbirth. Notably, [Fontenay et al. \(2023\)](#) shows that the child penalty is higher in occupations requiring greater flexibility. Hence, due to household constraints, women may have a relative preference for family-friendly job characteristics that can lead them to choose lower-paying jobs ([Cortes and Pan, 2018](#)). As a result, childcare policies can support the female labour supply ([Karademir et al., 2024](#); [Brewcer et al., 2022](#); [Givord and Marbot, 2015](#)). This paper builds on this existing literature to analyse how childcare policies can also impact female job search behaviour, at the intensive margin, and improve their re-employment outcomes through an increase in their temporal flexibility.

However, despite the evidence of the role that household constraints, particularly childcare, play in shaping women’s job search, the existing empirical evidence is limited. Administrative data usually lacks information on family composition, time flexibility, and the specific family benefits job seekers receive. Meanwhile, survey data rarely includes detailed and reliable information on job search components, such as reservation wage and occupation preferences. Consequently, there is a limited understanding of the impact of childcare constraints on job search behaviour and reservation wages. To my knowledge, only two studies specifically focus on the impact of a change in childcare constraints on job search behaviour. [Carta and Rizzica \(2018\)](#) analyse the effects of a reform that extended subsidized childcare to two-year-olds in Italy. Exploiting discontinuities in eligibility rules and the staggered implementation of the reform, [Carta and Rizzica \(2018\)](#) show that the reform has increased labour market participation of women and reduced their reservation wages. Besides, [Philippe and Skandalis \(2024\)](#) find that motherhood reduces women’s job search effort, as they apply for fewer jobs than childless women, especially during non-school hours. A 2014 policy change that implemented school on Wednesdays increased mothers’ job applications on that day, highlighting how alleviating childcare constraints improves the quality of the job search. This analysis contributes to this growing literature in a number of ways. First, I focus on previously unexplored outcomes related to preferences for occupational amenities and flexibility, which are crucial for women with young children, and an important determinant of future outcomes. Furthermore, this research considers the spatial variation in childcare services availability, acknowledging that access to affordable childcare can vary widely geographically and influence the impact of the

reform. Lastly, the reform I analyse impacted childcare for children aged below 3, which is the crucial period of the motherhood penalty, while the two papers cited above focus on school changes.

The rest of the paper is structured as follows. I first provide a description of the data used in this paper in Section 2, before conducting the descriptive analysis in Section 3. Then, in Section 4, I describe the institutional context. Section 5 sets up the empirical strategy employed in Section 6 which reviews the results.

## 2 Data

To gather information on the flexibility in the desired occupation, I combine a French administrative dataset with the information I collect on job descriptions, on both job content and amenities available in various occupations.

### 2.1 Administrative data

I use a matched dataset produced by the French Department of Labour (DARES), composed of three linked administrative sources. First, it provides information on unemployment spells (“*Fichier Historique (FH)*”) from the French Employment Services “*France Travail*”, formerly “*Pôle Emploi*”.<sup>1</sup> This dataset is matched with employment spell data derived from firms’ social declarations, the “*Mouvement de la Main d’Oeuvre*” (MMO) collected by the French Department of Labour. Additionally, it is linked to information on benefits provided by the state and produced by the National Fund for Family Allowances (CNAF). These combined sources form the MIDAS database, which includes detailed information on the job search behaviour of the universe of French job seekers, their prior employment histories, re-employment spells, and the benefits they received, up to 2017.

Because of the huge impact the Covid-19 crisis had on the labour market, I focus on the unemployment spell which began between 2017 and 2019. The sample includes job-seekers claiming unemployment insurance, which requires registration with the French Employment Services and answers to questions about the characteristics of the type of job they are seeking. Since this registration is mandatory to claim for unemployment benefits, the dataset covers most of the job-seekers in France, including those who may not intend to actively seek jobs through the services offered. This limits a possible selection bias and ensures the representativeness of the sample.

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<sup>1</sup>These data have previously used in the literature, such as the work of Le Barbanchon et al. (2021) or Le Barbanchon et al. (2019).

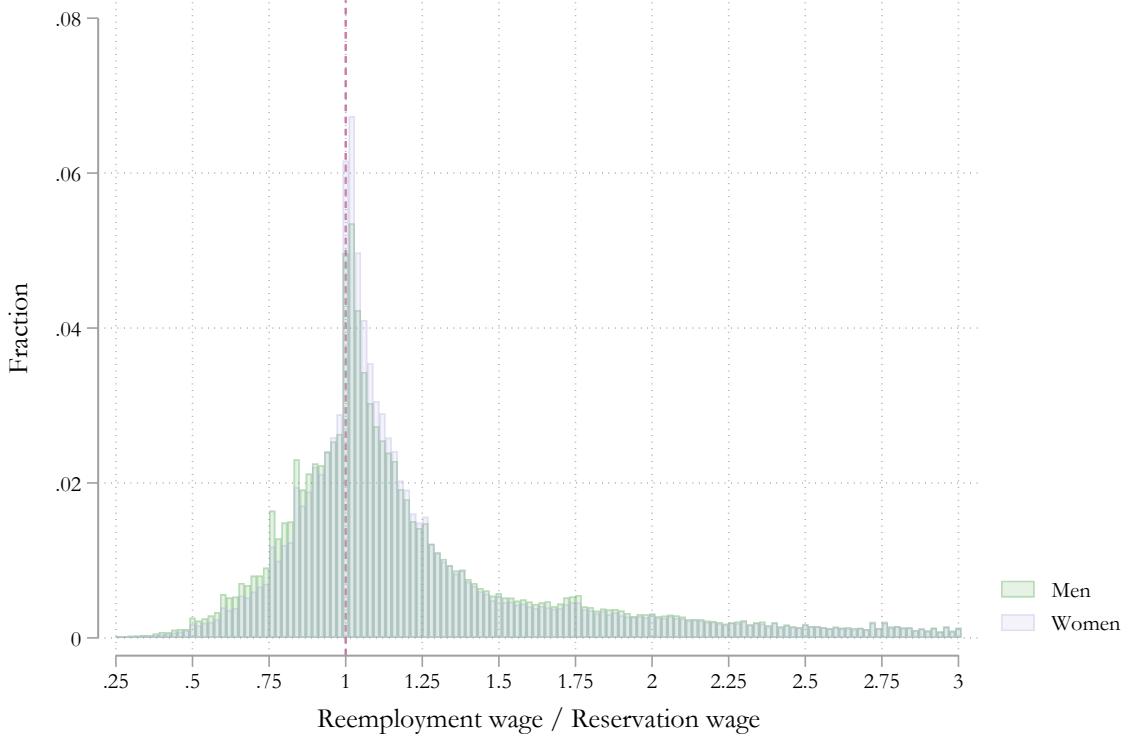
The main variable of interest in this analysis is the reservation wage. MIDAS database contains detailed information on reservation wages at the individual level for each unemployment spell. Specifically, job seekers are asked: “*What minimum gross wage do you accept to work for?*”. Additionally, the unit associated with this amount (e.g., hourly, monthly, annually) and the working time of the targeted job are also reported. These variables enable me to construct the hourly gross deflated reservation wage.

As shown by [Le Barbanchon et al. \(2021\)](#), the answer to this question is likely to be a reliable measure of the reservation wage.<sup>2</sup> Over 70% of job-seekers in the sample ultimately accept a job with a wage higher than their stated reservation wage. Figure 1 depicts the distribution of the re-employment wage divided by the reservation wage, illustrating that most job-seekers find a job with a wage higher than the reservation wage declared during their registration at the French Employment Services. The excess mass at 1 reflects the fact that an important share of female job seekers finds a job at the minimum wage. Figure 1 also suggests a male overestimation of their reservation wage in comparison to women, as they are more likely to have a reservation wage higher than their re-employment earnings. Furthermore, the reservation wage differs from the previous wage, as illustrated in Figure B.1 in the [Appendix](#) plotting the distribution of the ratio of the job seeker reservation wage over the wage in her previous job.

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<sup>2</sup>Additionally, as discussed by [Le Barbanchon et al. \(2021\)](#), the job seekers are likely to reveal their true reservation wage as browsing through vacancies is costly and there is monitoring from the Employment Services. Additionally, [Le Barbanchon et al. \(2021\)](#) show that the reservation wage has an important role in the following wage. [Le Barbanchon et al. \(2021\)](#) shows that the mean gender gap in re-employment wage closely follows the mean gender gap in reservation wage.

Figure 1: Re-employment wage over reservation wage



**Notes:** MIDAS, 2017-2019. This figure plots for men and women separately the ratio of the reemployment earnings over the reservation wage.

Data From French Employment Services (FH) also provides information on a variable essential to understand the determinants of the reservation wage: the acceptable commute (as it has been shown by [Le Barbanchon et al. 2021](#)). The acceptable commute is the response to the question “*What length of daily commute (one way) would you accept?*”<sup>3</sup>. The dataset also provides information on other aspects of job search behaviour, such as desired occupation, job characteristics, and the timing of registration and cancellation of the unemployment spell.

By pairing the different unemployment and employment spells for each individual, I am able to derive the wage preceding the unemployment spell as well as the re-employment spell. Additionally, I observe the unemployment history which provides information on previous unemployment shocks, both in number and length. Moreover, the database includes demographic attributes, household composition (number of children and marital status), benefits received and human capital variables (academic background, experience in the desired job). All these variables thus constitute a rich, rare set of information to analyse job search behaviour.

<sup>3</sup>As the job seekers can declare their acceptable commute in different units (kilometres, hours, or minutes), I use a unique commute variable using the conversion method of [Le Barbanchon et al. \(2021\)](#), assuming that the average commuting speed is 35 km/hour.

The sample used in the descriptive part of this paper includes over 6 million unemployment spells overall, and 3.24 million unemployment spells with information about former employment.<sup>4</sup> Consistent with literature using French administrative data and literature on the gender wage gap, I restrict the sample to job seekers aged between 25 and 55, excluding job seekers living outside metropolitan France.<sup>5</sup>

Table 1 reports summary statistics for the sample of job seekers used for the descriptive part. As expected, Table 1 shows that more women are asking for part-time jobs in comparison to their male counterparts and that women have a lower desired commute (Le Barbanchon et al., 2021; Liu and Su, 2024). The mean deflated monthly gross reservation wage of job seekers in our sample is 2008 euros for women and 2180 euros for men. The education level average indicates that women tend to be more educated than men as, 25% of women hold a high school degree (compared to 21% of men), and 12% of women have a bachelor's degree (compared to 7% of men).

Table 1: Descriptive statistics

	Men	Women
<i>Targeting part-time work</i>	0.03	0.13
<i>Targeting short term contract</i>	0.10	0.10
<i>Reservation wage - Monthly, in euros</i>	2180	2008
<i>Married</i>	0.42	0.50
<i>Desired commute (in km)</i>	35	29
<i>No education</i>	0.14	0.10
<i>High School degree</i>	0.21	0.25
<i>Bachelor degree</i>	0.07	0.12
<i>Master degree</i>	0.07	0.10
<i>Experience in years in the desired occupation</i>	6.42	5.57
<i>Number of children</i>	0.83	1.18
<i>Non-French</i>	0.17	0.13
<i>Observations</i>	3,065,226	3,088,303

Source: MIDAS, 2017-2019. Characteristics average separately for men and women.

## 2.2 Collected data on job description

During their registration at the French Employment Services and while they are indicating their reservation wage, job seekers also have to indicate their targeted occupation, on a classification of 532 occupations, providing me information about the ROME code of the desired job (“Répertoire Opérationnel des Métiers et des Emplois”). This information is used by the French Employment Services to send targeted job vacancies to job seekers.

<sup>4</sup>MIDAS data provide information about the employment spells up to 2017, reducing the sample when I am constraining to job-seekers with information about previous employment spells.

<sup>5</sup>I exclude young and older workers since we want to focus on stable career paths and not side job search during post-secondary education, or pre-retirement strategies.

During this registration, job seekers have access to the 532 job descriptions on the official website of the French Employment Services, "*France Travail*".<sup>6</sup> I collect information about the job targeted by the job seeker, extracting information from the pdf of these 532 job descriptions. This data collection enables me to build a rich dataset of variables as it is composed of the definition, access (type of diploma, experience), conditions of the activity, required skills (basic, specific, expertise, knowledge) and the work environment (structures and sectors), for each of the 532 jobs. An example is provided in Appendix A.1, with the translated description of the journalist's occupation.

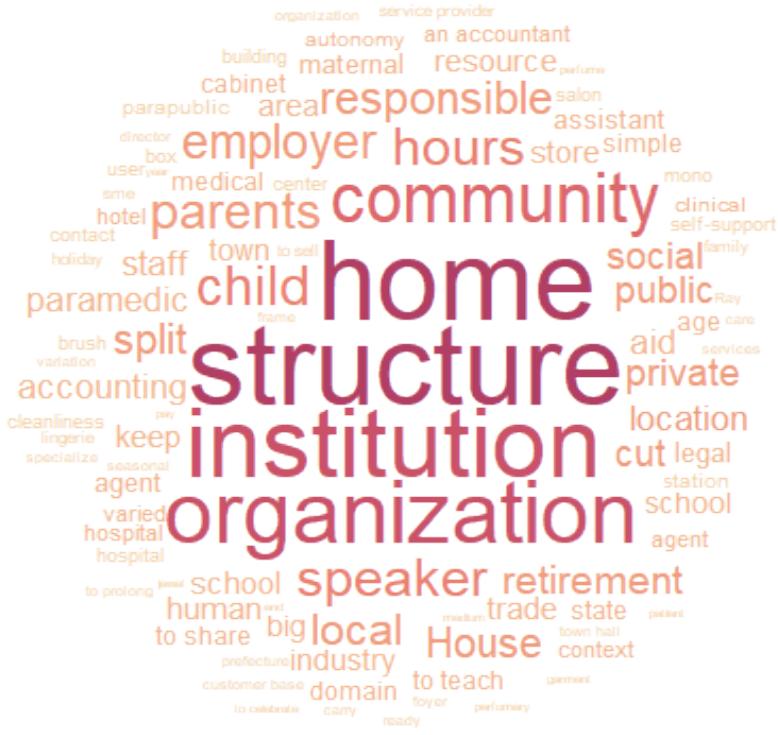
To collect information on these job descriptions, I use text analysis methods. First, I extract text from pdf, before lemmatizing my text. Then, I use text mining tools to clean my text, removing French stopwords, punctuation, convert cases, etc. I match the obtained job characteristics with my sample from the administrative data on unemployment spell on the desired occupation and distinguish men and women in two different samples. Weighting the job description with the frequency of the number of times the job is targeted for each gender, I create a difference in word frequency between men and women, for each category, to identify variables important for job sorting.<sup>7</sup>

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<sup>6</sup>These job descriptions are available on the official website at this link: <https://www.pole-emploi.fr/candidat/decouvrir-le-marche-du-travail/les-fiches-metiers.html>

<sup>7</sup>Figure 2 is an example of the "working condition" category. In the job description, available in Appendix A.1 in Figure A.1, A.2, A.3, A.4 and A.5 the other categories also used for this analysis are the definition of the job (tasks), access to the job (diploma, experience), basic and specific skills, and the work environment.

Figure 2: Wordcloud of gender difference in working-condition (female-male)



**Notes:** Translated wordcloud of the difference between women and men word frequency, for the "*working-condition*" category of job description.

For example, Figure 2 shows the difference between the word frequency in the category of "*Working-condition*" in job descriptions targeted by women compared to the one targeted by men.<sup>8</sup> The bigger the word, the higher the difference. One can observe in Figure 2 that women are targeting more jobs in public structures (institutions, organizations, local communities), with social features and with a different working schedule (split, hours, etc.). Based on the literature and gender differences in word frequency for each category of job descriptions, I build a new and rich set of variables.

Most importantly, I build a multiple of job characteristics variables based on the differences emerging from the text analysis. Some variables refer to skills required (Management and negotiation) or the environment of the job (outdoor work, self-employment, work at a customer's home). Besides, I construct variables related to temporal flexibility: Job requiring to be on-call or to travel (at the international or national level), be far from home, work at night, during holidays, during weekends, with staggered hours, split hours or home-office. To finish, I construct variables based on the social content of the job (work in public sectors, NGOs, local communities, etc.). Lastly, I gather information about Holland's occupational themes for each job (see Appendix B for more details).

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<sup>8</sup>Figure A.6 in the Appendix A.1 section show the difference of word frequency in the category "*Working-condition*" in job descriptions targeted by men and not by women.

### 3 Descriptive analysis

In this section, I provide a descriptive analysis of the distribution of the reservation wage gap and its explanation. I begin by detailing the quantile decomposition method employed, followed by a discussion of the results.

#### 3.1 Decomposition methods and reservation wage

In this section, I aim to distinguish the reservation wage gap explanation linked to individual characteristics and the one due to the gender-biased choices linked to occupational sorting. Wage decomposition methods allow for the decomposition of differences in wages between males and females into two distinct effects. The Oaxaca-Blinder method ([Oaxaca, 1973](#); [Blinder, 1973](#)) is used to decompose mean wage differences, while [Firpo et al. \(2009\)](#) considers the entire wage distribution. These decomposition methods explain the difference in the dependent variable between two groups by decomposing the gap into an endowment effect (or "*explained*" or composition effect) and a residual effect (also called "*unexplained*" or the wage structure effect). On the one hand, the endowment effect quantifies the portion of the gap due to group-specific differences in the endowments of the independent variables. On the other hand, the residual effect quantifies the differences due to group-specific returns of the explanatory variables.

Decomposition methods at the mean have already been used to decompose an observed reservation wage gap ([Brown et al., 2011](#); [Le Barbanchon et al., 2021](#); [Brown et al., 2021](#)) or an estimated reservation wage gap ([Arrazola and de Hevia, 2016](#)). Although the reservation wage is a preference measure and while decomposition methods are traditionally used for observed wages, these methods seem particularly well suited for this analysis. The reservation wage is influenced by similar observed characteristics as the observed wage. The reservation wage, as well as the observed one, are both determined by the human capital accumulation (experience and academic background), demographic attributes, household composition and characteristics of the job (or desired job for the reservation wage). The difference between a decomposition on an observed wage and a reservation wage relies then mostly on the "*unexplained part*". This portion of the gap that cannot be explained by gender-specific differences in endowments of the observed characteristics can be interpreted as a measure of discrimination or occupational segregation regarding the observed wage. Indeed, the widely used decomposition of the gender wage gap showed a persistent, unexplained pay gap which is a possible signal of differentiated household constraints or perceptions by employers. However, for the decomposition of the reservation wage gap, this residual effect cannot be a signal for possible discrimination and then allow to identify more precisely the differences in preferences, household constraints or anticipation for discrimination.

Indeed, the unexplained part of the reservation wage obtained with the Oaxaca-Blinder decomposition provides nuanced insights, especially when one considers that the reservation wage itself is inherently influenced by preference components. In the case of the reservation wage, preferences and constraints play an important role, as this measure represents an individual's minimum acceptable compensation for employment.<sup>9</sup> The Oaxaca-Blinder decomposition has been used in several studies on gender pay gap determinants and as previously mentioned, breaks down the mean gender wage (or reservation wage in this paper) gap into two components.

The Oaxaca-Blinder method decomposes the reservation wage gap as:

$$\begin{aligned} \hat{\Delta}_0 &= \underbrace{\overline{Y^r}_M - \overline{Y^r}_F}_{\hat{\Delta}_0 = \text{Observed gender reservation wage gap}} = \hat{\beta}_{M0} + \sum_{k=1}^K \overline{X}_{Mk} \hat{\beta}_{Mk} - \hat{\beta}_{F0} - \sum_{k=1}^K \overline{X}_{Fk} \hat{\beta}_{Fk} \\ &= \underbrace{\left( \hat{\beta}_{M0} - \hat{\beta}_{F0} \right) + \sum_{k=1}^K \overline{X}_{Fk} \left( \hat{\beta}_{Mk} - \hat{\beta}_{Fk} \right)}_{\hat{\Delta}_S = \text{Unexplained gender reservation wage gap}} + \underbrace{\sum_{k=1}^K \left( \overline{X}_{Mk} - \overline{X}_{Fk} \right) \hat{\beta}_{Mk}}_{\hat{\Delta}_X = \text{Explained gender reservation wage gap}}, \end{aligned}$$

where  $Y^r$  is the mean reservation wage equation,  $m$  and  $f$  refer to males and females respectively,  $X$  is a vector of covariates,  $\hat{\beta}$  is a vector of estimated parameters and a bar denotes a mean value.  $\hat{\Delta}_S$  represents the difference in the reservation wage that is attributable to returns to endowments (unexplained component) and  $\hat{\Delta}_X$  represents the part of the reservation wage differential due to individuals' observed characteristics (explained component).

### 3.2 Quantile decomposition method: RIF

Oaxaca-Blinder decomposition provides an analysis of the gap at the mean of the distribution and does not allow observing the different patterns at the tails of the distribution. Hence, to measure the evolution of the gender reservation wage gap along the distribution, I use the quantile decomposition method introduced by [Firpo et al. \(2009\)](#) called the Recentered Influence Function (RIF) decomposition method.<sup>10</sup> This method allows quantifying sticky floors or glass ceilings by distinguishing whether the gap is higher at the bottom or the top ([Fortin et al., 2011](#)). It has the advantage that it determines the

<sup>9</sup>These could stem from cultural or social norms or other intangible influences that affect individuals' perceptions of their worth and the value of their labour. The presence of an unexplained reservation wage gap may also indicate structural inequalities within the labour market. Discrimination, whether based on gender, race or other factors, may contribute to wage differentials that are not captured by preference components alone. In addition, external economic conditions, the business cycle and market dynamics can affect the unexplained component. Economic fluctuations may lead individuals to accept reservation wages below their preferred level due to limited job opportunities, resulting in inequalities that are due to macroeconomic influences rather than personal preferences. Finally, the unexplained component of the reservation wage may be due to unobservable characteristics, omitted variables and unmeasured preferences. Data limitations may prevent all relevant factors from being captured, leading to a higher unexplained reservation wage gap.

<sup>10</sup>This unconditional quantile regression method has been first introduced in the paper by [Firpo et al. \(2009\)](#) and later detailed in another paper. ([Firpo et al., 2018](#))

weight of each variable at a given quantile and then provides a detailed decomposition rather than an aggregate one. Indeed, in contrast with the aggregate decomposition, the detailed decomposition allows subdividing both parts of the gap, into the respective contributions of each covariate.<sup>11</sup> The regression-based method developed by [Firpo et al. \(2009\)](#), easily implementable in practice as the traditional Oaxaca-Blinder method, can be divided into 3 steps:

### First step

Each  $Y_i^r$  is transformed in RIF ( $Y_i^r, Q_\tau$ ), with

$$RIF(Y_i^r; Q^\tau) = Q^\tau + \frac{\tau - 1 \{Y_i^r \leq Q^\tau\}}{f_{Y^r}(Q^\tau)},$$

and  $\hat{Q}^\tau$  the unconditional quantile regression for the quantile  $\tau$  as

$$\hat{Q}^\tau = \bar{X}\hat{\gamma}^\tau,$$

with  $\hat{\gamma}^\tau$  being the returns to the characteristics  $X$  for a given quantile  $\tau$ <sup>12</sup> The recentered influence function captures the relative contribution that a specific observation  $Y_i$  has on a given statistic. It then refers to the "*role*" of a particular observation  $Y_i$  on the value of a statistic.

### Second step

RIF ( $Y_i, Q_{M/F}^\tau$ ) is regressed on  $X_i$  using Ordinary Least Squares, for males and females separately and for a specific quantile:

$$RIF(Y^r, Q_M^\tau) = X\gamma_M + \epsilon_M, \quad RIF(Y^r, Q_F^\tau) = X\gamma_F + \epsilon_F.$$

### Third step

The  $\hat{\gamma}_M^\tau$  and  $\hat{\gamma}_F^\tau$  obtained are used for a decomposition:

$$\underbrace{Q_M^\tau - Q_F^\tau}_{\hat{\Delta}_o^\tau} = \underbrace{(\hat{\gamma}_M^\tau - \hat{\gamma}_F^\tau)\bar{X}_F}_{\hat{\Delta}_S^\tau} + \underbrace{(\bar{X}_M - \bar{X}_F)\hat{\gamma}_M^\tau}_{\hat{\Delta}_X^\tau}.$$

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<sup>11</sup>There are other existing decomposition methods for distributional statistics beyond the mean (see [Fortin et al. \(2011\)](#) for a detailed review of the research on the decomposition methods). Aggregate decompositions for quantiles ([Juhn et al. \(1993\)](#) residual imputation method, [Mata and Machado \(2005\)](#) conditional quantile regression method or counterfactual methods) provide an overall decomposition into two components but do not provide the respective contributions of each covariate as the detailed decompositions.

<sup>12</sup>Hence, the unconditional quantile regression is applied on the average  $X$  in the entire sub-population. The estimated coefficient can be interpreted as the effect of increasing the mean value of the covariate on the unconditional quantile.

$\hat{\Delta}_X^\tau$  reflects the contribution of differences in characteristics ( $\bar{X}$ ) between males and females to the gender gap, considering how these characteristics impact outcomes differently for each gender.  $\hat{\Delta}_S^\tau$  represents the part of the gap attributed to variations in the returns of these characteristics at the specific quantile  $\tau$ . We then obtain, as with the Oaxaca-Blinder decomposition, a gender gap split into a part due to a difference in characteristics between males and females, and a part attributed to a difference in the valuation of these characteristics at a given point in the distribution.

### 3.3 Gender gap in reservation wage

In this section, I document how the reservation wage gap varies across quantiles. Figure 3 plots the deciles of the unexplained part of the reservation wage gap, adjusting for a different set of characteristics.<sup>13</sup> The data collected fall into three main categories, and using them as explanatory covariates result in three distinct unexplained reservation wage gaps. I estimate the quantile gender gaps in reservation wage in the first place controlling for individual characteristics. Individual characteristics are captured, including variables such as prior wage, prior occupation (6 modalities), demographic attributes, human capital (e.g., education and work experience), household composition, a set of regional and quarterly dummies and detailed unemployment information. Figure 3 highlights the importance of observing at the quantile level the gender reservation wage gap as the median and the average hide strong patterns at the tail of the distribution. Indeed, it shows how the unexplained reservation wage gap increases along the wage distribution. This distribution is driven by the minimum wage, which prevents the gender gap at the bottom of the reservation wage distribution. Moreover, the spike at the 5th decile is due to the fact that it corresponds to commonly indicated round numbers, specifically 1,600 euros for women and 1,700 euros for men.

Second, I additionally account for traditional job characteristics. This category encompasses variables such as desired contract type (e.g., permanent or temporary), working-time, the field of employment, broad occupational categories, and the desired commuting distance. The small difference between the unexplained gap adjusting for individual characteristics and the one additionally adjusting for job characteristics emphasizes the fact that the gender differences in classic job characteristics have a limited impact on the reservation wage gap.

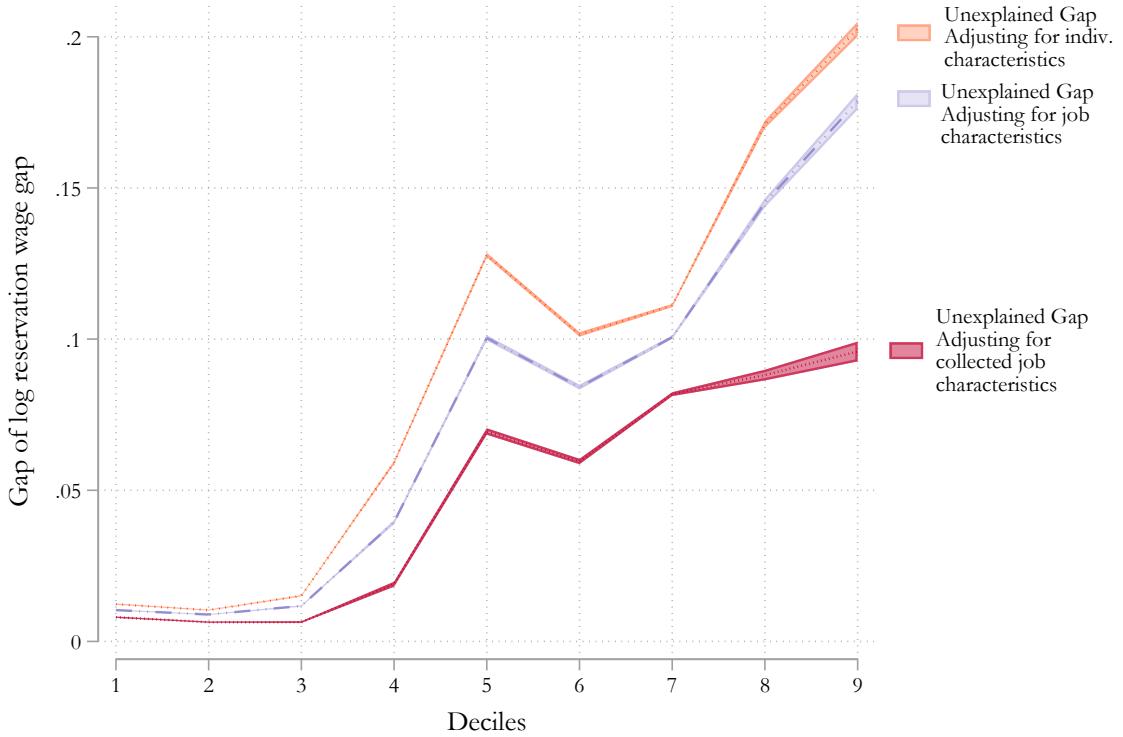
Third, I introduce a novel set of variables under the category of collected job characteristics, derived from a detailed text analysis of job descriptions. These variables include

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<sup>13</sup>The explained component, which is the difference between the overall gap and its unexplained part, can be observed in Figure C.1 in Appendix C by the space between the two lines. The contribution of the individual characteristics to the explained component of the reservation wage is negative as women are more educated than men (see Table 1 and C.1).

both the amenities in the desired occupation and the content in terms of skills. On the one hand, it can be information related to temporal flexibility, such as flexible working hours, remote work options, or other conditions that allow for a more adaptable work schedule. On the other hand, it also includes details on the content of the job such as required skills, the structure of the job, and the tasks associated with the position. Hence, the third specification in Figure 3 further adjusts for gender-biased choices in job characteristics with the data collected on the job description. I control for variables based on the skills required (management and negotiation), related to the environment of the job (outdoor work, self-employment, work at customer's home), relating to the temporal flexibility (Job requiring to be on-call, to travel (at the international or national level), to be far from home, to work at night, during holidays, during weekends, with staggered hours, split hours or home-office.) and to the social content of the job (work in public sectors, NGOs, local communities, etc.). Figure 3 shows that adjusting for these preference variables enables to reduce the unexplained component of the reservation wage gap by half at the top of the distribution.

Figure 3: Unexplained gap with RIF decomposition



**Notes:** MIDAS database, 2017-2019. This figure shows the unexplained reservation wage gap, using the RIF method, with a different set of covariates.

In Appendix D.1, I check the sensitivity analysis to alternative specifications. In Figure D.2, I use Principal Component Analysis (PCA) to transform the multitude of

binary variables created into 20-dimensional types of characteristics. Results are similar, though the main specification seems to better explain the reservation wage gap. In Figure D.1, I use a quantile regression model instead of a quantile decomposition method. While the outcomes are comparable, the confidence intervals are larger.

Thus, the variables collected on job characteristics seem to explain an important part of the reservation wage gap. However, the two aspects of occupational segregation are difficult to disentangle. For example, women are more likely to target jobs with social content, which are also characterized by better work amenities. However, given the essential role of childcare constraints in the gender gap documented in the literature, it would be interesting to isolate their role in the job search process. Therefore, the following section analyses the impact of a natural experiment in which childcare costs change on women's job search behaviour.

## 4 Institutional context

### 4.1 Childcare Benefits in France

France is a conservative type of welfare state ([Esping-Andersen, 1990](#)), emphasizing fertility and family support. Among the various benefits available for families with young children in France, the childcare benefit ('*Complément du Mode de Garde*' - CMG) is provided by the government to support them with the childcare expenses while working. The childcare benefit is allocated to families with children under six, using one of these three types of childcare services: childminders, micro childcare facilities, and home-based childcare. Unlike public childcare options, these services offer more flexibility in terms of hours and organization, making them particularly useful for parents with non-standard work schedules. In consequence, childminders, one of the childcare types eligible for the childcare benefit, are the most widely used formal form of childcare in France ([DREES, 2013](#)) for children under 3 years old.<sup>14</sup>

To be eligible for the benefit, families must use at least 16 hours of childcare per month, and the amount of the subsidy depends on several factors, including the number of children in the household, whether the child is below 3, and the household's total income. Families with children younger than three years old are eligible for a higher level of benefit, as they tend to require more intensive care since almost every child over three years old in mainland France is enrolled in kindergarten.<sup>15</sup> The benefit can cover up to

<sup>14</sup>In 2013, formal childcare services for children under 3 years old were distributed as follows: 51% were cared for by certified childminders (eligible for the childcare benefit), 35% were in childcare facilities (both public and private so ineligible and eligible for the childcare benefit), and 14% were in other types of formal childcare (including school and home-based childcare) ([DREES, 2013](#)).

<sup>15</sup>In 2017, 97.5% of three-year-olds, 99.9% of four-year-olds, and 100% of five-year-olds were enrolled in school, according to data from the French Ministry of Education ([DEPP, 2018](#)).

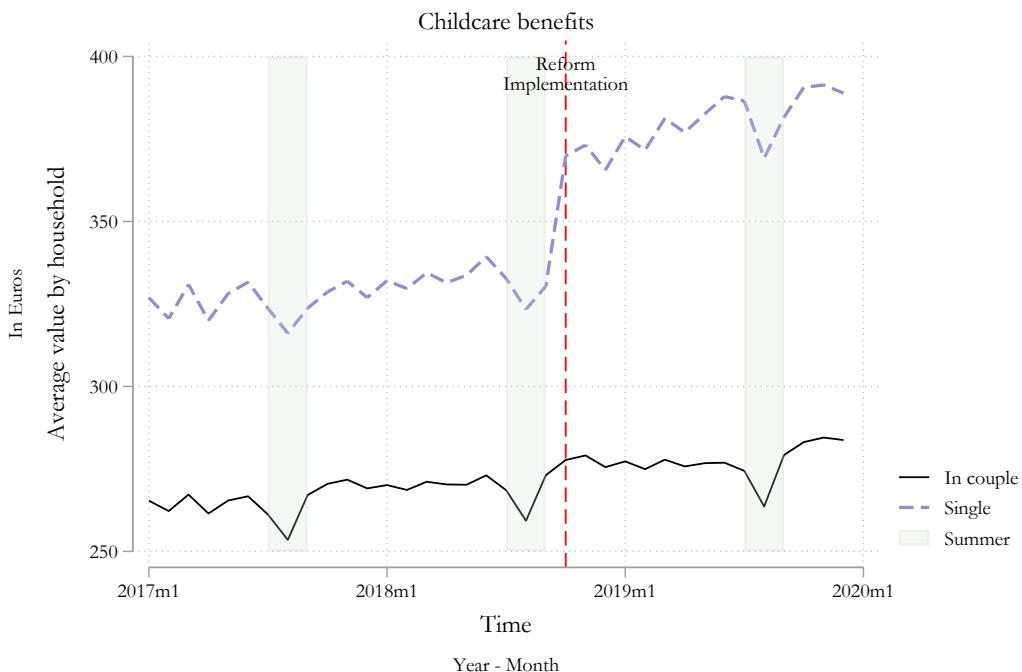
85% of the total childcare costs, hence reducing the financial burden of childcare and encouraging parental work, especially for mothers after childbirth.

Despite the existing public childcare facilities in France, their availability, proximity, and flexibility remain an issue. Indeed, slots are not available everywhere and involve fixed, inflexible opening hours. Then, the childcare facilities covered by the benefit are an alternative for many working parents who either do not have access to public services or require a more flexible childcare structure. As a result, childcare benefits may help alleviate the negative impact of childcare costs on mothers' time available for work.

## 4.2 The 2018 Policy Reform

On October 1st, 2018, a reform increasing the childcare benefit by 30% for single-parent households was implemented. Being a single-parent household is defined by the State Family Services as such if the individual lives alone in the home. The logic behind this reform was based on the fact that single parents, especially single mothers, faced disproportionate barriers on the labour market due to the high costs of childcare relative to their household income. In consequence, the reform aimed to address this issue by providing additional financial support to single-parent households with low-age children, who are overwhelmingly headed by women.

Figure 4: Evolution of CMG Benefits Over Time



**Notes:** Childcare benefits average monthly amount over time, depending on the family status. **Sources:** Publicly available data from the French State Services for Family website (*'Caisse d'allocation familiale'*).

Table 4 shows the average childcare benefit received over time depending on the familial status. It illustrates that the reform successfully increased the childcare benefit received by single-parent households while remaining unchanged for individuals in couple.<sup>16</sup>

## 5 Empirical Strategy

The increase in the benefit by reducing some of the financial constraints faced by single mothers could have affected their reservation wage, and time flexibility component during their job search. This section focuses on the empirical design adopted to assess the impact of the 2018 reform on the job search and re-employment outcomes of female job-seekers with young children.<sup>17</sup>

### 5.1 Difference-in-Differences approach

To capture the causal impact of the reduction in childcare constraints on women's job search behaviour, I measure the effect of the childcare benefit reform using a Difference-in-Differences strategy. Focusing on female job seekers with children below the age of three, I compare job search behaviour and re-employment outcomes between single mothers (treated by the reform) and mothers in couples (the control group), before and after the reform.

#### 5.1.1 Main Specification

The main equation is specified as follows:

$$Y_{i,j,g,t} = \alpha + \psi(Single_i \times Post_t) + \phi Single_i + \beta_1 X_{i,j,g,t} + \lambda_t + \lambda_j + \lambda_g \times \lambda_y + \epsilon_{i,j,g,t}, \quad (1)$$

where  $Y_{i,j,g,t}$  is the outcome of interest (such as the reservation wage or another job-search or re-employment characteristics) for job seeker  $i$  at quarter  $t$ , canton  $j$ , in urban area  $g$ . The variable  $Single_i$  is a binary variable equal to 1 if the job-seeker is a single mother (treated group), and 0 if she is in a couple (control group).  $Post_t$  is a post-reform indicator, equal to 1 for periods after October 1st, 2018, and 0 otherwise. The interaction term  $Single_i \times Post_t$  captures the differential impact of the childcare benefit reform on eligible mothers, with  $\psi$  the coefficient of interest. A positive  $\psi$  would imply that the reform had a positive effect on the outcome of interest.

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<sup>16</sup>The green-shaded periods correspond to the summer months, when many workers in France are on holiday, reducing the need for childcare.

<sup>17</sup>In this analysis, I only focus on single mothers, as single fathers with custody are both too few in France and a highly selective group, representing only 18% of single-parent households (a number probably even lower for single-parent households with low-age kids).

The vector  $X_{i,j,g,t}$  includes control variables adjusting for individual-level characteristics such as education level, age group, the number of children, a French nationality indicator, and the coverage rate of non-impacted childcare facilities interacted with the quarter.<sup>18</sup> These variables help to control for heterogeneity between the control and treated group. Additionally,  $\lambda_t$  represents time (quarter) fixed effects, while  $\lambda_g \times \lambda_y$  captures local labour market dynamics through geographical (at the urban areas level) and yearly fixed effects. It allows us to adjust for the local shock on the labour market like those induced by the yellow vest movement. The inclusion of  $\lambda_j$ , canton fixed effects, further controls for unobserved factors at the canton level, like local policy about childcare. Standard errors are clustered at the canton level.

Additionally, I estimate an event study approach to observe the treatment effect in each period relative to the pre-reform period, allowing me to discern the timing and persistence of the reform's impact. This approach provides a test of the parallel trends assumption by examining whether any pre-trends exist in the quarters before the reform.

$$Y_{i,j,g,t} = \alpha + \sum_{k \neq -1} \psi_k (Single_i \times 1(t = k)) + \phi Single_i + \beta_1 X_{i,j,g,t} + \lambda_t + \lambda_j + \lambda_g \times \lambda_y + \epsilon_{i,j,g,t}, \quad (2)$$

where  $k$  is the time-to-treatment index based on the registration at the French Employment Services. The coefficients  $\psi_k$  measure the difference in outcomes for single mothers relative to mothers in couples in each period  $k$  relative to the pre-reform baseline period.

### 5.1.2 Spatial Heterogeneity in Childcare Services availability

The reform's impact is expected to differ based on the local availability of private childcare services. Hence, I build a measure of the availability of childcare services impacted by the reform, computed as the ratio between the number of slots in those childcare services by the working-age population by cantons.<sup>19</sup> The data come from the data from the State Family Services, which contains detailed information about the number of slots available in childcare structures affected by the reform, as detailed in section A.3.

Figure 5 map the distribution of childcare availability across French cantons. Areas in darker shades indicate higher levels of childcare availability, while lighter shades represent lower availability. Figure 5 illustrates a strong heterogeneity in France in terms of private childcare availability. Table D.3 confirms the validity of the childcare availability measure,

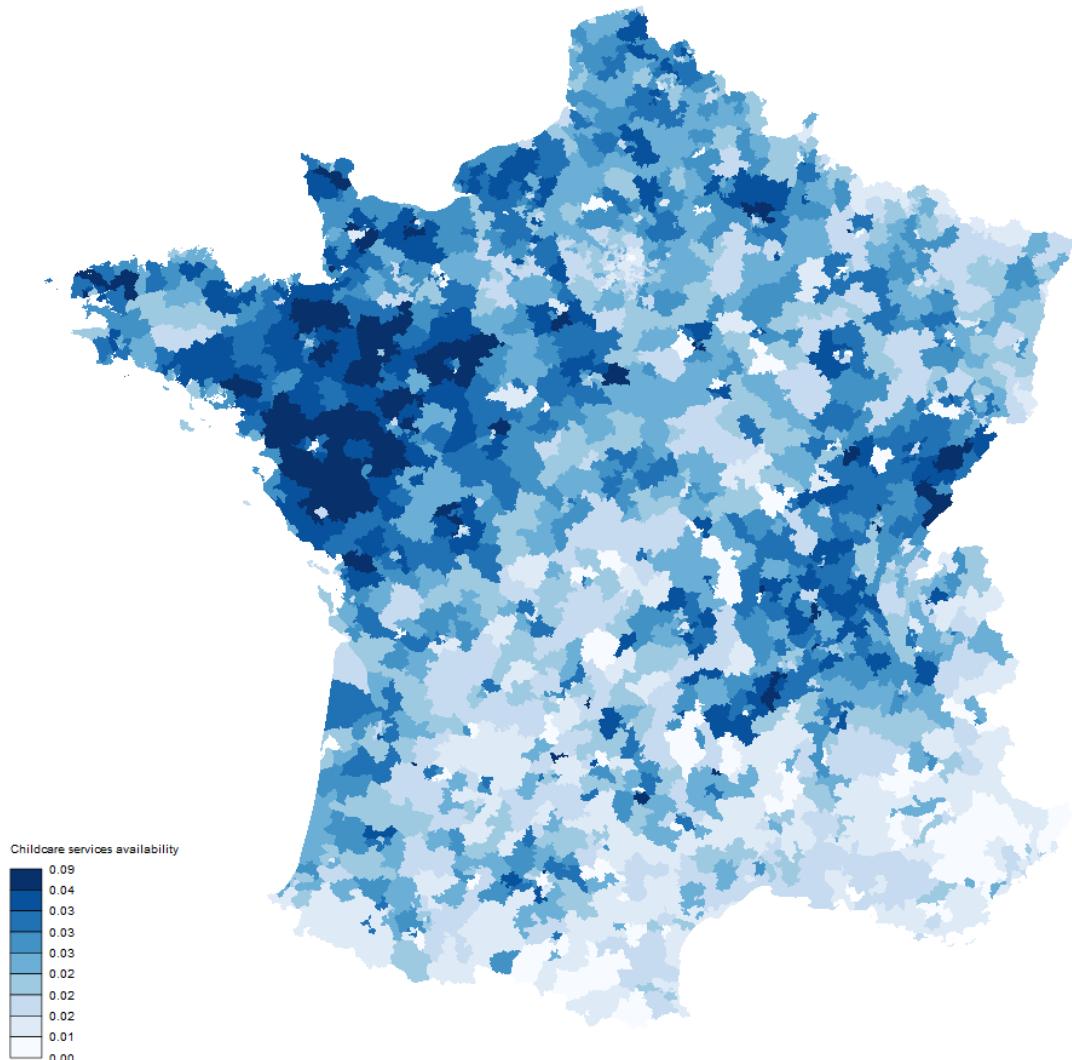
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<sup>18</sup>As this last control could be endogenous if the reform leads to substitution between public and private childcare, Table D.4 in Appendix D.4 confirms that the results are similar when I do not adjust for the time-varying coverage rate in non-impacted childcare facilities.

<sup>19</sup>Cantons are groups of municipality (more than 1900 in France), providing a more detailed spatial measure compared with commuting zones or urban areas.

as the likelihood of indicating childcare as a reason for work-related issues decreases the higher the childcare availability.

Figure 5: Spatial variation in childcare availability



**Notes:** Measure of childcare services impacted by the reform availability, in 2017. **Sources:** Publicly available data from the [French State Services for Family website \('Caisse d'allocation familiale'\)](#).

I expect the reform's effect to be stronger in areas where childcare services are readily available. In consequence, I focus the analysis mainly on areas where the impacted childcare availability is at or above the second quartile, where women can increase their childcare use following the reform. Besides, I analyse the heterogeneity of the results by comparing it to those in areas with lower availability (1st quartile of the measure).<sup>20</sup> The results primarily focuses on areas where childcare availability is at or above the second quartile, allowing women to increase their use of childcare following the reform. I also

<sup>20</sup>See Figure B.2 for the spatial repartition of areas below or above the first quartile.

explore the heterogeneity of the results in local areas with limited childcare availability (those in the first quartile of the measure). In addition, I perform a series of sensitivity analyses using alternative measures and cut-offs, in Table D.4, in Appendix D.4.

### 5.1.3 Sample selection

The sample is restricted to women aged 25-55, to exclude job seekers with unemployment spells during their studies, and those with pre-retirement strategies. As detailed in section 5.2, to avoid compositional bias following the reform, I focus on job-seekers who are receiving unemployment insurance (UI) benefits. Additionally, to analyse the impact of the reform, I restrict the sample to job-seekers who have children under the age of three and who are not looking for a job in childcare services.

## 5.2 Identification: Assumptions and Threats

Several potential threats to identification are addressed in the following section. I start by providing evidence of the validity of the parallel trend assumption, the credibility of the control group, and the absence of anticipation effects. Next, I discuss the issue of other simultaneous family policies, followed by a discussion of potential selective registration at the French Employment Services.

### Parallel trends assumption

The main identifying assumption is that, in the absence of the policy change, the trends in job search for single mothers and mothers in couples would have evolved similarly. Figure D.3 in Appendix D.2 supports this idea, as we can see that before the reform was implemented, trends for our main outcomes of interest, the reservation wage, were similar. Besides, in the section 6, the event study design further supports the parallel trends' assumption.

### Credibility of control group

One potential concern could be the credibility of the control group since one might wonder whether the effects on single women would spill over to the in-couple women. Indeed, if the reform pushes single women to switch from public childcare facilities toward private childcare services impacted by the reform, it may free up space for non-single mothers. Data allowing to test this are not available, however, following the logic detailed in sub-section 6.2.4, if the reform had enabled women in relationships to switch to the more affordable public childcare option, it would likely lower their reservation wages and increase their labour market flexibility. Therefore, if this shift had occurred, the results presented in this paper would represent a lower bound of the reform's real impact. In

Figure D.8, I focus on a subsample of areas with high coverage of public childcare facilities (See Appendix section A.3 for more details). In these areas, no shift from private to public childcare would be expected for women in couples, as public childcare was already widely available. The results indicate a similar, though slightly stronger, average treatment effect, suggesting that such a switch likely did not occur and otherwise, it would have introduced a downward bias in my estimates.

Additionally, the reform could change the opportunity cost of being single by making this situation more attractive. Using data from the French Labour Force Survey (detailed in Appendix A.3), Table D.1 in Appendix D.2 shows that there is no significant change in the relationship status following the reform.

Another concern is that single mothers and mothers in couples may differ. Figures D.4 and D.5 in Appendix D.2 plot the standardized beta coefficients of bi-variate regressions of the observed characteristics on the treatment status. Treated and control groups appear to be very similar and balanced over the majority of individual characteristics as most coefficients are either insignificant or show only minor differences. The only notable exceptions are the number of children, which is lower for single women, and the education level, higher among women in couples. To address this concern, I include a set of control variables that account for demographic and household characteristics, including the education level and number of children, as well as fixed effects that capture time-invariant factors at local levels.

### **Anticipation effects and placebo tests**

It is also possible that job-seekers might have anticipated the reform at the moment of the announcement and changed their behaviour before the official implementation date. In Figure D.7 I focus on a pre-reform subsample to conduct the difference-in-difference analysis in equation (1) with phantom events, including the reform's announcement. The results in Figure D.7 show that all phantom treatment effects are not significant and close to zero, supporting the validity of the identification strategy.

### **Other simultaneous family policy**

Finally, in September 2019, the French law lowered the compulsory school age from six to three. If not considered, it could be responsible for part of the average treatment effect observed. However, this bias is not likely to exist as in 2017 97.5% of three-year-olds, 99.9% of four-year-olds, and 100% of five-year-olds were already enrolled in kindergarten (DEPP, 2018).

## Selective registration at the French Employment Services

Another threat to the difference-in-differences identification strategy is endogenous sorting or individuals. Single job-seekers may increase their labour supply following the reform, which could be reflected in a higher likelihood of registering with the French Employment Services if they were previously unemployed. The captured effect would then be driven by this compositional change and most likely create an upward bias. As registration at the French Employment Services is mandatory to claim unemployment insurance, to account for this, I focus only on job-seekers receiving unemployment insurance, for which the non-take-up rate is low.<sup>21</sup> The underlying logic is to limit the potential self-selection by restricting the sample to individuals already engaged with the unemployment system, to ensure that the observed effect can be attributable to the reform itself rather than shifts in labour market participation or registration behaviour.

To further ensure that the reform did not increase the likelihood of single job-seekers with young kids registering with the French Employment Services or receiving Unemployment Insurance, I use the French Labour Force Survey (Details in section A.3). Table D.2, in Appendix D.2 shows that the reform does not increase the likelihood of single women with young children registering at the French Employment Services or receiving unemployment insurance.

Finally, Figure D.6 shows the coefficients of the interaction term between treatment status and the post-reform period on the individual characteristics. The results in Figure D.6 demonstrate that the reform does not cause a significant change in characteristics for the treated group relative to the control group.

## 6 Results

In this section, I estimate the causal impact of the rise in childcare benefits on the female job search. I first verify the impact of the reform on childcare constraints using the French Labour Force Survey. Then, I assess the policy impact on the female job search, by focusing successively on the reservation wage, other job search outcomes related to the amenities, and re-employment outcomes. I divide the sample into two groups based on the availability of local childcare services.

### 6.1 Work-related Childcare Problems

As a first-stage exercise, I ensure that the reform alleviated childcare constraints using the French Labour Force Survey (detailed in Appendix A.3). Table 2 presents the reform's

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<sup>21</sup>The non-take up rate of Unemployment Insurance in France is around 30% for the sample similar to ours (Hentzgen et al., 2022).

negative impact on the likelihood of encountering work-related childcare problems. Column (1) confirms that the reform consistently reduced childcare-related work issues by approximately 2.46 percentage points among single mothers with young children. When the sample is restricted to areas with childcare availability (Column 2), the effect is amplified, suggesting that the reform's effect was partly driven by access to childcare services. In Column (3), the interaction term between the post-reform period and single mothers indicates that the reform had a stronger impact on single mothers.<sup>22</sup>

Table 2: Impact of the reform on Work-related childcare problems

	(1)	(2)	(3)
<b>Work-related childcare problems</b>			
<i>Post Reform</i>	-0.0246** (0.0123)	-0.0406*** (0.0156)	-0.0182*** (0.0042)
<i>Post Reform × Single</i>			-0.0212* (0.0128)
<i>Observations</i>	6,389	3,905	38,121
<i>R-squared</i>	0.7138	0.7258	0.7372
<i>Sample of single women with young kid</i>	✓	✓	
<i>Indiv. FE</i>	✓	✓	✓
<i>Local FE</i>	✓	✓	✓
<i>Excluding areas without childcare availability</i>		✓	✓

**Note:** French Labour Force Survey (2017-2019). \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. OLS estimation of the likelihood of indicating work-related childcare problems. The specifications include both individual and local (Urban Areas) fixed effects. Columns (1) and (2) restrict the sample to single women with young kids, who are the ones impacted by the reform. In columns (2) and (3), I restrict the sample to areas with childcare availability (without the first quartile of the measure).

## 6.2 Reservation Wage

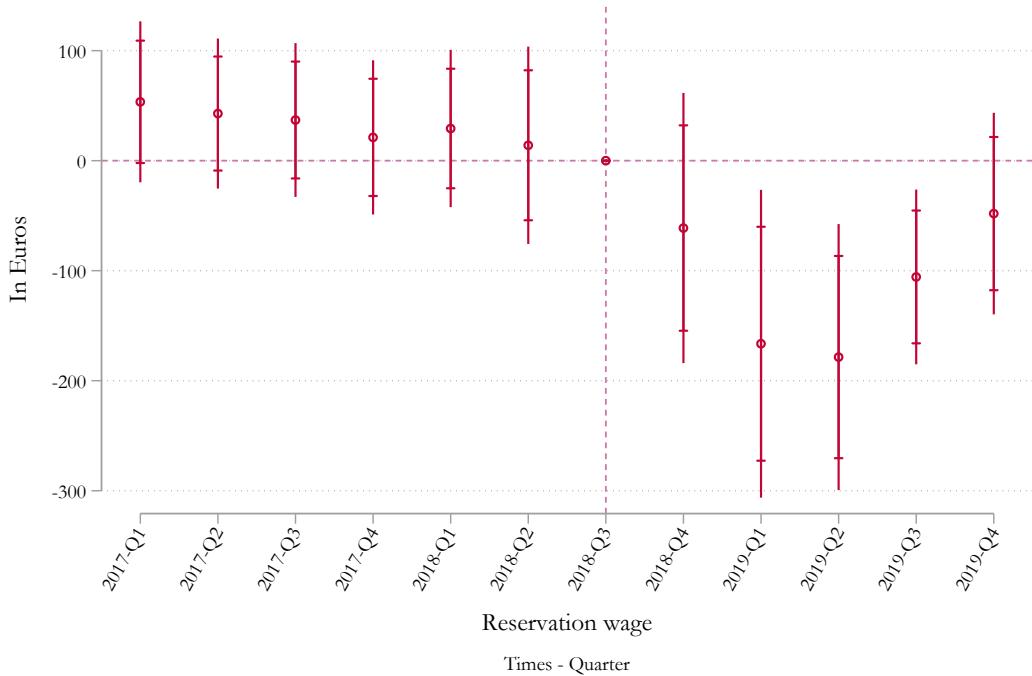
This paper mainly focuses on the impact of the reduction in childcare constraints on the reservation wages of mothers with young children.

<sup>22</sup>Column (3) in Table 2 show that the post reform period also led to a decrease in work-related childcare problems, even if this effect is stronger for women. Hence, the reform's effects on reducing work-related childcare issues extended beyond the targeted group of single mothers is explained in Figure B.3 in Appendix B illustrates trends in the availability of childcare slots relative to the number of births in France from 2014 to 2019. While the number of childcare slots has remained relatively stable, the number of births has been decreasing, leading to a reduction in childcare constraints. Furthermore, placebo tests in Appendix D.2, Figure D.7, confirm that the stronger effect of the reform on single women is not due to a stronger reaction to reduced childcare constraints.

### 6.2.1 Baseline results

In Figure 6, which plots the reservation wage coefficient of the event study estimation from equation (2), the trend shows that reservation wages decreased for eligible women following the reform, with a significant decline observable from the first quarter of 2019 onward. The average treatment effect on the treated, estimated by (1) is about 140 euros. This decline is consistent with the findings of [Carta and Rizzica \(2018\)](#), who find that lowering the age of subsidized childcare eligibility to two-year-olds in Italy led to a decrease in mothers' reservation wage. The elasticity observed in the present study is also consistent with [Carta and Rizzica \(2018\)](#), who find an elasticity of the reservation wage with respect to childcare costs between 0.25 and 0.91. In this study, the reform theoretically introduced a 30% increase in childcare benefits. However, as shown in Figure 4, which plots the average value of childcare benefits by household, the actual take-up rate suggests an increase of about 16% (from 328 to 380 euros). This discrepancy arises because the benefit is capped at 85% of childcare costs. Consequently, this translates into an elasticity of 0.25 based on the theoretical increase in benefits and 0.5 when using the observed increase. The drop in reservation wages indicates that single mothers have a lower minimum wage at which they are willing to accept a job offer, following the decreased costs in childcare services.

Figure 6: Impact of the reform on reservation wage

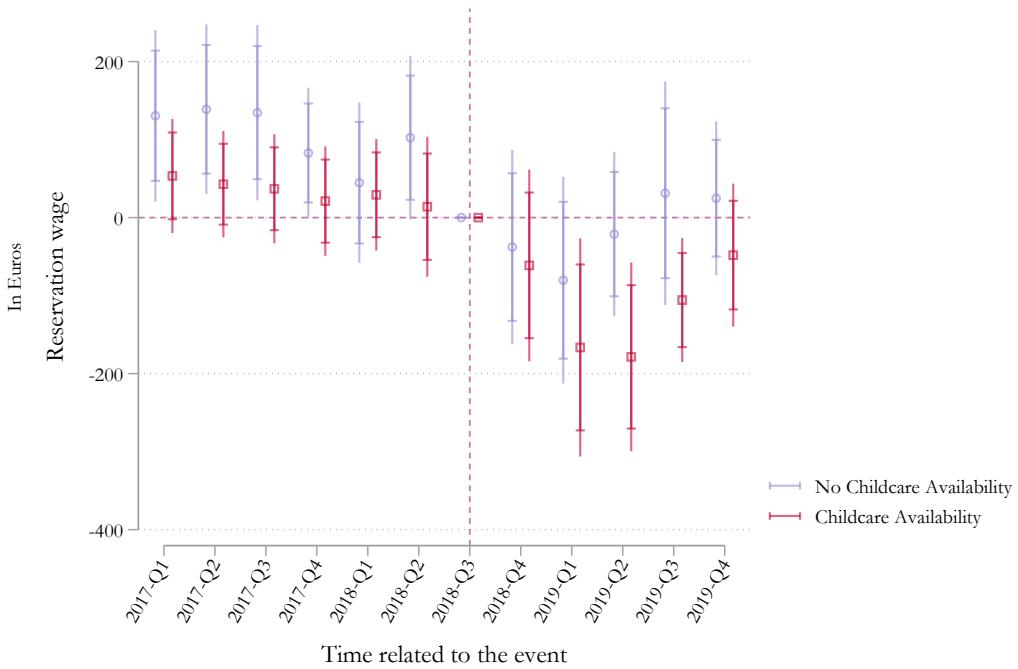


**Notes:** This graph plots the estimates and 95% as well as 90% confidence intervals from equation (2). The outcome is the reservation wage in euros.

### 6.2.2 Heterogeneity in childcare availability

However, the impact of the reform depends on the availability of childcare services accessible to job seekers. An increase in benefits will have a limited impact if the job seeker anticipates that she cannot increase her use of childcare services both at the intensive and extensive margin. This heterogeneous impact is illustrated in Figure 7, showing that the effect of the reform on the reservation wage depends on childcare availability. Hence, in areas without childcare availability (1st quartile of the measure, as explained in Section 5.1.2), the decrease in reservation wages is less important, though still significant when estimated by (1), in Table D.4.

Figure 7: Impact of the reform on reservation wage - Childcare availability heterogeneity



**Notes:** This graph plots the estimates and 95% as well as 90% confidence intervals from equation (2). The outcome is the reservation wage in euros.

Table D.4, in Appendix D.4, shows the robustness of the reform's negative impact on reservation wages with different definitions of childcare availability and specifications. Results are similar when (i) public childcare coverage are not adjusted for, (ii) the measure of childcare availability is only based on childminders (the most popular type of childcare impacted by the reform), (iii) defining availability as the ratio of available childcare slots to young children, or (iv) applying alternative cut-offs for availability. Lastly, the triple-difference approach, indicates that higher continuous exposure to childcare services amplifies the reform's impact on reservation wages.

### 6.2.3 Additional analysis

Besides, an important pattern at the tails of the reservation wage distribution is observed, as suggested in Section 3. Consistently, Figure D.9 in Appendix D.3 shows that these results are driven by women in the second half of the reservation wage distribution. Indeed, as indicated in Figures B.6 and B.5 in Appendix B.2, an important share of women indicate a reservation wage equals to the gross minimum wage (around 1500 euros in France over the period). These women are constrained by the minimum wage and cannot adjust their reservation wage following the reform.

Additionally, partnered women with young children appear to be the most suitable control group for single mothers with young children, particularly in terms of characteristics, as discussed in Section 5.2. However, I test the robustness of my results against different control group in Table D.5, in Appendix D.4. Lastly, Table D.6 in Appendix D.4 confirms the consistency of the results across various specifications (i) including fixed-effects for past occupation and control for past wage, (ii) on a sample of parents with only one child, (iii) adjusting for the unemployment time before registration. Another potential mechanism that could explain this result could be linked to an increase in female labour supply following the reform, which could strengthen competitiveness in the labour market. I then control for the occupation-specific, monthly tightness of the local labour market, however the result remains unchanged (Table D.6).

### 6.2.4 Theoretical intuitions

The theoretical intuition behind this result is that the change in childcare costs modifies the incentives for the impacted job-seekers, by making employment more appealing. One of the key conditions for receiving the childcare benefit is that individuals must use formal childcare services. While unemployed, job seekers may opt to look after their children themselves, avoiding the cost of childcare. However, once employed, they must rely on formal childcare, making the benefit more valuable when re-employed.

Additionally, private childcare services (impacted by the reform), although more flexible regarding hours and timing, are often more expensive than public childcare. Then, job seekers may be more likely to use public childcare services when unemployed, for which they also have a priority. However, once re-employed, they might need to switch to private childcare to accommodate standard work hours, thereby increasing the necessity and received value of the childcare benefit. This shift in childcare needs indicates that the benefit significantly reduces the cost of returning to work, enhancing the expected utility of employment.

These two dimensions are illustrated in Figure B.4 in Appendix B, which shows that both the take-up rate and the value of the benefit are higher once individuals return to

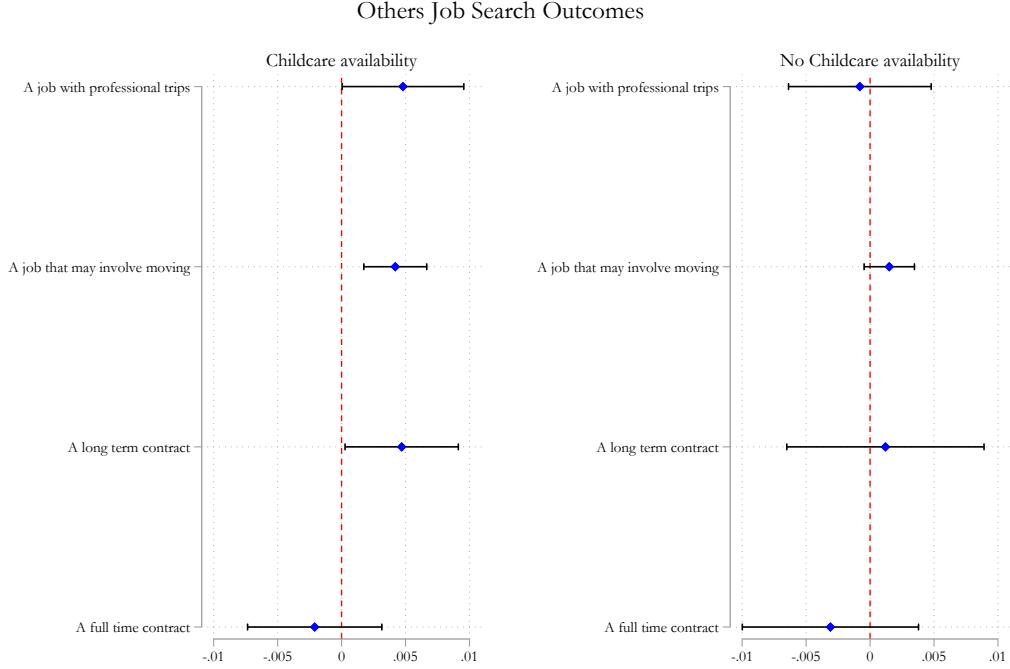
work. By increasing the expected utility of employment, the reform enhances the disposable income and personal value associated with finding a job, as the added childcare support reduces the costs and logistical challenges of balancing work and family responsibilities. This increase in the utility of employment then reduces the reservation wage, which is the minimum wage that job seekers are willing to accept as explained in a standard model à la [McCall \(1970\)](#).

### 6.3 Other Job Search Outcomes

Figures 8 and 9 depict the reform's effect on other job search outcomes, particularly linked to the temporal flexibility of the job seeker.

Figure 8 indicates that the reform did not have a significant impact on the likelihood of targeting a full-time contract. However, flexibility encompasses more than just the choice between part-time and full-time work. Thanks to the text analysis on the description of the targeted occupation detailed in Section 2.2, I extract information on flexibility related to the amenities of the job. More specifically, Figure 8 demonstrates that the reduction in childcare constraints enabled affected women to be more likely to target occupations involving professional trips or moving. Besides, the reform also led to a higher likelihood of targeting a long-term contract for treated women, which refers to the stability of the job. Nevertheless, this increase in flexibility and stability only occurred in areas with childcare availability.

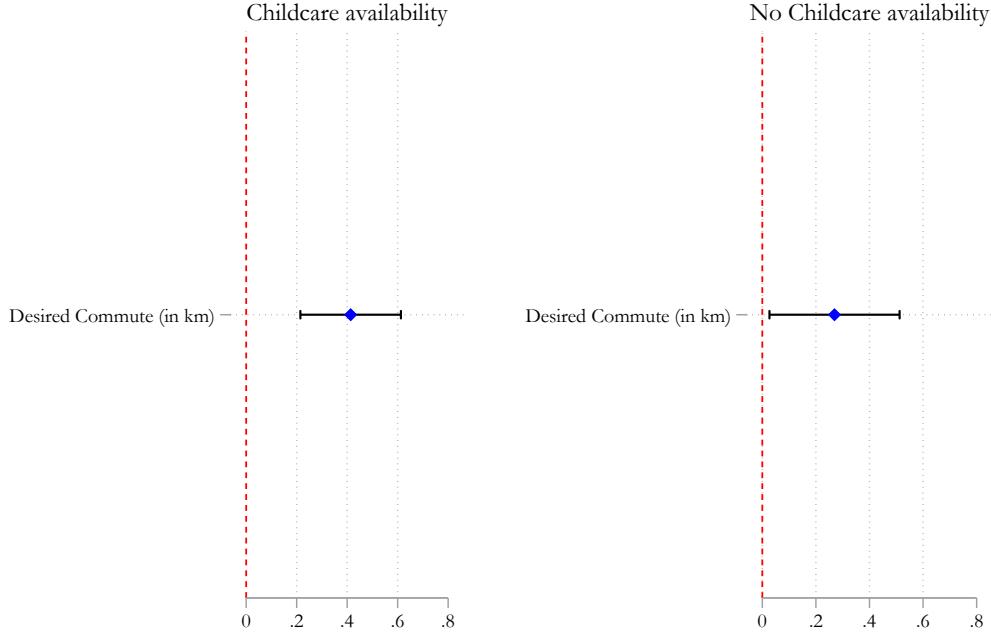
Figure 8: Impact of the reform on the flexibility during the job search



**Notes:** These graphs plot the estimates of the interaction term between the post-reform period and a binary indicator for single women (treated) and 95% as well as 90% confidence intervals from equation (1). The outcomes are the likelihood to indicate a desired occupation requiring professional trips, that may involve moving, to target a long-term contract and a full-time contract at the moment of the registration. Equation (1) is estimated separately for areas with and without childcare availability (first quartile of the measure).

Likewise, Figure 9 highlights an increase in the desired maximum commuting distance following the reform. Notably, the impact is more important in areas with childcare availability, since the desired commute increased by more than 0.4 km in cantons with childcare available and less than 0.3 km in cantons without for treated women. This result suggests that the reform expanded job seekers' geographic scope by reducing childcare-related constraints.

Figure 9: Impact of the reform on the flexibility during the job search



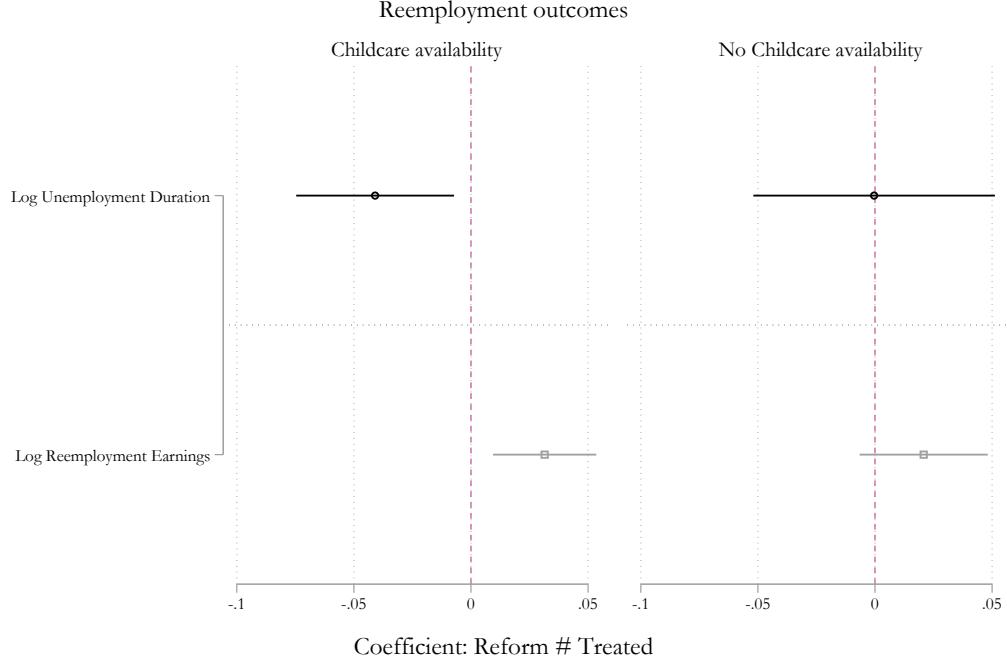
**Notes:** These graphs plot the estimates of the interaction term between the post-reform period and a binary indicator for single women (treated) and 95% as well as 90% confidence intervals from equation (1). The outcome is the maximum desired commute in km. Equation (1) is estimated separately for areas with and without childcare availability (first quartile of the measure).

## 6.4 Reemployment Outcomes

Figures 10 and 11 focus on the effects of the reform on re-employment outcomes. While for previous results, the post-reform period was identified by the registration date at the French Employment Services, to examine the reform's impact on re-employment outcomes, I exclude individuals whose unemployment spells overlapped the pre and post-reform periods. Table D.7 in Appendix D.4 shows that most of the significant results described above remain consistent using this alternative sample.

Figure 10 illustrates that the reform reduced unemployment duration by 4%, in areas with childcare availability, indicating that single mothers were able to find jobs more quickly after the reform. Additionally, women affected by the reform experienced an increase of 3% in their re-employment earnings. In contrast, no significant impact is observed in areas without childcare availability.

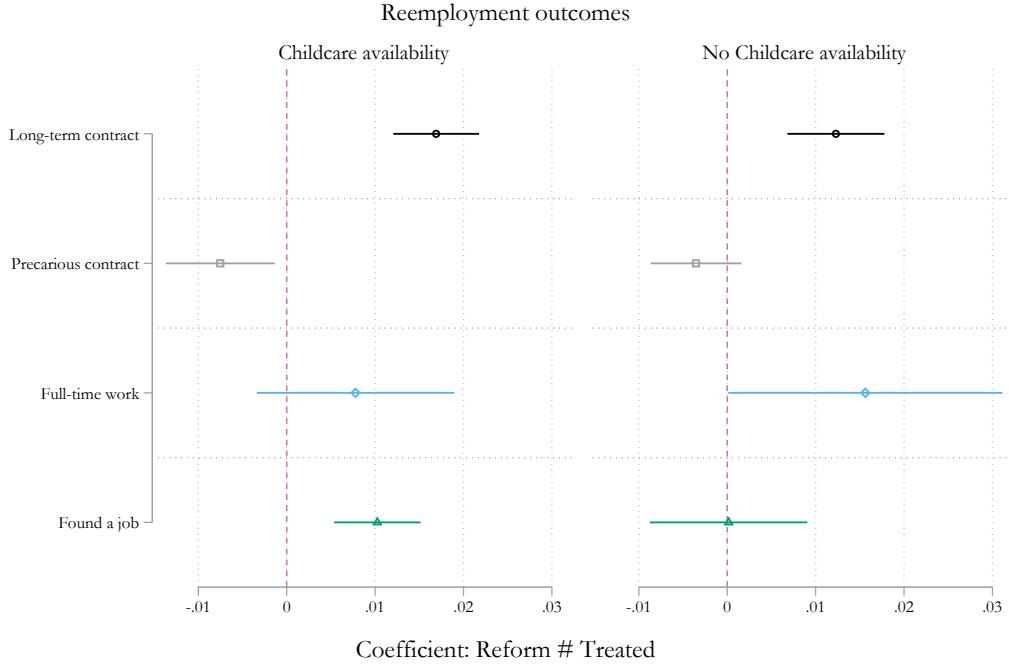
Figure 10: Impact of the reform on re-employment outcomes



**Notes:** These graphs plot the estimates of the interaction term between the post-reform period and a binary indicator for single women (treated) and 95% as well as 90% confidence intervals from equation (1). The outcomes are the log unemployment duration and log re-employment earnings. Equation (1) is estimated separately for areas with and without childcare availability (first quartile of the measure).

Figure 11 shows that the reform also improved job stability in re-employment, especially in areas where childcare are available. Following the increase in childcare benefits, mothers are more likely to secure stable jobs, such as long-term contracts, and less likely to obtain precarious contracts. Overall, single women are more likely to give the reason for cancelling their unemployment spell with the French Employment Services as having found a job. This effect is consistent with the improved job search outcomes observed earlier, as the reform allowed individuals to expand their job search allowing later to secure better employment opportunities.

Figure 11: Impact of the reform on re-employment outcomes



**Notes:** These graphs plot the estimates of the interaction term between the post-reform period and a binary indicator for single women (treated) and 95% as well as 90% confidence intervals from equation (1). The outcomes are the likelihood of being re-employed with a long-term contract, with a precarious contract, in a full-time contract and the likelihood of finding a job. Equation (1) is estimated separately for areas with and without childcare availability (first quartile of the measure).

Hence, the results therefore suggest that the reform has not only improved job search outcomes but has also helped jobseekers obtain more stable jobs when re-employed. The negative impact on the duration of unemployment and the positive impact on job stability highlight the effectiveness of the reform in alleviating the childcare constraints restricting mothers during their job search. Indeed, with a lower reservation wage and a willingness to consider a wider range of commutes and flexibility, job seekers broaden their range of employment opportunities, enabling them to access more stable jobs.

## 7 Conclusion

In this paper, I analyse the determinants of the reservation wage of women, focusing especially on the importance of childcare constraints. First, in a descriptive analysis, I decompose the gender gap in reservation wage and show that amenities in the targeted occupation explain an important share of this gap. To disentangle the role of childcare constraints, I analyse the impact of a reform in 2018, increasing childcare benefits in France for single women. I find that the decrease in childcare constraints impacted both job search outcomes and re-employment stability.

By reducing childcare constraints, the reform led the treated mothers to decrease their reservation wages and unemployment duration, expand their flexibility, and secure more stable employment. However, the impact of the reform is not uniform geographically as it depends on childcare availability at the local level, highlighting the importance of combining policies of childcare benefits with childcare expansion.

The results indicate that temporarily alleviating childcare constraints during a vulnerable period for mothers, the motherhood penalty, influences their job search behaviour, and their re-employment outcomes. Especially, by reducing childcare burdens, the reform enables single mothers to find better-quality jobs.

However, in this setting, the estimated effect is an average treatment effect on the treated, as the reform impacted single mothers, who may respond more strongly to the reform compared to women in couples since they face stronger childcare constraints. Hence, future research could focus on analysing the role of childcare constraints in the job search of other groups.

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# Appendix

## A Data

I start by providing details on the additional data used to complement the set of covariates or to test for the robustness of the results.

### A.1 Collected data on job description

In addition to the administrative data, I complement the data with information on job descriptions from the French Employment Services' website. Specifically, I collect information on each of the 532 occupation descriptions using text analysis tools. Figures A.1, A.2, A.3, A.4, A.5, shows an example with the translated job description for the “Journalist” occupation.

Figure A.1: Job description: Journalist

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<b>❖ Designations</b>			
<input type="checkbox"/> Editorial assistant <input type="checkbox"/> Editor <input type="checkbox"/> Head of section <input type="checkbox"/> Foreign press correspondent <input type="checkbox"/> Local press correspondent <input type="checkbox"/> Art critic, cinema, theatre, literature, music <input type="checkbox"/> Cyber-journalist <input type="checkbox"/> Information Director <input type="checkbox"/> Managing Editor <input type="checkbox"/> Editorialist <input type="checkbox"/> Special Press Envoy <input type="checkbox"/> Grand reporter / Grande reportrice <input type="checkbox"/> Journalist	<input type="checkbox"/> Journalist in charge of publication <input type="checkbox"/> Corporate journalist <input type="checkbox"/> "City communication" journalist <input type="checkbox"/> Audiovisual journalist <input type="checkbox"/> Print journalist <input type="checkbox"/> Radio journalist <input type="checkbox"/> Local journalist <input type="checkbox"/> Journalist on line! <input type="checkbox"/> Journalist / radio presenter <input type="checkbox"/> Journalist presenter / TV presenter <input type="checkbox"/> Journalist editor/writer <input type="checkbox"/> Journalist / Agent	<input type="checkbox"/> Journalist reporter <input type="checkbox"/> Scientific journalist <input type="checkbox"/> Specialist / specialist journalist <input type="checkbox"/> press correspondent <input type="checkbox"/> Territorial journalist <input type="checkbox"/> Web journalist <input type="checkbox"/> Photojournalist <input type="checkbox"/> Freelancer <input type="checkbox"/> Editor <input type="checkbox"/> Sports journalist <input type="checkbox"/> Editor-in-Chief <input type="checkbox"/> Deputy Editor-in-Chief <input type="checkbox"/> Editor rewriter translator	<input type="checkbox"/> Reporter / Reporter <input type="checkbox"/> Reporter /photographer <input type="checkbox"/> Cartoonist reporter <input type="checkbox"/> Editorial / editorial manager <input type="checkbox"/> On-line editorial / editorial manager <input type="checkbox"/> Editorial / web editorial manager <input type="checkbox"/> Editorial secretary <input type="checkbox"/> Desktop publishing editorial secretary <input type="checkbox"/> General secretary / general editor <input type="checkbox"/> Stenographer editor / writer <input type="checkbox"/> Webmaster editorialist <input type="checkbox"/> Translator / Editor

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Figure A.2: Job description: Journalist

<b>❖ Definition</b>					
Collects, verifies and processes information and news on a given subject with a view to its dissemination in the media in accordance with the guidelines of the information structure, ethical rules and information regulations. May define the information policy of the structure. Can lead a team.					
<b>❖ Acces to the job</b>					
This job is accessible with a Bachelor's or Master's degree in journalism, political science or communication. It is also accessible with professional experience in a specific sector (sport, fashion, medicine, finance, etc.) and writing skills without any particular diploma. Technical, scientific, legal or economic training may be required. A professional journalist's card may be required. A foreign language, in particular English, may be required.					
<b>❖ Working condition</b>					
The activity of this job is carried out within press organs, production companies, communication departments of companies, or as a freelancer... It implies travels and can require a distance of several days away from home for several days (reporting) or a residence abroad (press correspondent). It varies according to the type of media and support (press, television, radio, Internet, etc.), the type of treatment (editorial, video, photographic report, etc.), the frequency of distribution (daily, weekly, monthly, etc.) and the type of information (political, scientific, etc.). It can be carried out at weekends, on public holidays or at night. The activity may take place in risky areas (natural disasters, conflict zones, etc.).					
<b>❖ Basic Skills</b>					
<table border="1"> <thead> <tr> <th>Expertise</th> <th>Knowledge</th> </tr> </thead> <tbody> <tr> <td> <input type="checkbox"/> Selecting the theme of a media broadcast  <input type="checkbox"/> Identify sources and locations of information  <input type="checkbox"/> Process collected information (verification, cross-checking, analysis)  <input type="checkbox"/> Gathering information from surveys, reports and interviews  <input type="checkbox"/> Send an article for correction, printing and distribution  <input type="checkbox"/> Writing a press article  <input type="checkbox"/> Develop a network of partners                 </td> <td> <input type="checkbox"/> General culture/ Cultural field  <input type="checkbox"/> Economy  <input type="checkbox"/> Beauty and cosmetics  <input type="checkbox"/> Environment / nature  <input type="checkbox"/> Sports culture  <input type="checkbox"/> Practical life area  <input type="checkbox"/> Fashion and clothing styles                 </td> <td> <input type="checkbox"/> Physical-chemical and experimental sciences  <input type="checkbox"/> Political Science  <input type="checkbox"/> Exact sciences  <input type="checkbox"/> Engineering sciences and techniques  <input type="checkbox"/> Linguistics                 </td> </tr> </tbody> </table>	Expertise	Knowledge	<input type="checkbox"/> Selecting the theme of a media broadcast <input type="checkbox"/> Identify sources and locations of information <input type="checkbox"/> Process collected information (verification, cross-checking, analysis) <input type="checkbox"/> Gathering information from surveys, reports and interviews <input type="checkbox"/> Send an article for correction, printing and distribution <input type="checkbox"/> Writing a press article <input type="checkbox"/> Develop a network of partners	<input type="checkbox"/> General culture/ Cultural field <input type="checkbox"/> Economy <input type="checkbox"/> Beauty and cosmetics <input type="checkbox"/> Environment / nature <input type="checkbox"/> Sports culture <input type="checkbox"/> Practical life area <input type="checkbox"/> Fashion and clothing styles	<input type="checkbox"/> Physical-chemical and experimental sciences <input type="checkbox"/> Political Science <input type="checkbox"/> Exact sciences <input type="checkbox"/> Engineering sciences and techniques <input type="checkbox"/> Linguistics
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Figure A.3: Job description: Journalist

<b>❖ Basic Skills</b>															
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Figure A.4: Job description: Journalist

❖ Specific skills		Knowledge	
<input type="checkbox"/> Foreign language - Czech	<input type="checkbox"/> Foreign language - Serbian (Iekavian version)	<input type="checkbox"/> Foreign language - Moldovan	<input type="checkbox"/> Foreign language - Italian <input type="checkbox"/> Foreign language - Portuguese
<input type="checkbox"/> Foreign language - Turkish	<input type="checkbox"/> Foreign language - Slovenian	<input type="checkbox"/> Foreign language - Dutch	<input type="checkbox"/> Foreign language - Japanese
<input type="checkbox"/> Foreign language - Ukrainian	<input type="checkbox"/> Foreign language - Slovak	<input type="checkbox"/> Foreign language - Norwegian	<input type="checkbox"/> Foreign language - Macedonian language
<input type="checkbox"/> Foreign language - Russian	<input type="checkbox"/> Foreign language - Swedish	<input type="checkbox"/> Foreign language - Polish	<input type="checkbox"/> Foreign language - Lithuanian
<input type="checkbox"/> Selecting illustrations for an article		A	<input type="checkbox"/> Iconographic research
<input type="checkbox"/> Produce a photographic or film report of an event		A	<input type="checkbox"/> Camera use <input type="checkbox"/> Camera use
<input type="checkbox"/> To fly a drone in the context of data capture, transport of loads, ...		Ri	<input type="checkbox"/> Professional drone pilot authorization <input type="checkbox"/> Shooting techniques <input type="checkbox"/> Characteristics of the shooting equipment <input type="checkbox"/> Remote control camera equipment <input type="checkbox"/> 3D modelling
<input type="checkbox"/> Presenting information at a microphone or on camera		Ec	
<input type="checkbox"/> Leading debates, institutional events on a theme		S	
<input type="checkbox"/> Proofread, revise or correct copies		Ci	

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Figure A.5: Job description: Journalist

❖ Specific skills		Knowledge			
Expertise					
<input type="checkbox"/> Making a layout model		Ca	<input type="checkbox"/> Typography		
<input type="checkbox"/> Ensure that an editorial line is respected		C			
<input type="checkbox"/> Monitor and control the production of a newspaper (signature of press releases, deadlines, production, etc.) until it is distributed		C	<input type="checkbox"/> Graphic string		
<input type="checkbox"/> Leading an essay		E	<input type="checkbox"/> Management		
❖ Work environments					
Structures	Sectors	Conditions			
<input type="checkbox"/> Art agency (photo library) <input type="checkbox"/> Press agency <input type="checkbox"/> Territorial authorities <input type="checkbox"/> Company <input type="checkbox"/> Audiovisual and film production company <input type="checkbox"/> Press release <input type="checkbox"/> Organisation	<input type="checkbox"/> Administration / State services <input type="checkbox"/> Edition <input type="checkbox"/> Internet and Multimedia <input type="checkbox"/> Press <input type="checkbox"/> Radio <input type="checkbox"/> Television	<input type="checkbox"/> Freelance work			
❖ Professional mobility					
Related jobs / occupations					
ROME		Related ROME			
<input type="checkbox"/> All designations		<input type="checkbox"/> E1103 - Communication - Information and Communication Officer			
<input type="checkbox"/> E1106 - Journalism and Media Information - Rewriter translator / Rewriter translator		<input type="checkbox"/> E1108 - Translation, interpreting - Translator			

Pôle emploi - General Management

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**Notes:** Job description of journalist, created by Pôle Emploi and available at the following link: <https://www.pole-emploi.fr/candidat/découvrir-le-marché-du-travail/les-fiches-métiers.html>.

Figure A.6 shows the difference between the word frequency in the category of "Working-

*condition*" in job descriptions targeted by women compared to the one targeted by men.

Figure A.6: Wordcloud of gender difference in working-condition (men-women)



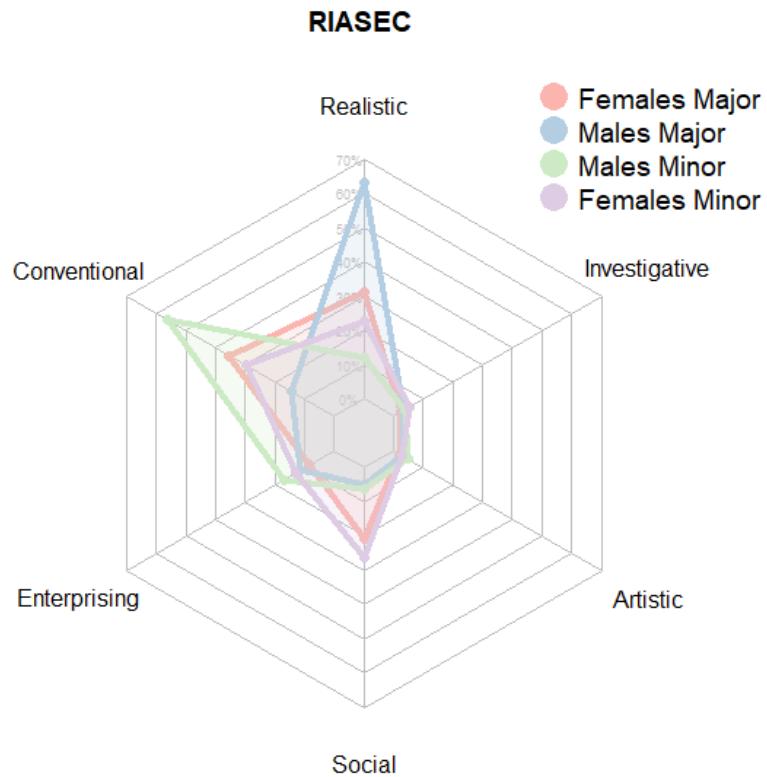
**Notes:** Translated wordcloud of the difference between men and women word frequency, for the "*working-condition*" category of job description.

On the job descriptions, I also gather information about Holland's occupational themes for each job. Also called the RIASEC classification, the seminal work of [Holland \(1966\)](#) enables to classify career and vocational choices based on personality traits.<sup>23</sup> [Holland \(1966\)](#)'s model distinguishes human personalities in relation to work environment divided into six categories (Realistic, Investigative, Artistic, Social, Enterprising and Conventional). For each job description, we can find a major and minor code of the RIASEC classification, based on the required skills. Figure [A.7](#) reports the frequency of the desired job based on [Holland \(1966\)](#)'s classification for men and women separately. Figure [A.7](#) shows that there are major gender differences in the choice of job, based on the Holland classification. Most women target social or conventional jobs. Social jobs refer to the *helpers* with jobs requiring to inform, help, or work in social services. Conventional jobs

<sup>23</sup>The [Holland \(1966\)](#)'s model is the dominant model of vocational preferences in psychology's literature.

refer to the *organizers*, working in a structured environment, or with routines. In contrast, most men target realistic jobs, relating to the practical, tangibles and hands-on jobs for the *doers*.

Figure A.7: Gender frequency & Holland classification



**Notes:** Frequency of type of job targeted by men and women, based on the Holland classification.

## A.2 Labour Force Survey

The French Labour Force Survey ('*Enquête Emploi en Continu*') is a representative survey conducted by the French National Institute of Statistics (INSEE). The French Labour Force Survey provides detailed information on employment, unemployment, and inactivity, as well as demographic characteristics such as experience, education, and household composition. This survey is specifically useful for this paper, as it collects information about the reason for inactivity or unemployment, including childcare. It is collected each quarter and is panel data, tracking individuals over six quarters.

### A.3 State Services for Family data

I also use the [publicly available data](#) from the French State Services for Family ('*Caisse Nationale des Allocations Familiales*'), providing information about family benefits and childcare services at the local level.

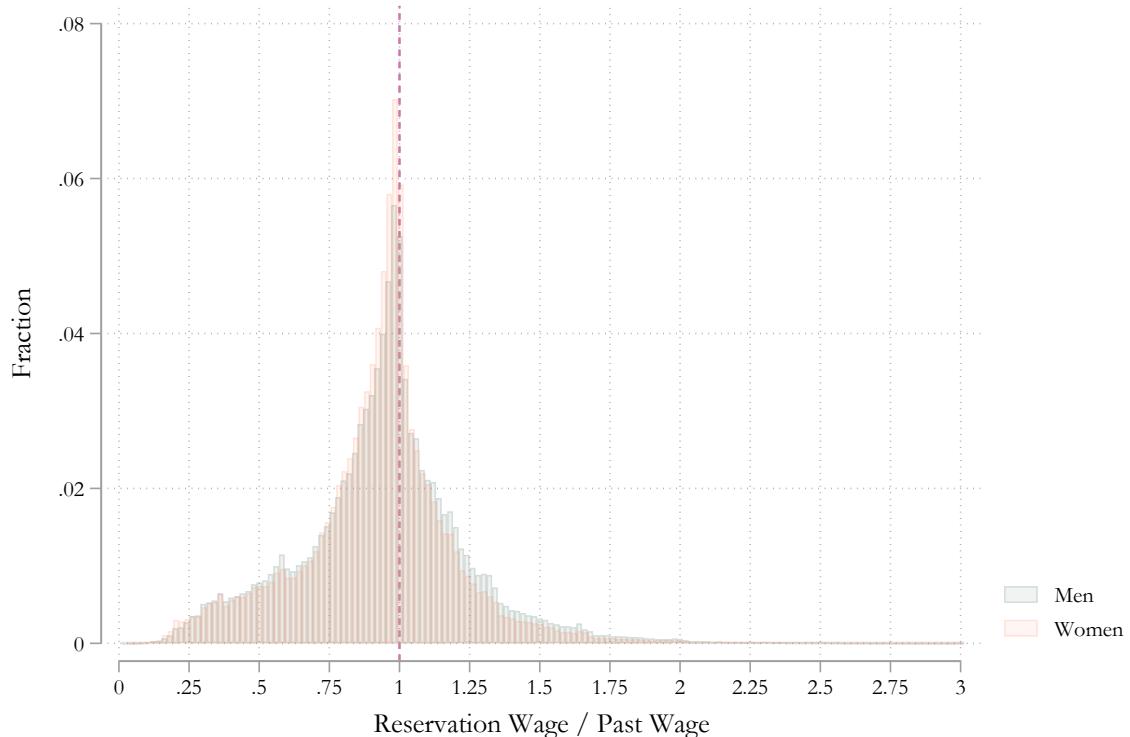
The coverage rate of public childcare facilities is measured for the year 2017 and at the local level (EPCI), using the ratio of available slots in public childcare facilities for children under the age of 3.

## B Additional descriptive statistics

This section provides additional descriptive statistics.

### B.1 Descriptive analysis

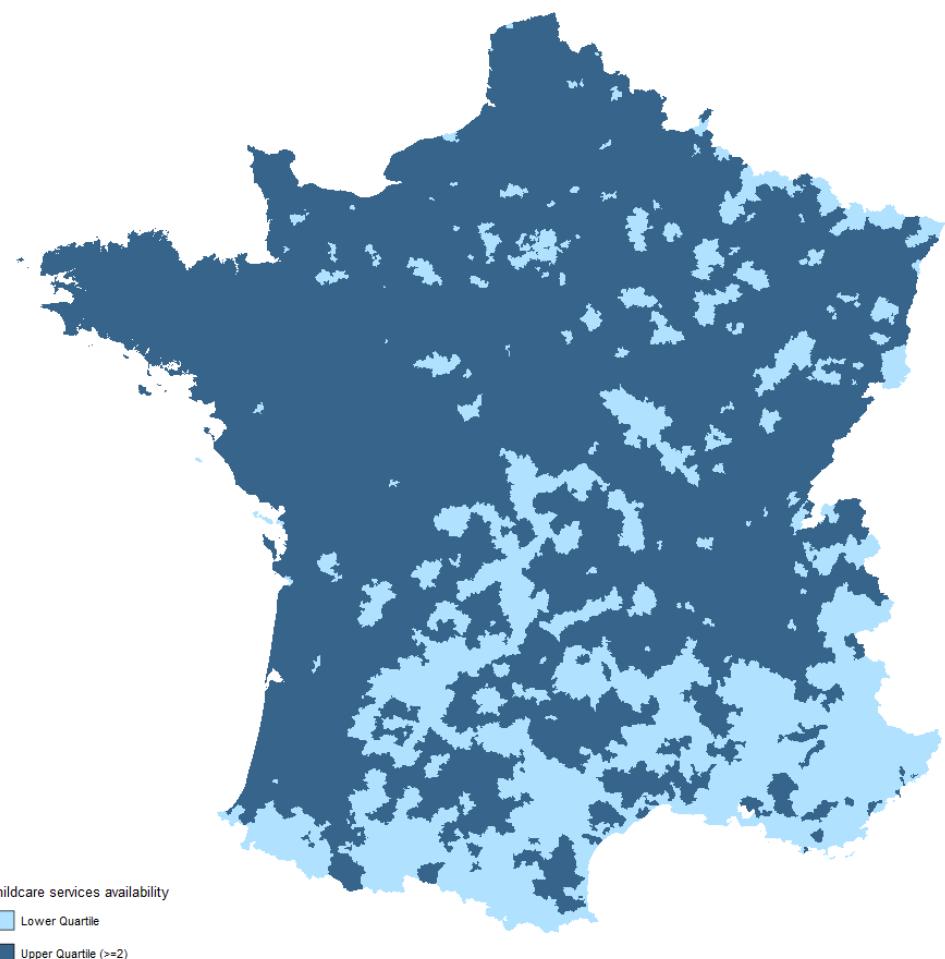
Figure B.1: Reservation wage over the previous wage



**Notes:** MIDAS, 2017-2019. This figure plots for men and women separately the ratio of the job seeker reservation wage over the wage in the previous job.

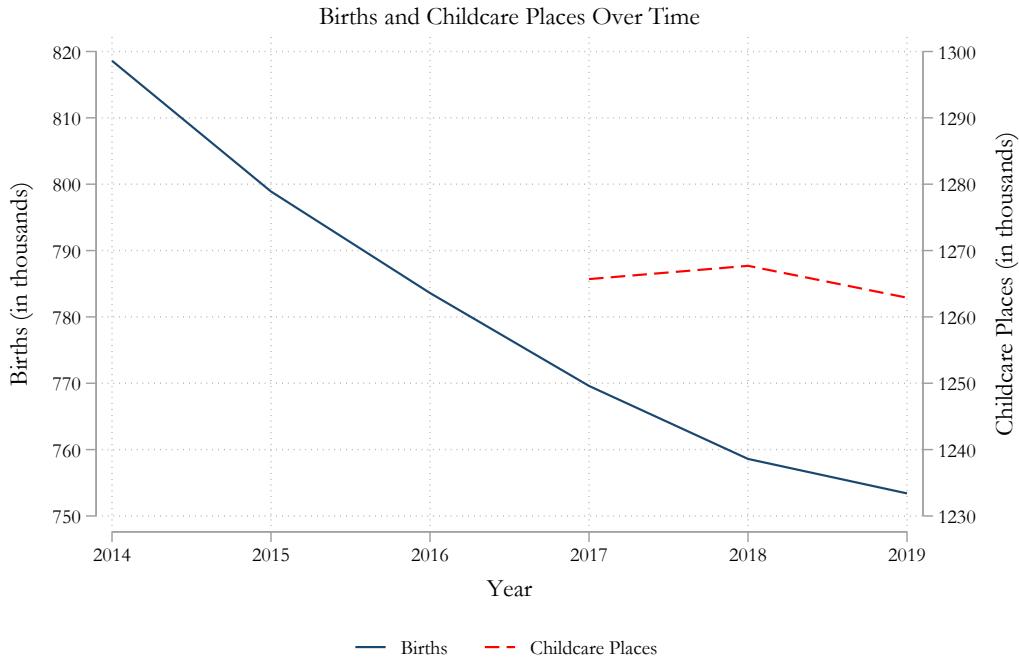
## B.2 Causal analysis

Figure B.2: Map of the Childcare Services Availability



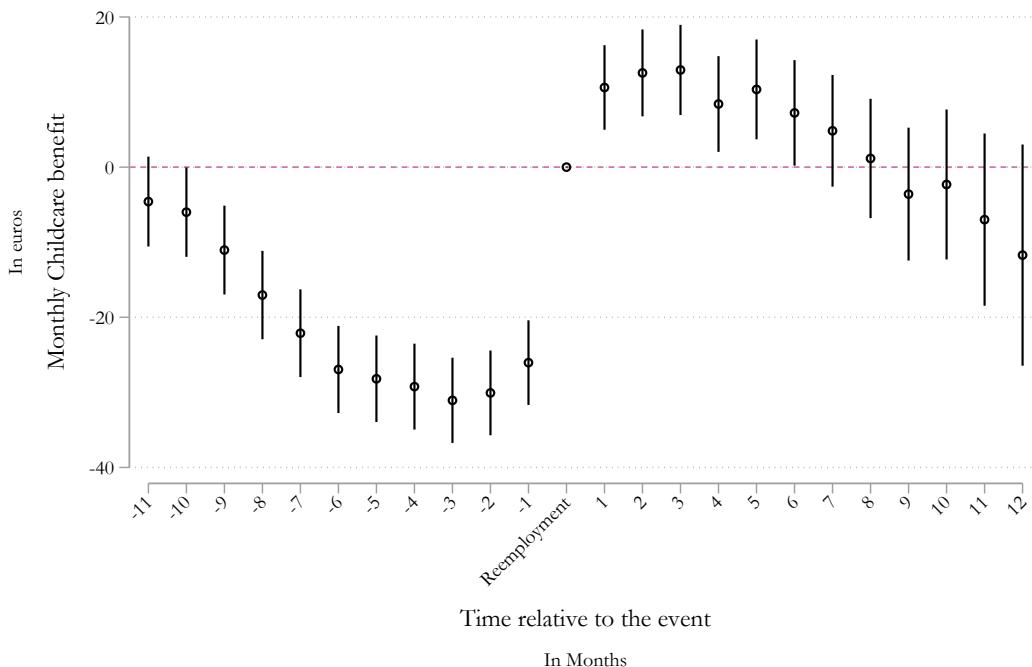
**Notes:** This map shows the spatial heterogeneity in childcare services impacted by the reform, i.e, whether the canton is below or above the first quartile of the measure.

Figure B.3: Birth and childcare slots over time



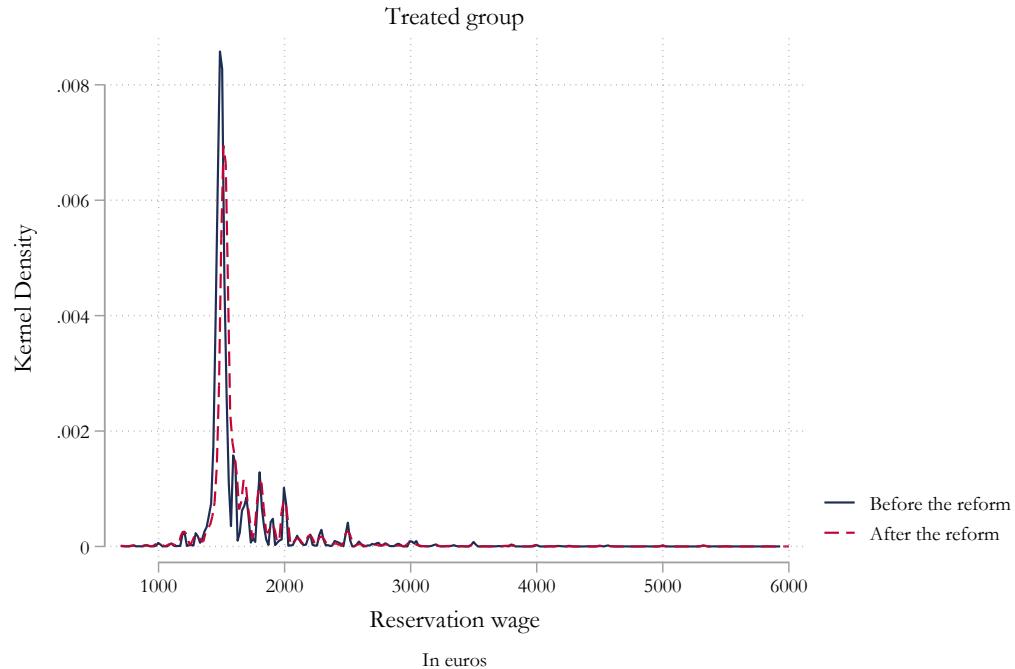
**Notes:** This graph plots the number of births (left axis) and the number of childcare slots (right axis) over time in France, both in thousands.

Figure B.4: Evolution of the childcare benefit relative to the employment event



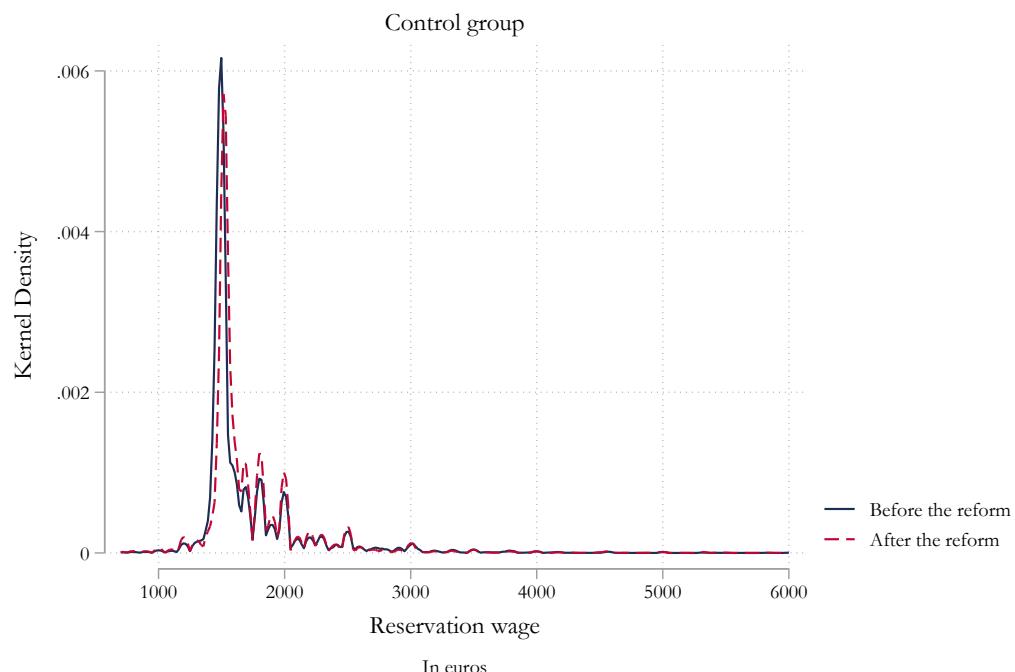
**Notes:** This graph plots the average childcare relative to the event of employment, both for the control and treated group. The specification includes children and familial status situation fixed effects.

Figure B.5: Kernel density of the reservation wage - Treated group



**Notes:** This graph plots the kernel density of the reservation wage before and after the reform for the treated group.

Figure B.6: Kernel density of the reservation wage - Control group



**Notes:** This graph plots the kernel density of the reservation wage before and after the reform for the control group.

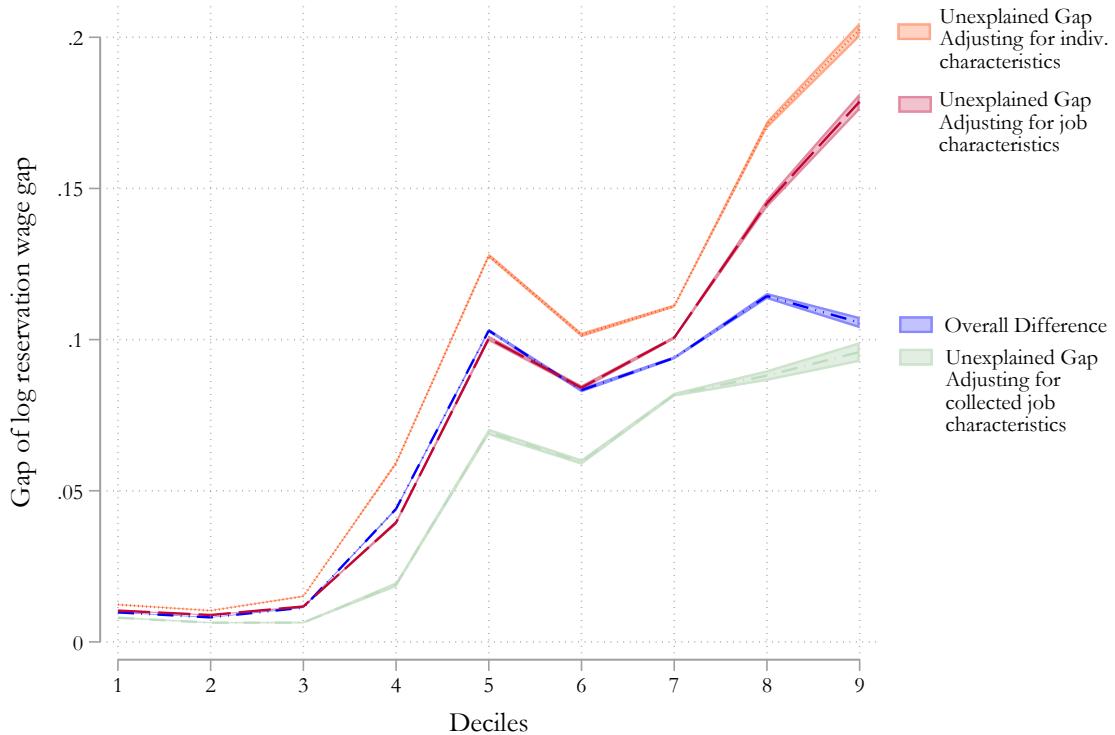
## C Additional results

In this section, I provide additional results. First, I report some of the underlying estimates used in the descriptive section (3).

### C.1 Descriptive analysis

Figure C.1 adds to Figure 3 with the unexplained part of the gap, the overall reservation wage gap. Adjusting for individual characteristics leads to a negative explained part of the gap (which is represented by the gap between the overall difference and the unexplained gap). It means that adjusting for individual characteristics increases the reservation wage gap. This result stems from the fact that women are more educated than men in France, as seen in Table C.1.

Figure C.1: Quantile Decomposition of the log reservation wage gap



**Notes:** MIDAS database, 2017-2019. This figure shows the unexplained reservation wage gap, using the RIF method, with a different set of covariates.



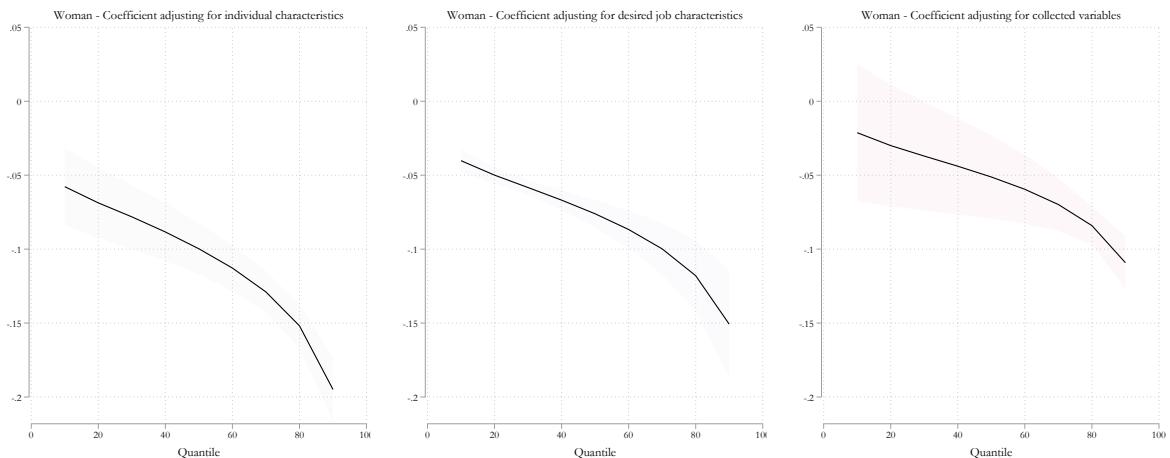
## D Robustness analysis

Here I report a number of robustness exercises. Additional results supporting the robustness of the results presented in the [Descriptive analysis](#) section are shown in Appendix D.1. Appendix D.2 provide additional results to support the validity of the identification strategy detailed in the [Empirical Strategy](#) section.

### D.1 Sensitivity analysis of descriptive results

Figure D.1 shows the female coefficient with the same specifications as in the RIF decomposition used in Figure 3. While the results are similar, the confidence intervals are wider.

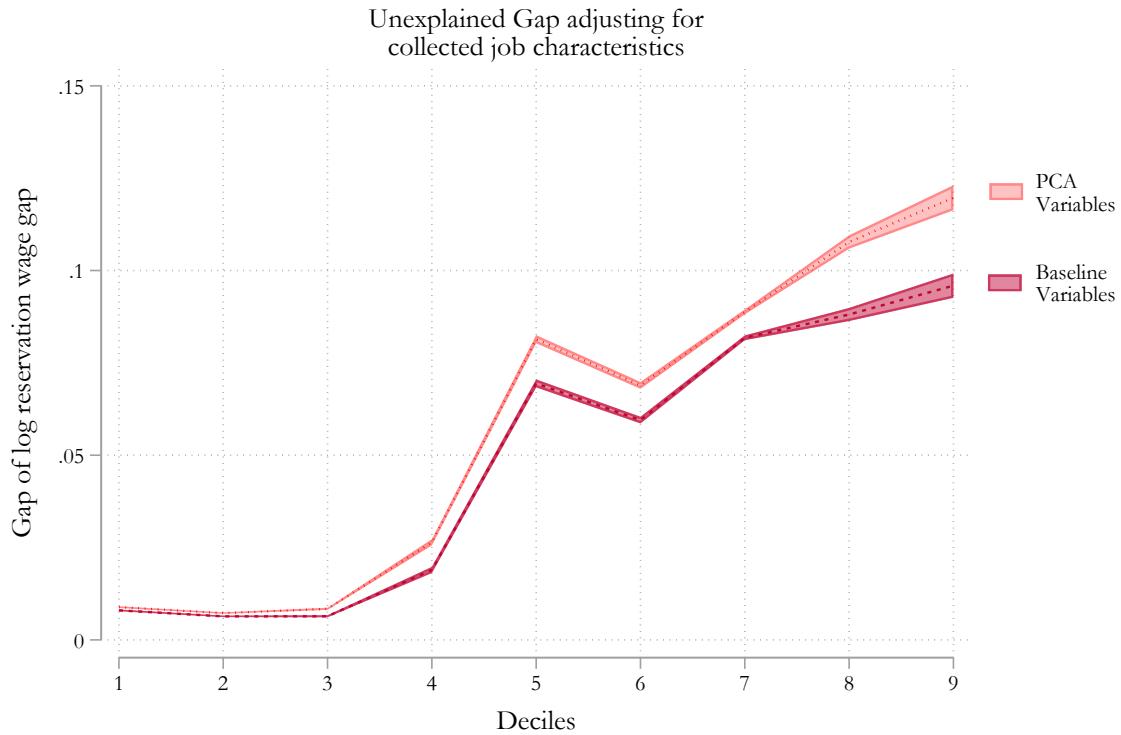
Figure D.1: Quantile regression - Female coefficient



**Notes:** MIDAS database, 2017-2019. This figure shows the female coefficient, using quantile regression and with the same set of covariates as in Figure 3.

Figure D.2 compares the results obtained in Figure 3 with the collected variables and when these variables are transformed into 50-dimensional types of characteristics using Principal Component Analysis (PCA) to transform the multitude of binary variables.

Figure D.2: Unexplained gap with RIF decomposition and PCA

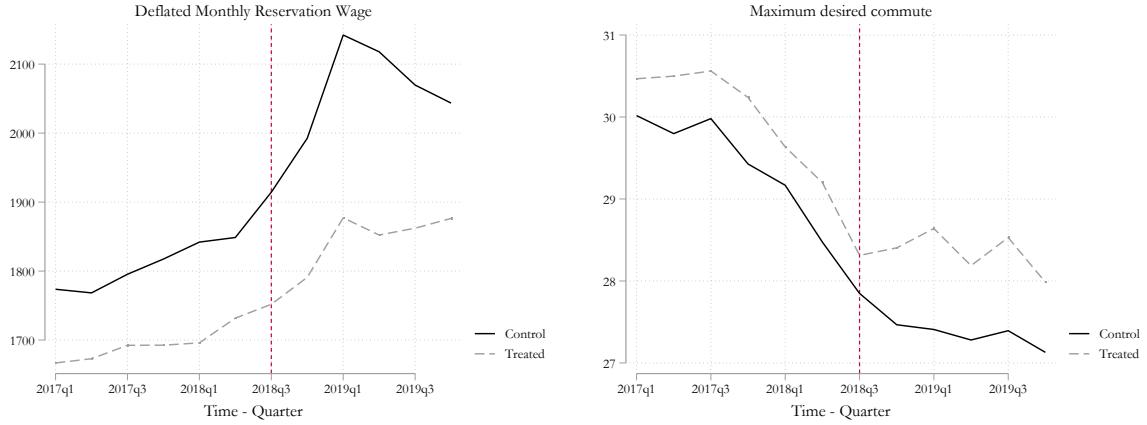


**Notes:** MIDAS database, 2017-2019. This figure shows the unexplained reservation wage gap, using the RIF method.

## D.2 Identification strategy

Figure D.3 shows the evolution of monthly reservation wages and maximum desired commute for the treated and non-treated groups over time. Before the reform, the trends of both groups appear to evolve similarly, supporting the validity of the parallel trends' assumption.

Figure D.3: Parallel trend



**Notes:** Average of reservation wage monthly amount and maximum desired commute over time, on a sample of female job-seekers, aged between 25 and 55, with young children. **Sources:** MIDAS Data (2017-2019).

Table D.1 tests whether the post-reform period increases the likelihood of being single, which may change the composition of the treated and single group. Using the French Labour Force Survey (described in section A.3), Table D.1 shows that the reform had no significant effect on the relationship status.

Table D.1: Impact of the reform on the relationship status

	(1)	(2)	(3)	(4)	(5)
	Being single				
<i>Post Reform</i>	-0.0015 (0.0028)	0.0002 (0.0028)	0.0042 (0.0027)	0.0039 (0.0031)	0.0010 (0.0070)
<i>Observations</i>	59,133	59,133	59,133	41,049	11,626
<i>R-squared</i>	0.0000	0.0351	0.0764	0.0831	0.1478
<i>Year FE</i>		✓	✓	✓	✓
<i>Local FE</i>		✓	✓	✓	✓
<i>Indiv. controls</i>			✓	✓	✓
<i>Subsample of areas with Childcare availability</i>				✓	✓
<i>Subsample of Unemployed or Inactive</i>					✓

**Note:** French Labour Force Survey (2017-2019). \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. OLS estimation of the binary indicator of being single. Column (2) includes year and local (Urban Areas) fixed effects. Individual controls added in column (3) include age, education level, number of children and nationality indicator. Column (4) further restricts the sample to areas with childcare availability (without the first quartile of the measure), and column (5) further restricts the sample to unemployed or inactive individuals.

Table D.2 tests whether the post-reform period increases the likelihood of registration to the French Employment Services (columns (1) to (5)) and to receive the Unemployment Insurance (columns (6) to (10)), which may lead to a compositional bias in the treated. Using the French Labour Force Survey (described in section A.3), Table D.2 shows that the reform had no significant effect on the likelihood of single women with young kids appearing in the sample.

Table D.2: Reform's impact on the likelihood of being in the sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Employment Services Registration					Unemployment Insurance				
<i>Post Reform</i>	-0.0208*	-0.0159	-0.0056	-0.0028	-0.0003	0.0029	-0.0002	0.0005	-0.0029	0.0039
	(0.0114)	(0.0115)	(0.0113)	(0.0143)	(0.0231)	(0.0050)	(0.0052)	(0.0052)	(0.0066)	(0.0128)
<i>Observations</i>	7,196	7,196	7,196	4,397	1,944	7,230	7,196	7,196	4,397	1,944
<i>R-squared</i>	0.0005	0.1173	0.1631	0.2233	0.2814	0.0000	0.0402	0.0453	0.0592	0.1235
<i>Year FE</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<i>Local FE</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<i>Indiv. controls</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<i>Subsample of areas with Childcare availability</i>		✓	✓					✓	✓	
<i>Subsample of U or Inactive</i>			✓							✓

**Note:** French Labour Force Survey (2017-2019). \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. OLS estimation of the likelihood of registration to the French Employment Services (columns (1) to (5)) and to receive the Unemployment Insurance (columns (6) to (10)). Columns (2) and (7) include year and local (Urban Areas) fixed effects. Individual controls added in columns (3) and (8) include age, education level, number of children and nationality indicator. Columns (4) and (9) further restrict the sample to areas with childcare availability (without the first quartile of the measure), and columns (5) and (10) further restrict the sample to unemployed or inactive individuals.

Table D.3 confirms the validity of the childcare measure, as the labour force survey indicates that the higher the availability measure, the lower the likelihood of indicating childcare as a work-related issue, on a sample of women with young children before the reform.

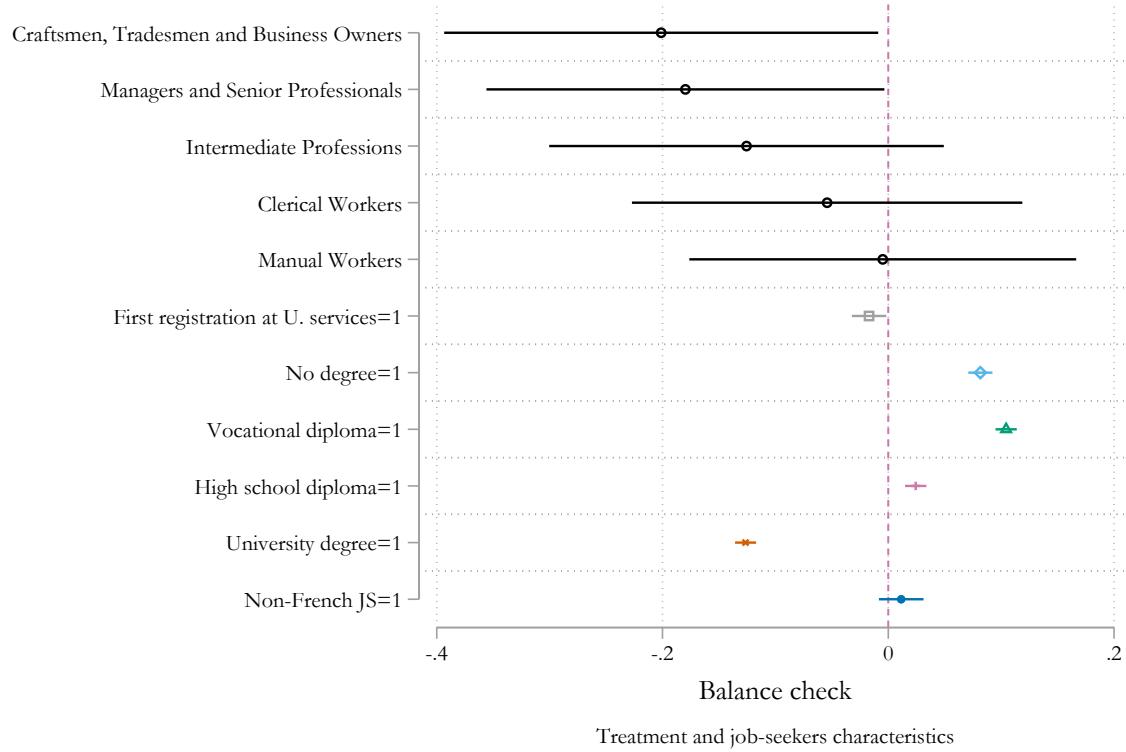
Table D.3: Impact of local childcare availability on the likelihood to indicate childcare as

	(1)	(2)	(3)
	<b>Reason for non-availability for working</b>	<b>Reason for not seeking for a job</b>	<b>Reason for not wanting to work</b>
<i>Measure of childcare availability</i>	-0.0432** (0.0184)	-0.0210* (0.1438)	-0.0302*** (0.0087)
<i>Observations</i>	1,618	3,660	5,593
<i>R-squared</i>	0.1309	0.1438	0.1300
<i>Year FE</i>	✓	✓	✓
<i>Local FE</i>	✓	✓	✓
<i>Indiv. controls</i>	✓	✓	✓

**Note:** French Labour Force Survey (2017-2019), on a sample of women with young children before the reform. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. OLS estimation of the likelihood to indicate childcare as (column (1)) the reason for non-availability for working, the reason for not seeking for a job (column (2)) and the reason for not wanting to work (column (3)).

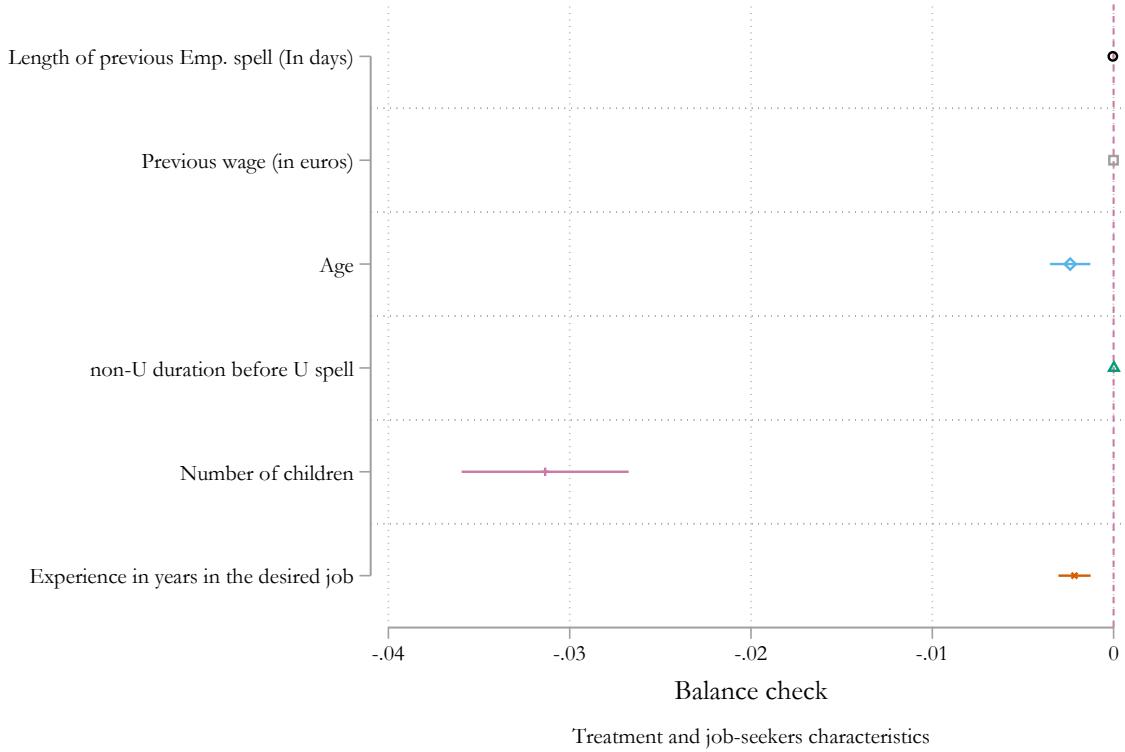
Figures D.4 and D.5 show that during the pre-reform period, the control, and treatment groups only differ significantly at an important magnitude in terms of education level and the number of children.

Figure D.4: Balance plot: binary characteristics



**Notes:** This graph plots standardized beta coefficients of bi-variate regressions of the variables listed on the left on the relationship status with local and time-fixed effects interacted and standards errors clustered at the local level. Regressions are run using the pre-reform sample. The occupation variable refers to pre-unemployment occupation 1 digit. **Sources:** MIDAS Data (2017-2018).

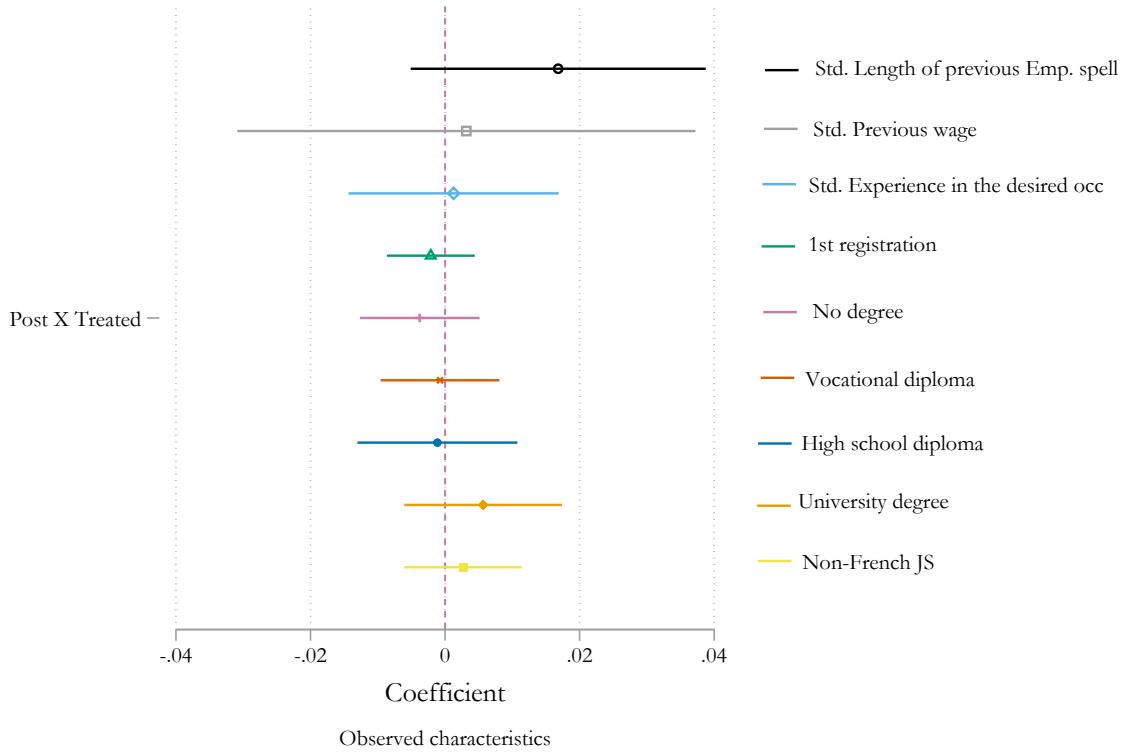
Figure D.5: Balance plot: Continuous characteristics



**Notes:** This graph plots standardized beta coefficients of bi-variate regressions of the variables listed on the left on the relationship status with local and time-fixed effects interacted and standards errors clustered at the local level. Regressions are run using the pre-reform sample. **Sources:** MIDAS Data (2017-2018).

Figure D.6 plots the coefficients of the interaction term between the treatment and the post-reform period on the variables listed on the right. Figure D.6 demonstrates that the reform does not induce a more important change in characteristics for the treated group compared with the control one.

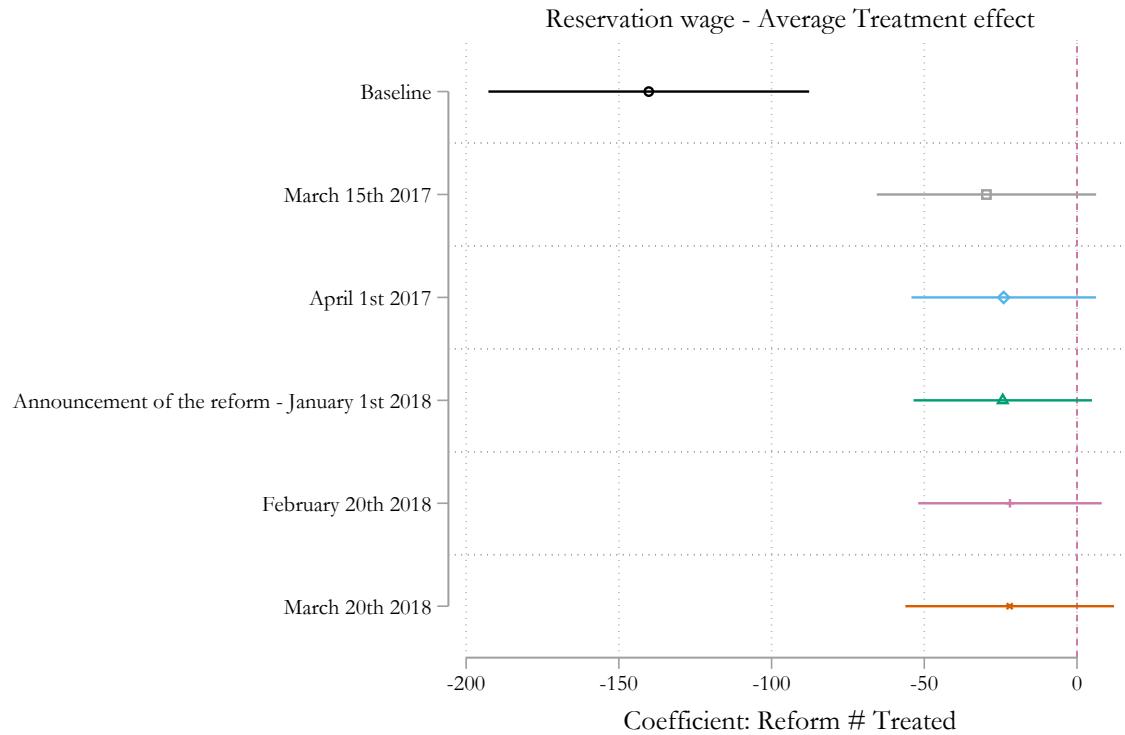
Figure D.6: Impact of the reform on the individual characteristics



**Notes:** This graph plots standardized beta coefficients of OLS regressions of the variables listed on the right on the interaction between the treatment and the post-reform period with local and time-fixed effects interacted and standards errors clustered at the local level. **Sources:** MIDAS Data (2017-2019).

In Figure D.7, I use a pre-reform subsample to perform a difference-in-difference with phantom events, including the announcement of the reform. Figure D.7 indicates that all the virtual treatment effects are statistically non-significant and close to zero.

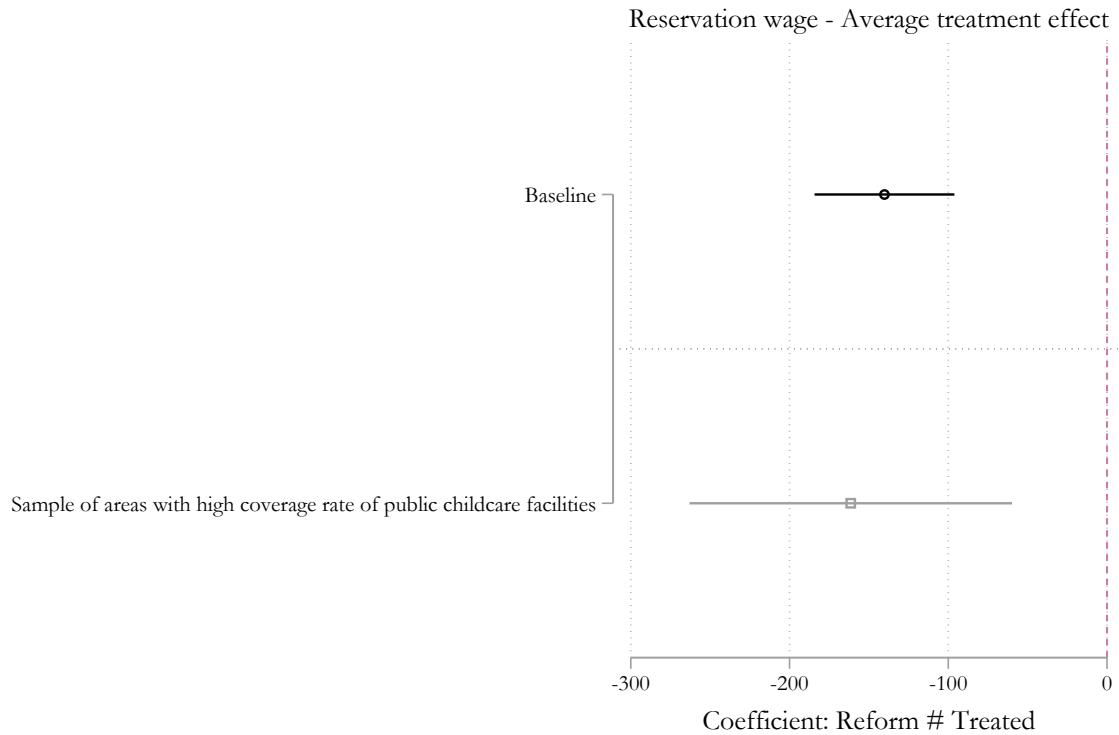
Figure D.7: Placebo Tests



**Notes:** I use data from January 1, 2017, to October 1st, 2018. I create phantom events and run regression (1) with the reservation wage as the outcome variable. These graphs plot the estimates and 95% confidence intervals of this regression. **Sources:** MIDAS Data (2017-2018).

In Figure D.8, I use a subsample of local areas with high coverage of public childcare facilities to perform a sensitivity analysis. Figure D.8 shows a similar average treatment effect.

Figure D.8: Sensitivity analysis

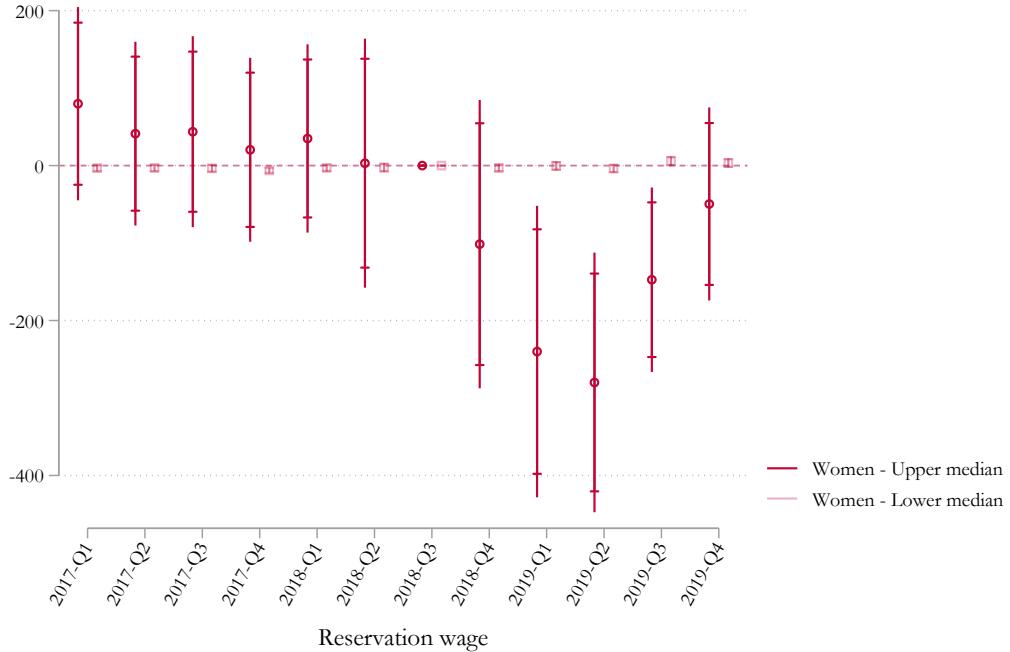


**Notes:** Average treatment effect of the reform, estimated in equation (1) and on a subsample of areas with high coverage rate of public childcare facilities ( $\geq 70\%$ ). This graph plots the estimates and 95% confidence intervals of this regression. **Sources:** MIDAS Data (2017-2019).

### D.3 Heterogeneity in the impact of the reform

This section reviews the heterogeneous impact of the reform according to the jobseeker's characteristics.

Figure D.9: Impact of the reform on reservation wage according to the level of reservation wage



**Notes:** This graph plots the estimates and 95% as well as 90% confidence intervals from equation (2). The outcome is the reservation wage in euros.

#### D.4 Robustness checks of the reform's impact

Table D.4 shows the robustness of the reform's negative impact on the reservation wage across different definitions of childcare availability and specifications. Column (1) reports the coefficient obtained in my baseline specification from (1) and reveals a significant reduction in the reservation wage for treated mothers following the reform, with a coefficient of approximately -140.2 euros. In Column (2), I don't control for public childcare coverage, yielding a similar effect. In Column (3), the sample is restricted to cantons exposed to childminders only, which is the most widely used type of childcare impacted by the reform. The estimated effect remains close to the baseline, at -139.7 euros. Then, in columns (4) and (5), I show that my results are robust to a different cut-off of childcare availability. Column (6) only restricts to cantons with low exposure to childcare (1st quartile), where the estimated effect is -106.9 euros, indicating a weaker, though still significant, impact. This reduced effect in less exposed areas confirms that the availability of childcare services may amplify the reform's impact on reservation wages. In Column (7), exposure is computed based on the ratio of slots in childcare services impacted by the reform to low-age children in the canton. The coefficient of -115.2 euros remains significant. Finally, in Column (8) I use a continuous measure of childcare exposure, in

a triple difference in difference strategy, with the triple interaction term indicating that higher continuous exposure to childcare services slightly amplifies the reform's effect on reservation wages.

Table D.4: Sensitivity of the reform's impact based on the measure of childcare availability or specification

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline	Without control for public childcare coverage	Sample of cantons exposed to childminders	Sample of cantons highly exposed (3rd Quartile)	Sample of cantons highly exposed (4th Quartile)	Sample of cantons not exposed (1st Quartile)	Exposure defined based on the ratio of low-age children	Continuous Childcare Exposure	
Post $\times$ Single	-140.2009*** (26.7425)	-141.9375*** (26.2279)	-139.7247*** (23.4506)	-131.8517*** (22.2184)	-140.2901*** (37.7732)	-106.9319*** (15.4052)	-115.1799*** (27.9712)	
Post $\times$ Single $\times$ Continuous exposure								-23.6837* (12.0833)
Observations	319,945	319,945	319,945	190,595	94,745	148,529	319,945	468,496
R-squared	0.0599	0.0586	0.0550	0.0553	0.0539	0.0665	0.0551	0.0550

**Note:** \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Estimation of the reservation wage. Coefficients from equation (1), reported with standard errors in parenthesis. Specifications include fixed effects for quarters, cantons and interaction between the year and urban areas. Other controls include education, age, childcare coverage for non-impacted childcare facilities (except in col (2)), number of children, and French nationality indicator. Standard errors are clustered at the canton level.

Table D.5 shows the robustness of the reform's negative impact on the reservation wage with different control groups. In column (2), I am only focusing on job-seekers receiving the childcare benefit at the moment of registration. In column (3), instead of a control group composed of women in couples with low-age children, it is composed of single women without children. In column (4), I restrict the control group to women in couples with young children but also with a low-wage partner. In column (5), I also include job seeker FE, which restricts the sample to individuals having multiple unemployment spells.

Table D.5: Impact of the reform on reservation wages with different control groups

	(1)	(2)	(3)	(4)	(5)
Baseline	Sample of JS receiving the childcare benefit at the moment of the registration	Control group: Single Without children	Control group: In couple, with young children and a low-wage partner	Control group: With JS FE	
Post $\times$ Single	-140.2009*** (26.7425)	-202.3239*** (45.3326)		-132.9236*** 33.9239	-91.0329** (35.2571)
Post $\times$ Young children			-380.4765*** (83.0139)		
Job seeker FE					✓
Observations	319,945	113,310	553,019	110,627	126,141
R-squared	0.0599	0.0939	0.0624	0.0513	0.7266

**Note:** \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. Specifications include fixed effects for quarters, cantons and interaction between the year and urban areas. Other controls include education, age, childcare coverage for non-impacted childcare facilities, number of children, and French nationality indicator. Standard errors are clustered at the canton level.

Table D.6 test the robustness of the negative impact of the reform on reservation wages to different specifications.

Table D.6: Impact of the reform on reservation wages with different specification

	(1)	(2)	(3)	(4)	(5)
	Baseline	With control for previous wage and occupation FE	Sample of parents with 1 child	Adusting for unemployment time before registration	Adjusting for local, time-varying and occupation specific local labour market tightness
Post $\times$ Single	-140.2009*** (26.7425)	-190.5600*** (39.8875)	-176.8325*** (35.5893)	-165.4896*** (33.0087)	-140.0729*** (26.7413)
Observations	319,945	147,952	141,275	188,173	319,945
R-squared	0.0599	0.0964	0.0658	0.0670	0.0599

Note: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients are reported with standard errors in parenthesis. Specifications include fixed effects for quarters, cantons and interaction between the year and urban areas. Other controls include education, age, childcare coverage for non-impacted childcare facilities, number of children, and French nationality indicator. Standard errors are clustered at the canton level.

Lastly, Table D.7 test the robustness of the results depending on the sample. In columns (1), (3), (5) and (7), the sample used is the baseline one described in Sections 6.2.1 and 6.3. In columns (2), (4), (6) and (8), I test the robustness of the results with the alternative sample used in Section 6.4, which excludes all jobseekers whose period of unemployment encompasses both pre- and post-reform. The results remain consistent, except for the outcome related to professional trips.

Table D.7: Robustness of the impact of the reform depending on the sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Baseline - Reservation wage	Sample - Reservation wage	Baseline - Moves	Sample - Moves	Baseline - Commuting	Sample - Commuting	Baseline - Professional trips	Sample - Professional trips
Post $\times$ Treated	-140.2009*** (26.7425)	-155.2187*** (29.6110)	0.0042*** (0.0015)	0.0037** (0.0015)	0.4139*** (0.1214)	0.3450*** (0.1303)	0.0048* (0.0029)	0.0040 (0.0030)
Observations	319,945	276,480	319,945	276,480	319,945	276,480	319,945	276,480
R-squared	0.0599	0.0619	0.0203	0.0221	0.1668	0.1669	0.0188	0.0209

Note: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1. Coefficients, estimated by equation (1), reported with standard errors in parenthesis. Specifications include fixed effects for quarters, cantons and interaction between the year and urban areas. Other controls include education, age, childcare coverage for non-impacted childcare facilities, number of children, and French nationality indicator. Standard errors are clustered at the canton level.