Inequality

The IFS Deaton Review

The other side of the mountain: women's employment and earnings over the family cycle

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The other side of the mountain: women's employment and earnings over the family cycle

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Summary

Women earn less than men, and that is especially true of mothers relative to fathers. Much of the widening occurs with family formation. We estimate two earnings and hours gaps: (1) that due to the 'motherhood penalty', which is the difference between the earnings and hours of women who are currently mothers and those who are not; and (2) that due to the 'parental gender gap', which is the difference in outcomes between mothers and fathers. Women with young children work far fewer hours per week than do others. But what happens on the 'other side of the mountain' as the children grow up and eventually leave home? The answer is that women work more hours and transition to higher-earning positions. The motherhood penalty is greatly reduced, and by their 50s women with children earn just 7 log points less than those without children, given hours and work experience. But fathers manage to maintain their relative gains and do monumentally better than mothers, women without children and men without children. Fathers earn almost 7 log points more per child regardless of their age, whereas mothers lose 7 log points per child, holding hours of work and work experience constant.

Introduction

Life is an adventure, a long hike with difficult ascents, grand panoramas and many small pleasures along the way. Part of the adventure, for many, is earning a livelihood and having a meaningful career while nurturing a family. These often occupy the same time slots and, for most employments, that creates conflict. Mothers often reduce their hours at work and occasionally leave employment for some time or shift into less time-intensive jobs and firms. Those who plan to take off time in the future may invest in careers that impose lower penalties for work with fewer and less demanding hours.

These realities are the main parts of an important and well-explored reason why women earn less than men in the decade or more following the first birth. Less well explored is what happens to women's careers when the children are older, require less parental attention and eventually leave home. That is the topic of this paper.

A large and internationally diverse literature has demonstrated that men and women have divergent earnings growth paths after the birth of a child, even when they were previously on the same career trajectory. That conclusion holds within couples and also comparing mothers with

[1] The authors thank the Russell Sage Foundation (Grant #85-18-05) and the NSF (Grant #1823635) for providing research funding. They are grateful to Jennifer Walsh for exceptional research assistance throughout the trying pandemic year and to Lucy Cheskin for her excellent work in continuing the data collection.

fathers more generally.[2] There is also evidence that the possibility of motherhood impacts career choice and educational investment, and also that the career cost of children influences the timing of the first birth.[3]

Much of the initial divergence between male and female earnings after a birth is due to the reduction in the hours of paid work of mothers. But a cascading often follows. Fewer hours at work when young result in less lucrative clients, fewer published papers, a lower probability of promotion, and reduced odds of making partner or obtaining tenure, to provide a few examples for the higher-end group.[4] In addition, with fewer fully active years of experience, even a static human capital model would predict lower future earnings.

Thus, career trajectories between mothers and fathers, and between women with and without children, diverge. Gender differences in earnings widen for some time after a birth for human capital reasons as well as for those involving various forms of discrimination.[5] In addition, disproportionate demands on women's time relative to men's may continue long after the children are grown, and ageing parents frequently add to caring demands that often fall on women.

But there is a moment when childcare demands lessen and women can assume greater career challenges and shift into the more demanding jobs and firms. Depending on their occupations, they can publish more papers, write more briefs, serve on more committees and take on the more taxing clients. One obvious change, observed in most data sets, is that mothers eventually increase their weekly hours of paid work. For example, even female physicians over 44 years old work more hours by medical specialty than their younger female colleagues and work more hours than some of their older male colleagues.[6]

We ask whether mothers earn more as a result of their increased work time, relative to men and relative to women who have not yet had children or will never have them. We use longitudinal data from the National Longitudinal Survey of Youth 1979 (NLSY79) to understand what happens to the careers of mothers and fathers as their children mature and leave home or, at the very least, require less oversight. The data allow us to observe men and women born from 1957 to 1964 as they advance to their mid 50s and as their youngest child graduates from high school.

[2] Angelov, Johansson and Lindahl (2016) use administrative data from Sweden on couples. Other careful event study estimates of the impact of childbirth on female labour supply and the gender gap in earnings include Kleven, Landais and Søgaard (2019), who use administrative data from Denmark, and Kleven et al. (2019) using a similar methodology for several countries. Cortés and Pan (2020) use Kleven's methodology and the Panel Study of Income Dynamics (PSID) to track the gender gap in earnings for cohorts having a first birth from the mid 1970s to the 2010s. Kuziemko et al. (2020) also use the method to shed light on whether women anticipate the career costs of children. Juhn and McCue (2017) find substantial motherhood penalties using the PSID. Goldin and Mitchell (2017) use US administrative data and look for evidence on the impact of births on labour force participation.

[3] Wilde, Batchelder and Ellwood (2010), Adda, Dustmann and Stevens (2015) and Herr (2015) all explore the role of birth timing in human capital investment, career choice and earnings.

[4] On the critical role of early promotions, see Bronson and Thoursie (2020), who use Swedish data.

[5] Other reasons for the so-called 'motherhood penalty' are both overt and unintentional discrimination by employers, managers and supervisors. Mothers could be deliberately and discriminatorily passed over for promotions, or their direct supervisors could be guilty of a form of paternalism that serves to protect the individual but actually harms them.

[6] These findings are from the Community Tracking Survey (restricted-use version). Female physicians under 45 years old work ten fewer hours per week than same-age male physicians (no information is provided on the presence of children). But female physicians work just five hours less when they are 45 and over.

We think of this as the 'other side of the mountain', when the hard work and great joys of raising the family are over and women can race down the other side and make up for lost time in their careers. Or is this more like a marathon for which stopping at mile 10 puts you behind for ever? To continue the metaphor, perhaps this is more like a bike race where losing your place in the draft puts you progressively farther behind. Much will depend on the underlying fundamentals and whether earnings are linear in experience or whether there is a more complicated dynamic element.

Because our interest is mainly to understand careers – jobs and occupations for which experience generally matters – we focus entirely on college graduates, the NLSY79 respondents who received a bachelor's degree sometime before they turned 35 years old.

Although considerable research has been done on the role of children in widening the gender earnings gap and slowing women's careers, there is little on what happens when children mature and leave home. One of the reasons for the limited research on this topic is that, for the US case, longitudinal data sets such as the NLSY79 have not allowed for a long enough time period until recently.[7]

Long-term synthetic cohort evidence from the US Census and the ACS

To set the stage for our main analysis, we use the US Census and the American Community Survey (ACS) to examine cohorts born from around 1943 to 1983. That enables us to observe the earnings of women and men from their 20s to their 60s, for the three earliest birth cohorts. Our sample consists of native-born, white, 25- to 64-year-old college graduates whose annual earnings were at least half of the annual amount that a full-time worker would have earned at the contemporaneous federal minimum wage for 1,400 hours, which is the equivalent of full-time (35-hours), full-year (40-weeks).[8] We use a native-born, white sample to retain consistency across the 40-year period of constructing the synthetic cohorts. The data are in five-year age groups and five-year birth cohorts.

We first examine changes in the gender earnings gap for a broad set of birth cohorts. We demonstrate, using repeated cross-section data of nationally representative samples, that the ratio of earnings of college-graduate women to comparable men initially widens as they age and also that the resulting earnings gaps stabilise and even diminish at some point, generally when the individuals are in their 40s.[9]

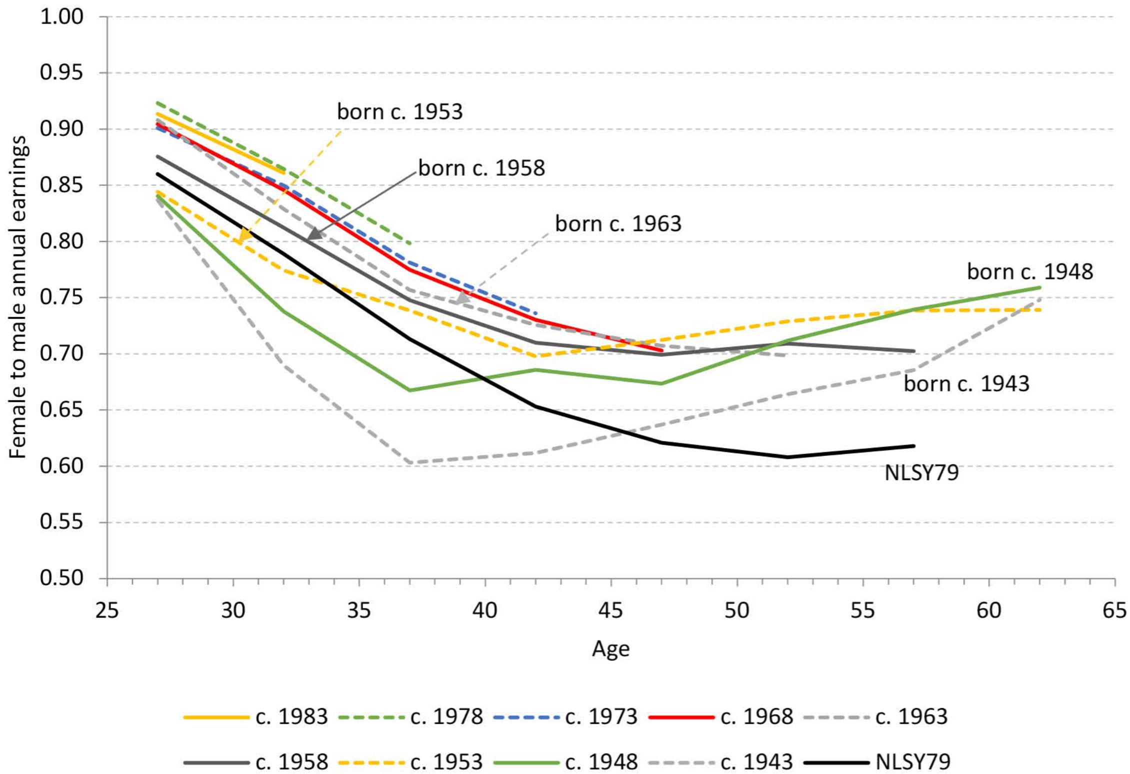
The general finding from the Census and ACS data, as shown in Figure 1, is that relative earnings decrease with age, given log(hours), log(weeks) and education above a bachelor's, for all cohorts. The initial relative earnings ratio is lowest among the earlier birth groups, for which it is around 0.85, and is higher for the most recent birth group, for which it exceeds 0.9. That difference is likely due to the greater delay in first births (also marriage) for the group born after 1960. It should also be noted that there is a clear increase in relative earnings of young women from those born around 1953 to those born around 1958. Those dates coincide with the large increase in the relative earnings of women more generally from the early to the late 1980s.

7 Several researchers have used earlier waves of the NLSY79 to explore similar issues, including Wilde, Batchelder and Ellwood (2010) and Herr (2015).

8 The resulting annual income is fairly minimal. All college graduates, regardless of parental status, are included.

9 This analysis was presented in Goldin (2014); see also Juhn and McCue (2017), who construct approximately the same synthetic cohort analysis.

Figure 1. Relative annual earnings of college-graduate men and women, born 1943 to 1983



Note: For all lines except that labelled NLSY79, coefficients from regressions of college-graduate (16 years or more of schooling) men and women (white, native-born, non-military, 25 to 69 years old), using trimmed annual earnings data (exceeding 1,400 hours × 0.5 × relevant federal minimum wage) corrected for income truncation (top-coded values × 1.5). Dependent variable is log(annual earnings) with controls for education beyond 16 years, log(hours), log(weeks) and age, entered in five-year intervals interacted with the dummy variable female. Lines connect the coefficients on the five-year intervals for each birth cohort. Birth cohorts from 1943 to 1988 and age groups to 65 years old are shown. The vertical axis is translated from logs to ratios. The mid-point of the birth years is given; thus, for example, 'c. 1963' is for those born from 1961 to 1965.

Source: US Census Micro Data 1970, 1980, 1990 and 2000, and American Community Survey (ACS) 2004 to 2006 (for 2005), 2009 to 2011 (for 2010) and 2014 to 2016 (for 2015). See Goldin (2014), figure 1, part b, updated to 2015. NLSY79 data are from Table 2, column 2.

For all birth groups, earnings gaps initially widen with age. By their 40s, women in the most recent birth groups, for whom the gap was 0.9 in their late 20s, experience a gap that is more like 0.7. For birth cohorts we can observe to their 50s, the decrease then flattens out. That flattening can be easily seen for the group born from the late 1950s to the early 1960s (given in the figure as born c. 1958 and c. 1963). These are the approximate birth groups of the NLSY79.

For those in the earliest birth cohorts depicted – born in the 1940s to the early 1950s – relative earnings actually increased at some point. The initial decline for these women had been greater than for those in the later birth cohorts. Relative earnings of women to men reached a nadir when they were in their late 30s to early 40s, at around 20–25 percentage points below that in their mid to late 20s. But they wound up their careers, in their early 60s, with a relative earnings gap that was around 10 percentage points below where they started. Of course, these conclusions are based on pooled cross-sections and do not take selection into the labour force into account and do not directly explore the role of children.

There are several possible reasons why the gender earnings gap does not narrow for the more recent birth groups. Some of the birth groups may not yet be old enough. Even though women have been working longer in their lives (Goldin and Katz, 2018), the women in the most recent birth groups have little time to make up for the loss in relative earnings. The race down the other side of the mountain is almost over.

A related factor is that more recent cohorts have had their first births later in their lives than did the earlier birth cohorts. Yet another possibility is that the gender earnings gap among even full-time college graduates has been stubbornly wide because income inequality has increased and men tend to be in the upper tail more than women. Finally, because of selection biases concerning who is in the workforce, the use of repeated cross-sections may not yield accurate information for individuals. By comparing individual fixed-effects estimates for the NLSY79 data with those obtained using a cross-section (ordinary least squares, or OLS) approach, we can evaluate that possibility.

The conclusions from the use of repeated cross-sections are clear. But the data may not be the best since the sample changes as the groups are knitted together into synthetic cohorts. We turn, now, to an examination of the longitudinal data from the NLSY79. But before we begin, we need to comment on the line in Figure 1 for the NLSY79. Although the (corrected) ratio of female to male earnings from the NLSY79 sample is similar to that from the Census and ACS data at the start, it is subsequently lower for the same birth cohorts and progressively widens to be about 10 percentage points lower by ages in their 50s. We will return to aspects of this widening toward the end of this paper.[10]

Evidence from the NLSY79

The NLSY79 (US Department of Labor, Bureau of Labor Statistics, 2019) began in 1979 with around 13,000 14- to 22-year-old male and female respondents born from 1957 to 1964. They have been followed until today, with some attrition and sample changes. To have as complete a work history as possible, we employ a (fairly) balanced panel of individuals whose last interview was in 2018. As we previously noted, each earned a four-year college degree by age 35. Male and female college graduates are included even if they never become parents for the duration of the longitudinal sample. Our sample includes 42,880 person-year observations for those aged 25–59, of which 22,297 are for women. The sample has 1,321 individuals (683 women and 638 men).

We begin their work histories when the respondents had worked at least 20 hours per week, on average, for 26 weeks per year during two consecutive years. They remain in the sample if they are equivalently employed for at least 20% of the time remaining to 2018. Using these sample restrictions reduces the sample by 7% for women and 2% for men.[11]

Given the sample selection criteria, the total number of person-year observations in the regression sample is 36,458, of which 17,741 are for women. The sample has 1,260 individuals (635 women and 625 men). About 72% of the college-graduate women had at least one birth by the

[10] Doren and Lin (2019) find similar widening gender gaps at the older ages in the NLSY79.

[11] We also truncate hours of paid employment at 84 per week and remove observations for which annual earnings are less than half the contemporaneous federal minimum wage for full-time workers. Details about data construction can be found in Goldin, Kerr and Olivetti (2021).

end of our sample and the median age of their first birth is 29 years.[12] Almost 76% of the college-graduate men became fathers in the duration of the survey and their median age at the birth of their first child is 31 years. These samples are small by most standards but large enough for our analyses.

All regressions are estimated both as cross-sections (OLS) and with individual fixed effects. We prefer the fixed-effects methodology and will emphasise those results.[13] There is virtue to having both because most previous estimates, such as the material we just presented, are of the cross-section variety.

The samples for all regressions are the same and are pooled, with both males and females. Because the regressions are highly saturated, there are minor differences in the coefficients of interest from those in identical regressions estimated separately by gender. In all cases, we use a variant of equation 1 where y_{it} is an outcome, such as log annual income, for individual i in year t.

$$\begin{aligned}(1) \qquad y_{it} = {} & \phi_0 + \phi_1 F_i + \phi_2 A'_{it} + \phi_3 (A'_{it} \cdot F_i) + \alpha_1(\mathbb{K}'_{it}) \\ & + \alpha_2(\mathbb{K}'_{it} \cdot F_i) + \delta \cdot \mathbb{Z}'_{it} + \gamma \cdot \mathbb{X}'_{it} + \psi\, U_t + \varepsilon_{it}\end{aligned}$$

Included in all OLS estimations are: a female dummy (F_i); a vector of five-year age groupings (A'_{it}) and their interaction with the female dummy ($A'_{it} \cdot F_i$). Also included in some of the regressions is a vector of child variables ($\mathbb{K}'_{it}$), which contains the total number of (biological) children born up to that year, and the relevant child age bin of the youngest child: 0<3; 3<6; 6<12; 12<18; and 18+ at that point. The child age bins reflect a variety of milestones that impact childcare (e.g. end of diapers; entrance to elementary school; high-school graduation).[14] Child variables are also interacted with the female dummy ($\mathbb{K}'_{it} \cdot F_i$).

In some regressions, we also include a vector of time variables ($\mathbb{Z}'_{it}$), which are hours and weeks (in logs). In some, we add a measure of work experience, defined (negatively) as the fraction of the previous five years the individual worked low hours or not at all. In that same regression is also added whether the individual earned an advanced degree above the bachelor's. Both variables are in the vector $\mathbb{X}'_{it}$.[15] In all regressions, we add the national unemployment rate (U_t) in year t to account for the impact of the macroeconomy. Due to the limited number of cohorts in the NLSY79, we cannot include year effects because of collinearity among cohort, age and year.

For the OLS regressions, the error term (ε_{it}) is assumed to be i.i.d.[16] The fixed-effects estimations use the same variables as in the OLS, except that the female dummy is dropped and the error term is $\varepsilon_{it} = \nu_i + \epsilon_{it}$, where ϵ_{it} is assumed to be i.i.d.

12 Aggregate data from the CPS June Fertility Supplements have a somewhat higher fraction of college-graduate women with at least one birth (74% for those born in 1958 increasing to 76% for those born in 1964). There may be selective attrition in the NLSY79 data or these differences may be due to sampling error.

13 We do not use the event study framework in Kleven and Landais (2017) and Kleven et al. (2019). Because our time frame is long, we would clearly violate a key assumption of that framework, that women who have their first child at an early age and those who have their first later do not differ in unobservable ways. Another reason is that our interest is in the impact of the youngest child (the last birth) and the event study framework uses the birth of the first child as the event.

14 We use only biological children because of the difficulty of determining the precise birth year of adopted children.

15 Experience is defined (negatively) as the fraction of the past five years that the individual was employed for fewer than 20 hours per week on average per year. Advanced degrees include all above the bachelor's earned to that year.

16 i.i.d. stands for independent and identically distributed.

Changes in labour supply: weeks and hours worked

As other researchers have discovered, the role of children in impacting women's earnings across the life cycle, and thus the gender gap in earnings, is largely determined by changes in labour supply. In particular, hours of work decrease after a birth and stay low for some time. Weeks per year, a measure of labour force participation, also decrease, but the primary labour supply response is at the intensive margin of hours.

Table 1. Weeks worked and weekly hours: OLS and individual fixed-effects estimations

	OLS		Individual fixed effects	
	(1) Number of weeks worked	(2) Weekly hours (non-zero)	(3) Number of weeks worked	(4) Weekly hours (non-zero)
Female (F)[a]	−0.0727	−2.709***	0.036	−3.141
	(0.251)	(0.311)		
Age groups				
30–34	1.221***	1.786***	1.340***	2.169***
	(0.220)	(0.321)	(0.264)	(0.385)
35–39	1.996***	2.178***	2.209***	2.874***
	(0.211)	(0.356)	(0.290)	(0.474)
40–44	1.802***	1.053***	2.063***	2.020***
	(0.222)	(0.356)	(0.349)	(0.566)
45–49	2.066***	1.008***	2.324***	1.994***
	(0.223)	(0.371)	(0.374)	(0.663)
50–54	2.071***	0.426	2.442***	1.613**
	(0.236)	(0.397)	(0.409)	(0.747)
55–59	1.218***	−0.436	1.643***	0.520
	(0.277)	(0.500)	(0.477)	(0.861)
F × Age groups				
F × 30–34	0.0617	0.575	−0.0172	0.165
	(0.323)	(0.452)	(0.395)	(0.594)
F × 35–39	0.189	0.0389	0.0421	−0.702
	(0.311)	(0.504)	(0.447)	(0.765)
F × 40–44	−0.255	0.538	−0.456	−0.553
	(0.332)	(0.495)	(0.518)	(0.825)
F × 45–49	−0.448	0.734	−0.678	−0.302
	(0.336)	(0.514)	(0.568)	(0.946)
F × 50–54	−0.0395	1.754***	−0.564	0.530

	(0.341)	(0.562)	(0.589)	(1.056)
F × 55–59	0.0754	0.714	−0.526	0.0209
	(0.403)	(0.713)	(0.687)	(1.223)
Children (age of youngest)				
No. of children	−0.00211	1.307***	−0.104	0.0794
	(0.0768)	(0.148)	(0.203)	(0.321)
Child 0<3	1.094***	−0.763*	0.980**	−0.0834
	(0.219)	(0.397)	(0.384)	(0.664)
Child 3<6	0.841***	−0.892**	0.781*	−0.0906
	(0.236)	(0.444)	(0.437)	(0.716)
Child 6<12	0.635***	−0.0987	0.487	0.746
	(0.223)	(0.430)	(0.476)	(0.817)
Child 12<18	0.591***	−0.400	0.294	0.119
	(0.218)	(0.429)	(0.515)	(0.864)
Child 18+	0.218	0.361	−0.219	0.625
	(0.222)	(0.458)	(0.544)	(0.947)
F × Children				
F × No. of children	−0.116	−2.357***	0.171	−1.362**
	(0.143)	(0.245)	(0.359)	(0.588)
F × Child 0<3	−3.111***	−4.506***	−4.062***	−5.507***
	(0.403)	(0.614)	(0.718)	(1.160)
F × Child 3<6	−0.754*	−3.452***	−1.793**	−5.071***
	(0.402)	(0.701)	(0.772)	(1.224)
F × Child 6<12	−0.765**	−2.828***	−1.568*	−3.985***
	(0.381)	(0.658)	(0.808)	(1.349)
F × Child 12<18	−0.498	−0.399	−0.937	−0.737
	(0.381)	(0.668)	(0.860)	(1.450)
F × Child 18+	−0.279	0.820	−0.506	0.537
	(0.380)	(0.693)	(0.901)	(1.577)
Unemployment rate, year *t*	−0.0282	−0.0934*	−0.0375	−0.112**
	(0.0286)	(0.0505)	(0.0318)	(0.0518)
Constant	48.73***	45.35***	48.91***	44.66***
	(0.256)	(0.393)	(0.261)	(0.412)
No. of observations	36,458	36,458	36,458	36,458
R-squared	0.024	0.091	0.021	0.031
No. of individuals	1,260	1,260	1,260	1,260

Notes and source for Table 1

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

[a] The female main effect in the fixed-effects estimation was recovered.

Note: Omitted age group is 25–29 years. For other variable definitions and sample selection details, see notes to Table 2.

Source: NLSY79 sample. See text.

We estimate two regressions to understand life-cycle labour supply. The first is the number of weeks worked in the year, and the other is weekly hours, excluding zeros. Columns 1 and 2 of Table 1 use the data in cross-section (OLS) and columns 3 and 4 use individual fixed effects.

Women with infants and toddlers (0–2 years old) work fewer weeks per year (around 3.3 fewer in the cross-section and 3.85 in the fixed-effects analysis) than fathers.[17] In consequence, women work a lower fraction of the year when their children are young. But, as the children get out of diapers, into pre-school and then to the elementary grades, these differences quickly decline. The total number of children is less important to weeks worked than is the age of the youngest child.

Larger and more persistent labour supply responses occur at the intensive margin of hours, especially when there are young children. The impact of children on hours of work can be seen in a simple simulation that uses the family structure of the average parents in the data. We compare the impact of children on mothers' work time relative to women who have had no children by that age, and we also compare mothers and fathers. In the simulation, we follow individuals as they advance through the seven age groups (from 25–29 to 55–59).

Relative to women without children, as can be seen in panel A of Figure 2, mothers reduce their weekly hours by about seven – or about a day per week – during their late 20s and through their 30s, using the fixed-effects estimation. The decrease is a bit less in the cross-section estimation. When they are in their early 40s and their youngest is already in elementary school (79% of mothers have a youngest child older than 6 years), the difference is reduced to around five hours, and it is diminished further, to about two hours, when they are in their early 50s and the youngest has graduated high school (60% have a youngest child older than 17 years). In the oldest age group, the difference between mothers and non-mothers is about 1.3 hours in the cross-section and fewer than two hours in the fixed-effects estimation.

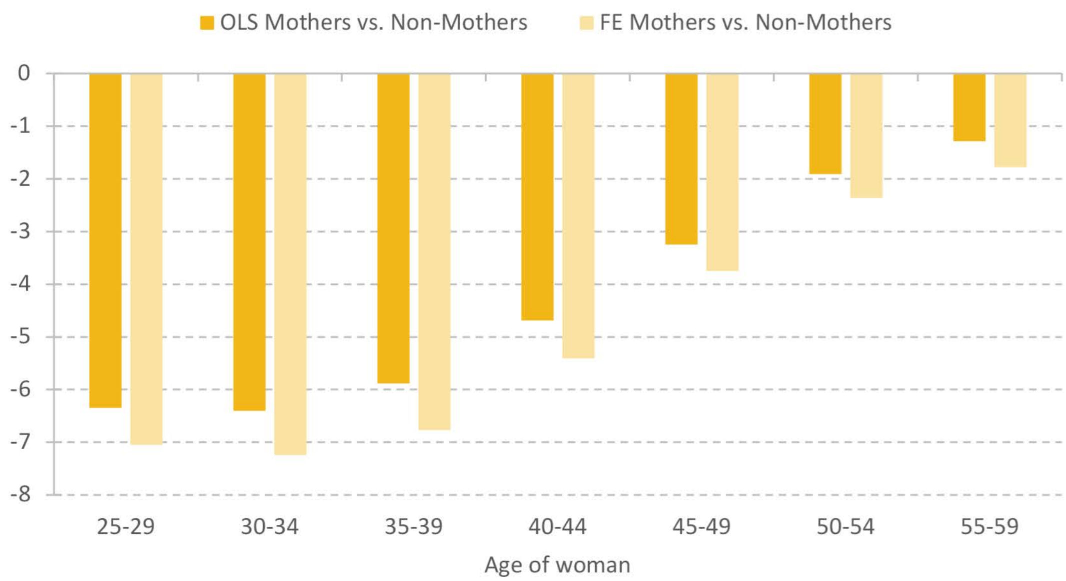
The comparison in panel B with fathers shows a greater relative deficit for mothers than the comparison with non-mothers, and some ramping up later, similar to what was just noted.[18] Mothers work about ten fewer hours than do fathers when most have a youngest still in pre-school (at ages 30–39), and around eight fewer when the youngest is predominantly in middle and high school (45–49). When 60% of the youngest children have graduated high school and mothers are in their early 50s, they still work about six fewer hours than fathers and the difference persists when 90% have youngest children older than 17 years. Of that difference, almost two hours are due simply to being a woman, as can be seen by comparing these estimates with the hours differences between mothers and non-mothers.

[17] The computation assumes one child and a 25- to 29-year-old mother (–3.3 = [– 0.0727 – 0.116 – 3.11] for OLS; –3.85 = [0.036 + 0.171 – 4.06] for fixed effects). Fathers work more weeks per year when their children are youngest and mothers work the fewest weeks at that stage.

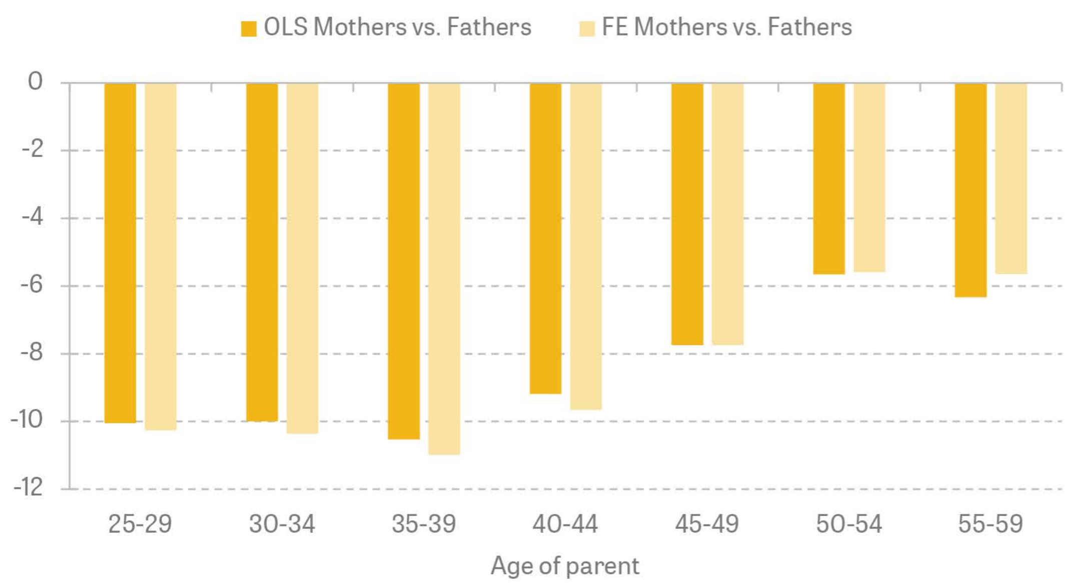
[18] In the fixed-effects estimation, fathers are not much different from non-fathers. In the OLS results, they put in more paid work hours with more children, but a bit less by the age of the youngest.

Figure 2. Simulated impact of children on hours of mothers' paid work

A. Impact of children on hours of paid work for mothers relative to non-mothers



B. Impact of children (and female) on hours of paid work for mothers relative to fathers



Note: The simulation uses the mean number and age distribution of children by age of the mother; see Appendix Table A1. Respondents are all college graduates (or would be by age 35). In panel A, the only effect is that of the children since all are women. In panel B, the difference between mothers and fathers is due to the number and ages of the children, plus the interaction of respondent's age with female and the female main effect.

Source: Cross-section (OLS) – Table 1, column 2; individual fixed effects (FE) – Table 1, column 4.

Why women who are not mothers or not yet mothers work fewer hours than do fathers may have something to do with other care responsibilities, planning for a family, or a host of other preferences regarding labour supply. Note that the hours differences are somewhat larger in the cross-section than in the fixed-effects estimation.

The main point, from the fixed-effects estimation, is that hours of paid work initially plummet with motherhood. One can see that in the difference between the mothers and the women who are not (or not yet) mothers. Hours stay lower for mothers than non-mothers but increase as the youngest child begins school and eventually exits high school. Since hours exclude the zeros, one can also add in the impact from zero weeks worked during the year, although that will be small relative to the hours decline conditional on working.

Mothers, therefore, do race down the other side of the mountain and increase their work time as the children grow up. What that means for the earnings of mothers relative to other women and in comparison with fathers are the next items to consider.

The motherhood effect and the parental gender gap in earnings over the life cycle

The OLS, or cross-section, estimation of log annual earnings is given in Table 2. The individual fixed-effects estimation is in Table 3. The estimation of log(annual earnings) in column 1 of each table includes the age group variables and their interaction with gender, as well as the main gender effect in the cross-section estimation. Column 2 adds the time dimension (hours and weeks in logs). Column 3 excludes time but adds the child effects in the same manner as in the labour supply regressions of Table 1. Column 4 adds back in the time dimension (hours and weeks in logs). Finally, column 5 includes a measure of low or no work experience and whether the respondent earned a degree beyond the bachelor's. The measure of low or no work experience is the fraction of the last five years that the individual worked an average, for each year, of 20 hours or less per week.[19]

Table 2. Male and female pooled cross-section (OLS) estimations of log annual earnings

	Log(annual earnings)				
	(1)	(2)	(3)	(4)	(5)
Female (F)	−0.241***	−0.149***	−0.163***	−0.118***	−0.143***
	(0.0184)	(0.0156)	(0.0189)	(0.0160)	(0.0158)
Age groups					
30–34	0.332***	0.269***	0.252***	0.205***	0.179***
	(0.0183)	(0.0159)	(0.0186)	(0.0164)	(0.0159)
35–39	0.598***	0.509***	0.452***	0.392***	0.354***
	(0.0194)	(0.0175)	(0.0203)	(0.0185)	(0.0181)
40–44	0.750***	0.679***	0.572***	0.536***	0.487***
	(0.0204)	(0.0190)	(0.0220)	(0.0206)	(0.0201)
45–49	0.824***	0.740***	0.640***	0.594***	0.541***

[19] About 10% of women in their 30s and 40s had low or no work experience in the last five years.

	(0.0205)	(0.0185)	(0.0230)	(0.0214)	(0.0211)
50–54	0.870***	0.798***	0.706***	0.674***	0.613***
	(0.0214)	(0.0195)	(0.0252)	(0.0237)	(0.0234)
55–59	0.809***	0.769***	0.672***	0.671***	0.607***
	(0.0281)	(0.0265)	(0.0318)	(0.0301)	(0.0294)
F × Age groups					
F × 30–34	−0.141***	−0.0879***	0.00561	−0.00302	0.00204
	(0.0266)	(0.0229)	(0.0268)	(0.0235)	(0.0230)
F × 35–39	−0.277***	−0.189***	−0.00373	−0.00273	−0.0100
	(0.0274)	(0.0242)	(0.0285)	(0.0258)	(0.0252)
F × 40–44	−0.352***	−0.277***	−0.0267	−0.0265	−0.0336
	(0.0292)	(0.0261)	(0.0313)	(0.0283)	(0.0278)
F × 45–49	−0.388***	−0.328***	−0.0676**	−0.0605**	−0.0633**
	(0.0297)	(0.0261)	(0.0334)	(0.0301)	(0.0295)
F × 50–54	−0.362***	−0.348***	−0.0846**	−0.102***	−0.103***
	(0.0296)	(0.0263)	(0.0354)	(0.0324)	(0.0319)
F × 55–59	−0.368***	−0.332***	−0.128***	−0.114***	−0.121***
	(0.0387)	(0.0355)	(0.0446)	(0.0410)	(0.0402)
Children (age of youngest)					
No. of children			0.0853***	0.0611***	0.0573***
			(0.00969)	(0.00945)	(0.00924)
Child 0<3			0.109***	0.105***	0.0944***
			(0.0244)	(0.0233)	(0.0227)
Child 3<6			0.138***	0.139***	0.137***
			(0.0275)	(0.0263)	(0.0258)
Child 6<12			0.131***	0.127***	0.128***
			(0.0273)	(0.0264)	(0.0256)
Child 12<18			0.130***	0.128***	0.132***
			(0.0294)	(0.0288)	(0.0280)
Child 18+			0.0381	0.0292	0.0467
			(0.0310)	(0.0302)	(0.0299)
F × Children					
F × No. of children			−0.235***	−0.176***	−0.145***
			(0.0158)	(0.0144)	(0.0140)
F × Child 0<3			−0.0583	0.0934***	0.0689**

			(0.0385)	(0.0348)	(0.0340)
F × Child 3<6			−0.105**	−0.0172	−0.0132
			(0.0447)	(0.0402)	(0.0394)
F × Child 6<12			−0.117***	−0.0644*	−0.0708*
			(0.0423)	(0.0381)	(0.0369)
F × Child 12<18			−0.0603	−0.0624	−0.0838**
			(0.0440)	(0.0408)	(0.0398)
F × Child 18+			0.0990**	0.0549	0.00676
			(0.0448)	(0.0414)	(0.0410)
Time					
Log hours		0.814***		0.783***	0.582***
		(0.0219)		(0.0218)	(0.0227)
Log weeks		0.551***		0.542***	0.510***
		(0.0290)		(0.0286)	(0.0272)
Education and experience					
Advanced degree					0.266***
					(0.00874)
Fraction out, last 5 yrs					−0.734***
					(0.0349)
Unemployment rate, year *t*	−0.0123***	−0.00924***	−0.0123***	−0.00923***	−0.00991***
	(0.00340)	(0.00312)	(0.00334)	(0.00307)	(0.00299)
Constant	10.89***	5.666***	10.84***	5.775***	6.668***
	(0.0255)	(0.136)	(0.0254)	(0.135)	(0.136)
No. of observations	36,458	36,458	36,458	36,458	36,458
R-squared	0.202	0.333	0.230	0.348	0.384

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

F: Female.

Age: Omitted age group 25–29 years. The NLSY79 became biennial after 1994. In consequence, there are fewer respondents in their mid to late 50s for the 2018 wave.

Children: Children are those born to the woman (or fathered by the man) by the age given. Age of child is the age of the youngest. The number of children is top-coded at three.

Advanced degree: All advanced degrees above the bachelor's.

Fraction out, last 5 yrs: Share of the past five years not working >20 hours per week on average for each year is our measure of experience.

Unemployment rate, year t: Unemployment rate is used instead of year dummies.

Note: Sample truncates hours at 84 per week and imposes minimum annual earnings of half the contemporaneous federal minimum wage × 1,400 hours per year. All earnings data are in 2019 dollars. NLSY79 2018 weights are used for all years.

Source: NLSY79 sample. See text.

Table 3. Male and female pooled fixed-effects estimations of log annual earnings

	Log(annual earnings)				
	(1)	(2)	(3)	(4)	(5)
Recovered female dummy[a]	−0.267	−0.200	−0.183	−0.151	−0.174
Age groups					
30–34	0.338***	0.293***	0.279***	0.239***	0.218***
	(0.0197)	(0.0169)	(0.0214)	(0.0186)	(0.0188)
35–39	0.605***	0.543***	0.493***	0.440***	0.408***
	(0.0252)	(0.0229)	(0.0296)	(0.0267)	(0.0273)
40–44	0.754***	0.705***	0.613***	0.572***	0.533***
	(0.0285)	(0.0264)	(0.0368)	(0.0342)	(0.0348)
45–49	0.809***	0.754***	0.653***	0.607***	0.567***
	(0.0302)	(0.0277)	(0.0431)	(0.0398)	(0.0402)
50–54	0.850***	0.803***	0.690***	0.649***	0.608***
	(0.0332)	(0.0306)	(0.0488)	(0.0456)	(0.0462)
55–59	0.834***	0.811***	0.676***	0.659***	0.618***
	(0.0407)	(0.0373)	(0.0554)	(0.0512)	(0.0514)
F × Age groups					
F × 30–34	−0.180***	−0.137***	−0.0326	−0.0335	−0.0279
	(0.0302)	(0.0252)	(0.0317)	(0.0271)	(0.0266)
F × 35–39	−0.317***	−0.247***	−0.0581	−0.0485	−0.0521
	(0.0365)	(0.0316)	(0.0443)	(0.0390)	(0.0386)
F × 40–44	−0.370***	−0.309***	−0.0824	−0.0671	−0.0673
	(0.0418)	(0.0369)	(0.0536)	(0.0481)	(0.0479)
F × 45–49	−0.362***	−0.320***	−0.0996	−0.0815	−0.0800
	(0.0447)	(0.0392)	(0.0631)	(0.0564)	(0.0553)
F × 50–54	−0.338***	−0.328***	−0.119*	−0.114*	−0.113*
	(0.0458)	(0.0408)	(0.0686)	(0.0627)	(0.0620)
F × 55–59	−0.326***	−0.309***	−0.133*	−0.115	−0.126*
	(0.0556)	(0.0492)	(0.0795)	(0.0712)	(0.0707)
Children (age of youngest)					
No. of children			0.0720***	0.0688***	0.0677***
			(0.0240)	(0.0225)	(0.0215)
Child 0<3			0.0519	0.0436	0.0351
			(0.0465)	(0.0433)	(0.0411)
Child 3<6			0.0846*	0.0781*	0.0757*

			(0.0502)	(0.0468)	(0.0447)
Child 6<12			0.0878	0.0781	0.0756
			(0.0534)	(0.0496)	(0.0472)
Child 12<18			0.103*	0.0989*	0.0951*
			(0.0593)	(0.0552)	(0.0530)
Child 18+			0.0971	0.0933	0.0905
			(0.0691)	(0.0651)	(0.0630)
F × Children					
F × No. of children			−0.195***	−0.170***	−0.142***
			(0.0422)	(0.0382)	(0.0363)
F × Child 0<3			−0.131*	0.00491	0.00572
			(0.0761)	(0.0666)	(0.0633)
F × Child 3<6			−0.178**	−0.0773	−0.0425
			(0.0827)	(0.0730)	(0.0680)
F × Child 6<12			−0.162*	−0.0932	−0.0726
			(0.0880)	(0.0777)	(0.0731)
F × Child 12<18			−0.0696	−0.0548	−0.0587
			(0.0954)	(0.0848)	(0.0803)
F × Child 18+			0.0429	0.0316	0.00554
			(0.106)	(0.0951)	(0.0909)
Time					
Log hours		0.542***		0.525***	0.359***
		(0.0281)		(0.0278)	(0.0258)
Log weeks		0.432***		0.431***	0.408***
		(0.0273)		(0.0271)	(0.0255)
Education and experience					
Advanced degree					0.200***
					(0.0289)
Fraction out, last 5 yrs					−0.719***
					(0.0548)
Unemployment rate, year *t*	−0.0106***	−0.00834***	−0.0104***	−0.00810***	−0.00856***
	(0.00275)	(0.00246)	(0.00272)	(0.00245)	(0.00241)
Constant	10.77***	7.068***	10.78***	7.126***	7.835***
	(0.0231)	(0.147)	(0.0241)	(0.146)	(0.138)
No. of observations	36,458	36,458	36,458	36,458	36,458
R-squared	0.246	0.360	0.263	0.370	0.402
No. of individuals	1,260	1,260	1,260	1,260	1,260

Notes and source for Table 3

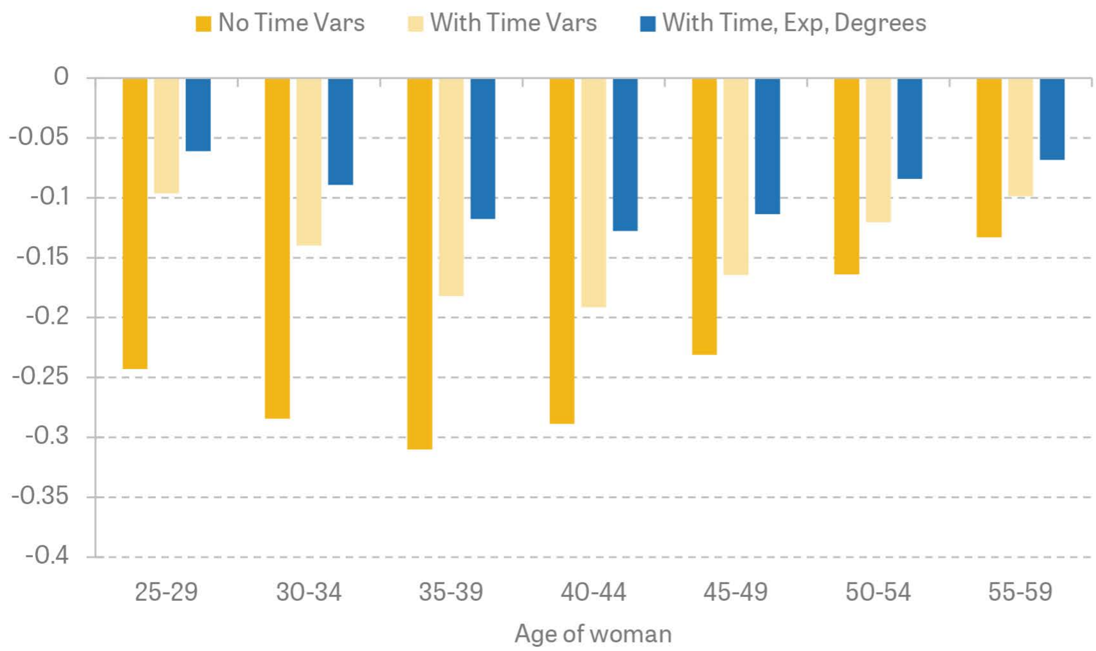
Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

[a] The female main effects in the fixed-effects estimation were recovered.

Note: For variable definitions, sample selection details, note and source, see Table 2.

Figure 3. Simulated impact of children on earnings of mothers relative to non-mothers: individual fixed-effects estimation



Note: Time variables are log hours and log weeks. Experience is the fraction of the last five years that the individual was not working >20 hours per week on average for the year. The simulation uses the mean number and age distribution of children by age of the mother; see Appendix Table A1.

Source: No time variables – Table 3, column 3; with hours and weeks variables – Table 3, column 4; with time variables, experience and advanced degree – Table 3, column 5.

The Table 2 estimates in column 2 allow us to compare the NLSY79 estimates of the aggregate gender gap with those in Figure 1 from the ACS and Census for approximately the same birth cohorts. We find that the aggregate gender gap in earnings is about the same in both data sets until around age 40, after which the NLSY79 has a larger gap, by about 10 percentage points. The greater widening in the NLSY79 is because our sample includes many individuals, working fewer than 500 annual hours, whom we might term 'mildly attached' to the labour force. Adding further hours restrictions would bring the gender gap closer to that observed in the ACS and Census data, but at a cost in sample size.

Figure 3 gives the impact of children on mothers relative to non-mothers for the three main models that include the child variables: without the time variables, with the time variables, and with time, experience and further degrees.[20] These calculations give the pure motherhood effect (what we term the 'motherhood penalty') by comparing the earnings of women with and without

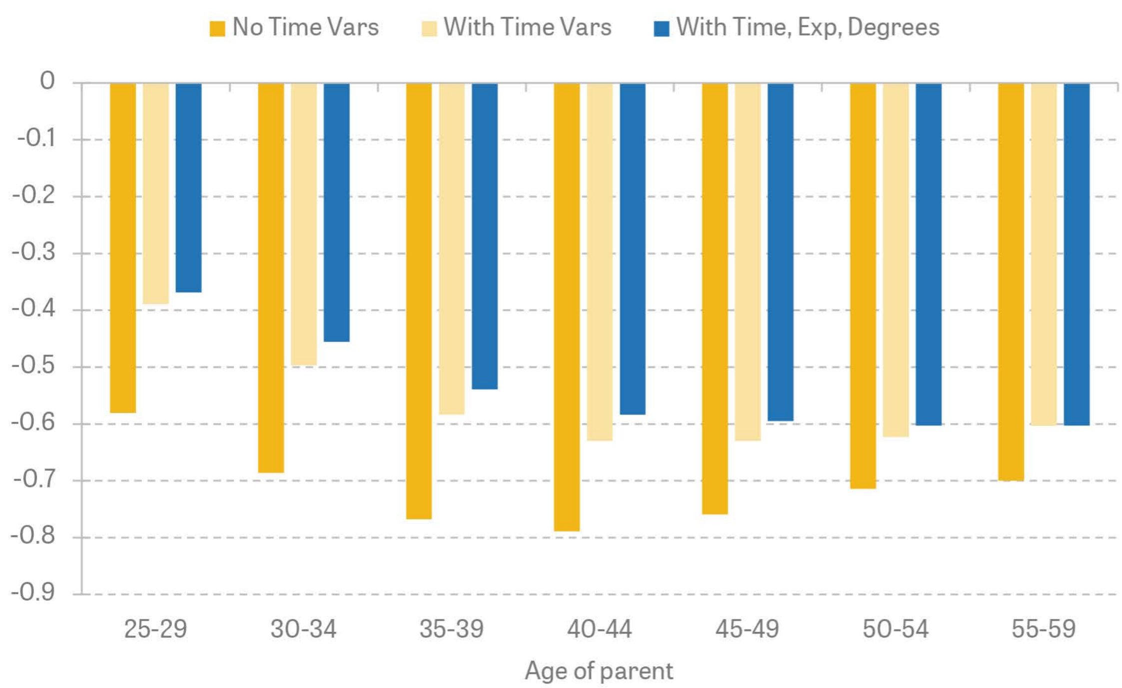
[20] These are the results from the fixed-effects estimations in Table 3, columns 3, 4 and 5.

children, at that moment. We simulate the impact of children by using the actual number of children and their age distribution by the age of the mother, as we did for hours. The impact of the age of the youngest child and the total number of children as the mothers (and their youngest child) age is given by the bars (which are always in the negative range).

The immediate impact of children on earnings, through the channel of fewer hours and weeks, is clear by comparing the dark yellow bars (not holding hours and weeks constant) with the light yellow bars (holding the time variables constant). Decreased hours and weeks account for about a third of the difference in earnings for mothers relative to non-mothers in their early 40s. The blue bars add variables for the previous five years of low hours or non-work experience and the presence of an advanced degree. Holding all of that constant, those with their youngest child mainly in the elementary-school ages (say mothers in their early 40s) earn 13 log points less than women without children. By the time the youngest is out of high school (say mothers in their early 50s), differences diminish to about 8 log points and to 7 log points for the oldest group.

The dark yellow bars show that mothers greatly narrow the earnings gap with women who have not yet had, or will never have, children. But that occurs because they rev up their hours and partly make up for lost previous job experience. One can clearly see that as the children get older and become more independent, mothers do make up for lost time relative to other women. There is a distinct U-shaped relationship in Figure 3 between the age of the mother (thus the age of the youngest child) and the motherhood penalty. The earnings penalty to women from having children is large but declines.

Figure 4. Parental gender gap in earnings: simulated impact of children on earnings of mothers relative to fathers



Note: Individual fixed-effects estimation. Also see Figure 3.

Source: See Figure 3.

As large as is the motherhood penalty, the parental gender gap in earnings is considerably greater. The parental gender gap, as we will soon see, is a combination of the motherhood penalty and the price of being a woman minus the premium to being a father.

Figure 4 gives the simulated impact of mothers' versus fathers' annual earnings, assuming, as we did before, that parents have children at the mean rate for women in the sample.[21] The log earnings differences without the time variables (dark yellow bars) are enormously large, bottoming out around the late 30s when parents have a pre-school and slightly older child. They are less gargantuan, but still substantial in magnitude, holding hours and weeks constant (light yellow bars). When parents are in their late 30s and early 40s, a mother earns less than 60 cents on a father's dollar ($e^{-0.58} = 0.56$). Adding the experience and advanced degree variables (blue bars) increases her relative earnings but only slightly. The gains for mothers relative to fathers from having the youngest child graduate from high school are minimal.

Given that hours of work drop greatly for women with young children, it is not surprising that the parental gender gap is enormously large when the children are young. But the gap remains large even as the youngest child graduates from high school. Plus, even with the same number of contemporaneous hours and previous five years' work experience and both having an advanced degree, as given by the blue bars, mothers still earn considerably less than fathers do.

The estimates allow us to partition the parental gender gap into three components: motherhood penalty, price of being female, and fatherhood premium. Table 4 gives the results of the partition using the fixed-effects estimates that include hours, weeks, previous five years' work experience, and advanced degrees (Table 3, column 5).

Table 4. Parental gender gap in earnings, motherhood penalty, price of being female, and fatherhood premium

Age group	(1) Parental gender gap in earnings	(2) Motherhood penalty	(3) Price of being female	(4) Fatherhood premium
25–29	−0.368	−0.061	−0.174	0.134
30–34	−0.456	−0.089	−0.201	0.165
35–39	−0.539	−0.118	−0.226	0.196
40–44	−0.584	−0.128	−0.241	0.215
45–49	−0.595	−0.114	−0.254	0.228
50–54	−0.603	−0.084	−0.287	0.232
55–59	−0.603	−0.068	−0.300	0.235

Note: These estimates use the results from the individual fixed-effects estimation with log(hours), log(weeks), previous five years' work experience, and advanced degrees. All parents are assumed to have children given by the data for women in Table A1 with regard to number and age of the youngest. Column 1 = Column 2 + Column 3 – Column 4.

Source: Table 3, column 5; Table A1.

21 Note that in our simulations, the motherhood effect nets out the gender component. The gendered impact of parenthood differences the motherhood and fatherhood effects and includes the net impact of gender.

Consider women and men at ages 35–39. Women with children earn 12 log points less than women without children. But a similar difference between mothers and fathers is 54 log points. What accounts for the 42 log point difference between the parental gender gap and the motherhood gap?

The 42 log point difference is due to two primary factors that reveal the crux of why mothers earn far less than fathers. First, all women aged 35–39 get 22.6 log points less than men of the same age.[22] The remainder (now in excess of 19 log points) comes from the fatherhood premium.[23] There may be astonishment at this finding. Not only do women lose earnings by their years of raising children, but men actually get a premium. A curious finding, for future exploration, is the increased penalty after age 50 from being female. Whether that is due to increased demands from ageing parents is not clear.[24]

There is a large and long-standing literature on both the fatherhood premium and the male marriage premium. The literature has assessed whether fathers (or married men) earn more because they work harder after they have children (or get married), or become fathers (or get married) when they are earning more. Another possibility is that various principals in the labour market (e.g. supervisors) reward fathers and married men more on the basis of their conception of fairness or their personal preference.

In one of the earliest research articles using an individual fixed-effects framework to assess these hypotheses, Korenman and Neumark (1991) found that the earnings profiles of men steepen after marriage and that they receive higher performance ratings from their supervisors. Both findings suggest that men work harder after marriage and that the labour market may also favour them. Many studies that followed concur with their conclusion that selection into marriage is less important than the treatment effect of marriage and also of fatherhood. But the jury, according to some, is still out.[25]

The impact of having children, however, is not necessarily the same as that from being married. A recent piece by Kunze (2020), using Norwegian data on twin brothers, finds that selection into fatherhood was far less important to their earnings than were other aspects of their backgrounds. In general, men without children earned substantially less than men with children. But, among the twins, a man who had children did not earn more than his twin who did not.

The precise reasons for the positive relationship between men's earnings and fatherhood are important. No matter how rich are the longitudinal data of the NLSY79, they do not allow us to disentangle exactly why fathers do so well. We know that it is not the usual selection problem. But it could be all the reasons offered in the previous literature. We have, in addition, examined the

[22] The (recovered) female main effect (Table 3, column 5) is –17.4 log points and, in addition, 35- to 39-year-old women earn 5.21 log points less than the female base age group.

[23] The fatherhood premium is 13 log points (= 0.0677 × 1.93) for the number of children plus about 6.5 log points from the premium to having a youngest child of the various ages.

[24] We find that the gap increases by 4 log points across the three oldest age groups even among women who will never have a child.

[25] Killewald and Lundberg (2017) provide evidence that the relationship between marriage (and divorce) and earnings is not causal, but comes from unanticipated positive (and negative) shocks. Killewald and Gough (2013) show that even women and men without children earn a marriage premium. Killewald (2013), using the NLSY79, concludes that residential and married fathers have more interest in working for the betterment of their children, consistent with Korenman and Neumark but more nuanced. Lundberg and Rose (2000), using the PSID, find that the earnings of fathers depend on mothers' hours of work, implying a standard household production model. Yu and Hara (2021), using the NLSY79, emphasise the firm as determining why fathers earn more and mothers earn less.

impact on fathers of being currently married (or currently cohabiting) and thus presumably living with their children.

Among different sex couples, men are enabled to become fathers while continuing to advance in their careers because women disproportionately take care of the children. Mothers cut back on their hours, work less demanding jobs and earn less. But something else must be operating because women without children do worse than men with children. For men, having the children and a wife who is the caregiver is related to their earnings boost. Whether it is causal or whether marriage and children result from some exogenous boost is secondary. Put simply: the motherhood penalty becomes very small as the children grow up, but the fatherhood advantage remains large and even grows.

Summary

An important and immediate conclusion from our work is that women's earnings take a sharp nosedive directly after the birth of a child. The decrease is mainly, but not entirely, due to a reduction in hours of work. Diminished earnings, moreover, remain for at least a decade. That part is known from many excellent and well-identified studies.

Our contribution has been to add many more years of parenthood and life, and analyse the impact of children as they mature and become more independent. We find that there really is another side to the mountain. As the youngest enters grade school and beyond, women's hours increase relative to those of non-mothers and to those of fathers.

Mothers narrow the earnings gap with regard to women who have not yet had, or will never have, children. They gain 18 log points (0.31 – 0.13) in the estimation that does not have the time variables and 8 log points (0.18 – 0.10) in the one that does. They also earn 10 log points more relative to fathers because they are able to work more hours, but they do not advance on fathers given hours; they just hold their relative place. Whether the gains, when they do occur, are due to a change in occupations or firms that increase the intensity of work is not revealed in these data.

The bottom line is that mothers do run down the other side of the mountain. But they never reach the rich valley of gender equality. In large measure, their inability to earn the same as fathers is due to the positive relationship that children have with the earnings of men and their negative relationship with women's.

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Appendix

Table A1. Age distribution and number of children by age of mother

Mother's age	Number of children	Fraction with children by age, among all mothers				
		0–2 years	3–5 years	6–11 years	12–17 years	18+ years
25–29	1.324	0.780	0.150	0.065	0.005	0.000
30–34	1.666	0.588	0.281	0.109	0.021	0.001
35–39	1.930	0.285	0.300	0.347	0.059	0.008
40–44	2.021	0.066	0.146	0.488	0.257	0.040
45–49	2.064	0.004	0.026	0.274	0.490	0.207
50–54	2.082	0.000	0.002	0.048	0.353	0.597
55–59	2.122	0.000	0.000	0.007	0.104	0.888

Note: The sample is the same as used for Tables 2 and 3. Row numbers for the fraction of children by age and age of mother add up to 1.0. The distribution and numbers of children by the age of fathers are very similar.

Table A2. Male and female pooled fixed-effects estimations of log annual earnings, with marriage variables and three child age groups

	Log(annual earnings)		
	(1)	(2)	(3)
Recovered female dummy[a]	−0.149	−0.132	−0.158
Age groups			
30–34	0.270***	0.231***	0.210***
	(0.0222)	(0.0195)	(0.0196)
35–39	0.481***	0.429***	0.399***
	(0.0308)	(0.0281)	(0.0284)
40–44	0.596***	0.557***	0.520***
	(0.0377)	(0.0351)	(0.0355)
45–49	0.638***	0.595***	0.557***
	(0.0424)	(0.0394)	(0.0396)
50–54	0.673***	0.638***	0.597***
	(0.0471)	(0.0442)	(0.0447)
55–59	0.659***	0.647***	0.607***
	(0.0535)	(0.0496)	(0.0498)
F × Age groups			
F × 30–34	−0.0272	−0.0323	−0.0262

	(0.0325)	(0.0281)	(0.0274)
F × 35–39	−0.0539	−0.0524	−0.0524
	(0.0453)	(0.0401)	(0.0394)
F × 40–44	−0.0652	−0.0645	−0.0631
	(0.0545)	(0.0490)	(0.0483)
F × 45–49	−0.0671	−0.0717	−0.0734
	(0.0621)	(0.0554)	(0.0542)
F × 50–54	−0.0785	−0.101*	−0.105*
	(0.0656)	(0.0598)	(0.0590)
F × 55–59	−0.0973	−0.104	−0.119*
	(0.0768)	(0.0687)	(0.0681)
Marriage			
Currently married	0.0849**	0.0749**	0.0721**
	(0.0330)	(0.0299)	(0.0292)
F × Currently married	−0.0779	−0.0411	−0.0365
	(0.0486)	(0.0428)	(0.0414)
No. of children and interactions			
No. of children	−0.0119	−0.0107	−0.00516
	(0.0501)	(0.0457)	(0.0462)
F × No. of children	−0.0829	−0.0884	−0.0716
	(0.0770)	(0.0677)	(0.0657)
Curr. mar. × No. of children	0.0979**	0.0930**	0.0862**
	(0.0473)	(0.0432)	(0.0438)
F × Curr. mar. × No. of children	−0.125*	−0.0934	−0.0789
	(0.0737)	(0.0637)	(0.0619)
Youngest child age and interactions			
Child <6	0.338***	0.323***	0.296***
	(0.112)	(0.107)	(0.106)
F × Child <6	−0.315*	−0.223	−0.185
	(0.161)	(0.146)	(0.143)
Curr. mar. × Child <6	−0.334***	−0.322***	−0.301***
	(0.110)	(0.104)	(0.103)
F × Curr. mar. × Child <6	0.208	0.237	0.205
	(0.161)	(0.144)	(0.141)
Child 6<18	0.267**	0.241**	0.228**

	(0.105)	(0.0988)	(0.0989)
F × Child 6<18	−0.226	−0.145	−0.145
	(0.153)	(0.138)	(0.134)
Curr. mar. × Child 6<18	−0.222**	−0.201**	−0.191**
	(0.104)	(0.0962)	(0.0962)
F × Curr. mar. × Child 6<18	0.116	0.0928	0.0995
	(0.153)	(0.134)	(0.130)
Child 18+	0.256**	0.273**	0.242**
	(0.113)	(0.107)	(0.107)
F × Child 18+	−0.183	−0.143	−0.135
	(0.161)	(0.148)	(0.143)
Curr. mar. × Child 18+	−0.204*	−0.230**	−0.199*
	(0.109)	(0.103)	(0.103)
F × Curr. mar. × Child 18+	0.240	0.211	0.172
	(0.159)	(0.144)	(0.138)
Time			
Log hours		0.525***	0.360***
		(0.0279)	(0.0260)
Log weeks		0.428***	0.407***
		(0.0272)	(0.0255)
Education and experience			
Advanced degree			0.203***
			(0.0289)
Fraction out, last 5 years			−0.717***
			(0.0546)
Unemployment rate, year *t*	−0.0102***	−0.00798***	−0.00849***
	(0.00271)	(0.00244)	(0.00241)
Constant	10.75***	7.109***	7.812***
	(0.0266)	(0.147)	(0.140)
No. of observations	36,458	36,458	36,458
R-squared	0.264	0.370	0.403
No. of individuals	1,260	1,260	1,260

[a] The female main effects in the fixed-effects estimation were recovered.

Note and Source: See Table 2. 'Currently married' also includes serious cohabitation.