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# Gender and Parenthood Differences in Job Mobility and Pay Progression in the UK

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**Understanding disparities in the rates at which men and women's wages grow over the life course is critical to explaining the gender pay gap. Using panel data from 2009 to 2019 for the United Kingdom, we examine how differences in the rates and types of job mobility of men and women—with and without children—influence the evolution of wages. We contrast the rates and wage returns associated with different types of job moves, including moving employer for family reason, moving for wage or career-related reasons, and changing jobs but remaining with the same employer. We find important gender and parenthood differences in the types of mobility experience, with mothers most likely to switch employers for family-related reasons and least likely to move for wage or career reasons, or to change jobs with the same employer. While job changes with the same employer and career related employer changes had large positive wage returns, changing employers for family-related reasons was associated with significant wage losses. We show that differences in job mobility between mothers and other workers are largest for young employees (under 30), the period over which wages also grow most rapidly in response to career related external, or internal, job moves. These mobility differences play an important role in explaining the rapid growth in the motherhood wage gap in the years after birth.**

## Introduction

Across rich nations, wage penalties to motherhood now account for almost all the remaining gender pay gap (Cortés and Pan 2023; Kleven et al. 2019). As time since birth increases, the associated disadvantage accumulates (DiPrete and Eirich 2006). In the United Kingdom (UK), mothers' wages are similar to those of women without children in the years just before birth but 7% lower after 5 years and 15% lower a decade later (Andrew et al. 2021). Yet, despite a considerable body of work examining motherhood earnings penalties, the mechanisms leading

to divergence in the wages of mothers, fathers and those without children remain poorly understood.

In this article, we focus on the contribution of job mobility to gender and parenthood pay gaps. In spite of its importance to wages, job mobility has attracted relatively little attention as an explanation for motherhood pay penalties. This is despite the fact that previous studies have shown job mobility to play a crucial part in explaining the evolution of wages in the early stages of young men and women's careers (Loprest 1992; Topel and Ward 1992)—the same period over which significant wage gaps begin to emerge (Costa Dias, Joyce, and Parodi 2021). Workers typically move jobs several times over the course of establishing their careers, generally experiencing significant wage gains. Motherhood may interrupt this process reducing career-related job mobility and wage growth.

While researchers have previously compared young men and women's rates of, and returns to, job mobility (Fuller 2008; Keith and McWilliams 1999; Manning and Swaffield 2008; Pearlman 2018), only a few have examined how parenthood affects these (Cha 2014; Looze 2014, 2017). This study extends previous research on job mobility and parenthood in several ways. First, recent studies of motherhood and wage returns to job mobility have focussed on those changing employers. In our analysis, we examine both the role of job moves with the same employer (e.g. promotions) and job moves between employers. As we explain below, extending our analysis to include within firm job moves is important for understanding the mechanisms underpinning differences in career progression by gender and parenthood. Second, for those changing employer, we distinguish between job moves for family and work-related reasons. This distinction is important because there are qualitative differences in the types of job moves men and women, and those with and without children, make and these differences affect wage progression. Third, prior studies on parenthood and job mobility have focussed on the United States. Patterns of job mobility and related wage returns may differ in countries which guarantee maternity and family leave but also have a higher prevalence of part-time work (Blau and Kahn 2013; Brady, Blome, and Kmec 2020; Mandel and Semyonov 2006; Misra, Budig, and Boeckmann 2011), such as the UK, the subject of our study. Fourth, we consider how rates of, and returns to, job mobility for mothers and other workers vary with age. As job mobility is more common, and associated with higher wage growth, when workers are young, we expect early motherhood to be particularly damaging to women's wage prospects. Finally, we show how differences in rates of, and returns to, job mobility accumulate over the lifecourse to affect mothers' wages using the Gelbach (2016) decomposition.

We use 10 years of panel data, from 2009/10 to 2018/19, from the UK Household Longitudinal Survey (UKHLS) to assess the influence of gender and parenthood on patterns of job mobility and related wage returns. We show that job mobility accounts for around one-third of the widening wage gap between mothers and women without children in the years after birth. Our finding also provides an explanation for the higher wage penalties to parenthood that young mothers face (Loughran and Zissimoupoulos, 2009)—reduced job mobility during the crucial early stages of individual's careers leads to reduced wages over the lifetime.

## Literature Review

In the UK, sharp gaps in the employment rates and working hours of mothers and other workers emerge shortly after birth (Harkness, Pelikh, and Borkowska 2019). Motherhood wage penalties emerge more slowly, as the cumulative effect of exposure to motherhood reduces earnings growth (Harkness 2016; Andrew et al. 2021). Given differences in wages at the start of the career, and before children are born, are small (Costa Dias, Joyce, and Parodi 2021), any understanding of pay differentials needs to explain differences in growth. The two main theoretical frameworks used to explain earnings over the lifecycle are human capital accumulation and job search (Rubinstein and Weiss 2006). Both predict that the relative wages of mothers will decline in the years after birth. From a job search perspective, mothers may be less likely to make career enhancing

moves and/or may experience lower (or negative) returns to job mobility. From a human capital perspective, mothers experience not only losses in work experience, negatively affecting their wage growth (Costa Dias, Joyce, and Parodi 2021), but also falling returns to work experience (Miller 2011). Lower returns to experience could, in turn, be driven by differences in job mobility and/or differences in returns to mobility. Differences in job mobility, and in wage returns to mobility, are therefore a further, and potentially important, source of growing wage disparities between mothers and other workers. Below we set out the mechanisms which may contribute towards differences in the mobility of mothers and other workers and related wage returns.

## Motherhood and Job Mobility

The importance of job mobility to wage growth during the early stages of workers careers has been extensively documented (Dustmann and Pereira 2008; Le Grand and Tåhlin 2002; Topel and Ward 1992). During the early stages of their career, workers seek to improve on their current job match through "job-shopping." Young workers, who have had less time to find a "good" job match, are most likely to change jobs, and are most likely to benefit from job moves. This is true for both men (Fredriksson, Hensvik, and Skans 2018; Kronberg 2013; Topel and Ward 1992) and women (Kronberg 2013). For older workers, who have settled into jobs, outside wage offers are used to generate gradual wage increases (Bagger et al. 2014; Haltiwanger et al. 2018). Reduced mobility has lasting consequences for earnings growth: for example, during recessions both the number of employer moves and the chances of moving up the job ladder fall (Moscarini and Postel-Vinay 2016), leading to substantial falls in wage growth (Haltiwanger et al. 2018).

While qualitatively different to recession, parenthood is a life course event that may significantly reduce job mobility. Given the constraints it places on women (who typically carry the burden of care), motherhood may reduce women's geographical mobility and limit their temporal flexibility, reducing the number of job opportunities available to them. Parental responsibilities limit the time and effort mothers can invest in searching for alternative employment leading to lower job search intensities (Yankow and Horney 2013; Keith and McWilliams 1999). For mothers, job mobility may also be more difficult or costly. Having an established relationship with their employer, which enables them to negotiate work and care arrangements, legislation that links women entitlements to flexible working or family leave to job tenure with their current firm, and the need to be near school or childcare are all factors limiting mobility, particularly when children are young (Looze 2017). In addition, mothers may have fewer resources to invest in professional social networks that provide them with information about job opportunities (Campbell 1988) and may be less able to profit from the networks they do have (Zhou 2019). All these factors can restrict mothers' job mobility.

Discrimination has direct consequences for mothers' job mobility. Evidence on discrimination against mothers in the workplace is well documented, with employers typically regarding mothers as less committed or competent than men or women without children (Benard, Paik, and Correll 2007; Correll, Benard, and Paik 2007; Mari and Luijkx 2020). Discrimination against mothers reduces external job opportunities (Correll, Benard, and Paik 2007), which in turn reduces opportunities to negotiate internal promotions with their current employer. Direct discrimination against mothers from their current employer may, in addition, reduce mothers' chances of internal job moves.

## Job Mobility and Wage Growth

Parenthood may affect not only the quantity but also the quality of job moves. Even when mothers are mobile, they are more likely to "job shop" on nonwage characteristics, such as shorter commute times (Eriksson and Lagerström 2012; Le Barbanchon, Rathelot, and Roulet 2020), the absence of long working hours (Cha and Weeden 2014; Goldin 2014; Meekes and Hassink 2022) and/or flexible working hours or other family-friendly characteristics (Mas and Pallais 2017). They are also less likely to be motivated by money when they do move (Manning 2003; Petrongolo and Ronchi 2020). At home, the unequal division of domestic work and childcare (Bianchi et al. 2012)

and normative conceptions of the "good mother" (Hays 1996) place further pressure on mothers to move to more "family friendly" jobs. Job moves for family, rather than career-related reasons, do not improve the match between employee and employer skills and may lead to reduced firm specific skills, damaging wage prospects over the longer term. As a result, compared to other workers, mothers may be less likely to make wage increasing job moves which help them climb the wage ladder and more likely to make moves with lower wage returns (Fuller 2008; Bielby and Bielby 1992; Keith and McWilliams 1999). Thus, changes in labour supply as a result of motherhood are expected to reduce both the rate of, and the returns to, job mobility (Bruns 2019; Fuller 2008; Kronberg 2013). Together these effects are expected to lead to substantial reductions in wage growth.

One consequence of mothers' low levels of job mobility is that mothers may become increasingly concentrated in low-wage firms (Fuller 2008). A growing number of studies have shown that a large part of the gender pay gap can be explained by men and women sorting into low- and high-wage firms (Card, Cardoso, and Kline 2015), with mothers in particular more likely to work in low paying firms (Fuller 2017; Yu and Hara 2021). Low wage firms are particularly likely to have a high share of part-time workers and are less likely to require long overtime hours. These "family friendly" characteristics may enable mothers to combine paid and unpaid work but may also limit wage growth prospects (Fuller 2008).

Discrimination against mothers may reduce the wage returns to job mobility, within and between firms. Mothers who take-up policies intended to improve work-life balance, such as reduced working hours or flexibility in their working schedule or work location, may face "flexibility stigma" and be particularly at risk of reduced wage growth (Glass 2004).

## Age of Parenthood and Wage Growth

The age at which women have a first child may have an important bearing on job mobility and wage prospects. Early parenthood is more likely to interrupt career progression at a crucial career stage when mobility—and returns to it—are greatest. Evidence for the UK shows that—because wage growth flattens when children are born—women who have a first birth while young lose out most because their wages stop growing earlier (Harkness 2016). As a result, wage gaps are larger for mothers in their 30s and 40s if they had children early (Loughran and Zissimopoulos 2009; Miller 2011). Assessing the age-specific effect of parenthood on mobility and wages is, therefore, likely to be important, with reductions in career-related mobility and associated wage growth expected to be greatest for younger workers.

## UK Context

Prior studies on the relationship between motherhood and job mobility have used US data. While the US and UK share some labour market similarities, there are key institutional differences that may affect job mobility rates and related returns. In the late 2010s, the UK and US had similar rates of female employment and gender pay gaps (female employment rates were 57% to 58% and the median gender pay gap 19%) (OECD 2014). However, the policy environment differs substantially. In common with many rich nations, since the late 1990s, the UK has introduced a suite of policies aimed at facilitating maternal employment. First, since 2006 new mothers in the UK have been entitled to 52 weeks job-protected maternity leave, of which 39 are paid. The majority of working mothers receive 6 weeks pay at 90% of their former wages and 33 weeks pay at a much lower flat rate, equivalent to 25%–28% of average weekly earnings (OECD 2022). In comparison, leave entitlements for most new mothers in the US are significantly shorter and vary by state (Blau and Kahn 2013). The UK's provision for new fathers, on the other hand, is minimal, with paternity rights extending to just 2 weeks of unpaid leave. While the right to maternity leave is associated with a greater likelihood of new mothers returning to work (Burgess et al. 2008) and higher wages upon return (Waldfogel 1998) longer periods of parental leave (of over 9 months) are linked to greater gender segregation and worse labour market prospects (Hook et al. 2022).

Second the UK, compared to the US, provides greater support for early years childcare. Since 2009, all 3-year-olds and disadvantaged 2-year-olds have been entitled to free part-time, part-year childcare (of 12.5 hours/week, increasing to 15 hours in 2010, for 33 weeks/year). In addition, low- and middle-income families have been able to access financial support for childcare, through the tax-credit system and all employed parents have been able to claim tax-relief for a share of their childcare costs (West and Noden 2019). State funding or provision of childcare has an unambiguously positive impact on maternal employment (Brilli, Del Boca, and Pronzato 2016). However, the structure of provision in the UK is likely to encourage part-time, rather than full-time, work. Part-time and flexible work has further been enabled by parents "right to request" flexible working (including part time work) which was introduced in 2002.

These policy measures—while helping mothers combine work and family life—may have encouraged part-time work, which is often in lower-level (and lower-paid) positions (Blau and Kahn 2013). Part-time work is also linked to poor wage progression as, unlike full-time work experience, part-time experience is not associated with future wage gains (Blundell et al. 2016). While full-time work remains the norm among working mothers in the US, in 2010, only 25% of mothers in the UK were working fulltime with 38% being employed part-time (OECD 2014). These differences have implications for the importance of job mobility to wage growth: for example, compared to the US, mothers who move jobs will be more likely to move to, or between, part-time work, and this in turn is likely to reduce wage returns to job mobility.

## Summing Up

Overall, we expect parenthood to affect the job mobility of women in the following ways. First, because mothers face high costs of job mobility, we expect them to make fewer external job moves. Second, we expect mothers to be more likely to move for family related reasons than other workers, and to make relatively few career-related moves. Wage returns for noncareer reasons are expected to have lower returns than those for career related moves. These effects are expected to be compounded by discrimination towards mothers, which may reduce wage returns to external, career-related job moves. Facing fewer high wage outside opportunities, mothers may be less able to negotiate internal job moves or promotions and, when they do, receive smaller wage rises than comparable childless women or men. For those making internal job moves, discrimination may also reduce wage gains to within firm job moves. Together, these differences in job mobility and its returns are expected to make an important contribution towards explaining why mothers' wages grow more slowly than those of other workers, and the motherhood wage gap increases in the years after birth.

## Methods
### Data

Previous studies of gender differences in job mobility have been plagued by a lack of quality mobility measures in survey data, including distinguishing within and between employer job moves, as well as capturing heterogeneity in the reasons for moving employer. We use the first 10 waves from the UK Household Longitudinal Study[1] (UKHLS), covering the period 2009–2019. UKHLS is a large nationally representative panel survey with a sample of approximately 40,000 households in the first wave. It interviews all individuals aged 16 and over annually and is uniquely suited to assess job mobility as it follows individuals when they move address and collects information on job and employer changes as well as the motivation behind them.

We focus on the working age population and restrict our sample to individuals aged 22–55 (inclusive), to focus on the working years that are most likely to be impacted by motherhood. The original sample included 144,313 person-year observations for 33,915 individuals. In our analysis, we restrict the sample to individuals who have valid wage information in at least two waves, resulting in an unbalanced sample of 102,658 individual-year observations for 25,474 individuals,

of which 55.7% are women. In our models, we consider differences by gender and parenthood status. Individuals are defined as parents if they have dependent children under the age of 16.

## Measures of Job Mobility and Wage Changes

We examine both job mobility with the same employer and mobility between employers. Among those changing employer, we distinguish between job changes motivated by work or career decisions, and employer changes motivated by family reasons. We assume that the respondent moved employers for work/career reasons either when they selected options "being promoted", "left for better job", "more money" when asked about the reasons for the most recent job change, or selected options "better money", "better career prospects", "more responsibility" when asked about the attractiveness of the current job. These types of moves are expected to enhance individuals' wage prospects over time. Family motivated employer changes are assumed when the respondent selected the options "left to have baby", "look after family", or to "look after other person" when answering the question about the reasons for the most recent job change or selected the options "nearer home/less travel", "shorter/fewer hours", "more flexible hours", "less demanding/easier" when answering the question about the attractiveness of the current job. Family-related changes represent job characteristics that are usually associated with a better work-life balance and will be particularly attractive to individuals with a high opportunity cost of time, such as carers. While individuals may choose to prioritize shorter/more flexible working hours and/or shorter commutes for reasons other than care responsibilities (e.g. health limitations or a desire for more leisure time), we expect most of these decisions to be motivated by care related time pressures, especially among parents.

The detailed distribution of responses to the survey questions are reported in Supplementary tables S1 and S2. In total, our sample contains 4262 within employer job changes and 7990 employer changes, out of which 5249 are work related employer changes and 1301 are family related employer changes.

We estimate wage returns using hourly wages. While the UKHLS contains an indirect measure of hourly wages (based on weekly or monthly earnings and hours worked per week) for all employed individuals, this measure is known to suffer from division bias (Stewart and Swaffield 2002). We take advantage of a direct hourly wages measure being available for a subsample of hourly paid individuals and apply the imputation procedure proposed by Skinner et al. (2002) to obtain a more accurate wage measure for the entire sample (detailed information about the imputation procedure is found in Supplementary Material, Appendix S1). The new measure contains directly observed hourly wages for employees paid by the hour and the imputed measure for salaried workers. Note that in all cases, hourly wages refer to employment income from the main job only.

We define wage growth as the difference in real log wages between the current year $t$ and the last observed year $t-s$, where $s$ represents the number of gap years between two consecutive wage observation. For most of our sample, we measure wage growth over a 1-year interval (between $t-1$ and $t$). However, the unbalanced nature of our panel means we also have a small number of individuals in our sample with intermittent wage data (3% of men and 2.6% of women in our sample have a gap between wage observations of more than 1 year, see Supplementary table S3). To avoid discarding this information we follow Manning and Swaffield (2008) and include the length of the gap between observations as a control in our models). Throughout, the coefficients on job mobility and other characteristics should, therefore, be interpreted as estimates of their association with annual wage growth.

## Explanatory Variables

The explanatory variables we include as controls are age, education (six categories: degree, other higher degree, A-level etc, GCSE etc, other qualification, and no qualification), self-reported health status (0/1; 1 if reporting longstanding illness or disability), carer status (0/1; 1 if providing regular

care to sick, disabled or elderly persons), cohort (three categories: born 1953–1969, born 1970–1982, and born 1983–1999), region, and year fixed effects. We condition on the individual's labour market history, for which we include a quadratic in number of months spent in employment, number of months spent in part time employment, number of months spent in unemployment, number of months spent in inactivity, number of months spent on parental leave and a dummy indicating that the respondent experienced an unemployment spell since the last interview. We used the Working Life Histories, a UKHLS derived dataset produced by Wright (2020), which contains a sequence of main economic activity spells with start and end dates, to construct variables capturing the lifetime history of employment, unemployment, and inactivity. Finally, we control for prior job characteristics (dummy for part-time employment, firm size logged, sector, and managerial/supervisory responsibilities) in our specifications. Prior job characteristics may be the result of previous job moves and, as such, endogenous to mobility returns. We include them here partly because we wish to take a conservative approach when estimating returns to mobility and partly because endogeneity is less likely to be an issue when examining annual, rather than long-term, wage growth. To assess the robustness of our findings, we also estimated the same specifications excluding job characteristics and find little change in the results (available from the authors).

## Methods

We first document gender differences in within and between employer job mobility, as well as differences in work/career and family motivated mobility, distinguishing between parents with dependent children aged less than 16 and other workers. We calculate raw and adjusted mobility rates by age, with the latter being estimated using the following logit model:

$$\log\left(\frac{p_{it}}{1-p_{it}}\right) = \alpha + \sum_k \beta_k F_i * P_{it} * A_{it} + \gamma X_{it-s} + \delta Z_{it-s} + \varphi W_{it-s} + \rho Gap_{it,t-s} + \varepsilon_{it}$$

where $p_{it}$ is the probability of observing a job/employer change for individual $i$ in year $t$, $F$ is a female dummy, $P$ is a parent dummy, $A$ is age, $X_{it-s}$ is a vector of demographic characteristics described above, $Z_{it-s}$ is a vector of variables capturing labour market history, $W_{it-s}$ is a vector of lagged job characteristics, and $Gap_{it,t-s}$ is the number of years between consecutive interviews. Because of the longitudinal nature of our data, we cluster standard errors at the individual level. The summary statistics are reported in Supplementary material, table S4. We use a fully saturated model, with the effect of parenthood allowed to vary across gender and age. The effects are captured by the set of coefficients $\beta_k$. Given the nonlinear nature of the model and the presence of multiple interaction terms, we present predicted probabilities rather than coefficients. The full results from the underlying models are presented in Supplementary material, table S5.

To assess differences in annual wage growth between job movers and stayers, we estimate a series of wage growth equations. The specification for wage growth is similar to that of Del Bono and Vuri (2011) and Manning and Swaffield (2008), and is estimated using a two-level hierarchical model on pooled individual-year observations of male and female workers during the period of 2010–2019 in the following form:

$$\Delta W_{it,t-s} = \alpha + \sum_k \beta_k M_{it} F_i P_{it-s} A_{it} + \gamma X_{it-s} + \delta Z_{it-s} + \varphi W_{it-s} + \rho Gap_{it,t-s} + u_i + \varepsilon_{it}$$

$\Delta W_{it,t-s}$ is the change in real hourly wages between year $t$ and the most recent previous interview $t-s$, $M_{it}$ is a mobility dummy, $F_i$ is a female dummy, $A_{it}$ is age, $X_{it-s}, Z_{it-s}$ and $W_{it-s}$ are vectors of demographic, labour market history and job characteristics defined as above, and $u_i$ is an individual effect. As before, models are saturated. Two specifications are estimated: one in which we include within and between employer mobility and a second one where we separate employer

mobility into work related, family motivated and other mobility (see Supplementary material, table S6).

Because workers only move if they have a reason to, the job moves we observe are not random. If personal characteristics that are more likely to make a person mobile (e.g. career orientation) are also associated with wages, a spurious correlation between job mobility and wage growth might emerge. If selection into mobility affects men and women, and parents and individuals without children differently, this could potentially bias our results. To guard against this possibility, we carry out two robustness checks. First, we test the sensitivity of our results to selection into mobility by re-estimating our wage growth equations on a restricted sample of movers only. This approach exploits variation in the timing of mobility only and eliminates any common time invariant propensity to move jobs. Second, we estimate a more stringent specification that includes individual fixed effects. This eliminates any time-invariant individual unobserved heterogeneity (see Supplementary material, table S7, for results).

In the final part of our analysis, we quantify the contribution of job mobility to differences in wage growth rates for mothers and other workers using the decomposition method proposed by Gelbach (2016). The importance of covariates in explaining wage gaps has traditionally been estimated by comparing a "base" model without the covariate of interest to a "full" model that includes it. This approach, however, is sensitive to the order in which covariates are introduced. Gelbach (2016) offers a solution to this problem by proposing a method based on the omitted bias formula. Like other decomposition methods, Gelbach decompositions involve comparing a "base" and a "full" model and estimating how much of the wage gap observed in the "base" model is explained by each of the covariates added in the "full" model. However, unlike the traditional method, the result is insensitive to the order in which covariates are added in the "full" model. In our case, the "base" model contains age (and its square), year and region fixed effects, the number of gap years, and a dummy for motherhood interacted with age. The "full" model adds all the controls used in our main specification, including job mobility indicators. The decomposition results show how much of the lower wage growth of mothers, compared to men or childless women, can be explained by differences in job mobility.

## Results
### Gender Differences in Mobility Patterns

We start by providing descriptive evidence on gender differences in within and between employer mobility rates, by age, and parenthood status (table 1). There is substantial mobility in our data. On average over the observed period, 12% of employees change jobs in a year, with around two thirds moving between employers. Over 60% of between employer changes are work-related moves with family-related moves representing fewer than 20% of all employer changes. The remaining moves include involuntary job changes (redundancies, dismissals, end of contracts), retirement, changes for health reasons, moving area, and others. As expected, mobility declines with age. The table also shows that—on average—mothers make fewer internal and external job moves, and when they do move jobs are more likely to do so for family related reasons.

To gain a better understanding of variations in mobility rates, we ran logit models controlling for demographic characteristics, previous labour market history and lagged job attributes, as described above. We also ran models without controlling for job characteristics and obtained substantially similar results (available from the authors). Figures 1.1 to 1.4 show the predicted probability of experiencing each type of mobility by sex, parenthood status, and—because rates of job mobility vary substantially with age—by age (model coefficients are reported in Supplementary table S5). Note that since family related moves are a much rarer event, figure 1.4 has a different scale. We find fatherhood has little or no impact on mobility rates. Within-employer, between-employer, and between-employer work-related job-mobility rates are virtually identical for men with and without children. Compared to men without children, fathers are slightly more likely to change employers for family-related reasons at younger ages, but the

**Table 1.** Annual probability of any job change, changing employer, and the reason for employer moves by sex and parenthood status

|  | Men with children | Men without children | All men | Women with children | Women without children | All women |
|---|---|---|---|---|---|---|
| All job changes | 11.6% | 12.4% | 12.0% | 10.8% | 12.8% | 11.9% |
|  | 2491 | 2977 | 5468 | 2914 | 3870 | 6784 |
| Within employer job changes | 4.2% | 3.9% | 4.1% | 4.0% | 4.4% | 4.2% |
|  | 907 | 943 | 1850 | 1079 | 1333 | 2412 |
| Employer changes, incl. | 7.4% | 8.4% | 8.0% | 6.8% | 8.4% | 7.6% |
|  | 1584 | 2034 | 3618 | 1835 | 2537 | 4372 |
|    for work reasons | 5.1% | 5.9% | 5.5% | 4.0% | 5.5% | 4.8% |
|  | 1082 | 1419 | 2501 | 1078 | 1670 | 2748 |
|    for family reasons | 1.1% | 0.9% | 0.9% | 1.8% | 1.3% | 1.5% |
|  | 225 | 207 | 432 | 489 | 380 | 869 |
|    for other reasons | 1.8% | 2.1% | 2.0% | 1.7% | 2.2% | 2.0% |
|  | 392 | 508 | 900 | 455 | 662 | 1117 |

Notes: Population aged 22–55 years; $N$ = 102,658 person-year observations. The total number of observed job moves is shown in the second row. *Work-related reasons* include the following: when answering the question about the reasons for the most recent job change, the respondent selected options "being promoted", "left for better job", "more money", or when answering the question about the attractiveness of the current job, the respondent selected options "better money", "better career prospects", "more responsibility". *Family-related reasons* include the following: when answering the question about the reasons for the most recent job change, the respondent selected options "left to have baby", "look after family", "look after other person", or when answering the question about the attractiveness of the current job, the respondent selected options "nearer home/less travel", "shorter/fewer hours", "more flexible hours", "less demanding/easier".

differences are not statistically significant at the 95% level (as seen by the overlapping confidence interval plots).

In contrast to fatherhood, motherhood is associated with lower rates of mobility. Compared to women without children, mothers' rates of job mobility vary less with age (seen by the flatter profiles in the figures 1.1–1.4). Mothers are 1 to 2 percentage points (p.p.) less likely to change jobs with the same employer when they are under 35 and around 1 p.p. more likely to do so at older ages, although these differences are not statistically significant at the 95% level. Motherhood also affects between-employer mobility, with mothers around 0.5 to 3 p.p. less likely to change employers at all ages, with differences being statistically significant for workers younger than 40.

The largest effects of motherhood are observed for work-related and family-related employer moves (figures 1.3 and 1.4). Mothers in their early 20s are approximately 5 p.p., or around a third, less likely to change jobs for work-related reasons than men or women without children. While differences fall with age, they remain statistically significant until approximately age 45. Mothers are also more likely to switch employers for family-related reasons. Again, the biggest differences are found at younger ages with mothers in their early 20s around twice as likely to move employers for family-related reasons as women without children.

## Gender Specific Returns to Job Mobility

Figure 2 compares wage returns to different types of job mobility for men and women with and without children. Estimates are based on the models described above (the full set of coefficients from the models is presented in Supplementary material, table S6). As for our previous estimates of job mobility, running the models without controlling for job characteristics yielded similar results (available from the authors). The first panel, figure 2.1, shows wage gains associated with moving jobs within and between employer by age. Contrary to expectations, we find no evidence of heterogeneity in returns to job mobility with the same employer by gender or parenthood status. For those in their 20s and early 30s, changing jobs with the same employer is associated with
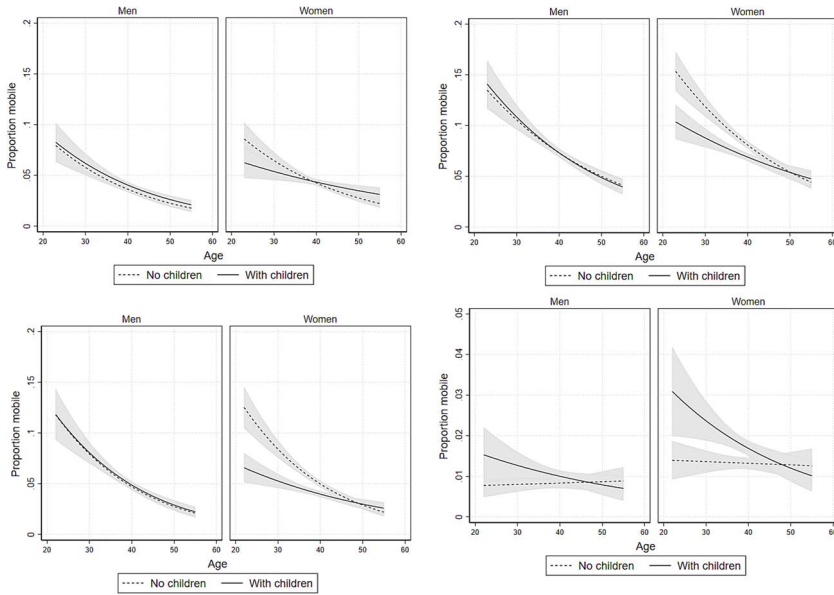
**Figure 1.** Annual (adjusted) proportion of workers experiencing different types of job mobility, by sex and parenthood status. Figure 1.1: Within employer. Figure 1.2: Between employer. Figure 1.3: Employer changes for work reasons. Figure 1.4: Employer changes for family reasons. Note: Authors' calculations based on UKHLS, Waves 1–10. Coefficients are estimated from logistic regressions for each type of job move after controlling for demographics characteristics, previous labour market history, and lagged job attributes. Note that family related moves are shown on a different scale. Details of the covariates included in the specification are given above. Full results from the underlying models are in Supplementary material, table S5

average wage increases of 4–6% (0.04–0.06 log points), with wages growing twice as fast as for those who do not change jobs. Between employer job changes have comparable returns at younger ages but decline faster with age and become negative for men and childless women by around age 50. Men with children experience slightly lower wage returns to between employer job moves, especially at younger ages. However, as discussed before, we expect returns to employer changes to be heterogeneous and dependent on the reason for moving.

Figure 2.2 shows the estimated returns to moves for work- and family-related reasons. Individuals who change jobs for work related reasons see between 5 and 8 p.p. extra wage growth, or wage growth which is around three times greater than that for individuals who do not move jobs. We also find that fathers' benefit less from work-related job moves, while for women returns are similar for those with and without children. Finally, it is notable that wage growth in response to work-related job mobility is greater at younger ages, particularly for women. In contrast, for all workers, family-related employer mobility is associated with negative wage growth: wages fall by 3 to 10 p.p. compared to those who stay in the same job. Interestingly, young fathers and older men without children who move for family related reasons experience the highest wage penalties.

To sum up, we find significant positive wage returns to within-employer job mobility and to between-employer job changes when they take place for work-related reasons. The latter bring particularly large wage increases, especially when workers are young. In contrast, changing employers for family-related reasons is linked to reduced wages. Generally, we find similar wage returns by gender and parenthood status, although fathers who move for work-related reasons have slightly lower wage returns than other workers, and some men experience particularly large wage penalties when they move to family-related reasons,
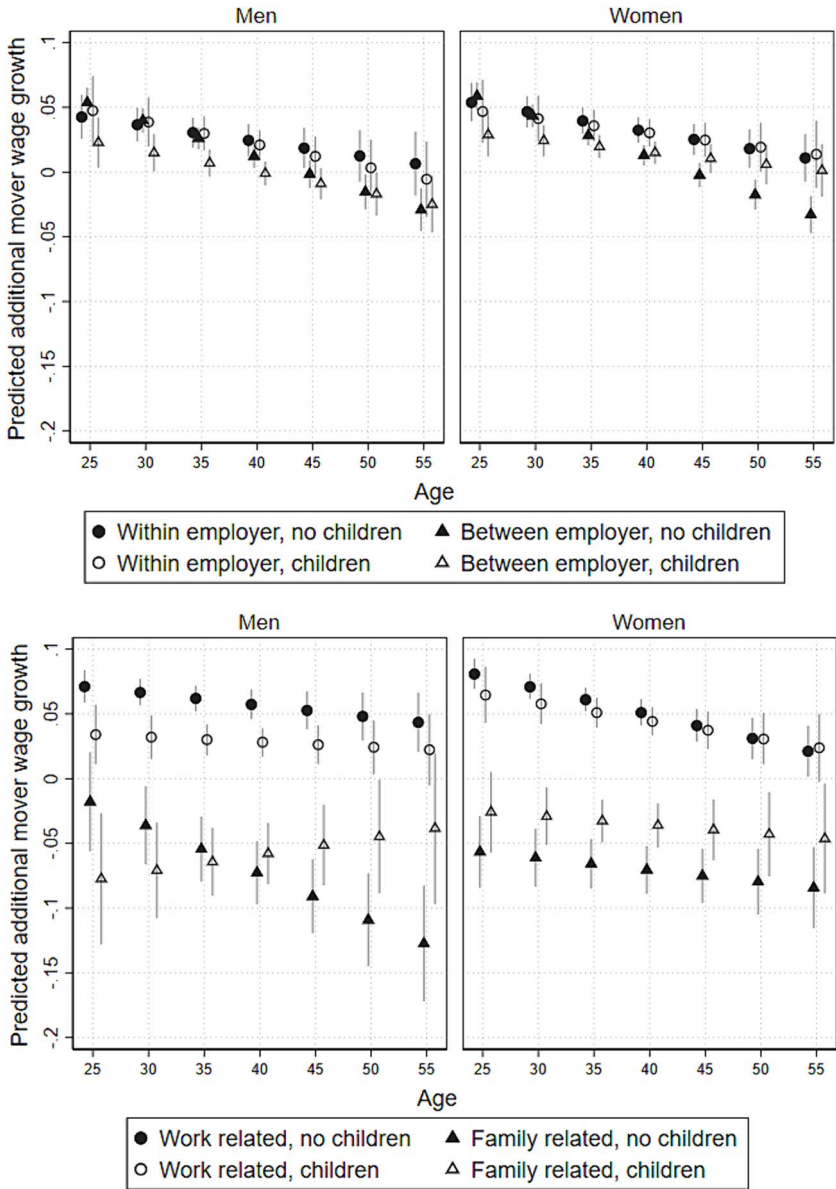
**Figure 2.** Predicted wage gains associated with different types of job mobility, by sex, and parenthood status. Figure 2.1: Within and between employer changes. Figure 2.2: Work and family job changes. Note: Authors' calculations based on UKHLS, Waves 1–10. Estimates come from regressions of annual changes in log wages on our measures of mobility after controlling for demographics characteristics, previous labour market history, and lagged job attributes. Details of the covariates included in the models are given above. Full results from the underlying models are in Supplementary material, table S6

## Robustness Tests

Results for wage returns to mobility may be vulnerable to selection bias if individuals who change jobs/employers are systematically different from those who do not, and these differences are not captured by our covariates. To address this concern, we perform two robustness tests.
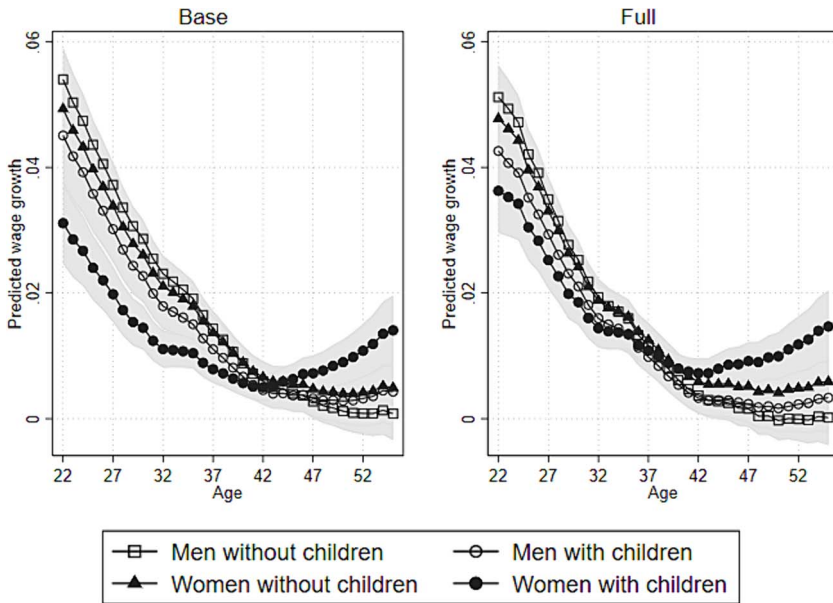
**Figure 3.** Predicted wage growth by age for men and women with and without children by age with and without controls for individual and job characteristics. Note: Authors' calculations based on UKHLS, Waves 1–10. The "base" model contains controls for age (and its square), year and region fixed effects, the number of gap years and a dummy for motherhood interacted with age. The "full" model adds controlling for education, health status, labour market history, prior job characteristics, and job mobility

First, we re-estimate wage returns using a sample restricted to mobile workers. For each type of mobility, we restrict the sample to workers who have experienced that type of mobility at least once in our window of observation. By focusing only on movers, we remove any time-invariant unobserved differences between movers and stayers that are correlated with the mobility decision. A second robustness test includes individual fixed effects that remove time-invariant individual unobserved heterogeneity. Results from both models are similar to the estimates previously presented (see Supplementary table S7), substantively and in terms of effect sizes.

## How Much Does Mobility Explain Mothers' Lower Wage Growth?

To understand the importance of job mobility in explaining the lower wage growth of mothers we use the Gelbach (2016) decomposition method. Figure 3 shows predicted wage growth curves for mothers, women without dependent children, fathers, and men without dependent children. The left panel ("Base") shows predicted wage growth controlling only for age, and year and region fixed effects. As expected, mothers experience considerably lower wage growth, especially compared to men and women without children, until their 40s. Among mothers in their 20s and early 30s, wage growth is up to 2 percentage points lower than for men or women without children and up to 1 percentage point lower than for fathers. From age 45, mothers' wage growth exceeds the other three groups, suggesting some catch up although, for all workers, wage growth slows at older ages. It is notable too that rates of wage growth for men and women without children are almost identical, reinforcing the notion that caring for children is now the most important reason for the gender pay gap (Andrew et al. 2021). The right panel (called "Full") shows the same predicted wage growth but now additionally controlling for demographics, labour market history, prior job characteristics, and job mobility. Adding these controls eliminates around half of the observed wage growth gap for mothers at age 25 and reverses the sign of the gap at age 40.

Results from the Gelbach decomposition are reported in table 2. The first two columns show wage growth differences in the "Base" and "Full" models, respectively. The difference between these two columns represents the differences in wage growth explained by all covariates, including demographics, labour market history, prior job characteristic and job mobility. The last two columns show differences in wage growth explained by job mobility only.

At age 25, mothers' wage growth was 1.6 p.p. lower than for women without children, with job mobility accounting for 0.5 p.p. (or 30%) of this difference. Compared to fathers, mothers' wage growth at age 25 is approximately 1.2 percentage points lower, a fifth of this difference being explained by different mobility patterns between the two groups. At older ages, wage growth differences between mothers and other workers decrease, but job mobility accounts for an increasing share of the wage growth gap. For example, at age 40, the difference in wage growth between women with and without children is 0.3 p.p., with 0.1 p.p. of this difference (or 43%) accounted for by mobility.

The final line in table 2 shows how differences in wage growth accumulate over time to affect the motherhood wage gap. Our estimates show that a woman who has a child at age 25 can expect to earn 0.15 log points (or 14%) less than a childless woman at age 40, with 4.7 p.p. (or 32%) of this difference resulting from lower wage growth due to differences in job mobility. The gap, when we compare mothers to fathers, is slightly smaller. A woman who has a child at age 25 can, by age 40, expect to earn 0.10 log points (or 10%) less than a man who had his first child at the same age. About a quarter of this difference (24%) is explained by differences in mobility.

For completeness, we also estimated the role of differences in returns to mobility in explaining observed differences in wage growth (a full set of results can be found in table S8 in the Supplementary Material). We have shown that fathers experience higher wage penalties for family motivated mobility than mothers, and lower premia for work-motivated mobility. However, as only a small share of fathers make family-related job moves, and relatively few mothers move for work-related reasons, these estimates are imprecise. The estimates are also possibly affected by selectivity bias, meaning that the mechanisms leading to differences in returns are not clear. With these caveats in mind, we find that, when we include differences in returns to mobility in our models, our conclusions do not significantly change when comparing mothers and women and men without children. However, when comparing mothers and fathers (for whom estimated returns to family-related mobility are very imprecise), including differences in returns in our models reduces the role mobility plays in explaining the observed wage gap.

## Discussion

Despite significant progress over the last half century, women's wages remain lower than those of men, with differences being particularly large for mothers (Budig, Misra, and Boeckmann 2012; Harkness and Waldfogel 2003; Sigle-Rushton and Waldfogel 2007). The lower earnings of mothers have been attributed to reduced labour market experience as a result of time out of the labour force or working part-time (Blundell et al. 2016), losses in job specific human capital when women do not return to the same job after maternity (Waldfogel 1998), and occupational choices, which tend to favour jobs with family friendly working conditions (England 2005; Fuller 2017; Fuller and Hirsh 2019). Studies taking a more dynamic perspective, emphasise the role of reduced training and promotion opportunities shifting women onto the "mommy track" after childbirth (Wilde, Batchelder, and Ellwood 2010). We explored a further, important mechanism behind the motherhood wage penalty, the effect of motherhood on job mobility and its associated wage gains.

We started by examining overall rates of job mobility. We found that mothers are less likely to change employers and when they do, they have different reasons: mothers were up to 30% less likely to change employers for work/career related, and twice as likely to change jobs for family reasons, as childless women, or men. Having fewer external, career-related opportunities was expected to reduce mothers' ability to negotiate promotions with their employer and reduce internal job moves. We find that this is, indeed, the case with mothers less likely to make internal

**Table 2.** The role of job mobility in explaining differences in the wage growth of mothers *vis-à-vis* women without children, and men with and without children: results from the Gelbach decomposition

| Wage growth at age . . . | Difference in wage growth ('Base' model) | Difference in wage growth ('Full' model) | Difference in wage growth explained by job mobility | Share of wage growth difference ("Base" model) explained by job mobility |
|---|---|---|---|---|
| Relative to women without children | | | | |
| 25 | −0.015 | −0.009 | −0.005 | 30% |
| 26 | −0.014 | −0.008 | −0.004 | 30% |
| 27 | −0.014 | −0.008 | −0.004 | 31% |
| 28 | −0.013 | −0.007 | −0.004 | 31% |
| 29 | −0.012 | −0.007 | −0.004 | 31% |
| 30 | −0.011 | −0.006 | −0.003 | 31% |
| 31 | −0.010 | −0.005 | −0.003 | 32% |
| 32 | −0.010 | −0.005 | −0.003 | 32% |
| 33 | −0.009 | −0.004 | −0.003 | 33% |
| 34 | −0.008 | −0.004 | −0.003 | 33% |
| 35 | −0.007 | −0.003 | −0.002 | 34% |
| 36 | −0.006 | −0.002 | −0.002 | 35% |
| 37 | −0.006 | −0.002 | −0.002 | 36% |
| 38 | −0.005 | −0.001 | −0.002 | 38% |
| 39 | −0.004 | −0.001 | −0.002 | 40% |
| 40 | −0.003 | 0.000 | −0.001 | 43% |
| Cumulative 25–40 | −0.150 | −0.058 | −0.049 | 32% |
| Relative to fathers | | | | |
| 25 | −0.012 | −0.008 | −0.002 | 19% |
| 26 | −0.011 | −0.007 | −0.002 | 20% |
| 27 | −0.010 | −0.007 | −0.002 | 20% |
| 28 | −0.010 | −0.006 | −0.002 | 21% |
| 29 | −0.009 | −0.005 | −0.002 | 21% |
| 30 | −0.008 | −0.005 | −0.002 | 22% |
| 31 | −0.007 | −0.004 | −0.002 | 23% |
| 32 | −0.007 | −0.004 | −0.002 | 24% |
| 33 | −0.006 | −0.003 | −0.002 | 25% |
| 34 | −0.005 | −0.002 | −0.001 | 27% |
| 35 | −0.005 | −0.002 | −0.001 | 29% |
| 36 | −0.004 | −0.001 | −0.001 | 31% |
| 37 | −0.003 | −0.001 | −0.001 | 35% |
| 38 | −0.002 | 0.000 | −0.001 | 42% |
| 39 | −0.002 | 0.001 | −0.001 | 53% |
| 40 | −0.001 | 0.001 | −0.001 | 82% |
| Cumulative 25–40 | −0.102 | −0.053 | −0.025 | 24% |
| Relative to men without children | | | | |
| 25 | −0.019 | −0.014 | −0.005 | 23% |
| 26 | −0.018 | −0.014 | −0.004 | 24% |
| 27 | −0.017 | −0.014 | −0.004 | 24% |
| 28 | −0.016 | −0.014 | −0.004 | 24% |
| 29 | −0.015 | −0.014 | −0.004 | 24% |
| 30 | −0.014 | −0.014 | −0.003 | 25% |
| 31 | −0.013 | −0.014 | −0.003 | 25% |

*(Continued)*

**Table 2.** The role of job mobility in explaining differences in the wage growth of mothers *vis-à-vis* women without children, and men with and without children: results from the Gelbach decomposition

| Wage growth at age… | Difference in wage growth ('Base' model) | Difference in wage growth ('Full' model) | Difference in wage growth explained by job mobility | Share of wage growth difference ("Base" model) explained by job mobility |
|---|---|---|---|---|
| 32 | −0.012 | −0.014 | −0.003 | 26% |
| 33 | −0.011 | −0.014 | −0.003 | 26% |
| 34 | −0.010 | −0.014 | −0.003 | 27% |
| 35 | −0.009 | −0.014 | −0.002 | 28% |
| 36 | −0.007 | −0.014 | −0.002 | 29% |
| 37 | −0.006 | −0.014 | −0.002 | 31% |
| 38 | −0.005 | −0.014 | −0.002 | 34% |
| 39 | −0.004 | −0.014 | −0.002 | 37% |
| 40 | −0.003 | −0.014 | −0.001 | 43% |
| Cumulative 25–40 | −0.180 | −0.223 | −0.047 | 26% |

Note: The "base" model contains controls for age (and its square), year and region fixed effects, the number of gap years and a dummy for motherhood interacted with age. The "full" model adds controlling for education, health and carer status, labour market history, prior job characteristics and job mobility. The part of the wage growth gap explained by job mobility is given in the 3rd column. Source: Authors calculations based on UKHLS, Waves 1–10.

job moves. This echoes findings from other studies, which suggest that mothers in the UK are more likely than other workers to become "stuck" in the same job, with fewer opportunities for career progression (Harkness, Pelikh, and Borkowska 2019).

Studies using US data suggest women are more likely to switch to part-time jobs or/and to switch jobs for family reasons than men (Felmlee 1984; Keith and McWilliams 1999). Looking specifically at mothers, Looze (2014, 2017) shows that having children reduces the probability of women making wage enhancing job moves and raises the chances of moving for family-related reasons in the US. Our findings suggest that similar patterns are observed in the UK.

Overall, our findings on differences in the rates at which mothers move jobs with the same employer indicate that mothers may face direct or indirect discrimination in the workplace, with employers overlooking mothers for promotion. Moreover, the processes by which internal moves are frequently negotiated on the basis of external offers, more than likely disadvantage women with children. It is likely that both supply and demand side factors play a role in limiting job moves made for career-related reasons, with childcare constraints on the one hand limiting women's desire to move jobs while employer discrimination may limit the job choices available to them.

We also investigated whether, compared to other workers, mothers experienced lower rates of wage growth when they changed jobs/employers. Prior studies, using data for North America, found returns to job mobility to be lower for women than men (Fuller 2008; Keith and McWilliams 1999; Loprest 1992; Pearlman 2018). Similar patterns were found for Germany (Wieschke 2020), Spain (Hospido 2009), and Italy (Del Bono and Vuri 2011).

Extending this analysis to mothers, we find that average returns to mobility are lower for mothers than other workers. However, these gaps are driven by differences in the types of job mobility that mothers experience. Workers who change employers for work/career-related reasons see significant wage gains with wage growth being up to three times faster than for those who do not change jobs. Moving job with the same employer is also associated with increased wage growth, but at a lower rate than for external, career-related moves. In contrast, family motivated mobility is associated with reduced wages. We do not, however, find that—conditional on the type of job move made—wage growth is systematically lower for mothers. Thus, it is differences in the types of mobility experienced rather than differences in returns to mobility that

contributes towards the lower rate of wage growth of mothers. These findings are similar to those of Fuller (2008), Looze (2014), and Keith and McWilliams (1999) in the US and Wieschke (2020) in Germany, who report that mothers are more likely to move for family reasons and experience lower returns to mobility.

Our results also suggest that family-related moves carry penalties for all workers. In fact, young fathers and older childless men experience the largest wage losses when moving for family related reasons. Large wage penalties could undermine policy efforts to rebalance care and work across genders and discourage fathers to take on more care responsibilities.

As jobs have become increasingly insecure and internal job ladders have shrunk, moving jobs has become an increasingly important mechanism for building young peoples' careers (Kronberg 2013). We examined how differences in mobility, and returns to mobility, contributed to the gap in wage growth between mothers and other workers. Compared to childless women, differences in mobility reduced the rate of annual wage growth for mothers between the ages of 25 and 40 by between 30% and 45%. Over time, these differences accumulate and the motherhood pay gap widens. For example, a woman who gives birth at age 25 can expect to see her wages fall 14 p.p. behind an otherwise equivalent woman without children by the age of 40 with around one-third (or 5 p.p.) of this difference explained by job mobility.

Earlier studies for the UK found that differences in job mobility made a relatively small contribution to the gender wage gap for young workers (under 30) because differences in mobility were small (Manning and Swaffield 2008). However, they considered only the first 10 years of young peoples' career and did not look specifically at parents, for whom differences in mobility are far larger. Our findings suggest that, on the contrary, differences in job mobility make a substantial contribution towards the widening of the wage gap between women with and without children.

Overall, our findings paint a picture of family-related responsibilities significantly constraining the labour market choices of women. In turn, these constraints are reflected in lower wage growth. We do not find evidence of direct employer discrimination: mothers who change jobs for work/career-related reasons reap the same wage rewards associated with these types of job moves as other workers. However, the negative wage returns associated with family motivated employer changes suggests that employers are able to take advantage of women's constrained choices.

## Endnotes

1. University of Essex, Institute for Social and Economic Research (2020). Understanding Society: Waves 1–10, 2009–2019 and Harmonised BHPS: waves 1–18, 19,991–2009 [data collection], 13th Edition. UK Data Service. SN:6614, http://doi.org/10.5255/UKDA-SN-6614-14

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## Supplementary Material

Supplementary material is available at *Social Forces* online.

## Data Availability

The data underlying this article are available in the UK Data Service repository, study number (SN) 6614, http://doi.org/10.5255/UKDA-SN-6614-14

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