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ABSTRACT

Fired and Pregnant: Gender Differences in Job Flexibility Outcomes after Job Loss*

We study whether women and men cope with job loss differently. We use 2006-2017 Dutch administrative monthly microdata and a quasi-experimental design involving job displacement because of firm bankruptcy. We find that displaced women are more likely than displaced men to take up a flexible job with limited working hours and short commutes. However, displaced women experience longer unemployment durations and comparable hourly wage losses. Displaced expectant mothers experience relatively high losses in employment and working hours. Our findings suggest that the costs of job flexibility for displaced female workers come through longer unemployment instead of higher losses in wages.

JEL Classification: J16, J22, J31, J32, J6, R2

Keywords: job loss, gender, job flexibility, working hours, commute, household, pregnancy

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1. Introduction

Over the last decades, governments and firms have put in much effort to narrow gender gaps in labour market outcomes. However, as in many other countries, gender gaps in the Netherlands remain pervasive.[1] Many studies have related the gender gaps in employment and wages to preferences from the supply side of the labour market (Goldin, 2014; Blau and Kahn, 2017). The literature argues that women have a stronger preference for flexible work, as they prefer to be employed in part-time positions (Booth and Van Ours, 2008, 2013) and to work close to home (Crane, 2007; Barbanchon et al., 2019). This observation points out that flexibility is a non-wage job attribute, which may come at a price through a compensating wage differential. As such, any gender difference in the tendency for flexibility may prevent further closing of the gender gaps in employment and wages.

One way to study this is to look at episodes of exogenous job loss because of firm bankruptcy, when displaced workers reconsider their need for flexible work given the constraints of their personal circumstances at home. The aim of this paper is to examine whether there is a gender difference in job flexibility outcomes after job loss due to firm bankruptcy, and how this difference relates to job search duration and losses in hourly wages. Our research contributes to the literature by studying the factors that contribute to gender gaps in employment and wages after job loss. From a policy perspective, a better understanding of the mechanisms underlying gender differences in labour market dynamics after job loss is important for narrowing gender gaps.

We study whether women and men cope with job loss differently, analysing the impact on job flexibility outcomes, the speed of re-employment and hourly wages. Women's relatively strong tendency for job flexibility, as measured by work hours and commuting distance, can be costly in two ways.[2] First, relative to displaced men, displaced women have a longer period of unemploy-

[1] In 2017, Dutch women relative to men have a 10 percentage points lower labour force participation, a 15 per cent lower wage, a 50 percentage points lower full-time employment and a 20 per cent shorter commute (CBS, 2019).

[2] Previous research shows that women's preference for work hours flexibility is strong (Flabbi and Moro, 2012; Wiswall and Zafar, 2018), resulting in a gender wage gap (Bertrand et al., 2010; Cortés and Pan, 2019). Similarly,

ment after job loss in search of a flexible job, widening the gender gap in employment. Second, women's greater tendency for job flexibility could widen the gender gap in wages through a compensating wage differential, where non-wage job attributes make up for lower wages.

We also use a unique group of displaced workers for which we assume it has high flexibility needs, which consists of individuals expecting a baby upon the incidence of unforeseen job loss. As in other countries, in the Netherlands pregnant women can be dismissed for cause of firm bankruptcy. We investigate by gender and household setting whether displaced workers expecting a baby use different margins of labour adjustment. The worker's household setting, which we define based on having a partner and the presence and age of the youngest child, is relevant as it causes women to have a stronger preference for flexibility through traditional gender roles and intra-household decision making.[3] After job loss, the preference for flexibility could be relatively strong for pregnant women, reducing their employment, working hours and commutes. For single persons, relative to married persons, the gender difference in coping with job loss while expecting a baby could be smaller because there is less specialisation within the household.

We conduct the analysis by using rich administrative microdata sets from Statistics Netherlands that contain the entire population of Dutch individuals, households and firms. We use data from Statistics Netherlands for three main reasons: (i) the data allow us to study the short-run and medium-run displacement effects by using a rich monthly panel over the time period January 2006 to December 2017. We follow workers who were displaced due to firm bankruptcy between 2008 and 2014 for two years before and three years after the month of job loss. Importantly, the monthly data offer the unique possibility to examine the role of pregnancy in the labour-market effects of job loss. In addition, the Dutch setting is ideal to study differences between part-time and full-time workers, as the Netherlands is characterised by the highest part-time employment

women tend to have a higher disutility of commuting than men, inducing women to trade off commutes against wages (Van den Berg and Gorter, 1997; Roberts et al., 2011; Barbanchon et al., 2019).

[3]The traditional gender roles refer to the division of responsibilities within the household, where traditionally married women invest more time in household production whereas married men invest more time in labour market production (Chiappori and Mazzocco, 2017).

rate of the OECD member countries (OECD, 2019a).[4] (ii) the data are based on the contract and monthly income statements of the worker, which allows us to observe wages and working hours limiting measurement error. (iii) the data observe a rich set of variables including demographic (gender, age, education; and country of birth), household (marital status, presence and age of the youngest child; and residential location) and job characteristics (tenure in the job, firm size, firm size, economic sector; and work location).

We use the setting of job displacement due to firm bankruptcy as a quasi-experimental design, which ensures the reason for job loss and job search is identical to all workers. This design limits the potential of various gender-related selection mechanisms, including selection into (part-time) employment, quit behaviour, unemployment and non-employment. The design allows us to assess how expectant mothers fare after job loss, as generally companies cannot lay off pregnant women because of strict employment protection legislation. The displaced workers are compared to similar non-displaced workers whose company did not go bankrupt. To deal with any further selection into job displacement, we use Coarsened Exact Matching (CEM) on a large set of observables to make displaced and non-displaced workers observationally equivalent (Iacus et al., 2011). We use four reduced-form models and apply a differences-in-differences estimator to compare the post-displacement labour market outcomes in employment, hourly wages, working hours and commuting distance, respectively, of displaced workers to non-displaced workers. We apply a triple differences estimator to investigate how workers with different pre-displacement characteristics differ in displacement effects, such as for the worker's gender, full-time/part-time status and household setting. Thereby, any selection into job loss that is common among groups of displaced workers is also cancelled out. Our analysis contributes to three literatures.

First, we contribute to the literature on job displacement. Several papers study whether the

[4]Dutch part-time employment as a percentage of total employment equals 76 per cent for women and 27 per cent for men in 2017 (CBS, 2019). Involuntary part-time employment as a percentage of total part-time employment is relatively low, ranging from 4 to 9 per cent for women and 5 to 12 per cent for men in the period 2006-2017 (OECD, 2019b).

impact of job loss on employment and wages differs between women and men.[5] Previous research also documents the gender difference in the impact of job loss on working hours (Farber, 2017) and commuting distance (Meekes and Hassink, 2019b). We contribute to this literature by documenting that the impact on these four outcome variables strongly depends on the employee's full-time/part-time status and household setting as measured before job loss. A methodological contribution of our paper is the use of monthly data showing how to analyse the impact on labour market outcomes for displaced employees who are expecting a baby at the time of job loss. Thereby, we contribute to the literature on the impact of job loss on post-displacement fertility (Del Bono et al., 2012, 2015; Huttunen and Kellokumpu, 2016) and the literature that indirectly relates the impact of job loss on labour market outcomes to post-displacement fertility decisions (Kunze and Troske, 2015).

Second, we contribute to the literature on gender differences in the trade-offs between work flexibility and wages. Previous research documents that the gender pay gap can at least partly be attributed to women's tendency for working fewer and less continuous hours (Bertrand et al., 2010; Flabbi and Moro, 2012; Goldin, 2014; Cortés and Pan, 2019) and shorter commutes (Barbanchon et al., 2019). We contribute to this literature by focusing on labour market dynamics after job loss, providing evidence on gender differences in post-displacement margins of labour adjustment. We show that over the three-year post-displacement period, on average, displaced full-time employed female workers tend to acquire a job with a 7 percentage points larger loss in working hours, a 6 percentage points smaller increase in commuting and a comparable loss in hourly wage, relative to displaced full-time employed men. However, women have on average a longer unemployment duration after job loss. The results suggest that the costs of job flexibility for displaced female workers come particularly through longer unemployment instead of a higher loss in hourly wage.

Third, we contribute to the literature on the motherhood/child penalty by focusing on job loss

[5] See, among others, Jacobson et al. (1993); Crossley et al. (1994); Hijzen et al. (2010); Davis et al. (2011); Kunze and Troske (2012, 2015); Huttunen and Kellokumpu (2016); Farber (2017); Meekes and Hassink (2019b).

due to firm bankruptcy of expectant mothers and expectant fathers.[6] We show that pregnancy increases post-displacement work flexibilities of displaced full-time employed women, who experience an 8 to 12 percentage points higher loss in working hours relative to other displaced women. In addition, expecting a baby at the time of job loss reduces employment by over 10 percentage points for women but not for men, irrespective of the relationship status and full-time/part-time status. The effects are long lasting and particularly striking given that we find them for women who were in a full-time job when the job loss occurs. Our findings complement the literature on intra-household decision making and traditional gender roles, documenting that expectant mothers' unforeseen job loss can be perceived as the start of a large gender gap in employment over the life course, which may in the longer term result in a gender gap in wages through the career costs of children (e.g., see Adda et al. (2017)).

2. Conceptual framework

We use a simple job search framework to guide our empirical analysis on how workers respond to job loss because of firm bankruptcy. Following Barbanchon et al. (2019) who argue that gender gaps in wages and commutes are predominantly supply-side driven, we focus on the supply side of the labour market.

After job loss, the worker's unemployment duration depends on the arrival rate of job offers and the probability of accepting a job. It seems reasonable that a stronger preference for flexibility reduces the set of potential job opportunities. We consider flexibility outcomes in two dimensions, that is in the number of working hours and the distance of commutes. Workers may prefer a part-time job and a short commute as it gives them the opportunity to work according to their own preferences given their personal circumstances at home. However, the set of potential job opportunities is decreasing for workers who are more selective in the number of working hours or

[6]The child penalty literature studies the gender difference in the impact of parenthood. For example, see Bertrand et al. (2010); Fernández-Kranz et al. (2013); Adda et al. (2017); Kuziemko et al. (2018); Kleven et al. (2019).

geographical scope of search.[7] Thereby, a strong preference for flexibility constrains the exit rate into employment. Alternatively, for workers with high opportunity costs of continued search, the length of job search can be shortened by lowering the reservation wage. Consequently, a stronger preference for flexibility may lead to longer job search and/or higher losses in wages.

We examine the gender difference in coping with job loss, which is relevant as there seems to be a difference between men and women in the tendency for flexibility.[8] It has been shown that women set lower reservation wages than men (Krueger and Mueller, 2016; Caliendo et al., 2017). As such, it may be easier for displaced female workers to become re-employed rapidly. However, women tend to have a greater tendency for flexibility, which through a compensating differential may hinder rapid re-employment and/or lead to lower hourly wages. Specifically, the literature shows that female workers have a relatively strong preference for part-time work (Booth and Van Ours, 2008, 2013), limiting the set of potential jobs (Flabbi and Moro, 2012; Goldin, 2014; Wiswall and Zafar, 2018).[9] Another strand of the literature shows that for women the utility loss of commuting is higher than for men, causing a gender difference in labour supply making women less competitive in the labour market through a smaller local labour market (Gutiérrez-i-Puigarnau and Van Ommeren, 2010; Black et al., 2014; Meekes and Hassink, 2019a; Petrongolo and Ronchi, 2020). Barbanchon et al. (2019) show that the gender difference in the willingness to commute accounts for about 10 per cent of the post-unemployment observed gender wage gap.

In sum, the literature suggests that female workers, relative to male workers, are more likely to prefer a part-time job. Moreover, although men do not prefer a long-commute job by itself, they could be more likely than women to allow for increases in commute as their disutility of commuting is lower. This leads to the following three predictions: (i) after job loss, displaced

[7] For literature on the trade offs among employment, wages and commute, see Van Ommeren and Fosgerau (2009); Mulalic et al. (2014); Meekes and Hassink (2019b); Guglielminetti et al. (2019).

[8] Note that the underlying mechanisms of a greater tendency for flexibility include women being forced to undertake flexible work due to lack of other options, lack of affordable childcare and cultural and social expectations.

[9] In addition, working part time is costly since there are fewer career opportunities. The literature on part-time employment shows that part-time wage penalties are large for men, but much smaller for women (Hirsch, 2005; Russo and Hassink, 2008; Manning and Petrongolo, 2008).

female workers are more likely than their male counterparts to take up a job characterised by few working hours and short commutes. Consequently, (ii) displaced women have a relatively long unemployment duration in search of flexible jobs, making job loss more costly. (iii) displaced women's greater tendency for flexibility causes higher wage losses through the compensating wage differential, where non-wage job attributes make up for lower wages.

Following, we examine a disruptive shock involving job loss combined with expecting a baby, which amplifies the tendency for job flexibility. Specifically, expecting a baby might increase mothers' preference for flexibility and fathers' financial incentive to become re-employed rapidly, as traditional gender-role attitudes become more pronounced after becoming a parent (Perales et al., 2018). Consequently: (iv) the gender difference in coping with job loss is amplified when expecting a baby, decreasing women's working hours and commutes and widening gender gaps in employment and hourly wages. Moreover, traditional gender roles are more pronounced when having a partner (Chiappori and Mazzocco, 2017), which increases the value of work flexibilities for women who are married. Thus: (v) relative to single expectant mothers, married expectant mothers experience higher costs of job loss.

3. Institutional setting and data

3.1. Institutional setting in the Netherlands

We first discuss the Dutch institutional setting on job displacement and unemployment benefits (UB). Normally, a notification of termination of employment should be provided by the employer to the worker. However, in the case of dismissal due to firm bankruptcy, as it is a very time-sensitive dismissal, a notification from the bankrupt firm to displaced workers is not required. Only if the Public Employment Service agency requests a notification requirement, the firm is obliged to give one. Moreover, as a bankrupt firm is insolvent, severance payments or transition payments are generally not provided to displaced workers.

UB are provided by the Public Employment Service agency for up to 38 months. For each

consecutive year of employment that a worker has at least 208 working hours, the worker will receive one more month of UB. For the first 2 months of UB, the amount of benefits is equal to 75 per cent of the monthly wage received in the displaced job. After 2 months of UB, the amount equals 70 per cent of the monthly wage. In the regression analysis we aim to take the duration of UB into account by controlling for the worker's age and tenure in the displaced job.

The provision of UB is particularly technical when being displaced and pregnant. Generally, pregnant women cannot experience involuntary job loss, as they have stronger employment protection than other workers. When being pregnant, dismissal can only occur either for reasons involving firm bankruptcy or immediate dismissal for serious cause. A displaced worker who is pregnant when job loss occurs is entitled to maternity benefits as stipulated in the Work and Care Act (in Dutch: Wet Arbeid en Zorg (WAZO)). The WAZO is provided for 16 weeks in total: for about one month before and three months after giving birth. For this reason, we analyse whether the displacement effects differ over the number of months since job loss. The WAZO provides 100 per cent of the monthly wage to a displaced pregnant worker. When the displaced worker is no longer receiving WAZO, the worker is entitled to UB. The duration and amount of UB is the same as for other displaced workers and depends on the number of years in previous employment.

See Appendix D for information on the Dutch institutional setting on childcare, tax system and health insurance.

3.2. Administrative data from Statistics Netherlands

We draw on administrative panel data sets from Statistics Netherlands over the period 2006-2017 to study the gender difference in how workers cope with job loss. The data contain the entire population of Dutch individuals, households and firms, which are encrypted using Randomised Identification Numbers (RIN).

Using the RIN of both individual and firm, we have precise information on job endings surrounding bankruptcy of a firm. We follow each individual worker for 61 months, two years before

until three years after job displacement. For this reason, we include workers who became displaced over the period January 2008 to December 2014. The date of bankruptcy is defined as the date on which a Dutch court declares the firm bankrupt. We define displaced workers as workers whose job ended between six months before and one year after the date of bankruptcy. Schwerdt (2011) shows that employees who leave the firm earlier than two quarters before plant closure are indistinguishable from employees engaging in normal labour turnover. For this reason, employees are part of the group of displaced workers if they leave up to six months before bankruptcy. See Table A.1 of Appendix A for the time gap between job loss and firm bankruptcy by gender and full-time/part-time status, which shows the majority of employees leave the firm up to two months before bankruptcy.

For each worker we observe (i) demographic characteristics (gender, age; country of birth), (ii) household characteristics (residential location at the neighbourhood level, marital status; presence of children and birth date of youngest child), (iii) job characteristics (employment, number of working hours, wages, full-time/part-time status, job location at the municipality level [set of 388 municipalities that existed in the calendar year 2017 with an average area size of 12 square kilometres], tenure in the job, type of contract); and (iv) firm characteristics (economic sector, size of the firm).[10] The firm characteristics are based on annual firm-level data typically measured in the third quarter of a given calendar year, which we use of the year preceding job loss.

We applied several sample selections. We used individuals with a relatively strong attachment to the labour market by selecting employed workers with a job tenure of at least three years working at least 20 hours a week in the month of job displacement. This group of workers has relatively strong motivation to work, limiting the incidence of labour force withdrawal (non-employment) and entry into self-employment. In addition, part-time jobs with fewer than 20 working hours are

[10]For about half of our sample we observe the individual's educational attainment, categorised by lower, secondary or tertiary education according to the International Standard Classification of Education. We show in Tables C.1 and C.2 of Appendix C that controlling for the worker's education level does not affect the gender difference in displacement effects.

excluded from the analysis, because these jobs are often not the stable main job of the displaced worker. We retained the job with the highest wage for workers who have multiple jobs in a given month. Similarly, we removed individuals who are aged below 20 or above 60 years, or do not participate in the labour market such as students and retirees.

We excluded individuals from the pool of displaced workers for several reasons. We excluded employees who work at a bankrupt firm that engaged in a merger or acquisition, approximated by calculating if more than 40 per cent of displaced workers became re-employed at the same employer. This is the case for less than 0.5 per cent of displaced workers. In addition, we excluded individuals who experience more than one job loss because of firm bankruptcy, which holds for less than 0.4 per cent of displaced workers. Before matching, our sample contains 79,812 displaced workers. We applied CEM and matched 71,763 displaced workers to observationally equivalent non-displaced workers in the month of job loss, implying a matching rate of 90 per cent. After matching, we excluded 10,787 individuals. Matched pairs were excluded if the individual is not observed for the entire 60-month window around job loss (for example because of immigration or death), or if the individual in the 25-month period until job loss earns an hourly wage below one euro or has missing information on wages, working hours or commuting distance. We assessed the implications of this selection and found similar results using the default matched sample containing 60,976 displaced workers or the full matched sample containing 71,763 displaced workers. For our empirical analysis we use the sample that contains 60,976 displaced workers, which ensures complete information in the pre-displacement period, and 113,460 non-displaced workers.

3.3. Key variables

The monthly information on employment, wages and working hours is based on monthly income statements provided by the employer to the Dutch tax office. We use data on four dependent variables: employment expressed as an indicator variable that equals one if the individual is employed, the natural logarithm of the gross hourly wage, the natural logarithm of the number of

working hours and the natural logarithm of the commuting distance based on the distance in kilometres from neighbourhood of home to municipality of work.[11]

The data on commuting distance are not entirely consistent, resulting in a loss of efficiency, for two reasons. First, the employee's work location is only observed in December of each calendar year, so for workers who have a job that has not been observed in December the work location is missing. Second, Statistics Netherlands uses data on workers' home and work location to link employees to the employer's firm entities. The inconsistency arises from the fact that firms only provide information on the number of firm entities, its locations and the number of employees at each entity, but not on the exact work location of the employee.[12]

The set of key independent variables consists of treatment status, post-displacement status, gender, full-time/part-time status, marital status and the presence and age of children. These variables are all time constant and measured in the month of job displacement, except for the post-displacement status which is time varying. The variables are expressed as zero-one indicator variables. The treatment status, post-displacement status and gender equal one if the worker is displaced, observed after displacement and female, respectively. The full-time/part-time employment status has two categories, consisting of part-time jobs that range from 20 to 35 working hours a week and full-time jobs for jobs with 35 or more working hours a week. Workers' marital status is defined as being married in case of marriage or a registered partnership, and single otherwise. The variable that represents the presence and age of household children has four categories. The categories consist of no child, pregnancy approximated by a birth within 8 to 1 months from the month under observation, youngest child aged 0 to 18 years; and youngest child over 18 years.

[11] In our empirical analysis on working hours and commutes, we use the logarithm of a transformed version of the outcome variable computed by taking the logarithm of the value plus one. To assess the sensitivity of our results to the operationalization of hourly wages, work hours and commuting distance, in a separate robustness check we provide results based on models specified in levels. Furthermore, results are robust to models specified in logs by taking the Inverse Hyperbolic Sine Transformation, which are available upon request.

[12] We ran a robustness check by using a sample of workers with complete information on hourly wages, work hours and work location (see Table C.3), and our conclusions are robust.

4. Methodology

4.1. Identification challenges and strategy

In this section we discuss the identification challenges and our strategies to overcome these. The key identification challenge is that labour turnover is endogenous to many factors including gender. Women, for example, are more likely than men to give up their job for family reasons or to self-select into a part-time job, and the presence of a partner or children amplifies this difference of selection into unemployment and part-time employment (Blau and Kahn, 2017). In turn, the reason for and incidence of labour turnover is important as through human capital accumulation and signalling it affects workers' long-term labour market outcomes.

In line with the literature on job displacement, our identification strategy exploits a quasi-experimental empirical design involving job loss due to firm bankruptcy as an exogenous negative employment shock to the employment status of workers. This strategy ensures that women and men experience unforeseen job loss for an identical reason. The key identification restriction involves parallel pre-displacement trends for displaced and non-displaced workers as well as for workers who differ in gender, full-time/part-time status and household setting.[13]

Another identification challenge is that it is not random who works at a firm that has been declared bankrupt, as firm bankruptcy can be sensitive to business cycle effects on specific economic sectors. To deal with this identification challenge, we use the coarsened exact matching procedure to make displaced and non-displaced workers observationally equivalent (Iacus et al., 2011).[14]

[13] Observe in Figure 1 the parallel pre-displacement trends for displaced and non-displaced workers. This identifying restriction also holds for the role of gender (Figure 2), full-time/part-time status (Figure 3) and household setting (Figures 4 and C.1) in the displacement effects as well as for the displacement effect by stratified samples (see Figures 1 and C.2). Admittedly, this restriction is least convincing for the model on commuting distance.

[14] Tables A.2 and A.3 show the individual summary statistics for the non-matched sample and matched sample, respectively, revealing that CEM is effective in reducing the difference in sample means between displaced and non-displaced workers. The full set of matching variables is as follows: gender, age (22 $\leq$ age $\leq$ 30 years, 30 $<$ age $\leq$ 35, 35 $<$ age $\leq$ 40, 40 $<$ age $\leq$ 45, 45 $<$ age $\leq$ 50 and 50 $<$ age $\leq$ 57), born in the Netherlands, presence of children, type of contract (fixed-term, permanent or other), working hours ($\geq$ 35 hours or 20 to 35 hours), tenure in the job (3 $\geq$ tenure $\leq$ 6 years, 6 $<$ tenure $\leq$ 12, 12 $\geq$ tenure $\leq$ 18 years or tenure $>$ 18 years), economic sector (21 International Standard Industrial Classification of All Economic Activities (ISIC) industries) and size of the firm (10-49, 50-99, 100-499 or

Matching of displaced to non-displaced workers increases the internal validity of our analysis as it limits the potential of selection into job displacement based on observables.

The displaced workers are the treatment group. A control group is computed by matching displaced workers on the month of job loss to identical, non-displaced workers. Thereby, the 'actual' month of job loss of a displaced worker reflects the 'potential' month of job loss of a non-displaced worker. A non-displaced worker is the control of one displaced worker only, and the order of months in which treated were matched to controls was taken randomly. In the years following the actual or potential displacement, the workers in our sample could become unemployed for voluntary reasons as well as for involuntary reasons except for job loss due to firm bankruptcy. This ensures we will not overestimate the displacement effects (Krolikowski, 2018).

A final identification challenge is that job stability and fertility are interrelated. For example, the incidence of job loss on average decreases fertility rates for over six years (Del Bono et al., 2015; Huttunen and Kellokumpu, 2016), but may increase fertility rates for young women (Kunze and Troske, 2015). This limits our ability to examine the causal impact of the presence of young children on workers' post-displacement outcomes. To tackle this identification challenge, we exploit a group of workers who are expecting a baby upon the incidence of unforeseen job loss. We use the interaction between job loss because of firm bankruptcy and expecting a baby as an exogenous shock to assess how childbearing affects post-displacement outcomes. See Table A.7 for the time gap between birth and job loss for the 523 displaced expectant mothers and 1126 displaced expectant fathers in our sample, which reveals no clear pattern of strategic behaviour in leaving a job over the time gap of one to eight months before birth. This descriptive finding supports that fertility in relation to job loss because of firm bankruptcy is exogenous, though we acknowledge the sample size is relatively small.

$\geq$ 500 employed workers). All variables are measured in the month of job loss, except for the latter two variables which are based on annual firm-level data and measured in the calendar year preceding job loss. The matching rate equals 90 per cent. See Tables A.4 and A.5 for the female summary statistics and male summary statistics based on the matched sample, respectively. See Table A.6 for firm summary statistics on the firm size and economic sector.

Our identification strategy involving job loss due to firm bankruptcy is ideal to study gender differences in job flexibility outcomes after job dismissal for various reasons. First, upon the incidence of job loss, workers might exogenously change their reservation wage in relation to their preference for flexibility in working hours and commute. For traditional workers, variation in job flexibility outcomes is low (Flabbi and Moro, 2012). Second, we examine the displacement effects while limiting demand-side factors such as wage discrimination and a more homogeneous spatial distribution of female jobs (Blau and Kahn, 2017), as these demand-side factors are to some extent cancelled out as they affect pre-displacement outcomes as well as post-displacement outcomes. Third, confounding effects of on-the-job search and firms offering higher wages to reduce labour turnover are limited, because we focus on post-displacement labour market outcomes. Finally, the setting of job displacement limits confounding effects of fertility and home relocation, as job loss reduces the likelihood of having children (Del Bono et al., 2015; Huttunen and Kellokumpu, 2016) as well as the incidence of changing home in the Netherlands (Meekes and Hassink, 2019b).

4.2. Empirical models

We use an empirical design that compares pre-displacement outcomes with post-displacement outcomes of displaced and non-displaced workers. The displaced and non-displaced workers will be followed for 24 months before until 36 months after the month of actual and potential job displacement, respectively.

We specify a generic empirical model, shown in (1), to estimate the displacement effect on each of the four outcome variables, Y. Y stands for employment, log hourly wage, log working hours and log commuting distance. Our baseline model takes the form:

$$\begin{aligned} Y_{irt} = \delta_Y(DISPLACED_i \times POST_{it}) + \rho_Y POST_{it} \\ + \beta'_Y X_{it} + \alpha_{Y,i} + N_{Y,r} + D_{Y,t} + \varepsilon_{Y,irt} \end{aligned} \tag{1}$$

$i \in 1, 2, ..., N$; $r \in 1, 2, ..., 40$; $t \in 1, 2, ..., 144$

where subscripts i, r and t denote the worker, regional area and month, respectively. The parameters of interest of interest are denoted by δ_Y, which capture the displacement effects on each of the dependent variables Y. The displacement effect is identified based on a two-way interaction term between the scalar indicator variables *DISPLACED* and *POST*. *DISPLACED* is time-constant and equals one for displaced workers. *POST* equals one for the period of 36 months after job loss, and zero for the month of job loss and the 24 months before job loss. The worker's time-varying covariates are represented by column vector X, with a vector of parameters β_Y. Individual-specific fixed effects are denoted by α_Y, which control for time-constant unobservables such as the worker's ability. In models (1) and (2), X contains only the worker's age category (four categories: 20 < age ≤ 30 years, 30 < age ≤ 40, 40 < age ≤ 50 and 50 < age ≤ 60) as the individual fixed effects absorb the coefficients on the time-constant variables gender, born in the Netherlands, *DISPLACED*, presence and age of children, marital status, job tenure, type of contract, firm size, economic sector, full-time/part-time status and year of job displacement. N_Y represents indicators for the regional area based on the NUTS 3 regional classification, which controls for local labour market conditions. Parameter D_Y denotes the monthly time indicators and ε_Y denotes the idiosyncratic error term.

Equation (2) extends (1) by allowing the displacement effects to depend on the number of months since job loss. We examine how the displacement effects change over the post-displacement period and assess whether the parallel pre-displacement trends hold. The empirical model is

$$\begin{aligned} Y_{irt} = & \sum_{\tau=-24}^{36} [\delta_Y^\tau DISPLACED_i \times G_{it}^\tau + \rho_Y^\tau G_{it}^\tau] \\ & + \beta_Y' X_{it} + \alpha_{Y,i} + N_{Y,r} + D_{Y,t} + \varepsilon_{Y,irt} \end{aligned} \tag{2}$$

where δ_Y^τ denote the parameters of interest, i.e. the time-dependent displacement effects. The parameters δ_Y^τ are identified using interaction terms between *DISPLACED* and the scalar indicator variables G^τ. Parameter τ is defined as the time gap between the month under observation and

the month of job loss, ranging from minus twenty-four to plus thirty-six in increments of one. At $\tau = 0$, displaced workers have their actual month of job displacement and matched non-displaced workers have their potential month of displacement. Hence, G^{τ}, $\tau = -24, ..., 36$, denotes the τ-th time gap between the month under observation and month of job loss. We used the twelfth month before job loss as the base category, i.e. $G^{\tau=-12}$, to overcome the potential problem that workers experience changes in outcomes in the month of firm bankruptcy.

We specify a model in (3), which complements (1), to assess whether the displacement effects differ by worker characteristics. Specifically, we include interaction terms among the vector of worker characteristics X, *DISPLACED* and *POST*.

$$\begin{aligned} Y_{irt} = &(\kappa_Y' X_{it}) \times DISPLACED_i \times POST_{it} \\ &+ (\gamma_Y' X_{it}) \times DISPLACED_i + (\eta_Y' X_{it}) \times POST_{it} \\ &+ \delta_Y DISPLACED_i \times POST_{it} + \rho_Y POST_{it} \\ &+ \beta_Y' X_{it} + \alpha_{Y,i} + N_{Y,r} + D_{Y,t} + \varepsilon_{Y,irt} \end{aligned} \tag{3}$$

where vector κ_Y denotes the parameters of interest. In models (3) and (4), vector X contains the time-varying covariate age, the time-constant covariates gender and born in the Netherlands, the time-constant covariates measured in the month of job loss including job tenure ($3 \geq$ tenure $\leq$ 6 years, 6 < tenure $\leq$ 12, 12 $\geq$ tenure $\leq$ 18 years or tenure > 18 years), type of contract (fixed-term, permanent or other), year of job displacement, full-time/part-time status ($\geq$ 35 hours or 20 to 35 hours), marital status (single or married) and presence and age of children (no child, expecting a baby, youngest child aged 0 to 4 years, aged 4 to 12 years, aged 12 to 18 years or older than 18 years), and the time-constant covariates measured in the calendar year preceding job loss including firm size (10-49, 50-99, 100-499 or $\geq$ 500 employed workers) and economic sector (manufacturing or servicing). Note that the full-time/part-time status is not incorporated in the model on displacement effects by full-time/part-time status and also not in the model on the

effects by household setting. The worker's marital status as well as presence and age of children is not included in the model on effects by household setting.

We specify a model in (4), which complements that of (2), to assess whether the importance of worker characteristics for the displacement effects changes over time since job loss. Again, we use G^{τ} instead of *POST*, including three-way interaction terms among the indicator variables X, *DISPLACED* and G^{τ}. The empirical model is

$$\begin{aligned} Y_{irt} = \sum_{\tau=-24}^{36} & [(\kappa_Y'^{\tau} X_{it}) \times DISPLACED_i \times G_{it}^{\tau} \\ & + \delta_Y^{\tau} DISPLACED_i \times G_{it}^{\tau} + (\eta_Y'^{\tau} X_{it}) \times G_{it}^{\tau} \\ & + \rho_Y^{\tau} G_{it}^{\tau}] + (\gamma_Y' X_{it}) \times DISPLACED_i \\ & + \beta_Y' X_{it} + \alpha_{Y,i} + N_{Y,r} + D_{Y,t} + \varepsilon_{Y,irt} \end{aligned} \tag{4}$$

where vector κ^{τ} denotes the parameters of interest.

5. Empirical analysis

We first present empirical evidence on the average displacement effect on employment, hourly wages, working hours and commuting distance. Next, we examine the gender difference in the impact of job displacement, followed by three robustness checks to assess the sensitivity of these results. Then we consider how the displacement effects depend on workers' full-time/part-time employment status of the displaced job and workers' household setting.

5.1. Displacement effects for all workers

Figure 1 shows the displacement effects over the number of months since job loss (Equation (2)). The y-axis registers the impact on the outcome variable, which is in percentage points for employment (Figure 1A) and in percentages for hourly wages (Figure 1B), working hours (Figure 1C) and commuting distance (Figure 1D). The x-axis registers the number of months between the month under observation and the month of job loss, and equals zero for the month of displacement.

We are interested in how the displacement effects change over the period after job loss, estimated for the full sample (black solid line). Figure 1A shows that at six months after job loss, displaced workers are 33 percentage points less employed than non-displaced workers. At 18 and 36 months, the loss in employment equals 20 and 14 percentage points, respectively. The displacement effects on hourly wages, work hours and commuting distance are identified conditional on employment. Figure 1B shows that the loss in hourly wages becomes smaller over the period soon after job loss, ranging from 6.5 per cent the first month after job loss to 4.5 per cent four months after job loss. At 18 months, the negative displacement effect on wages is more pronounced and remains relatively stable at about 7 per cent. Figure 1C shows that the displacement effect on working hours is most severe up to six months after displacement, which suggests that workers who become re-employed relatively soon after job loss do so by taking up a job with fewer working hours. After six months, the loss in hours work equals 14 per cent and diminishes further to 8 per cent over the post-displacement period of 36 months. Figure 1D shows that the displacement effect on commutes increases to 26 per cent over the first three months since job loss, and thereafter decreases to 11 per cent over the post-displacement period of three years. The results suggest that workers who stay unemployed for a longer period experience a higher loss in hourly wage but smaller changes in working hours and commute.

Overall, panel A of Table 1, based on Equation (1), shows that compared to the non-displaced workers, over the post-displacement period of 36 months, displaced workers experience on average a loss of 25 percentage points in employment (Column (1)) and, conditional on employment, a loss of 6 per cent in hourly wages (Column (2)), a loss of 11 per cent in work hours (Column (3)) and an increase of 16 per cent in the commuting distance (Column (4)).[15]

[15]The displacement effects in Table 1 on employment and wages are consistent with those reported in the literature. While studies on the US traditionally focus on displacement effects on wages and earnings (Jacobson et al., 1993; Couch and Placzek, 2010; Davis et al., 2011; Krolikowski, 2018), studies on European countries tend to assess the displacement effects on employment and wages (Eliason and Storrie, 2006; Huttunen et al., 2011; Ichino et al., 2017; Huttunen et al., 2018; Halla et al., 2018). In Europe, employment is arguably a more important margin of adjustment because of the more centralized wage system characterised by higher wage floors (Kuhn, 2002; Blau and Kahn, 2003).

5.2. *Gender differences in displacement effects*

Next, we consider differences between men and women in the patterns of displacement effects. The parameter estimates provided in Figure 2 are based on the triple differences model as in Equation (4), which controls for differences in displacement effects among workers with different individual and job characteristics.[16]

Figure 2A shows that the gender difference in the displacement effect on employment is largest at four months after job loss and equals 9 percentage points, and remains 2 percentage points from about two years since job loss. Figures 2B and 2C show that the gender difference in the loss in wages and working hours is relatively persistent over the post-displacement period at about 2 percentage points and 7.5 percentage points, respectively. Figure 2D shows that displaced women experience about a 7.5 percentage points smaller increase in the commuting distance than do displaced men. The results provided in panels B, C and D of Table 1 and the results based on regressions stratified by gender in Figure 1 are consistent with those provided in Figure 2.

Our analysis has three important outcomes. First, a novel outcome is that because of job loss the gender difference in both hours of work and commuting distance become larger. It seems displaced women have a greater tendency for flexibility after job loss, putting more emphasis on working hours flexibility and commuting flexibility than do displaced men. Second, relative to men, women have a longer period of search on average and remain unemployed for a longer period. This is consistent with Kunze and Troske (2012, 2015) and Farber (2017). Specifically, the employment loss for women is 9 percentage points higher than for men at four months after job loss, whereas this difference is only 2 percentage points at 24 months since job loss. Third, there is no widening of the gender hourly wage gap. On the contrary, on average the wage gap reduces over

For the UK, Hijzen et al. (2010) show displaced workers experience income losses ranging between 18 to 35 per cent. Supporting the results by Meekes and Hassink (2019b) on the Netherlands, Table 1 shows that workers experience a substantial increase in the commuting distance following job loss.

[16] See Figure B.1 for results based on a model where we excluded the interaction terms among full-time/part-time status, *DISPLACED* and *G*. See Figures B.2-B.8 in Appendix B for the role of other observables in displacement effects based on the model of Figure 2.

the entire post-displacement period.[17] The finding of smaller wage losses for displaced women is consistent with Davis et al. (2011) who document that after job loss the drop in earnings is slightly smaller for women than men. One interpretation of these results is that displaced female workers' greater tendency for flexibility increases job search duration without widening the gender pay gap.

5.2.1. Robustness checks

We present three robustness checks to assess the validity of our results. First, in Figure C.4 we overcome a positive selection into employment for female workers by including unemployed individuals and keeping zeros in the data on wages, work hours and commuting distance for the unemployed. The parameter estimates provided in Figure C.4 are based on model (4) specified in levels instead of in logs. Figure C.4 shows that the impact on hourly wages in levels is slightly smaller for women than men. Importantly, the gender difference in displacement effects on the three outcome variables is very similar using models in levels including zeros for the unemployed compared to models in levels excluding zeros, especially from about three to six months after job loss which can be explained by the fact that the majority of displaced workers is re-employed at that time. Thus the issue of positive selection into employment for women for the estimation of the specification on hourly wages, working hours and commutes, respectively, appears to be small.

Second, we show that our results on wages and hours are robust to excluding post-displacement job-to-job turnover (see Figures C.5 and C.6 for results based on Equation (2) and (4), respectively). This finding suggests the patterns in post-displacement labour market outcomes over time since job loss are caused by individuals entering employment instead of by job-to-job transitions.

Third, we apply placebo treatment tests on parallel pre-treatment trends, matching displaced to non-displaced workers in the twelfth month before actual displacement (See Figures C.7 and C.8 for models (2) and (4), respectively). These results show no effects in the year leading up to

[17] We also assess the gender difference in the displacement effect on wages by comparing high-wage to low-wage workers (see Table C.5 and Figure C.3). Relative to displaced high-wage men, displaced high-wage women experience a 0.7 percentage points smaller loss in wages, consistent with Panel D of Table 1. This suggests women's smaller displacement effect on wages is not caused by their wages being very close to the minimum wage level.

the month of job loss, which satisfies our key identification restriction.

5.3. Full-time/part-time status and the gender difference in displacement effects

Our analysis continues by assessing whether the gender difference in displacement effects is driven by a difference in full-time/part-time status. A part-time job is defined as ≥ 20 to < 35 working hours a week and a full-time job is defined ≥ 35 working hours a week as measured before job loss.[18] Table 2, based on Equation (3), shows the displacement effects for the four groups of workers who differ in gender and the full-time/part-time status, where the reference category consists of male workers who worked full time during the incidence of job loss.[19] Figure 3 complements the empirical evidence of Table 2 and shows the displacement effects by gender and full-time/part-time status over the 61-months period, based on the triple-differences model as in Equation (4). For clarity reasons, we have excluded confidence intervals. Table 2 and Figure 3 show three main outcomes.

First, the results suggest both part-time employed women and full-time employed women have a relatively strong tendency for flexibility after job loss. The loss in working hours is more pronounced for displaced female workers, especially when comparing full-time women to full-time men and part-time women to part-time men. In addition, the increase in the commuting distance after job loss is particularly large for displaced full-time or part-time employed men. Figure 3 shows that the difference in displacement effects on hours work and commutes by gender and full-time/part-time status is relatively constant after six months since job loss.

Second, displaced full-time employed men experience the smallest loss in employment. Compared to displaced full-time employed men, displaced full-time employed women are about 10 percentage points less employed at 6 months since job displacement, but this difference equals about 3 percentage points three years after job loss (see Figure 3A).

[18] Similarly, we examine the importance of the worker's commuting distance of the displaced job for post-displacement labour market outcomes in Table C.6 and Figure C.9.

[19] See Tables A.8, A.9 and A.10, respectively, for the displaced workers' within changes in hourly wages, working hours and the commuting distance by full-time/part-time status. See Tables A.11, A.12 and A.13, respectively, for the displaced workers' distribution of hourly wages, working hours and the commuting distance.

Third, displaced women who were in a part-time or full-time job experience a comparable loss in wages in relative terms as displaced full-time employed men. Figure 3B shows that displaced part-time employed men experience about a 3 to 5 percentage points higher loss in hourly wages than the other subgroups of displaced workers. One interpretation of this finding is that, from the firm's perspective, having a part-time job could signal low productivity. The signal is likely to be much stronger for men, as in the Netherlands about a quarter of men are in a part-time job whereas about three quarters of women are in a part-time job.[20] This evidence suggests the smaller loss in hourly wages for displaced women compared to displaced men as observed in panel D of Table 1 and in Figure 2B is caused by the large loss in wages for displaced part-time employed men.

5.4. Household setting, pregnancy, and the gender difference in displacement effects

We focus on the role of the displaced worker's household setting in the displacement effects for expectant mothers (Table 3 and Figure 4) and expectant fathers (Table 4 and Figure C.1).

The evidence in Table 3, based on Equation (3), shows that displaced full-time employed female workers who are pregnant at the time of job loss become re-employed by taking up a job with 8 to 12 percentage points fewer working hours, and experience a 13 to 19 percentage points larger loss in employment, relative to the other groups of displaced women (Panel A of Table 3). Displaced expectant mothers appear relatively selective in commuting distance, however, the difference in the displacement effect on commute is statistically insignificant. The results on heterogeneity effects by household setting based on the sample of part-time employed women are less pronounced (Panel B), providing evidence that pregnancy at the time of job loss leads to a 7 to 11 percentage points higher loss in women's employment. We do not observe significant differences in wage losses.

Moreover, the results suggest that single expectant mothers and married expectant mothers experience comparable displacement effects. Part of the pregnancy effect on employment may be

[20] For the Dutch pharmacy sector, Künn-Nelen et al. (2013) show that productivity is higher for firms with a higher female part-time employment share, explained by a more efficient allocation of labour within the firm.

attributed to the demand side of the labour market through discrimination, and the small difference between single and married women does not allow us to infer that having a spouse affects post-displacement labour supply of pregnant women. Notably, except for pregnancy, the role of the worker's household setting in displacement effects is relatively small.

Figure 4, based on Equation (4), shows that for displaced full-time employed women the negative pregnancy effect on post-displacement employment peaks at about 40 percentage points after 4 months since job loss. This effect becomes smaller after six months since job loss and remains about 10 percentage points after 18 months since job loss (see panel A). For part-time employed women, however, the negative pregnancy effect on employment almost fully disappears after about two years since job loss (see panel B).

Table 4 and Figure C.1 show results on the role of the household setting in male workers' post-displacement outcomes. Compared to displaced full-time employed men who are single and have no child, displaced full-time employed expectant fathers who are single or married at the time of job loss experience smaller losses in employment. In addition, Panel A of Table 4 shows that displaced full-time expectant fathers have relatively high working hours in the post-displacement period. We do not find clear effects for expectant fathers who were in a part-time job when job loss occurred.

In general, displaced full-time employed expectant mothers who become re-employed after job loss are more likely to take up a job with limited working hours. Moreover, displaced expectant mothers tend to experience a relatively high loss in employment, whereas displaced expectant fathers experience a relatively low loss in employment.

6. Conclusion

Policy makers are putting in much effort to narrow gender gaps in employment and wages. An emerging body of research shows that the gender gaps have become narrower over time. Despite these developments, gender gaps in employment and wages remain pervasive. However, women

and men also differ in non-wage job attributes such as working hours and commuting distance, which may hinder further closing of gender gaps in employment and wages. In this paper we investigate whether there is a gender difference in coping with job loss, focusing on job flexibility outcomes and workers' household setting.

Our results on the Dutch labour market imply that displaced part-time employed women and displaced full-time employed women have a relatively strong tendency for job flexibility, characterised by more limited working hours and short commutes when they find a new job. Furthermore, relative to displaced full-time employed men, displaced part-time and full-time employed women have a longer job search, which is costly. Specifically, six months after job loss, the gender difference in post-displacement employment equals 10 percentage points, which becomes 6 and 3 percentage points after 12 and 36 months since job loss, respectively. Importantly, it seems that job loss does not widen the gender hourly wage gap, as we show for displaced women that their loss in hourly wages is comparable to that of displaced full-time employed men and slightly smaller than that of displaced part-time employed men. The results suggest that women's greater tendency for job flexibility increases their job search duration, but does not widen the gender wage gap in the three-year period after job loss.

The monthly data enable us to focus on a highly disadvantaged subpopulation for which we assume it has high flexibility needs: employees who are expecting a baby upon the incidence of job loss due to firm bankruptcy. We use the interaction between expecting a baby and the incidence of unforeseen job loss because of firm bankruptcy as an exogenous shock. Importantly, we find that women who were pregnant upon dismissal are on average about 10 to 20 percentage points less employed than displaced women who were not pregnant, irrespective of the marital status and full-time/part-time status at the time of job loss. We show that, conditional on employment, displaced full-time employed pregnant women take up a job with few working hours. In contrast, expectant fathers have a relatively high employment rate after experiencing job loss. We do not find any significant differences in wage losses. These gender differences for expectant mothers

and fathers are consistent with but more pronounced than those reported for all workers together.

Taken together, as in other countries, in the Netherlands there is no employment protection for expectant mothers against dismissal because of firm bankruptcy. We show that expectant mothers are more likely to remain disconnected from the labour market for a longer period after job loss relative to other groups of displaced workers. Thus, for expectant mothers, job loss widens the gender employment gap and possibly the gender pay gap through reduced long-term earnings potential over the life course. A policy recommendation is to protect expectant mothers against these consequences of dismissal because of firm bankruptcy. Policies to reduce expectant mothers' unemployment duration may involve providing more affordable childcare, encouraging men to share childcare responsibilities and raising awareness within households of the consequences of job dismissal at the time of pregnancy.

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List of Tables

Table 1
Impact of job loss on employment, hourly wages, working hours and commuting distance.

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
Panel A: Full sample (Eq. (1)):				
DISPLACED × *POST*	-0.2478***	-0.0642***	-0.1133***	0.1635***
	(0.0015)	(0.0010)	(0.0014)	(0.0051)
Panel B: Sample of women (Eq. (1)):				
DISPLACED × *POST*	-0.2817***	-0.0518***	-0.1497***	0.0704***
	(0.0028)	(0.0018)	(0.0031)	(0.0097)
Panel C: Sample of men (Eq. (1)):				
DISPLACED × *POST*	-0.2343***	-0.0688***	-0.0995***	0.1996***
	(0.0017)	(0.0012)	(0.0015)	(0.0059)
Panel D: Full sample (Eq. (3)):				
DISPLACED × *POST* × *Female*				
Base category: Men				
Women	-0.0373***	0.0167***	-0.0827***	-0.0812***
	(0.0039)	(0.0027)	(0.0041)	(0.0137)

Notes: Each column gives the dependent variable and each row gives the parameter estimate of the two-way interaction term *DISPLACED* × *POST* (Panels A, B and C) or of the three-way interaction term *DISPLACED* × *POST* × *Female* (Panel D). Each parameter estimate is based on a different regression. Standard errors clustered on the individual level are in parentheses. ***, **, *, corresponds to the significance level of 1%, 5%, 10%, respectively. Reference category of *DISPLACED*, *POST* and *Female* contains the non-displaced workers, pre-displacement period and men, respectively. Panel A provides results for the full sample and panels B and C provide results based on stratification by gender, based on the double differences model (Eq. (1)) in which the number of estimated parameters in each regression equals 187. The regression analyses include individual-specific fixed effects. Moreover, we include indicator variables for *POST*, age (3), the NUTS 3 location of the household (39) and calendar month (143). Panel D provides the results based on the triple differences model (Eq. (3)), in which the number of estimated parameters in the regression equals 244. The triple differences model includes three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the time-varying variable age (3) and with the time-constant variables born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), firm size (3), manufacturing sector, full-time/part-time status and the year of job displacement (6), respectively. All time-constant variables are measured in the month of job loss, except for firm size and sector which are measured in the year preceding job loss. Parameter estimates of the covariates are not reported. The period under observation is from January 2006 to December 2017. The displaced and non-displaced workers are followed for 24 months before until 36 months after the month of job loss. The number of observations in the full sample of employment, hourly wage, work hours and commuting distance equals 10,640,596, 9,760,553, 9,763,522, 9,639,113, respectively. The number of individuals equals 174,436, including 49,788 women and 124,648 men.

Table 2
The role of gender and full-time/part-time status in the effects of job loss (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Employment Status*:				
Base category: Full-time men				
Full-time women	-0.0506***	-0.0009	-0.0656***	-0.0609***
	(0.0052)	(0.0038)	(0.0055)	(0.0192)
Part-time women	-0.0511***	0.0047*	-0.0242***	-0.0822***
	(0.0041)	(0.0026)	(0.0044)	(0.0142)
Part-time men	-0.0278***	-0.0305***	0.0763***	0.0210
	(0.0045)	(0.0031)	(0.0043)	(0.0151)
Number of parameters	246	246	246	246
Number of individuals	174,436	174,436	174,436	174,436
Number of observations	10,640,596	9,760,553	9,763,522	9,639,113

Notes: Each column gives the parameter estimates of the three-way interaction term of *Employment Status* × *DISPLACED* × *POST* of a different regression. Reference group for the full-time/part-time employment status by gender is the group of displaced male workers who worked full-time when job loss occurred. Full-time workers and part-time workers are defined as, in the month of job displacement, working 35 or more hours a week and 20 to 35 hours a week, respectively. The number of full-time employed women, part-time employed women, full-time employed men and part-time employed men, equals 16,610, 33,178, 100,406, and 24,242, respectively. See Table 1 for additional notes.

Table 3
The role of female workers' household setting in the effects of job displacement (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
Panel A: Sample of full-time women:				
DISPLACED × *POST* × *Household Setting*:				
Base category: Single and no child				
Single and pregnant	-0.1655***	-0.0326	-0.1148***	-0.0783
	(0.0375)	(0.0232)	(0.0408)	(0.1377)
Single and child ≤ 18 yrs	-0.0354**	-0.0014	-0.0290	0.1464**
	(0.0163)	(0.0126)	(0.0185)	(0.0623)
Single and child > 18 yrs	0.0207	0.0182**	-0.0259*	0.0301
	(0.0133)	(0.0085)	(0.0142)	(0.0538)
Married and pregnant	-0.1871***	-0.0090	-0.1192***	-0.1445
	(0.0322)	(0.0204)	(0.0405)	(0.1171)
Married and child ≤ 18 yrs	-0.0104	-0.0044	-0.0469***	-0.0139
	(0.0149)	(0.0123)	(0.0171)	(0.0546)
Married and child > 18 yrs	-0.0189	0.0193	-0.0416*	0.0451
	(0.0218)	(0.0154)	(0.0236)	(0.0731)
Married and no child	-0.0193	-0.0116	-0.0299*	0.0364
	(0.0147)	(0.0107)	(0.0163)	(0.0555)
Panel B: Sample of part-time women:				
DISPLACED × *POST* × *Household Setting*:				
Base category: Single and no child				
Single and pregnant	-0.1149***	0.0041	-0.0437	-0.0233
	(0.0330)	(0.0170)	(0.0376)	(0.1147)
Single and child ≤ 18 yrs	0.0069	-0.0027	0.0007	-0.0079
	(0.0135)	(0.0076)	(0.0156)	(0.0475)
Single and child > 18 yrs	0.0279	0.0085	-0.0424*	0.0442
	(0.0177)	(0.0101)	(0.0227)	(0.0602)
Married and pregnant	-0.1009***	-0.0333	-0.0341	0.0011
	(0.0289)	(0.0212)	(0.0356)	(0.1116)
Married and child ≤ 18 yrs	0.0349***	-0.0071	0.0239*	0.0050
	(0.0123)	(0.0069)	(0.0143)	(0.0432)
Married and child > 18 yrs	0.0332**	0.0113	-0.0258	0.0790
	(0.0160)	(0.0090)	(0.0191)	(0.0538)
Married and no child	-0.0201	-0.0043	-0.0311	0.0091
	(0.0169)	(0.0097)	(0.0193)	(0.0565)

Notes: Parameter estimates of the three-way interaction terms among *Household Setting* × *DISPLACED* × *POST* are provided. Reference category of household setting is the group of displaced women who were single and had no children when job loss occurred. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the variables age (3), born in the Netherlands, job tenure (3), type of contract (2), firm size (3), manufacturing sector and the year of job displacement (6), respectively. Results are provided separately for a sample of 16,610 full-time women (including 285 single expectant mothers and 316 married expectant mothers) and a sample of 33,178 part-time women (including 377 single expectant mothers and 540 married expectant mothers).

Table 4
The role of male workers' household setting in the effects of job displacement (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
Panel A: Sample of full-time men:				
DISPLACED × *POST* × *Household Setting*:				
Base category: Single and no child				
Single and expecting a baby	0.0526***	0.0068	0.0289**	-0.0975
	(0.0150)	(0.0102)	(0.0134)	(0.0654)
Single and child ≤ 18 yrs	0.0246***	-0.0095**	0.0153**	-0.0307
	(0.0071)	(0.0047)	(0.0060)	(0.0253)
Single and child > 18 yrs	0.0013	0.0005	-0.0110*	0.0159
	(0.0076)	(0.0049)	(0.0066)	(0.0271)
Married and expecting a baby	0.0483***	0.0025	0.0250**	0.0015
	(0.0134)	(0.0094)	(0.0109)	(0.0531)
Married and child ≤ 18 yrs	0.0566***	-0.0080**	0.0305***	-0.0292
	(0.0056)	(0.0037)	(0.0049)	(0.0201)
Married and child > 18 yrs	0.0423***	-0.0186***	0.0227***	-0.0476*
	(0.0085)	(0.0055)	(0.0078)	(0.0283)
Married and no child	0.0291***	-0.0073	0.0034	-0.0217
	(0.0082)	(0.0055)	(0.0071)	(0.0281)
Panel B: Sample of part-time men:				
DISPLACED × *POST* × *Household Setting*:				
Base category: Single and no child				
Single and expecting a baby	0.0681	0.0444	0.0422	0.1563
	(0.0425)	(0.0280)	(0.0467)	(0.1269)
Single and child ≤ 18 yrs	0.0397**	0.0019	0.0143	0.0188
	(0.0161)	(0.0105)	(0.0157)	(0.0555)
Single and child > 18 yrs	0.0103	-0.0084	0.0025	0.0171
	(0.0173)	(0.0117)	(0.0176)	(0.0579)
Married and expecting a baby	0.0387	0.0113	0.0106	0.0337
	(0.0334)	(0.0292)	(0.0322)	(0.1084)
Married and child ≤ 18 yrs	0.0817***	-0.0021	0.0398***	0.0255
	(0.0132)	(0.0088)	(0.0133)	(0.0456)
Married and child > 18 yrs	0.0511***	-0.0098	0.0407**	0.0331
	(0.0178)	(0.0120)	(0.0183)	(0.0577)
Married and no child	0.0297	0.0093	0.0169	-0.0548
	(0.0196)	(0.0132)	(0.0190)	(0.0642)

Notes: Parameter estimates of the three-way interaction terms among *Household Setting* × *DISPLACED* × *POST* are provided. Reference category of household setting is the group of displaced men who were single and had no children when job loss occurred. Results are provided separately for a sample of 100,406 full-time men (including 1032 single expectant fathers and 1602 married expectant fathers) and a sample of 24,242 part-time men (including 194 single expectant fathers and 372 married expectant fathers). See Table 3 for additional notes.

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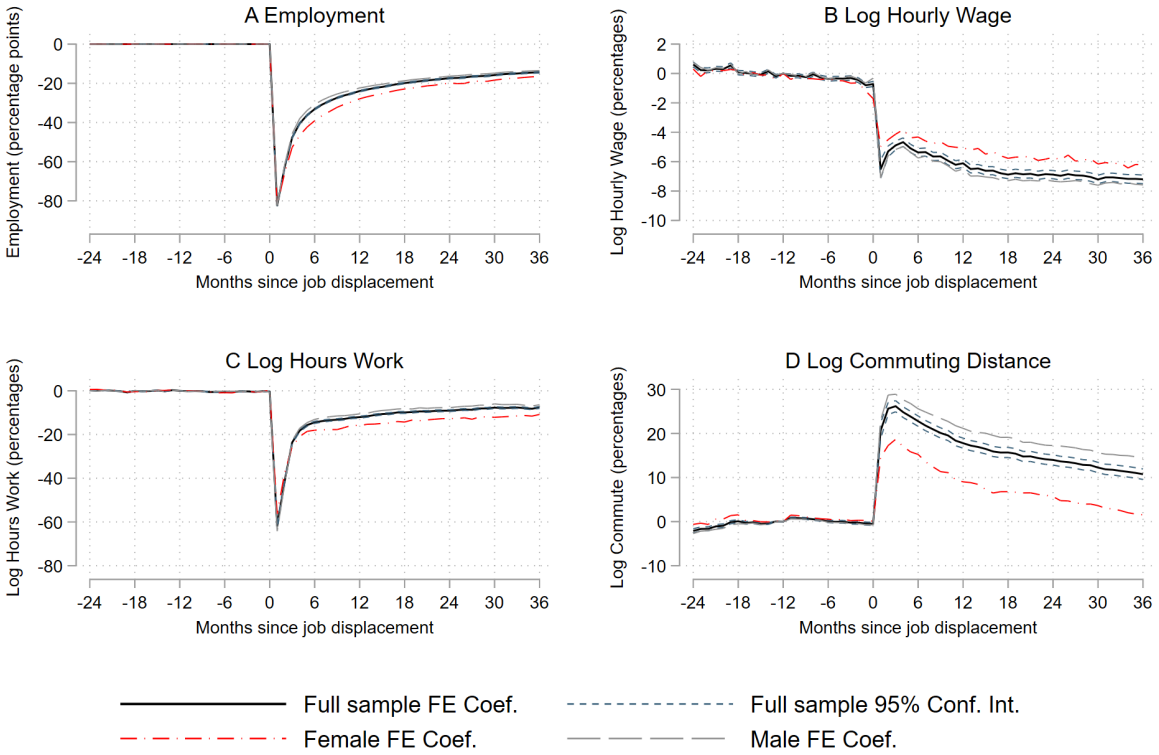


Fig. 1. Time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (2)).

Notes: Each line gives the parameter estimates of the interaction term $DISPLACED \times G^{\tau}$ of a different regression. Three sets of coefficients are provided in each graph, esimated separately for the full sample, for female employees and for male employees. Reference category of the displaced workers, *DISPLACED*, contains the non-displaced workers. Reference month is G^{-12}, the twelfth month before job loss. The 95% confidence intervals are computed using clustered standard errors on the individual level. For clarity reasons, we have excluded confidence intervals for the stratified samples by gender. Each fixed effects regression model includes 304 parameters. The number of individuals equals 174,436, including 49,788 women and 124,648 men.

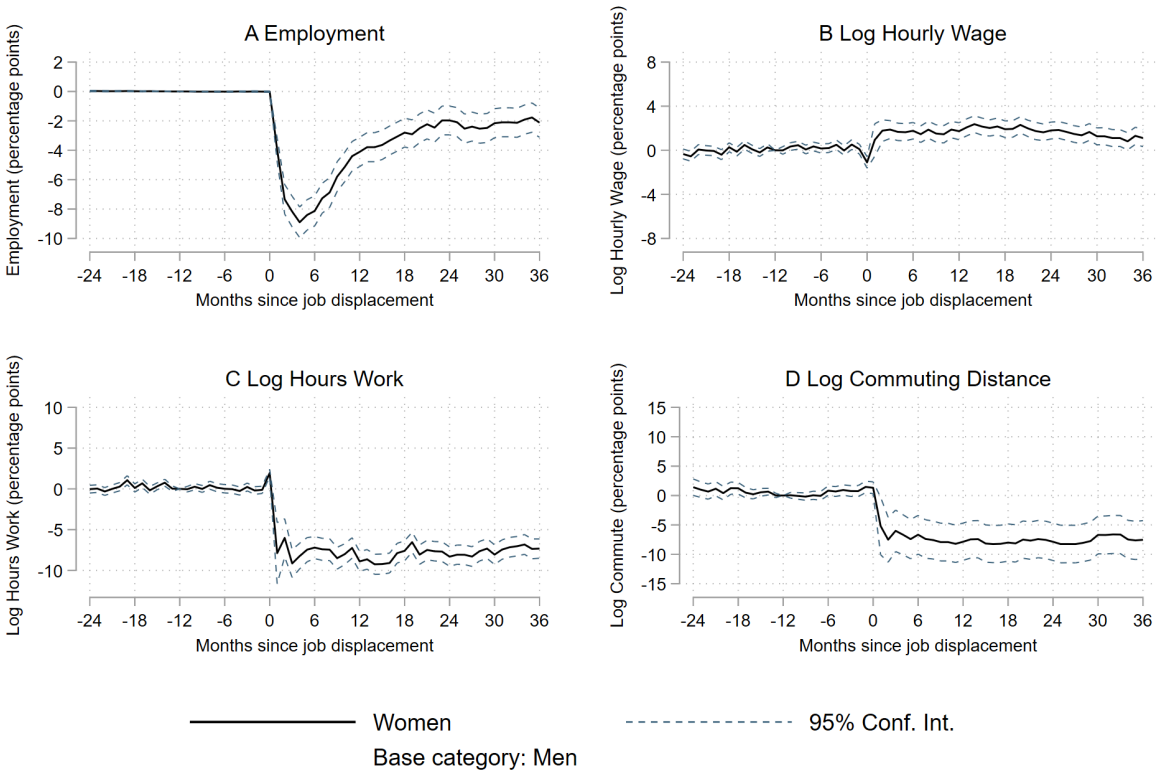


Fig. 2. Gender difference in the time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and log commuting distance (D) (Eq. (4)).

Notes: Each line gives the parameter estimates of the three-way interaction term $Female \times DISPLACED \times G^{\tau}$ of a different regression. Reference group is the group of displaced male workers. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and G^{τ} interacted with the time-varying variable age (3) and with the time-constant variables born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), full-time/part-time status, firm size (3), manufacturing sector and the year of job displacement (6), respectively. All time-constant variables are measured in the month of job loss, except for firm size and sector which are measured in the year preceding job loss. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 3,547 parameters.

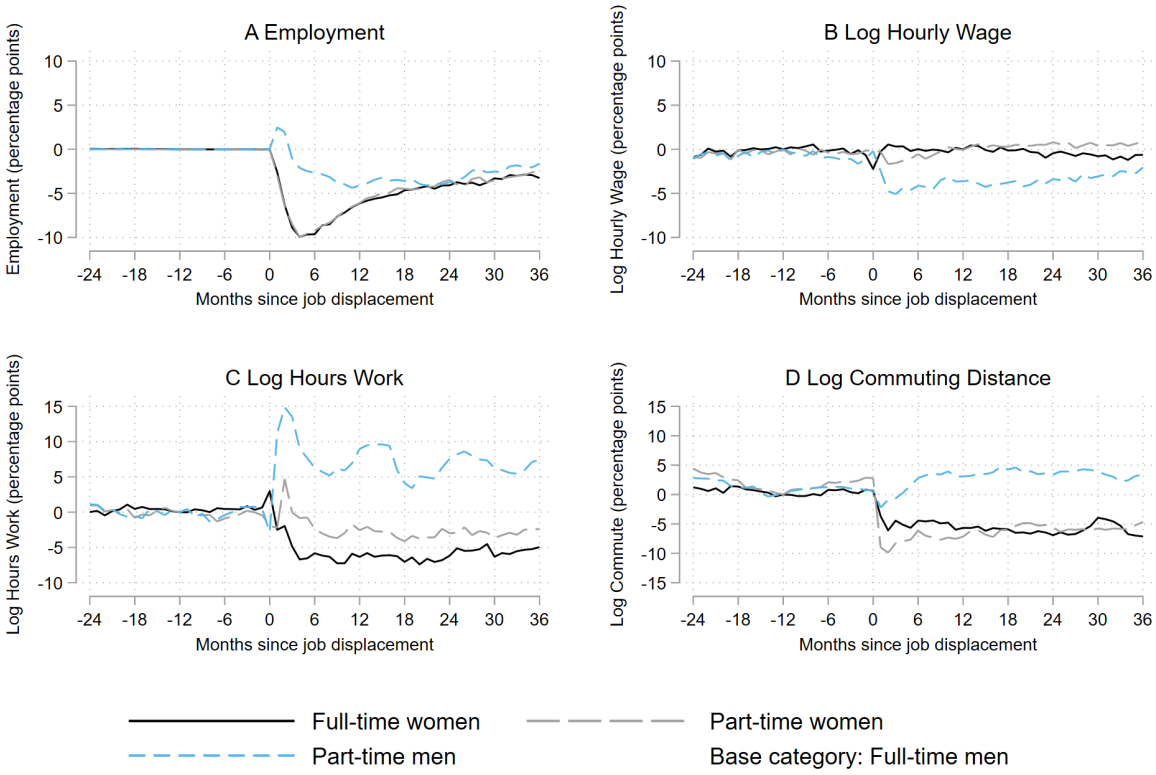


Fig. 3. Role of the full-time/part-time status and gender in the time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

Notes: Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term of *Employment Status* × *DISPLACED* × G^{τ}. Reference group for the full-time/part-time status by gender is the group of displaced male workers who worked full-time when job loss occurred. Each fixed effects regression model includes 3,667 parameters.

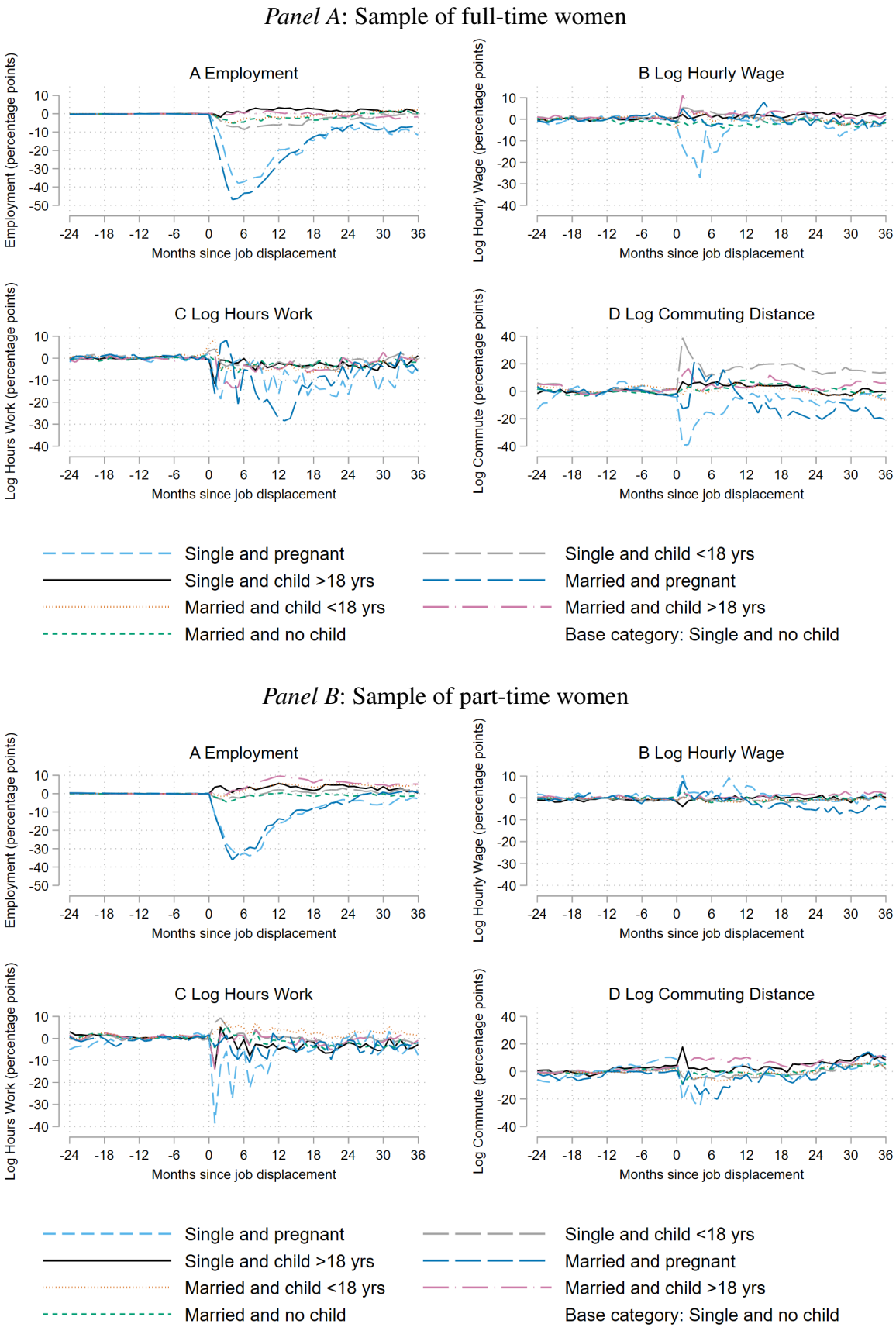


Fig. 4. Time-dependent displacement effects for displaced female workers by household setting on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

Notes: Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term *Household Setting* × *DISPLACED* × G^{τ}. Reference group for household setting is the group of displaced workers who are single and have no kids when job loss occurred.

Appendices:

Appendix A Summary statistics

Table A.1
Time gap between job loss and firm bankruptcy.

	Displaced Women		Displaced Men	
	Full-time	Part-time	Full-time	Part-time
Time Gap:	Frequency	Frequency	Frequency	Frequency
Job loss 6 months before bankruptcy	168	254	682	141
Job loss 5 months before bankruptcy	195	257	775	189
Job loss 4 months before bankruptcy	311	532	1544	339
Job loss 3 months before bankruptcy	356	545	1664	435
Job loss 2 months before bankruptcy	967	1798	7241	1365
Job loss 1 month before bankruptcy	2776	5963	18149	4902
Job loss in the month of bankruptcy	591	1340	3142	922
Job loss 1 month after bankruptcy	120	194	344	88
Job loss 2 months after bankruptcy	106	134	305	35
Job loss 3 months after bankruptcy	71	97	163	37
Job loss 4 or more months after bankruptcy	294	409	867	169
Number of individuals	5,955	11,523	34,876	8,622

Notes: The time gap is defined as the time difference between the month of firm bankruptcy and the month of job loss.

Table A.2
Individual characteristics of displaced and non-displaced workers using the non-matched sample.

	Non-displaced		Displaced		
	Mean	St. Dev.	Mean	St. Dev	*t*-statistic
Employment (=1)	1	0	1	0	
Work hours (log)	4.9675	0.2084	5.0075	0.2078	-54.15***
Work hours (#)	146.6354	28.2033	152.6126	29.6562	-59.77***
Hourly wage (log)	2.9042	0.3841	2.8099	0.3976	69.26***
Hourly wage (€)	19.7914	10.4044	18.1860	11.6446	43.50***
Commuting distance (log)	2.1348	1.1628	2.1774	1.1839	-10.35***
Commuting distance (km)	16.0949	22.2872	17.2970	24.3655	-15.21***
Female (=1)	0.4089	0.4916	0.2924	0.4549	66.85***
Age (in years)	42.3971	9.0704	41.6845	9.0030	22.16***
Low-educated (=1)	0.1435	0.3506	0.2356	0.4244	-63.36***
Average-educated (=1)	0.4183	0.4933	0.5526	0.4972	-65.73***
High-educated (=1)	0.4382	0.4962	0.2118	0.4086	110.25***
Born in the Netherlands (=1)	0.9036	0.2952	0.8998	0.3003	3.60***
Partnered (=1)	0.5945	0.4910	0.5806	0.4935	7.99***
Child (=1)	0.7061	0.4555	0.7218	0.4481	-9.70***
Pregnant (=1)	0.0271	0.1625	0.0271	0.1622	0.15
Permanent contract (=1)	0.9368	0.2433	0.9151	0.2787	24.91***
Tenure in the job (in months)	138.7090	91.6126	127.3900	83.7653	34.86***
Manufacturing sector (=1)	0.2531	0.4348	0.4150	0.4927	-105.03***
$\geq$ 35 hours a week (=1)	0.5889	0.4920	0.6644	0.4722	-43.27***
Number of individuals (#)	24,593,699		79,812		

Notes: Individual characteristics are provided for the period January 2008 to December 2014 based on the sample before applying coarsened exact matching. For displaced workers and non-displaced workers the sample means with standard deviations are provided for the month of actual and potential job loss, respectively. The *t*-statistic shows whether the statistics for the group of displaced workers and group of non-displaced workers are statistically different from each other. ***,**,*, correspond to the significance level of 1%, 5%, 10%, respectively. For the statistics on educational attainment, the number of non-displaced individuals and displaced individuals equal 12,439,265 and 58,608, respectively.

Table A.3
Individual characteristics of displaced and non-displaced workers using the matched sample.

	Non-displaced		Displaced		
	Mean	St. Dev.	Mean	St. Dev	*t*-statistic
Employment (=1)	1	0	1	0	
Work hours (log)	5.0106	0.2056	5.0168	0.2059	-5.94***
Work hours (#)	151.9897	28.7510	152.9819	29.7680	-6.79***
Hourly wage (log)	2.8662	0.3874	2.8206	0.3935	23.31***
Hourly wage (€)	19.1204	10.4694	18.3448	11.5539	14.22***
Commuting distance (log)	2.3363	0.9992	2.3587	1.0119	-4.43***
Commuting distance (km)	16.6422	23.3424	17.3278	24.4084	-5.76***
Female (=1)	0.2848	0.4513	0.2866	0.4522	-0.82
Age (in years)	41.9641	9.0850	41.9243	8.8907	0.88
Low-educated (=1)	0.1833	0.3869	0.2290	0.4202	-18.00***
Average-educated (=1)	0.4831	0.4997	0.5511	0.4974	-21.58***
High-educated (=1)	0.3337	0.4715	0.2198	0.4141	40.28***
Born in the Netherlands (=1)	0.9284	0.2578	0.9201	0.2711	6.25***
Partnered (=1)	0.5954	0.4908	0.5930	0.4913	0.97
Child (=1)	0.7340	0.4419	0.7286	0.4447	2.41**
Pregnant (=1)	0.0270	0.1622	0.0270	0.1622	0.01
Permanent contract (=1)	0.9495	0.2190	0.9411	0.2354	7.36***
Tenure in the job (in months)	128.1786	85.0000	129.1490	84.2032	-2.28**
Manufacturing sector (=1)	0.3959	0.4891	0.4014	0.4902	-2.23**
$\geq$ 35 hours a week (=1)	0.6715	0.4697	0.6696	0.4704	0.78
Number of individuals (#)	113,460		60,976		

Notes: Individual characteristics are provided for the period January 2008 to December 2014 based on the sample after applying coarsened exact matching. For displaced workers and non-displaced workers the sample means with standard deviations are provided for the month of actual and potential job loss, respectively. For the statistics on educational attainment, the number of non-displaced individuals and displaced individuals equal 56,003 and 45,097, respectively.

Table A.4
Female individual summary statistics using the matched sample.

	Non-displaced women		Displaced women		
	Mean	St. Dev.	Mean	St. Dev	*t*-statistic
Employment (=1)	1	0	1	0	
Work hours (log)	4.8600	0.2284	4.8757	0.2377	-7.18***
Work hours (#)	131.4162	30.1255	133.8821	33.4800	-8.38***
Hourly wage (log)	2.7613	0.3579	2.7015	0.3917	17.22***
Hourly wage (€)	16.9340	7.1595	16.2745	10.8170	8.15***
Commuting distance (log)	2.1641	0.9520	2.2437	1.0040	-8.73***
Commuting distance (km)	13.3852	19.1703	15.5991	23.3498	-11.37***
Female (=1)	1	0	1	0	
Age (in years)	40.9244	9.0815	40.9219	8.9484	0.03
Low-educated (=1)	0.1455	0.3526	0.1799	0.3841	-8.29***
Average-educated (=1)	0.4661	0.4989	0.5442	0.4981	-13.86***
High-educated (=1)	0.3884	0.4874	0.2759	0.4470	21.16***
Born in the Netherlands (=1)	0.9237	0.2654	0.9141	0.2802	3.78***
Partnered (=1)	0.5514	0.4974	0.5502	0.4975	0.27
Child (=1)	0.7004	0.4581	0.6942	0.4608	1.44
Pregnant (=1)	0.0308	0.1728	0.0299	0.1704	0.54
Permanent contract (=1)	0.9469	0.2241	0.9405	0.2366	3.01***
Tenure in the job (in months)	120.8405	80.9587	120.9767	80.2496	-0.18
Manufacturing sector (=1)	0.1445	0.3516	0.1537	0.3607	-2.75***
$\geq$ 35 hours a week (=1)	0.3298	0.4701	0.3407	0.4740	-2.47**
Number of individuals (#)	32,310		17,478		

Notes: Individual characteristics are provided for the period January 2008 to December 2014 based on the sample after applying coarsened exact matching. For displaced workers and non-displaced workers the sample means with standard deviations are provided for the month of actual and potential job loss, respectively. For the statistics on educational attainment, the number of non-displaced individuals and displaced individuals equal 17,828 and 13,931, respectively.

Table A.5
Male individual summary statistics using the matched sample.

	Non-displaced men		Displaced men		
	Mean	St. Dev.	Mean	St. Dev	*t*-statistic
Employment (=1)	1	0	1	0	
Work hours (log)	5.0706	0.1603	5.0734	0.1597	-3.02***
Work hours (#)	160.1810	23.6386	160.6565	24.2144	-3.36***
Hourly wage (log)	2.9080	0.3908	2.8685	0.3839	17.11***
Hourly wage (€)	19.9910	11.4096	19.1766	11.7348	11.89***
Commuting distance (log)	2.4049	1.0093	2.4049	1.0114	0
Commuting distance (km)	17.9390	24.6899	18.0224	24.7873	-0.57
Female (=1)	0	0	0	0	
Age (in years)	42.3780	9.0533	42.3271	8.8355	0.95
Low-educated (=1)	0.2009	0.4007	0.2510	0.4336	-15.79***
Average-educated (=1)	0.4910	0.4999	0.5543	0.4971	-16.62***
High-educated (=1)	0.3081	0.4617	0.1947	0.3960	34.27***
Born in the Netherlands (=1)	0.9302	0.2547	0.9226	0.2673	4.98***
Partnered (=1)	0.6129	0.4871	0.6102	0.4877	0.93
Child (=1)	0.7473	0.4346	0.7424	0.4373	1.90*
Pregnant (=1)	0.0256	0.1578	0.0259	0.1588	-0.35
Permanent contract (=1)	0.9505	0.2169	0.9414	0.2349	6.82***
Tenure in the job (in months)	131.1004	86.3837	132.4327	85.5218	-2.60***
Manufacturing sector (=1)	0.4961	0.5000	0.5010	0.5000	-1.65*
$\geq$ 35 hours a week (=1)	0.8075	0.3943	0.8018	0.3987	2.44**
Number of individuals (#)	81,150		43,498		

Notes: Individual characteristics are provided for the period January 2008 to December 2014 based on the sample after applying coarsened exact matching. For displaced workers and non-displaced workers the sample means with standard deviations are provided for the month of actual and potential job loss, respectively. For the statistics on educational attainment, the number of non-displaced individuals and displaced individuals equal 38,175 and 31,166, respectively.

Table A.6
Firm characteristics of non-bankrupt firms and bankrupt firms using the matched sample.

	Firms			
	Non-bankrupt firms		Bankrupt firms	
	Mean	St. Dev.	Mean	St. Dev.
Firm size:				
1-9 employees (=1)	0	0	0	0
10-49 employees (=1)	0.5663	0.4956	0.7099	0.4538
50-99 employees (=1)	0.1744	0.3794	0.1266	0.3326
100-499 employees (=1)	0.1992	0.3994	0.1199	0.3249
500 or more employees (=1)	0.0602	0.2378	0.0436	0.2042
Firm sector:				
Agriculture, forestry and fishing (=1)	0.0060	0.0769	0.0100	0.0995
Mining and quarrying (=1)	0	0	0	0
Manufacturing (=1)	0.2503	0.4332	0.1933	0.3949
Electricity, gas, steam and air conditioning supply (=1)	0.0003	0.0166	0.0010	0.0309
Water supply; sewerage, waste management and remediation (=1)	0.0017	0.0411	0.0036	0.0600
Construction (=1)	0.1638	0.3701	0.1759	0.3808
Wholesale and retail trade; repair of motor vehicles and cycles (=1)	0.2254	0.4178	0.1916	0.3935
Transportation and storage (=1)	0.0650	0.2465	0.0643	0.2453
Accommodation and food service activities (=1)	0.0107	0.1031	0.0220	0.1467
Information and communication (=1)	0.0326	0.1776	0.0484	0.2146
Financial and insurance activities (=1)	0.0195	0.1382	0.0225	0.1484
Real estate activities (=1)	0.0056	0.0747	0.0123	0.1104
Professional, scientific and technical activities (=1)	0.0804	0.2719	0.1002	0.3003
Administrative and support service activities (=1)	0.0522	0.2225	0.0763	0.2655
Public administration and defence; compulsory social security (=1)	0	0	0	0
Education (=1)	0.0088	0.0936	0.0102	0.1005
Human health and social work activities (=1)	0.0648	0.2462	0.0486	0.2150
Arts, entertainment and recreation (=1)	0.0038	0.0614	0.0072	0.0847
Other service activities (=1)	0.0091	0.0949	0.0124	0.1108
Activities of households as employers and for own use (=1)	0	0	0	0
Activities of extraterritorial organisations and bodies (=1)	0	0	0	0
Number of firms (#)	90,239		9,407	

Notes: Firm characteristics are provided over the period January 2008 to December 2014 based on the sample after applying coarsened exact matching. The set of non-bankrupt firms contains all distinct firms where matched non-displaced workers work in the month of potential displacement. The set of bankrupts firms contains all distinct firms of which an entity is declared bankrupt and a worker is displaced in the month of actual displacement.

Table A.7
Time gap between birth and job loss for women and men.

	Displaced Women	Displaced Men
Time Gap:	Frequency	Frequency
Job loss 8 months before birth	58	138
Job loss 7 months before birth	66	146
Job loss 6 months before birth	66	150
Job loss 5 months before birth	69	137
Job loss 4 months before birth	57	125
Job loss 3 months before birth	59	141
Job loss 2 months before birth	74	135
Job loss 1 months before birth	74	154
Number of individuals expecting a baby during job loss	523	1126

Notes: The time gap is defined as the time difference between the month of birth of a baby and the month of job loss.

Table A.8
The within change in hourly wage for displaced workers.

	Within change in hourly wage (€)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	0.8575	0.4112	0.2006	-1.1108
St. Dev.	7.4460	7.8326	9.5770	16.4462
Variance	55.4433	61.3493	91.7196	270.4775
Skewness	8.9110	17.4335	-11.0370	-41.2980
Kurtosis	287.2194	564.0165	1524.5958	2819.8766
1th percentile	-16.1012	-11.7864	-20.2357	-20.9942
5th percentile	-6.6822	-6.0638	-7.3964	-9.4421
25th percentile	-1.1240	-1.2378	-1.5694	-3.1683
50th percentile	0.9834	0.5088	0.5381	-0.1950
75th percentile	2.8878	1.9119	2.3928	1.6485
95th percentile	7.3259	5.4158	6.8035	5.5005
99th percentile	15.2444	10.8069	14.4744	12.2345
Number of individuals	4,409	8,407	27,189	6,240

Notes: The within change in hourly wage for displaced workers, measured by the difference in the values of hourly wages between the 24th month after job loss and the 12th month before job loss. For workers who are unemployed in the 24th month after job loss, the within change is not observed.

Table A.9
The within change in work hours for displaced workers.

	Within change in work hours (#)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	-22.5084	-8.1608	-11.3014	4.6864
St. Dev.	41.7256	39.1807	35.9044	44.7663
Variance	1741.0257	1535.1251	1289.1225	2004.0245
Skewness	-0.8080	-0.1946	-1.4278	-0.0865
Kurtosis	5.1075	5.5572	7.9565	5.8824
1th percentile	-149.0000	-114.0000	-145.2500	-126.4300
5th percentile	-108.0000	-80.4300	-86.0000	-76.0000
25th percentile	-42.0000	-27.7100	-17.0000	-18.0000
50th percentile	-12.0000	-3.0000	-2.0400	7.0000
75th percentile	1.0000	13.0000	8.0000	28.9250
95th percentile	24.0000	48.0000	24.0000	72.0700
99th percentile	69.0000	82.0000	60.2000	115.0000
Number of individuals	4,409	8,407	27,189	6,240

Notes: The within change in work hours for displaced workers, measured by the difference in the values of work hours between the 24th month after job loss and the 12th month before job loss. For workers who are unemployed in the 24th month after job loss, the within change is not observed.

Table A.10
The within change in commuting distance for displaced workers.

	Within change in commuting distance (km)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	3.6996	3.1980	5.6514	7.4759
St. Dev.	33.2321	30.9305	33.8940	34.2123
Variance	1104.3709	956.6962	1148.8048	1170.4799
Skewness	0.4239	0.5597	1.0327	1.3019
Kurtosis	11.3108	13.8573	12.8441	12.1024
1th percentile	-107.9972	-104.4851	-90.8926	-92.7407
5th percentile	-44.3878	-35.3135	-37.0891	-31.3143
25th percentile	-2.9509	-1.1225	-1.3923	-1.0283
50th percentile	0	0	0	0
75th percentile	11.0806	7.6968	11.8214	12.5386
95th percentile	57.8186	51.4946	61.5430	68.1098
99th percentile	117.0205	111.6631	130.9899	135.0094
Number of individuals	4,261	8,105	26,329	5,930

Notes: The within change in commuting distance for displaced workers, measured by the difference in the values of commuting distance between the 24th month after job loss and the 12th month before job loss. For workers who are unemployed in the 24th month after job loss, the within change is not observed.

Table A.11
Distribution of hourly wage for displaced workers.

	Hourly wage (€)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	16.5790	15.6244	18.7141	18.8500
St. Dev.	8.5575	9.2750	10.1295	14.4130
Variance	73.2308	86.0261	102.6063	207.7357
Skewness	3.8925	38.4940	14.8266	49.1463
Kurtosis	35.3090	2633.1740	842.5306	3500.5100
1th percentile	6.4437	7.7885	8.3815	8.3714
5th percentile	8.7402	9.1571	10.2386	10.4778
25th percentile	11.5435	11.6200	13.4017	14.1097
50th percentile	14.6171	14.4528	16.4937	17.6395
75th percentile	19.0061	17.7053	21.0563	21.0952
95th percentile	30.8693	26.0520	34.0909	30.4519
99th percentile	47.6923	35.8491	54.3064	44.8980
Number of individuals	5,955	11,523	34,876	8,622

Notes: The distribution of hourly wage for displaced workers, measured in the 12th month before job loss.

Table A.12
Distribution of work hours for displaced workers.

	Work hours (#)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	161.0340	116.8188	167.1145	132.2950
St. Dev.	21.2337	24.6176	15.4373	26.2817
Variance	450.8690	606.0286	238.3107	690.7297
Skewness	-1.7633	0.2533	-0.8388	-0.1761
Kurtosis	11.8167	3.8501	23.0701	4.7456
1th percentile	80.0000	63.0000	114.2900	65.0000
5th percentile	117.0000	84.0000	148.5700	91.4300
25th percentile	156.0000	100.0000	160.0000	114.2900
50th percentile	165.0000	113.0000	168.0000	136.8200
75th percentile	173.0000	138.0000	174.0000	148.5700
95th percentile	184.0000	156.0000	184.0000	173.0000
99th percentile	194.0000	175.0000	207.0000	185.1400
Number of individuals	5,955	11,523	34,876	8,622

Notes: The distribution of work hours for displaced workers, measured in the 12th month before job loss.

Table A.13
Distribution of commuting distance for displaced workers.

	Commuting distance (#)			
	Displaced workers			
	Full-time women	Part-time women	Full-time men	Part-time men
Mean	16.7273	14.3740	18.0393	16.5485
St. Dev.	24.7008	21.8536	24.9288	22.3592
Variance	610.1288	477.5812	621.4441	499.9335
Skewness	3.1557	3.7599	3.3203	3.5487
Kurtosis	14.8545	20.4864	17.3757	20.7472
1th percentile	0.5496	0.4810	0.5582	0.5939
5th percentile	1.2122	1.1757	1.3522	1.3515
25th percentile	3.3144	3.4076	4.0591	4.0759
50th percentile	7.9172	7.0590	9.6229	9.2865
75th percentile	17.8836	15.5884	20.6306	19.2303
95th percentile	66.2520	53.1468	66.4624	58.1116
99th percentile	132.9585	121.3555	131.4669	117.5532
Number of individuals	5,955	11,523	34,876	8,622

Notes: The distribution of commuting distance for displaced workers, measured in the 12th month before job loss.

Appendix B The role of observables in displacement effects

The model on which Figure B.1 is based does not include the worker's full-time/part-time status of the displaced job in the set of covariates. The full-time/part-time status could be important, as in our sample about two-thirds of women work part time whereas about 20 per cent of men work part time (See Tables A.4 and A.5). Overall, the trends in Figure B.1 and Figure 2 are comparable, with the estimated gender differences in displacement effects being slightly larger if controlling for full-time/part-time status at the time of job loss. Figures B.2-B.8 are based on the same set of regressions as Figure 2.

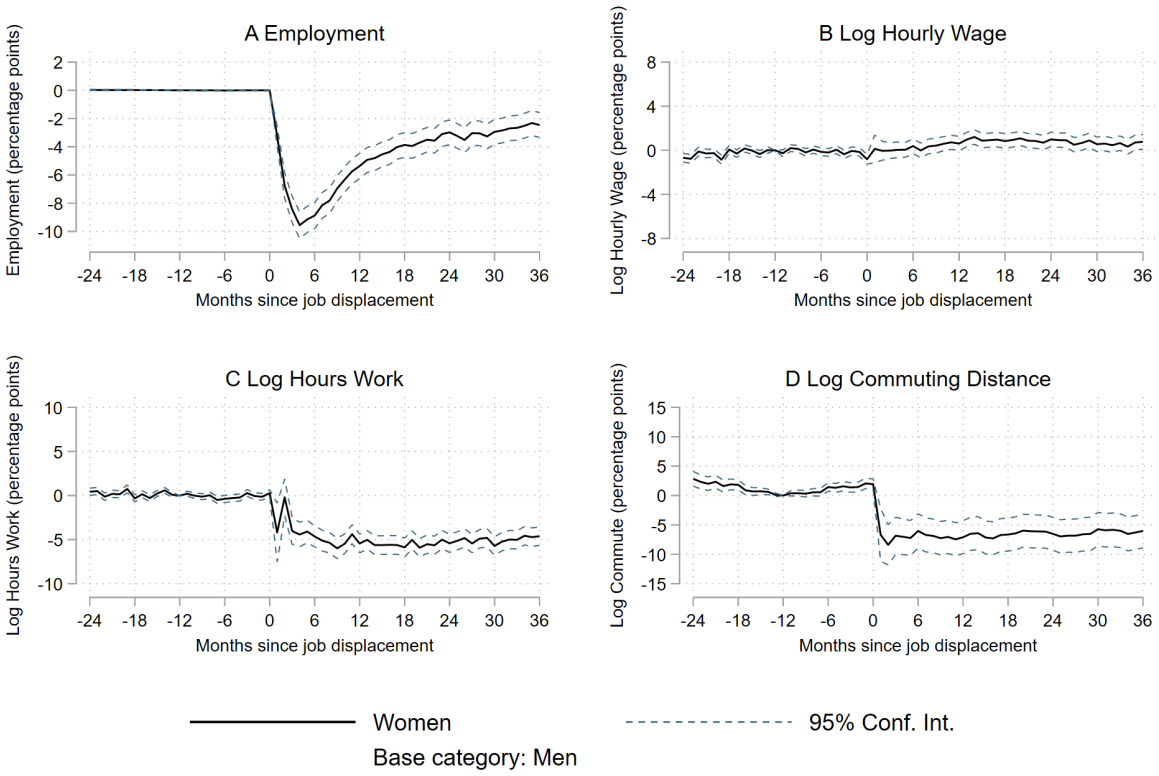


Fig. B.1. Gender difference in the time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and log commuting distance (D) (Eq. (4)).

Notes: Each line gives the parameter estimates of the three-way interaction term *Female* × *DISPLACED* × G^{τ} of a different regression. Reference group is the group of displaced male workers. Reference month is the twelfth month before job loss. The worker's full-time/part-time status is not included in the set of covariates. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and G^{τ} interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), firm size (3), manufacturing sector and the year of job displacement (6), respectively. Moreover, we include individual-specific fixed effects and indicator variables for the NUTS 3 location of the household (39) and calendar month (143). The 95% confidence intervals are computed using clustered standard errors on the individual level. The number of individuals equals 174,436. Each fixed effects regression model includes 3,427 parameters.

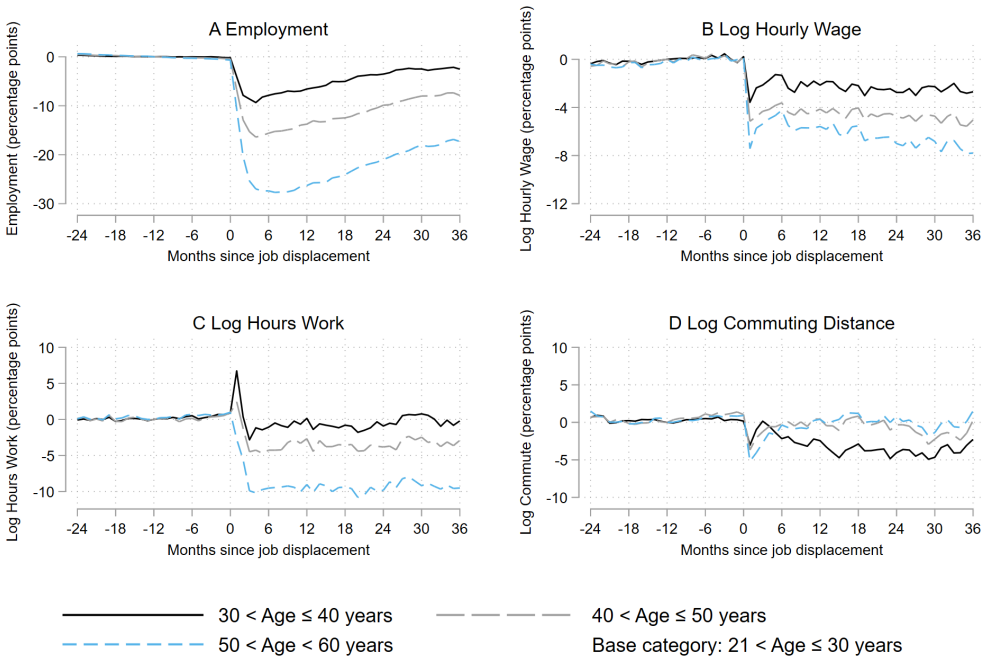


Fig. B.2. Time-dependent displacement effects by age on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

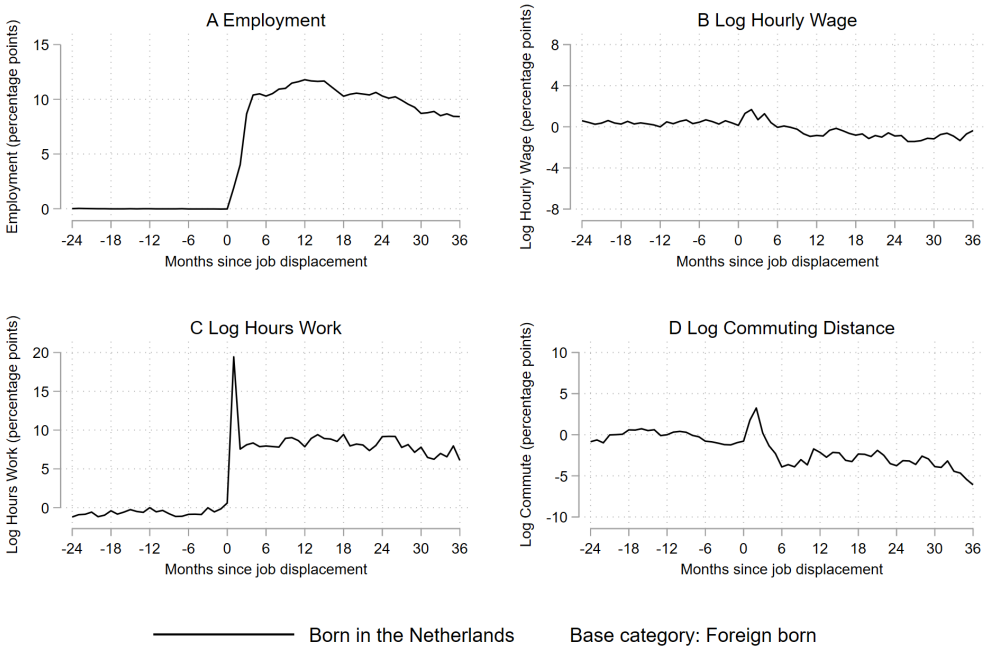


Fig. B.3. Time-dependent displacement effects by country of birth on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

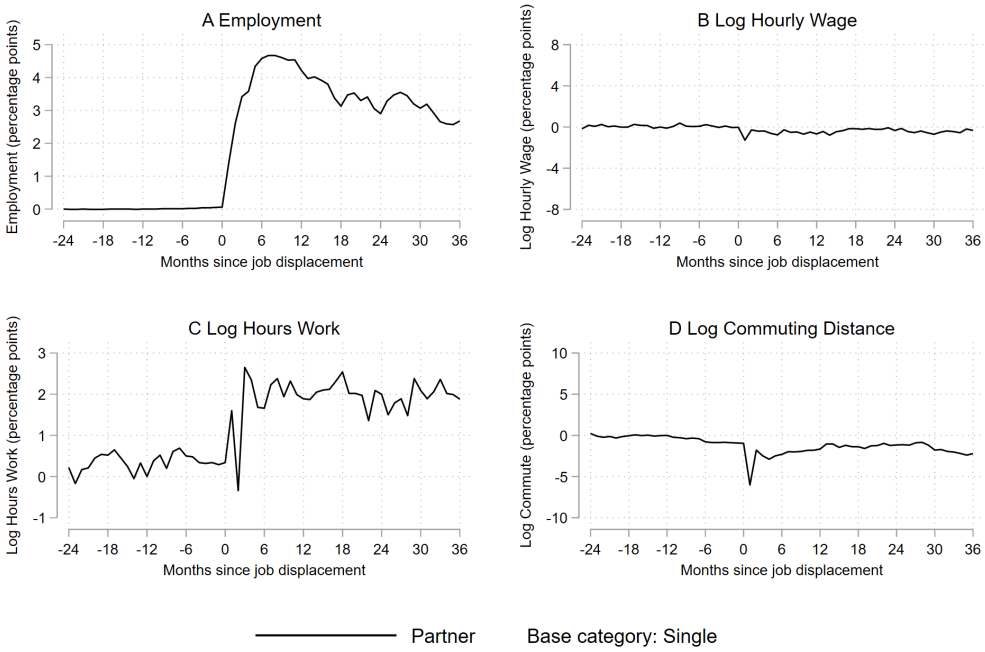


Fig. B.4. Time-dependent displacement effects by marital status on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

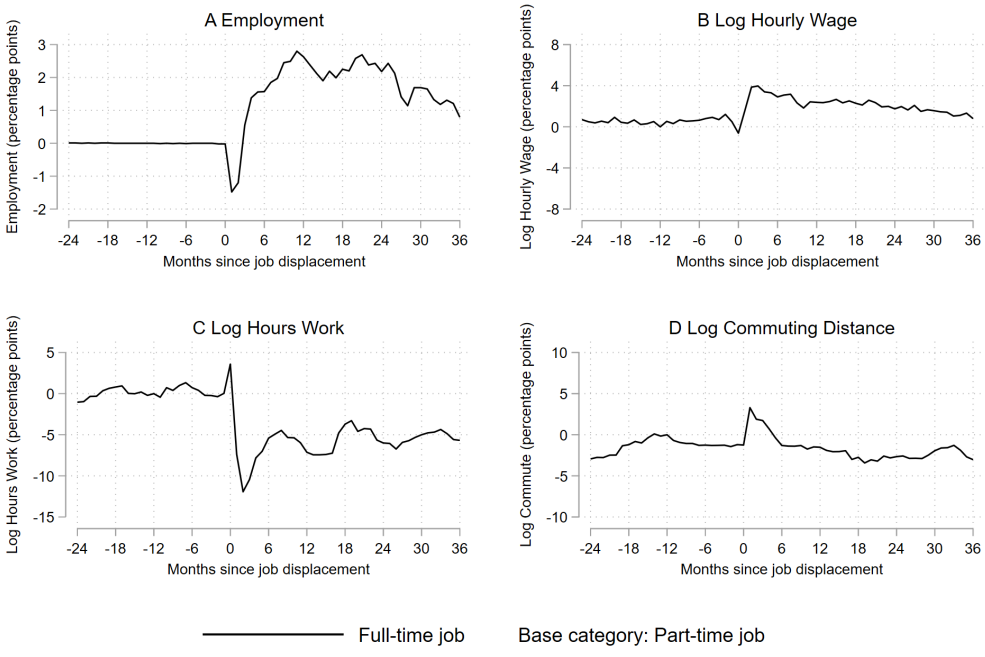


Fig. B.5. Time-dependent displacement effects by full-time/part-time status on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

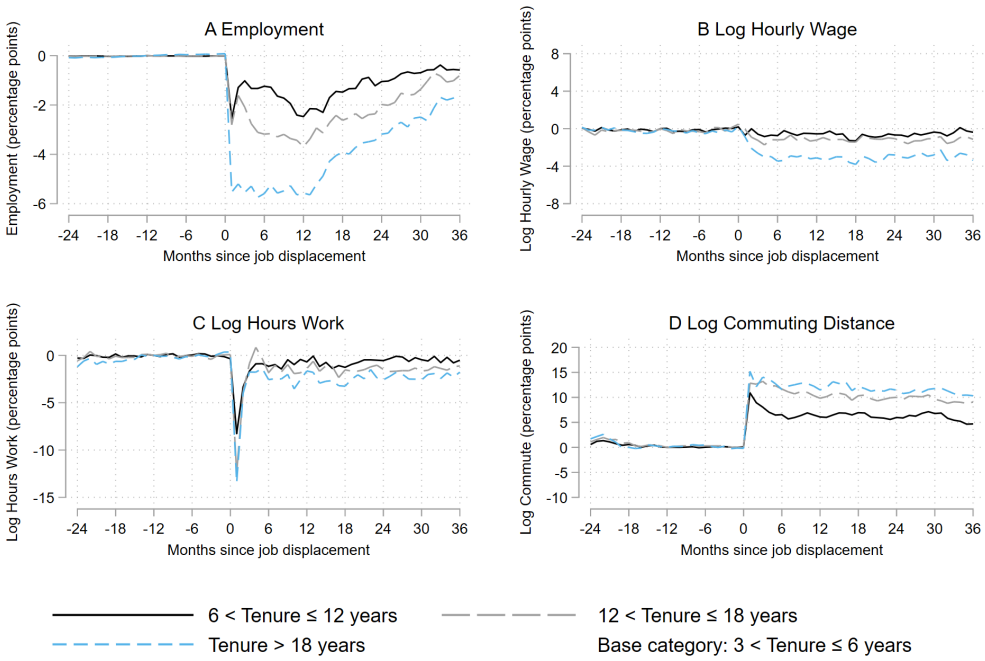


Fig. B.6. Time-dependent displacement effects by tenure in the displaced job on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

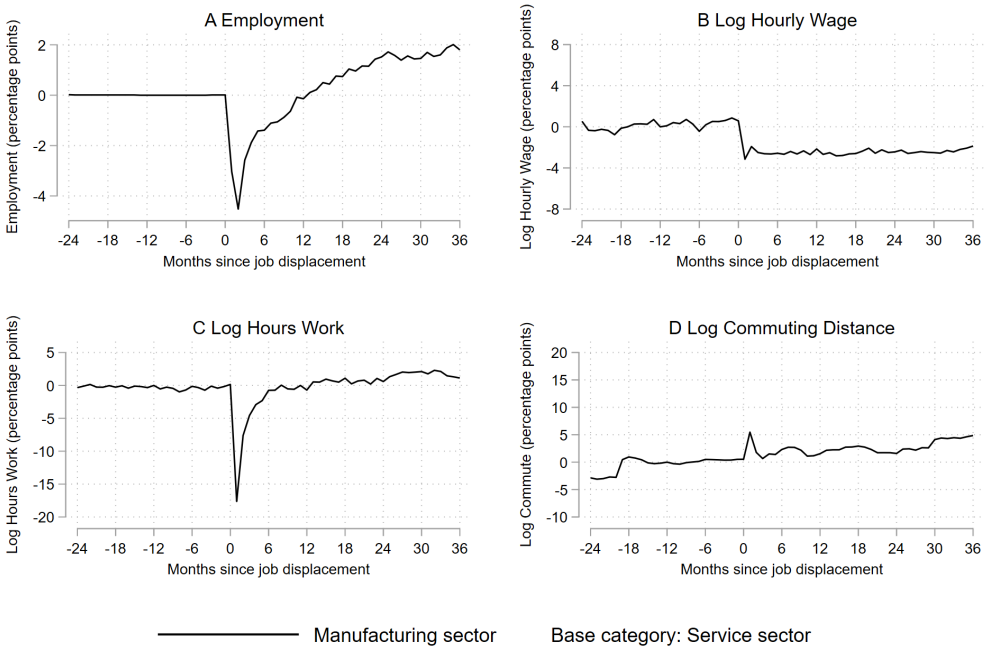


Fig. B.7. Time-dependent displacement effects by economic sector of the displaced job on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

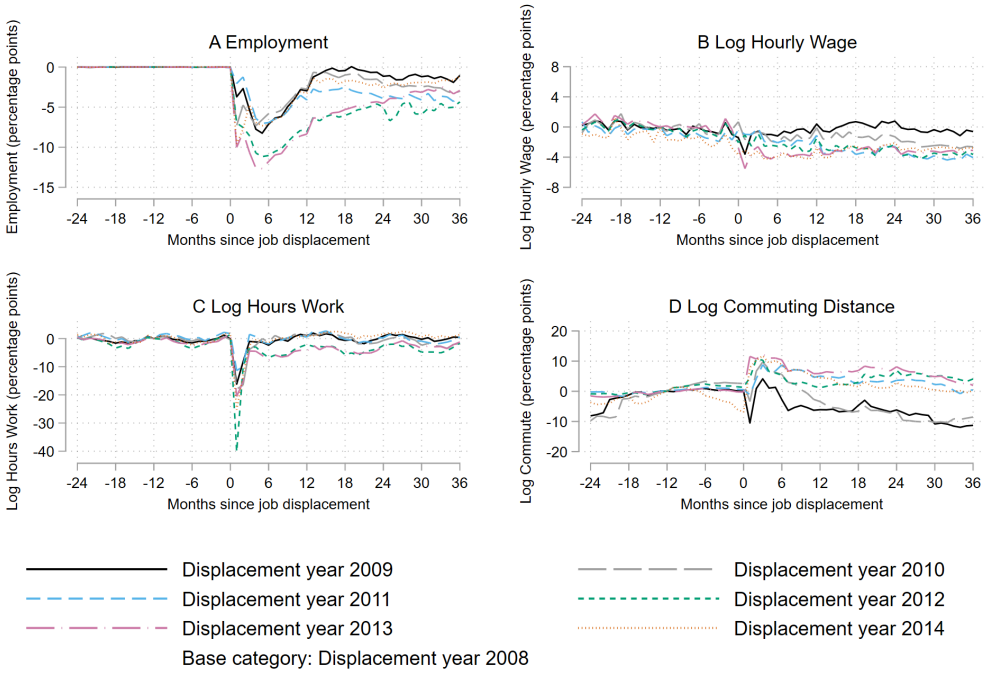
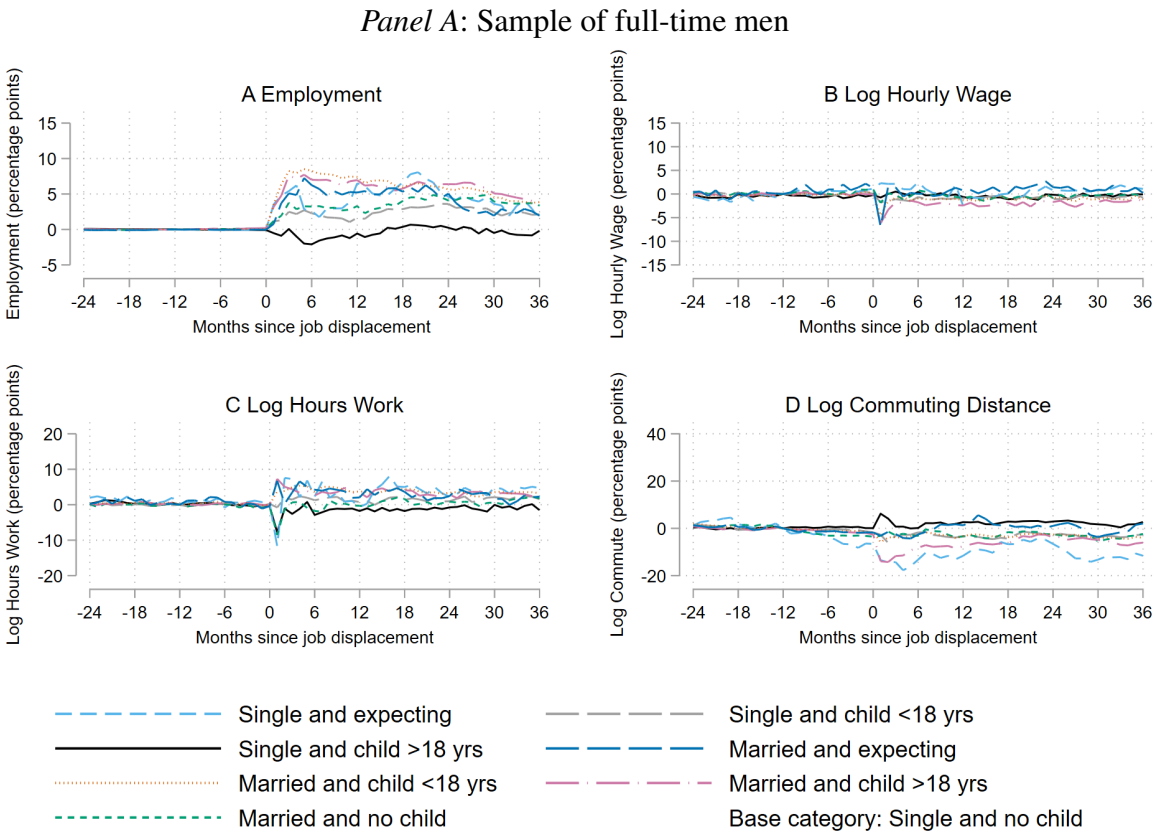


Fig. B.8. Time-dependent displacement effects by displacement year on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).
Notes: Based on the same set of regressions as Figure 2. See Figure 2 for additional notes and statistics.

Appendix C Robustness checks

C.1 Time-dependent displacement effects for displaced male workers by household setting



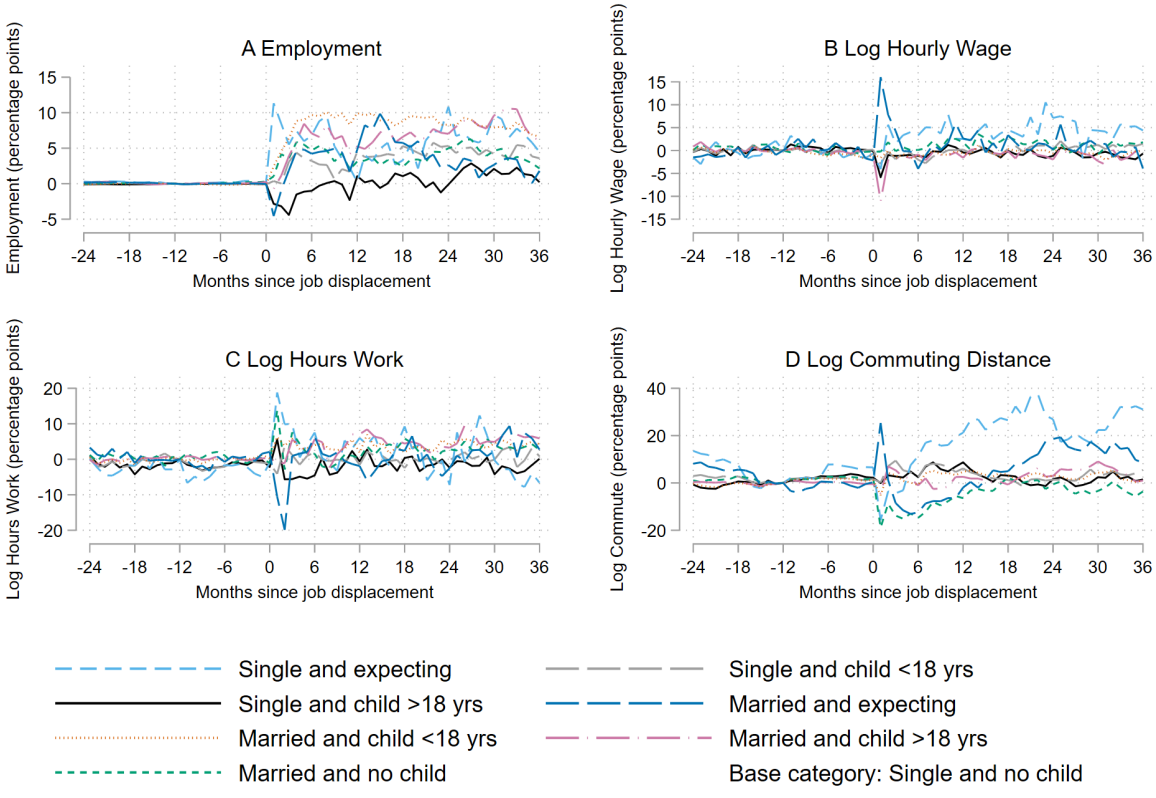


Fig. C.1. Time-dependent displacement effects for displaced male workers by household setting on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

C.2 Educational attainment

Table C.1
The role of gender in the effects of job loss (Eq. (3), sample of Table C.2.

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Female*:				
Base category: Men				
Women	-0.0285***	0.0194***	-0.0772***	-0.0770***
	(0.0045)	(0.0032)	(0.0049)	(0.0164)
Number of parameters	244	244	244	244
Number of individuals	101,100	101,100	101,100	101,100
Number of observations	6,167,100	5,498,021	5,500,137	5,404,803

Notes: Each column gives the dependent variable and each row gives the parameter estimate of the three-way interaction term of a different regression. Reference group is the group of displaced male workers. Reference month is the twelfth month before job displacement. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), full-time/part-time status, type of contract (2), firm size (3), manufacturing sector and the year of job displacement (6), respectively. Moreover, we include individual-specific fixed effects and indicator variables for the NUTS 3 location of the household (39) and calendar month (143).

Table C.2
The role of gender and education in the effects of job loss (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Female*:				
Base category: Men				
Women	-0.0289***	0.0197***	-0.0802***	-0.0780***
	(0.0045)	(0.0032)	(0.0049)	(0.0164)
DISPLACED × *POST* × *EDUCATION*:				
Base category: Low-educated				
Average-educated	0.0315***	-0.0036	0.0362***	-0.0025
	(0.0047)	(0.0030)	(0.0049)	(0.0156)
High-educated	0.0179***	-0.0060	0.0756***	0.0220
	(0.0057)	(0.0038)	(0.0055)	(0.0196)
Number of parameters	248	248	248	248
Number of individuals	101,100	101,100	101,100	101,100
Number of observations	6,167,100	5,498,021	5,500,137	5,404,803

Notes: Each column gives the parameter estimates of the three-way interaction term of a different regression. Reference group for gender is the group of displaced male workers. Reference group for educational attainment is the group of displaced low-educated workers. See Table C.1 for additional notes.

C.3 Complete data on outcome variables

Table C.3
The role of gender in the effects of job loss (Eq. (3), sample with complete data on hourly wages, working hours and commuting).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Female*:				
Base category: Men				
Women	-0.0292***	0.0069*	-0.0813***	-0.0494**
	(0.0058)	(0.0039)	(0.0054)	(0.0194)
Number of parameters	244	244	244	244
Number of individuals	76,777	76,777	76,777	76,777
Number of observations	4,683,397	4,313,028	4,313,028	4,313,028

Notes: Each column gives the dependent variable and each row gives the parameter estimate of the three-way interaction term of a different regression. Reference group is the group of displaced male workers. Reference month is the twelfth month before job displacement. All displaced workers and matched controls with missing data on hourly wages, working hours or commuting distance are excluded from the sample. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), full-time/part-time status, type of contract (2), firm size (3), manufacturing sector and the year of job displacement (6), respectively. Moreover, we include individual-specific fixed effects and indicator variables for the NUTS 3 location of the household (39) and calendar month (143).

C.4 Displacement effects by stratified samples: Gender and full-time/part-time displaced job

Table C.4 and Figure C.2 show the displacement effects based on a double-differences model samples estimated separately for full-time employed women, part-time employed women, full-time employed men and part-time employed men.

Table C.4
Impact of job loss based on stratification by gender and full-time/part-time status (Eq. (1)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
Panel A: Sample of full-time women (≥35 hrs):				
DISPLACED × *POST*	-0.2775***	-0.0471***	-0.1769***	0.0794***
	(0.0047)	(0.0034)	(0.0051)	(0.0173)
Panel B: Sample of part-time women (≥20 hrs <35):				
DISPLACED × *POST*	-0.2839***	-0.0547***	-0.1350***	0.0648***
	(0.0035)	(0.0021)	(0.0040)	(0.0117)
Panel C: Sample of full-time men (≥35 hrs):				
DISPLACED × *POST*	-0.2286***	-0.0624***	-0.1135***	0.1930***
	(0.0019)	(0.0013)	(0.0016)	(0.0066)
Panel D: Sample of part-time men (≥20 hrs <35):				
DISPLACED × *POST*	-0.2569***	-0.0959***	-0.0407***	0.2280***
	(0.0041)	(0.0028)	(0.0039)	(0.0134)

Notes: Each column gives the dependent variable and each row gives the parameter estimate of the interaction term *DISPLACED* × *POST*. Each parameter estimate is based on a different regression. The samples are stratified by workers' gender and full-time/part-time employment status. Reference group of each of the four subgroups of displaced workers, which differ in gender and number of working hours in the displaced job, are their non-displaced counterparts. The number of individuals for full-time women, part-time women, full-time men and part-time men, equals 16,610, 33,178, 100,406, and 24,242, respectively. See Table 1 for additional notes.

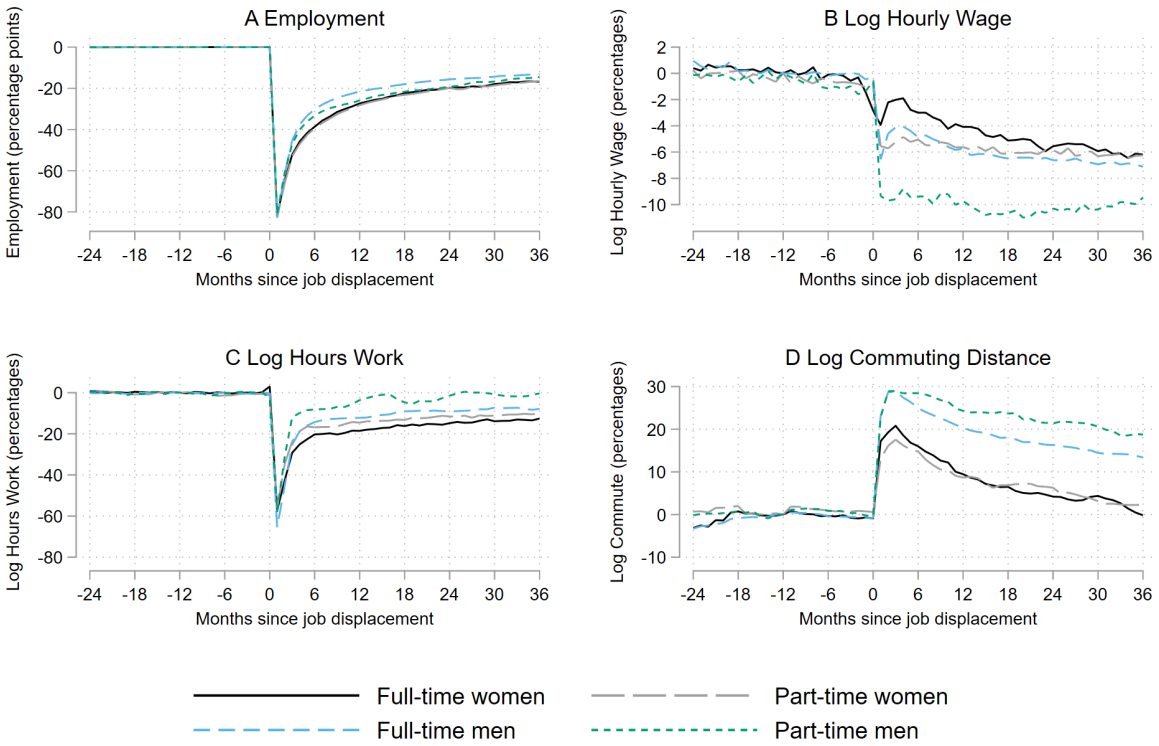


Fig. C.2. Time-dependent displacement effects by gender and full-time/part-time status on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (2)).

Notes: Each line gives the parameter estimates of the interaction term $DISPLACED \times G^{\tau}$ of a different regression. The samples are stratified by workers' gender and full-time/part-time employment status. Reference group of each of the four subgroups of displaced workers, which differ in gender and number of working hours in the displaced job, are their non-displaced counterparts. Reference month is the twelfth month before job displacement. The 95% confidence intervals are computed using clustered standard errors by individual. Each fixed effects regression model includes 304 parameters. See Figure 1 for additional notes.

C.5 High-wage/low-wage status

Measured in the month of actual/potential job loss, we define a high-wage worker as earning an hourly wage of at least 12.5 euro, which is well above the minimum hourly wage of about 9 euro that was in place in 2017. The results suggest that both displaced high-wage women and displaced low-wage women experience a smaller loss in wages in relative terms compared to their male counterparts.

Table C.5
The role of gender and high-wage/low-wage status in the effects of job loss (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Wage Status*:				
Base category: High-wage men				
High-wage women	-0.0334***	0.0072**	-0.0693***	-0.0926***
	(0.0044)	(0.0030)	(0.0044)	(0.0154)
Low-wage women	-0.0579***	0.0817***	-0.1578***	-0.0131
	(0.0058)	(0.0039)	(0.0070)	(0.0207)
Low-wage men	-0.0254***	0.0762***	-0.0884***	0.0803***
	(0.0050)	(0.0032)	(0.0052)	(0.0177)
Number of parameters	248	248	248	248
Number of individuals	174,436	174,436	174,436	174,436
Number of observations	10,640,596	9,760,553	9,763,522	9,639,113

Notes: Each column gives the parameter estimates of the three-way interaction term of *Wage Status* × *DISPLACED* × *POST* of a different regression. High-wage workers and low-wage workers are defined as earning at least 12.5 euro per hour and less than 12.5 euro per hour in the month of job displacement, respectively. Reference group for the wage status by gender is the group of displaced male workers who earn at least 12.5 euro per hour when job loss occurred. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), full-time/part-time status, firm size (3), manufacturing sector and the year of job displacement (6), respectively. Moreover, we include individual-specific fixed effects and indicator variables for the NUTS 3 location of the household (39) and calendar month (143).

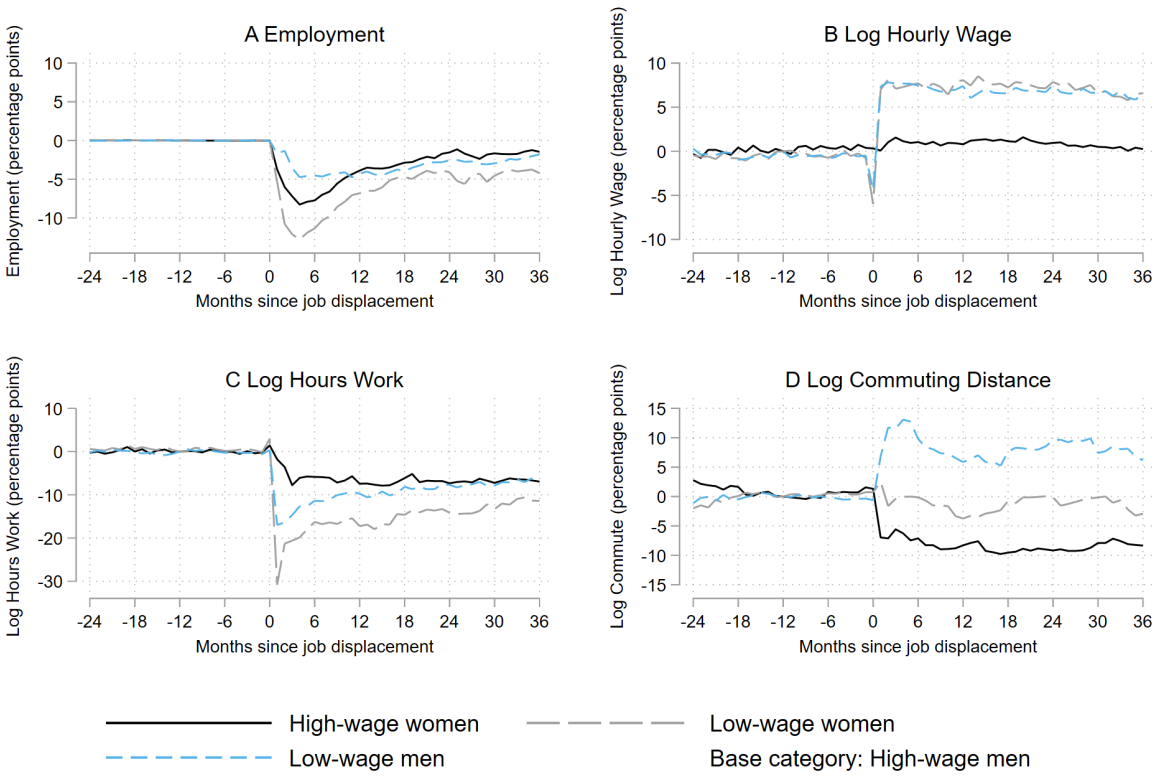


Fig. C.3. Role of the high-wage/low-wage status and gender in the time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

Notes: Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term of *Wage Status* × *DISPLACED* × G^{τ}. High-wage workers and low-wage workers are defined as earning at least 12.5 euro per hour and less than 12.5 euro per hour in the month of job displacement, respectively. Reference group for the wage status by gender is the group of displaced male workers who earn at least 12.5 euro per hour when job loss occurred. Each fixed effects regression model includes 3,787 parameters. See Figure 3 and Table C.5 for additional notes.

C.6 Gender difference in displacement effects on outcome variables in levels

In Figure C.4, the left-side graphs on hourly wages, working hours and commutes exclude unemployed individuals (graphs C.4A, C.4C and C.4E) whereas the right-side graphs include unemployed individuals (graphs C.4B, C.4D and C.4F). We include unemployed individuals by specifying the outcome variables in levels and imputing zeros for their hourly wage, hours work and commuting distance, limiting selection into employment. Positive selection of female workers into post-displacement employment could be an important issue for the gender difference in displacement effects on the three outcome variables given that individuals are included in the parameter estimates provided in graphs 2B, 2C and 2D of Figure 2 conditional on employment. Figure C.4, however, shows similar trends and magnitudes comparing the left-side and right-side graph for each of the three outcome variables. Indeed, after about three to six months since job loss, the gender difference in displacement effects is very similar using models in levels including zeros compared to models in levels excluding zeros. This finding suggests the positive selection into employment for women is of limited importance.

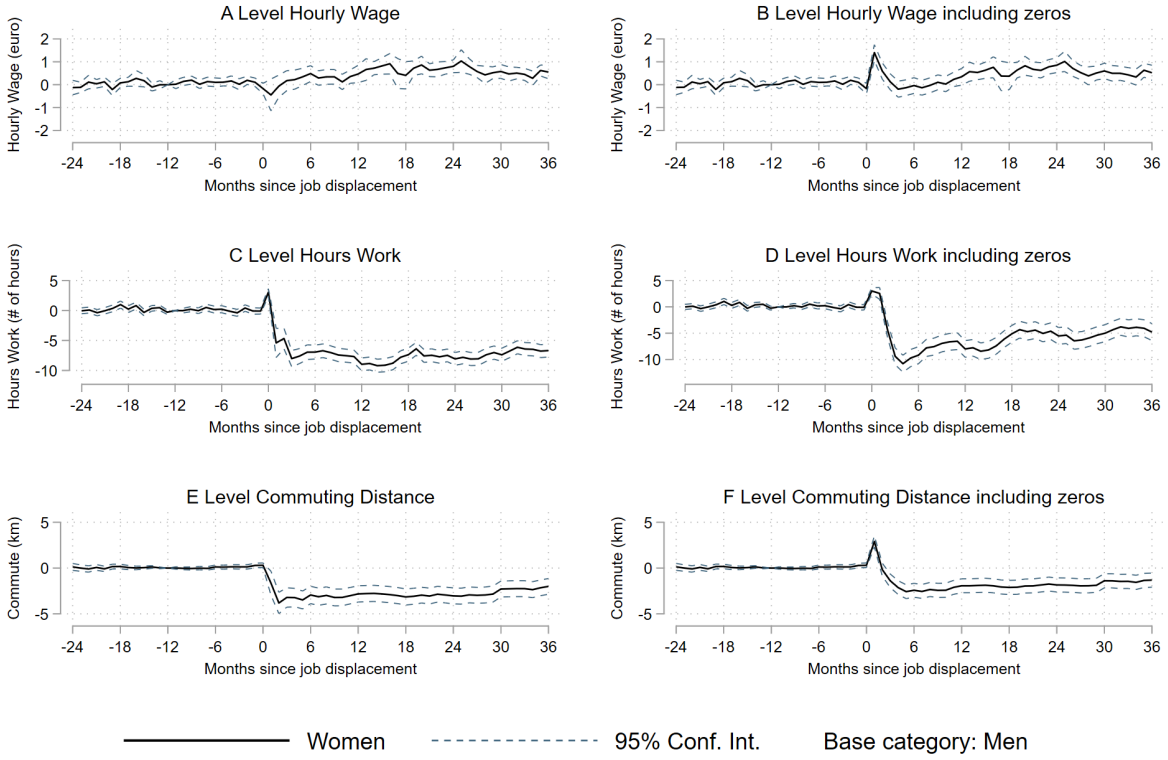


Fig. C.4. Gender difference in the time-dependent displacement effects on hourly wages (A and B), hours work (C and D) and commuting distance (E and F) in levels (Eq. (4)).

Notes: The three outcome variables are in levels. In the left-side graphs, zeros are not included for unemployed individuals. In the right-hand side graphs, zeros are imputed for unemployed individuals. Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term of *Female* × *DISPLACED* × G^{τ}. Reference group is the group of displaced male workers. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and G^{τ} interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), full-time/part-time status, firm size (3), manufacturing sector and the year of job displacement (6), respectively. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 3,547 parameters. The number of individuals for graphs C.4A, C.4B, C.4C, C.4D, C.4E and C.4F, equals 9,763,516, 10,640,589, 9,763,523, 10,640,596, 9,639,113 and 10,516,186, respectively.

C.7 First job after job loss

We compare the displacement effects based on all worker-month observations as displayed in Figure 1 to the effects based on a sample that covers the first job after job loss only. Specifically, we exclude the worker-month observations of displaced workers after the incidence of post-displacement job-to-job turnover.

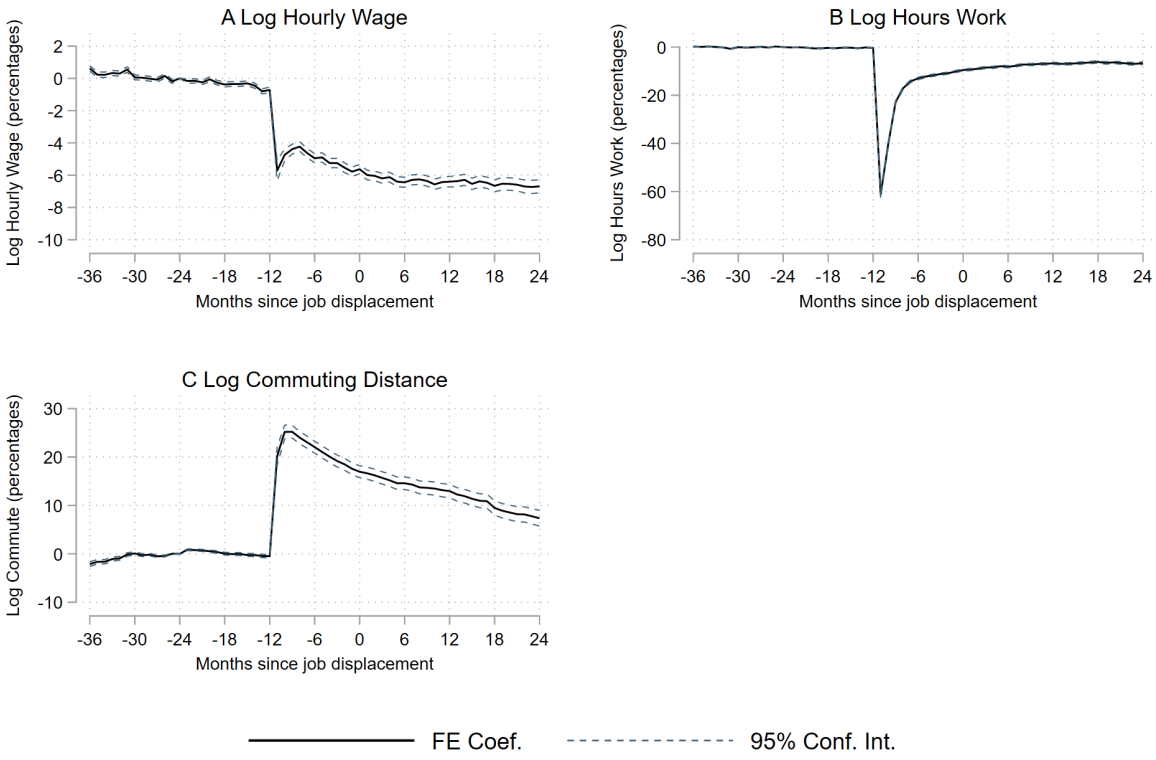


Fig. C.5. Time-dependent displacement effects on hourly wages (A), hours work (B) and commuting distance (C) for first job after job loss (Eq. (2)).

Notes: The individual-month observations of displaced workers who experienced post-displacement job-to-job turnover are excluded from the sample, thereby including only the first job-spell after job loss. Each graph gives the parameter estimates of a different regression. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 304 parameters. The number of individuals for graphs C.5A, C.5B and C.5C, equals 9,175,597, 9,177,974 and 9,097,062, respectively.

Similarly, we compare the displacement effects based on all worker-month observations as displayed in Figure 2 to the effects based on a sample excluding the worker-month observations of displaced workers who experienced post-displacement job-to-job turnover. The results in Figures 1 and 2 are robust. In the Netherlands home relocation is relatively low and does not matter for

the variation in displacement effects over the post-displacement period. These results are available upon request.

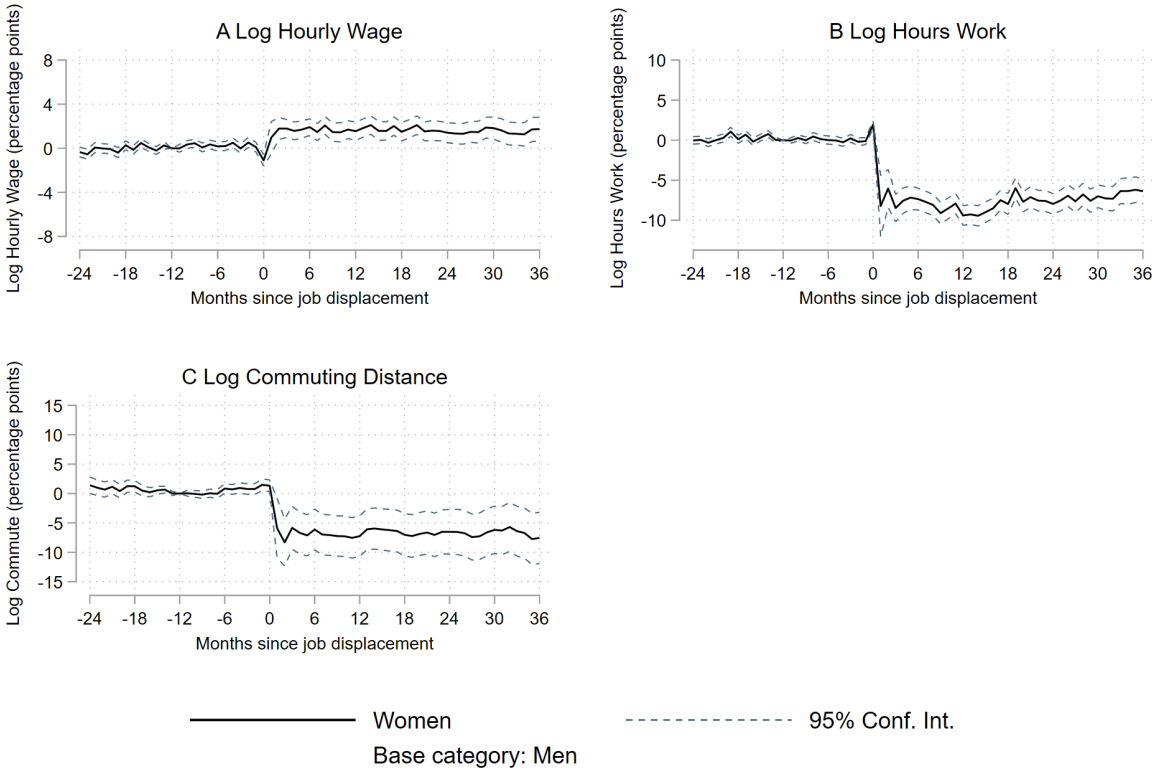


Fig. C.6. Gender difference in the time-dependent displacement effects on hourly wages (A), hours work (B) and commuting distance (C) for first job after job loss (Eq. (4)).

Notes: The individual-month observations of displaced workers who experienced post-displacement job-to-job turnover are excluded from the sample, thereby including only the first job-spell after job loss. Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term of *Female* × *DISPLACED* × G^{τ}. Reference group is the group of displaced male workers. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and G^{τ} interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), full-time/part-time status, firm size (3), manufacturing sector and the year of job displacement (6), respectively. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 3,547 parameters. The number of individuals for graphs C.6A, C.6B and C.6C, equals 9,175,597, 9,177,974 and 9,097,062, respectively.

C.8 Placebo treatment

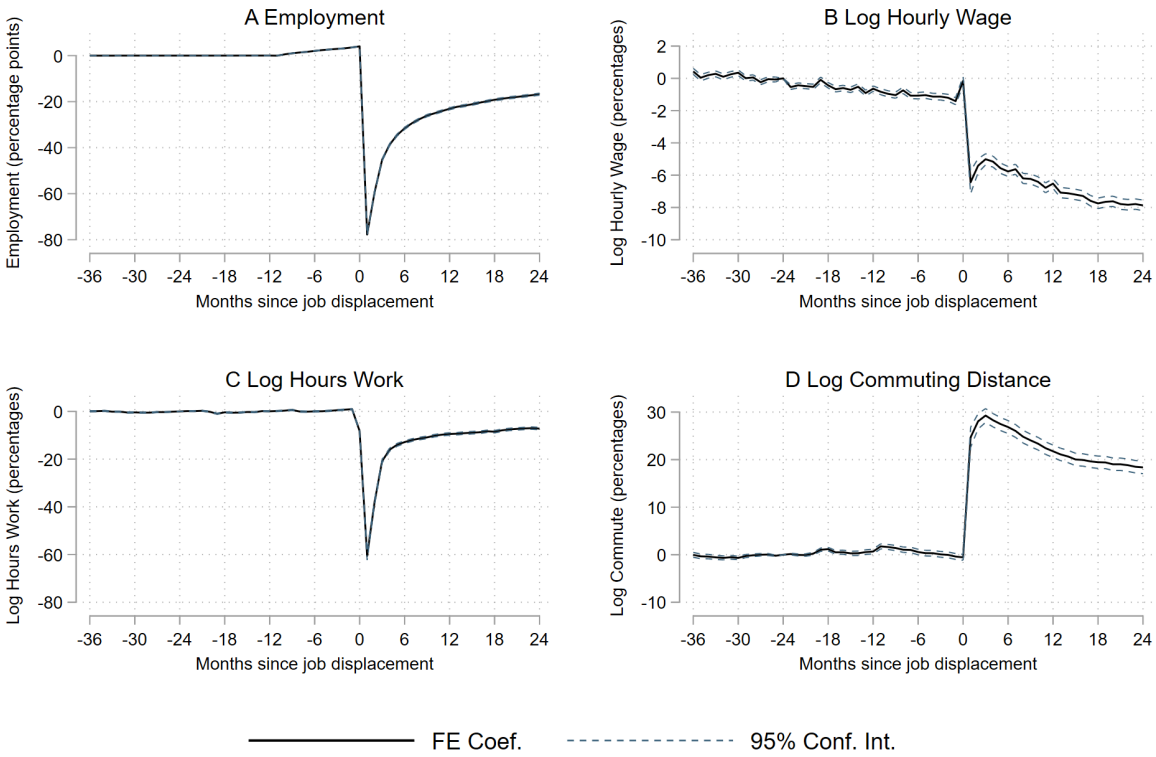


Fig. C.7. Placebo displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (2)).

Notes: Each line gives the parameter estimates of the two-way interaction term $DISPLACED \times G^{\tau}$ of a different regression. Displaced and non-displaced workers are matched in the month of placebo treatment, which is the twelfth month before actual displacement of the displaced workers. Reference month is G^{-24}, the 24th month before job loss. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 280 parameters. The number of individuals equals 144,498. See Figure 1 for additional notes.

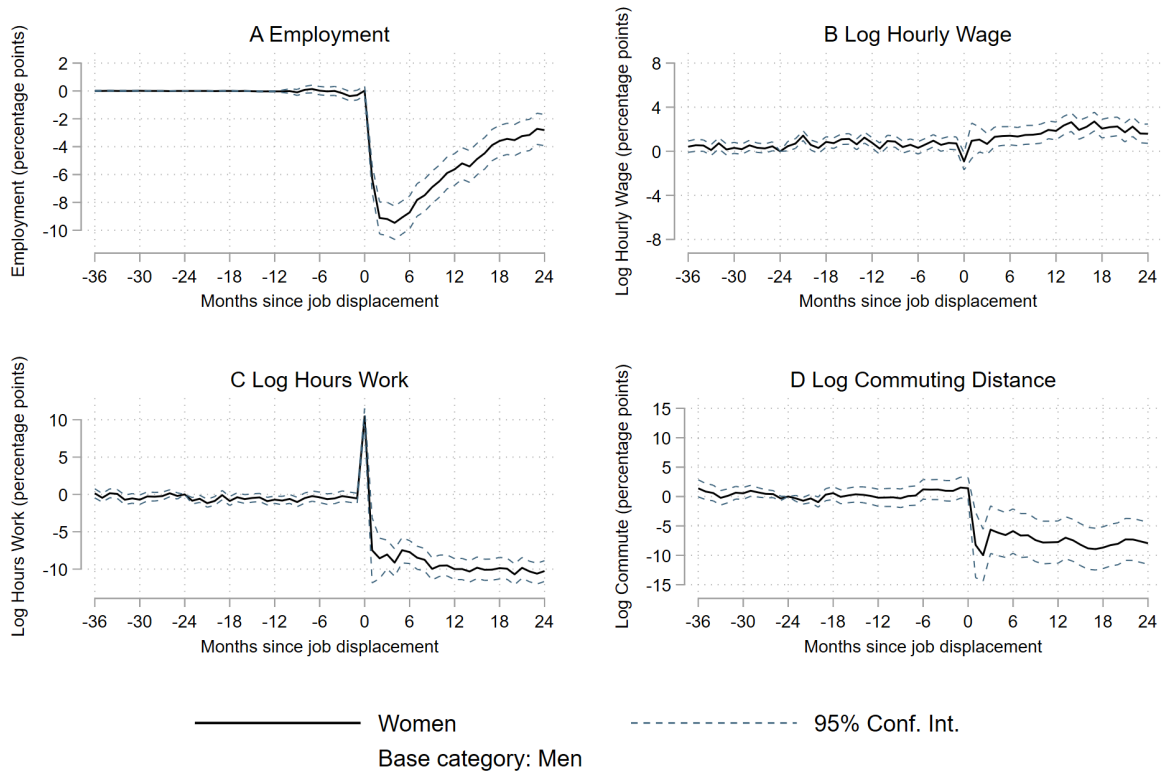


Fig. C.8. Placebo gender difference in the displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

Notes: Each line gives the parameter estimates of the three-way interaction term *Female* × *DISPLACED* × G^{τ} of a different regression. Displaced and non-displaced workers are matched in the month of placebo treatment, which is the twelfth month before actual displacement of the displaced workers. Reference month is G^{-24}, the 24th month before job loss. The 95% confidence intervals are computed using clustered standard errors on the individual level. Each fixed effects regression model includes 3,283 parameters. The number of individuals equals 144,498. See Figure 2 for additional notes.

C.9 Long-commute/short-commute status

Measured in the month of actual/potential job loss, we define a short-commute displaced job and a long-commute displaced job as a job with a commuting distance less than 10 kilometres and equal to or higher than 10 kilometres, respectively. The results suggest that compared to long-commute and short-commute displaced men, respectively, long-commute and short-commute displaced women experience a larger loss in employment, a smaller loss in wages, a larger loss in working hours and a smaller increase in commutes.

Table C.6
The role of gender and long-commute/short-commute status in the effects of job loss (Eq. (3)).

	Employment (=1)	Hourly wage (log)	Work hours (log)	Commute (log)
	(1)	(2)	(3)	(4)
DISPLACED × *POST* × *Commute Status*:				
Base category: Long-commute men				
Long-commute women	-0.0325***	0.0114***	-0.0741***	-0.1711***
	(0.0053)	(0.0036)	(0.0056)	(0.0172)
Short-commute women	-0.0480***	0.0281***	-0.0942***	0.6778***
	(0.0048)	(0.0033)	(0.0052)	(0.0151)
Short-commute men	-0.0092***	0.0089***	-0.0064**	0.8157***
	(0.0034)	(0.0023)	(0.0030)	(0.0108)
Number of parameters	248	248	248	248
Number of individuals	174,436	174,436	174,436	174,436
Number of observations	10,640,596	9,760,553	9,763,522	9,639,113

Notes: Each column gives the parameter estimates of the three-way interaction term of *Commute Status* × *DISPLACED* × *POST* of a different regression. Long-commute workers and short-commute workers are defined as having a commuting distance of at least 10 kilometres and less than 10 kilometres in the month of job displacement, respectively. Reference group for the commute status by gender is the group of displaced male workers who have a commuting distance of at least 10 kilometres when job loss occurred. The regression analyses include three-way interaction terms, two-way interaction terms and main effects of *DISPLACED* and *POST* interacted with the variables age (3), born in the Netherlands, marital status, presence and age of children (5), job tenure (3), type of contract (2), full-time/part-time status, firm size (3), manufacturing sector and the year of job displacement (6), respectively. Moreover, we include individual-specific fixed effects and indicator variables for the NUTS 3 location of the household (39) and calendar month (143).

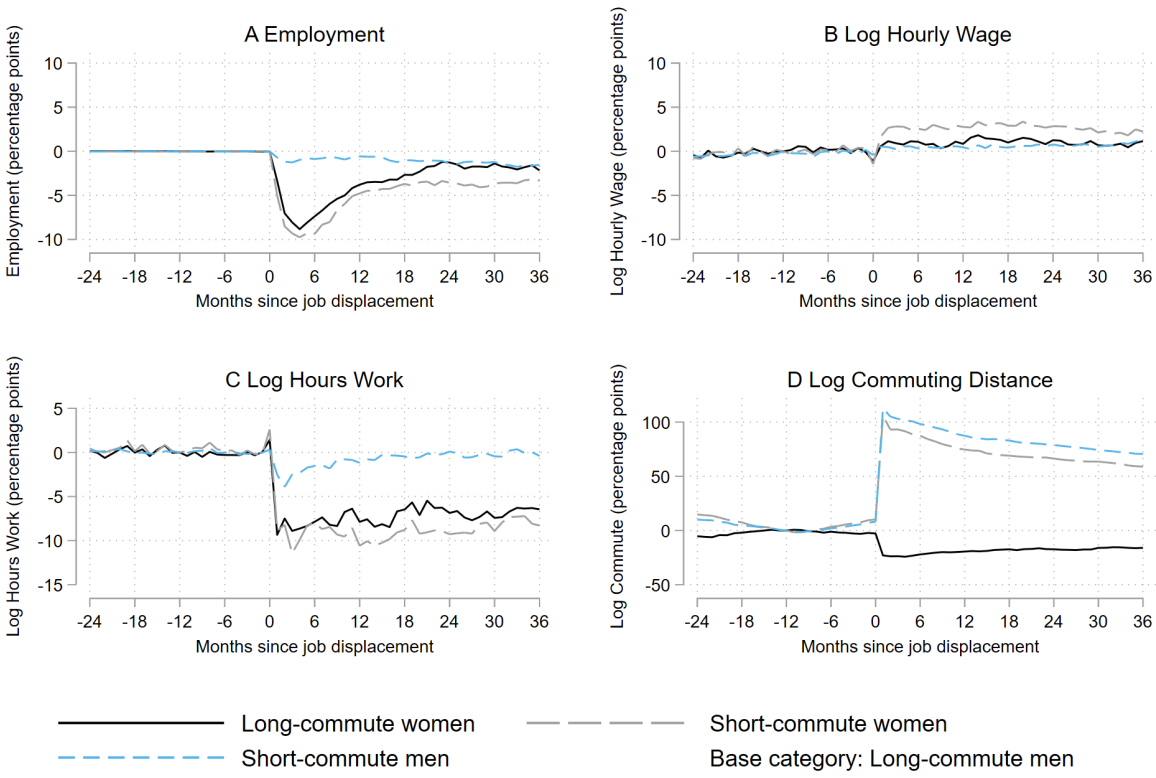


Fig. C.9. Role of the long-commute/short-commute status and gender in the time-dependent displacement effects on employment (A), hourly wages (B), hours work (C) and commuting distance (D) (Eq. (4)).

Notes: Each graph gives the parameter estimates of a different regression. The regression analyses include a three-way interaction term of *Commute Status* × *DISPLACED* × G^{τ}. Long-commute workers and short-commute workers are defined as having a commuting distance of at least 10 kilometres and less than 10 kilometres in the month of job displacement, respectively. Reference group for the commute status by gender is the group of displaced male workers who have a commuting distance of at least 10 kilometres when job loss occurred. Each fixed effects regression model includes 3,787 parameters. See Figure 3 and Table C.6 for additional notes.

Appendix D Additional information on Dutch institutional setting

The Dutch institutional setting on childcare is as follows. The costs of formal childcare depend on the type of childcare and calendar year, ranging from about 5 to 8 euro per hour in the period 2006 to 2017. Formal childcare is defined as general childcare for children up to four years and out-of-school care for children who are in primary school. About 30 per cent of all households with children aged up to 12 years receive childcare subsidy (CBS, 2019). Households are only eligible for childcare subsidy if both parents are employed. If a household member becomes unemployed and the household has been receiving childcare subsidy, the subsidy will be provided for a remaining period of three months since job loss. Households that receive childcare subsidy spend on average 5,500 to 7,000 euro on childcare per annum, of which 60 to 80 per cent is reimbursed by the government to the household through childcare subsidies.

The Dutch tax system has a progressive individual income taxation. Households may strategically allocate deductions such as home mortgage interest from the taxable income of the highest income earner within the household.

Health insurance in the Netherlands is not provided by the employer.