



Inequality

The IFS Deaton Review

The careers and time use of mothers and fathers

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An IFS initiative funded by the Nuffield Foundation

 **IFS** Institute for
Fiscal Studies

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Executive summary

Gender gaps in employment, working hours and wages open up in earnest after workers become parents. At this point, far more mothers than fathers stop paid work or switch to part-time work while taking on the majority of the childcare. This not only results in an instantaneous, mechanical change in the relative personal incomes of mothers and fathers; in slowing the rate at which mothers accumulate career experience relative to fathers, it also has long-lasting, cumulative impacts on the amounts they can earn per hour well into the future. Hence, understanding gender pay gaps hinges crucially on understanding the drivers of changes in working patterns within heterosexual couples upon the arrival of children.

One common claim is that these changes have their roots in (smaller) gender gaps that exist pre-childbirth: perhaps families are maximising their total income while looking after their children, and since – on average – men already have slightly higher hourly wages than women before becoming parents, it makes sense for couples to prioritise men's paid work. This is an important hypothesis: if true, it would imply that the focus for addressing gender gaps in pay should lie largely outside of what happens when people have children – since differences in career trajectories at that point would effectively only be the result of (smaller) differences that were already present beforehand. If false, then instead it makes sense to focus on understanding what happens as families are formed.

In this note, we investigate the evidence, and find no evidence for this hypothesis: the large decline in women's paid work after childbirth cannot, in general, be explained by couples prioritising the paid work of the higher-wage parent. Put most simply, this is because women are always more likely to stop working after parenthood, regardless of whether or not they were the highest earner, and because among those who remain in paid work we see very similar changes in hours of paid work for mothers and fathers regardless of their relative wages before childbirth. Even in families where the mother had a higher wage than the father before the first child arrived, fathers' working patterns are largely unaffected by childbirth whereas mothers reduce their hours of paid work substantially. We supplement this evidence with recent evidence from the COVID-19 crisis, which leads to a similar conclusion: additional childcare needs were met disproportionately by mothers, regardless of whether the mother earned more than the father before the crisis.

This short report is part of the ongoing IFS Deaton Review of Inequalities which will, among many other things, include in-depth studies of the evidence on gender inequalities and how to address them.

Key findings

The average employment and hours of work of men barely change after they become fathers, while the employment of women falls sharply from above 90% to below 75% after childbirth and, amongst those who remain in paid work, hours of work fall from around 40 to less than 30. Further, the wages earned per hour stagnate for working mothers, while continuing to grow uninterrupted for fathers.

Even when women have higher wages than their male partners before childbirth, their employment falls by at least 13% during the first years of parenthood and remains at this lower level for the next decade. Their lower-wage male partners remain in paid work at much higher rates and for longer hours.

During the first coronavirus lockdown – which massively increased the demands on parental time for childcare and domestic work – the division of time in paid work of mothers and fathers in heterosexual couples was consistent with these gendered patterns. Among those parents who worked both before and during the lockdown, mothers who were the higher earner in the couple before the lockdown worked the same number of paid hours during the lockdown as their lower-paid male partners. In contrast, fathers who were the main earner pre-lockdown were working almost double the number of hours as their lower-paid female partners.

The figures are even more striking for uninterrupted working time, which is likely a better measure of time in productive work when that activity is done from home while dividing the space with young children and having to care for them. No matter who was better paid before the lockdown, mothers always did less uninterrupted working time during the confinement period.

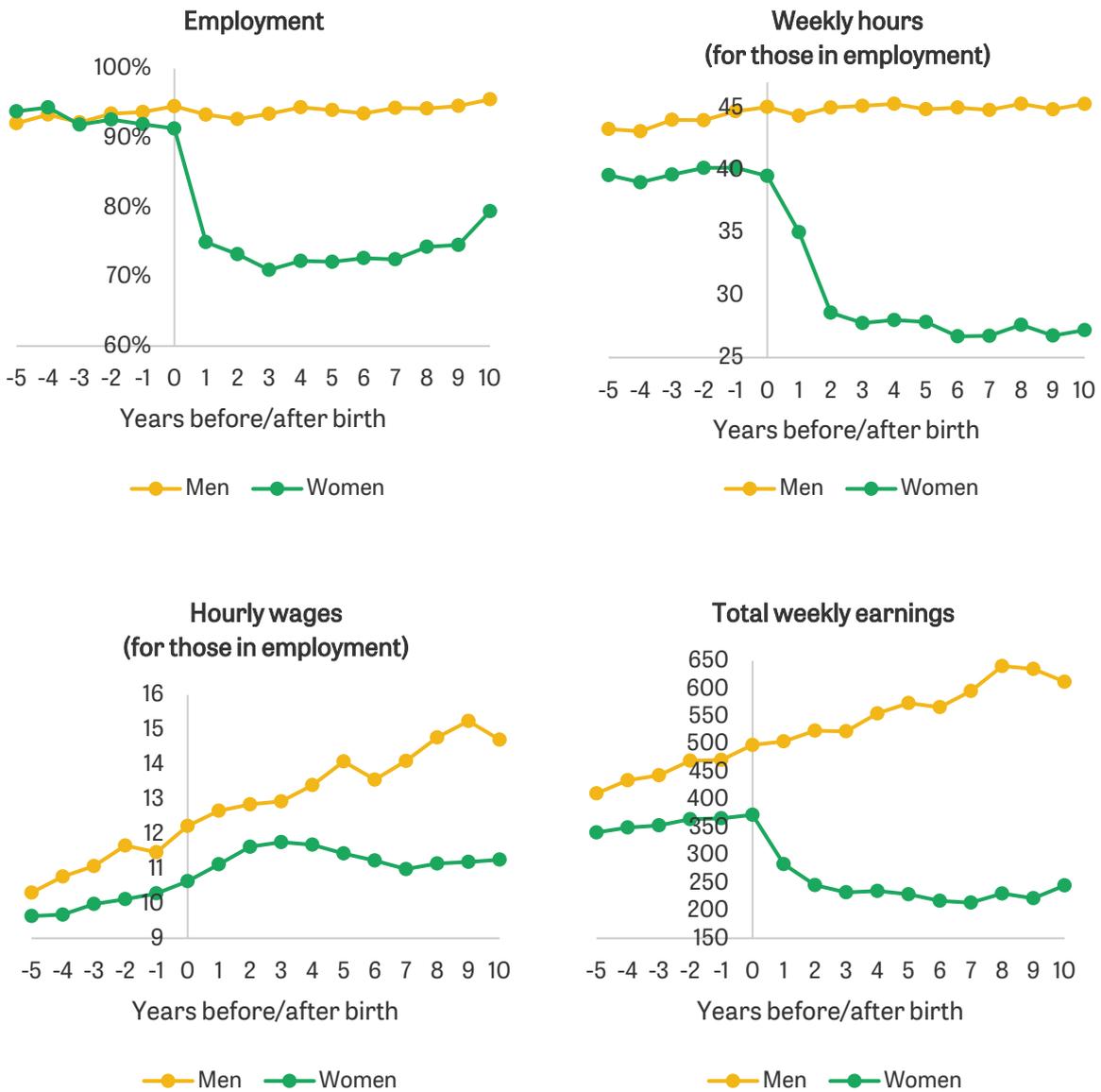
These differences in working time were more than compensated by differences in time dedicated to domestic responsibilities, including childcare and housework. Mothers did more of these irrespective of their pre-lockdown relative pay, and they did much more if paid less than their partners. Indeed, lower-paid mothers did double the amount of housework and 41% more childcare than higher-paid fathers, while higher-paid mothers did 6% more housework and 22% more childcare than lower-paid fathers.

1. Introduction

Large gaps between men and women persist in the UK across key labour market outcomes – including whether individuals are employed, the hours that they work, and the wages that they earn per hour. While some of these differences exist between childless men and women, they tend to open up in earnest from the point at which workers become parents, as Figure 1 shows.

- After the arrival of children, the employment of mothers falls sharply and immediately, from over 90% in the years before childbirth to 75% in the year after the birth, while there is barely any discernible change for fathers. (Parental leave here is counted as continued employment.) These changes to parental working patterns persist over the course of childhood; fewer than 75% of mothers are employed during each of the first nine years of parenthood. Costa Dias, Joyce and Parodi (2018) have shown that the falls in participation of mothers are largest for the lowest-educated.
- Women who do continue to do paid work after the birth of a child often switch to part-time hours. Indeed, the top-right panel of Figure 1 shows large and immediate falls in average hours of paid work among mothers who continue in employment: average weekly hours fall from around 40 in the five years before the birth of a child, to around 28 for the ten years following the birth. Again, the changes are negligible for fathers and the gender gap in paid working hours stays wide for many years as children grow up.
- The dynamics of the gender gap in hourly wages – often the headline measure of ‘gender wage gaps’ – are more subtle. Here, childbirth appears to mark the beginning of a gradual widening of the gap, rather than an instantaneous sharp change as for employment and hours of work. Nevertheless, as explored by Costa Dias, Joyce and Parodi (2018), one way of reconciling a more gradual opening of the wage gap is that the larger gaps in employment and hours of work that open up suddenly after childbirth – and persist – gradually accumulate into larger and larger differences in paid working experience between mothers and fathers, which in turn means gradually increasing gaps in their hourly wages. It could also be that the demands required from higher-wage roles are difficult for mothers to balance with being the primary carer for their child, leading their wages to stagnate over time. Note as well that the graph may somewhat underestimate the true increase in the gender wage gap among working parents after they have children, since it is disproportionately higher-paid mothers who keep working for pay after childbirth.
- Putting all this together, we see that the gap in average total earnings (including those with no earnings, i.e. those not in paid work) opens up sharply after childbirth, and continues to grow further as children age. In the years before becoming parents, the average woman earns about three-quarters of what the average man earns. However, within two years of childbirth, women’s average earnings have fallen to one-half of male earnings. Their earnings continue to stagnate for the following decade, while those of fathers carry on growing. As described above, this story can broadly be understood in two parts: first, employment and hours of work fall sharply for mothers after childbirth, and this drastically increases gender gaps in earnings at that point. Second, there is a continued, more gradual widening of the earnings gap throughout parenthood, reflecting a gradual widening of the gap in hourly wages. Overall, what we see is a path of earnings progression for men that appears largely uninterrupted by childbirth, and a path of earnings for women that jumps sharply downwards at childbirth and fails to grow year-on-year thereafter as it does for fathers.

Figure 1. Gender gaps in paid work widen around childbirth



Note: Authors' calculations using data from the UK Household Longitudinal Study. The sample for employment and total earnings analysis is the 1,380 men and 1,578 women who we observe at least once both in the five years prior to having a child and in the ten years after. Total earnings are set to 0 for individuals who do not work for pay. For wages and hours, the analysis is performed on the subsample of 1,296 men and 1,205 women who continue to work after childbirth. Wages and earnings are in 2016 prices. Figures plot average outcomes for men and women at each of the five years before childbirth (-5 through -1) and the ten years after (0 through 10), after removing year-specific effects using an event-study design. Event studies around childbirth are estimated separately for men ($g = M$) and women ($g = W$) using the following regression specification: $Y_{ist} = \sum_{j \neq -1} \alpha_j^g \mathbf{1}[j = t] + \sum_s \gamma_s^g \mathbf{1}[y = s] + v_{ist}^g$ where Y_{ist} denotes the outcome of interest for individual i in year s at event time t and where event time is defined as the years before or after the first birth and is equal to -1 in the year before the first birth. The figure plots coefficients on the event-time dummies added to the average year-specific constants, i.e. at each event time t , it plots $\alpha_t^g + \frac{1}{S} \sum_s \gamma_s^g$ where S is the total number of years included in the regression.

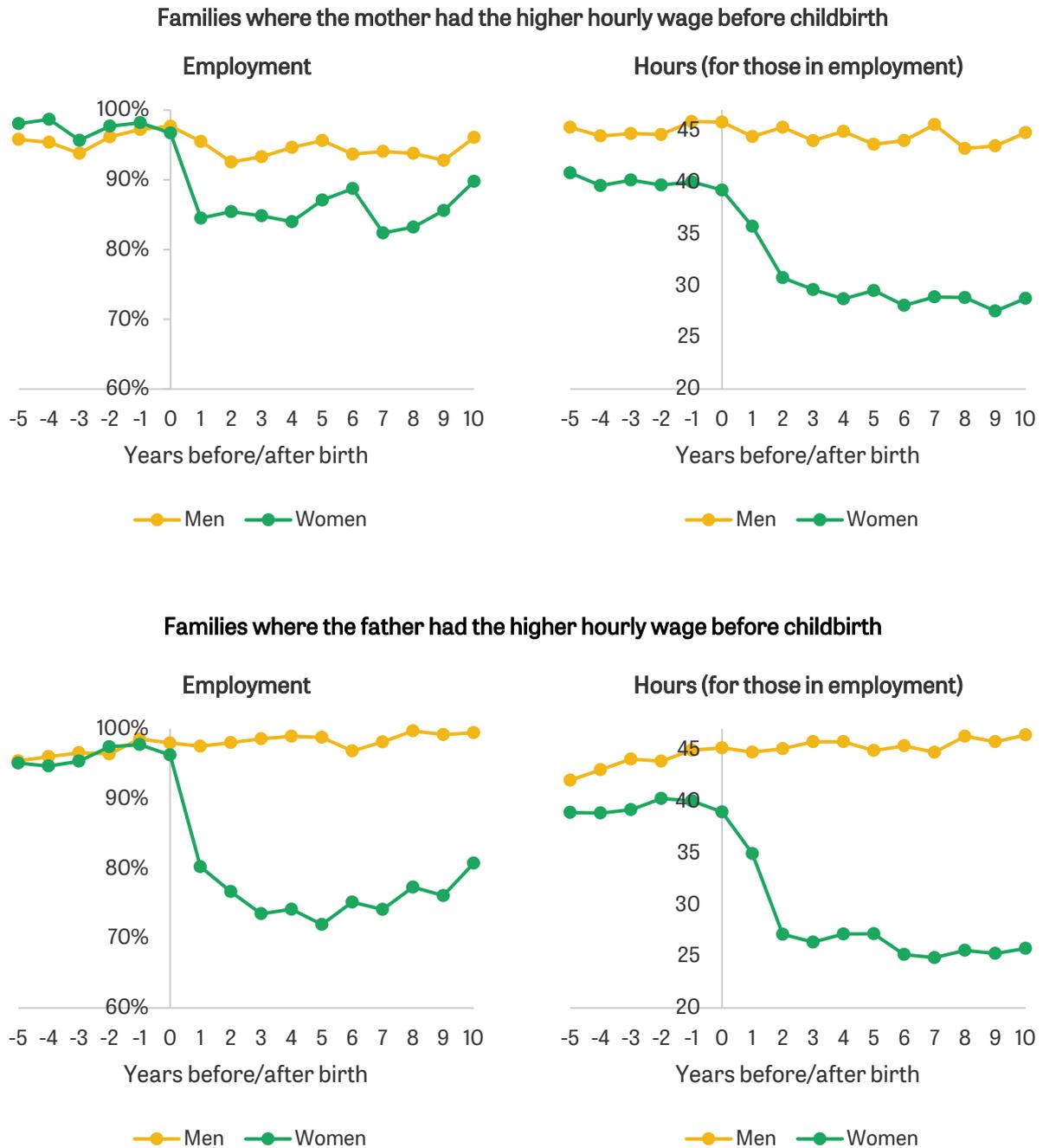
2. Do new mothers and fathers just maximise family income?

A reasonable hypothesis would be that the stark divergence of mothers' and fathers' patterns of paid work after parenthood is due to the fact that, in heterosexual couples, fathers are more likely to have a higher hourly wage than their partner at the time when they have their first child. Pressed with the financial and time demands of raising children, couples may decide to prioritise the paid work of the parent with the greater earnings capacity while the other parent takes on the main caring responsibilities. Such an arrangement would maximise total earnings for the family as a whole. In the majority of two-parent opposite-gender households, the man has the higher wage prior to the birth of the child, and so in these households such an arrangement would result in fathers working longer hours for pay and mothers doing the majority of the childcare while working shorter hours or stopping paid work completely.

To examine whether such an argument is sufficient to 'explain' gendered patterns of work after childbirth, we first compare the employment and working hours of parents in heterosexual couples by who in the couple had the higher wage prior to the birth of their first child. For this, we need to restrict our sample to couples where both parents were active in paid work in the years prior to childbirth. What emerges in Figure 2 does not corroborate the claim that couples prioritise the work of the parent with the higher wage. *Regardless* of which parent had the higher pre-birth wage, women's employment falls by at least 13% below its pre-birth level during the first years of parenthood and does not appreciably recover over the following decade. Likewise, amongst parents who do keep working for pay, women's average weekly hours of paid work fall by more than 10 hours below their pre-birth level regardless of who had the higher wage. In families where mothers previously had the higher wage, their employment and hours of work do fall by slightly less than in families where they had the lower wage (13% versus 22% for employment and 26% versus 33% for hours), and we do see a small fraction of fathers stopping paid work in families where they had the lower wage. But it is clear that, even when the mother earned the higher hourly wage prior to parenthood, she, on average, still takes the largest step back from paid work after childbirth.

This is not definitive evidence against the notion that parents share paid work and childcare purely based on what they are already relatively 'better' at (with respect to earnings capacity, childcare or housework), but it does make it seem unlikely. To square this hypothesis with the fact that higher-earning mothers reduce their hours of paid work so much more than their lower-earning partners (and do so almost as much as lower-earning mothers), these mothers would have to be orders-of-magnitude better at childcare and other domestic work than their partners (and that differential would have to be bigger than in families where the mother earned less than the father). We do not have any evidence that men's and women's productivity at childcare and domestic work differ, and indeed it seems likely that differences at a particular point in time are more the result of differences in the acquired experience doing such tasks than innate differences.

Figure 2. The opening up of these gaps cannot be explained by women having lower wages before childbirth



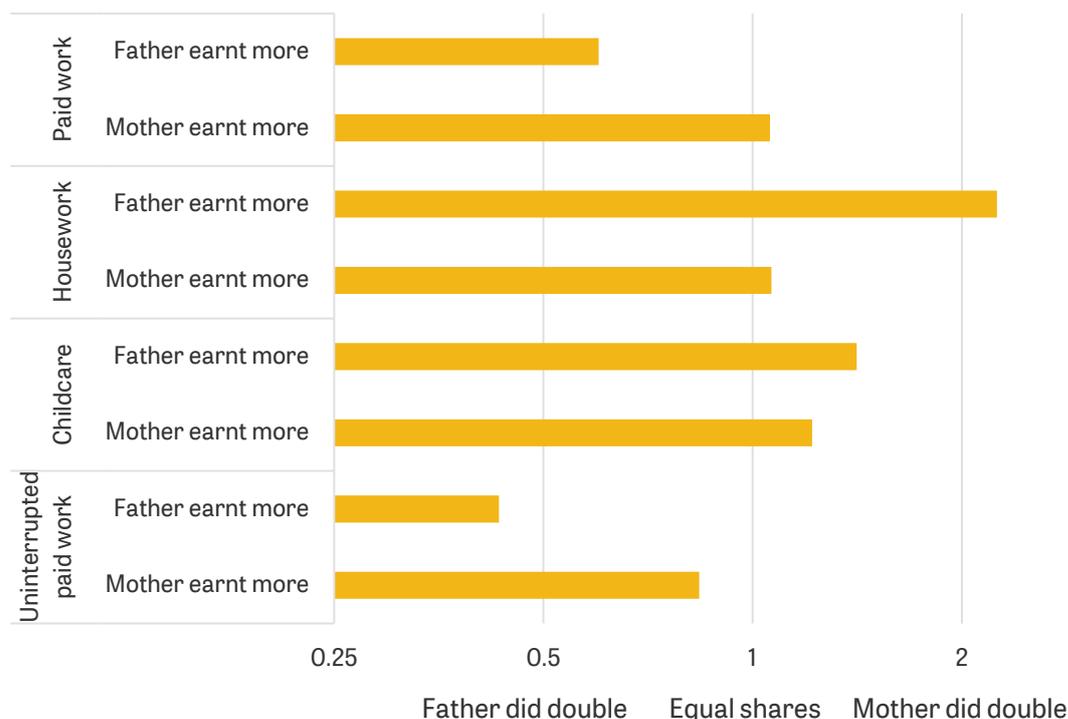
Note: Authors' calculations using data from the UK Household Longitudinal Study. The sample is the same as for Figure 1 but restricted to men and women in the 994 heterosexual couples where both partners were observed working for pay in the five years prior to childbirth and where we observe both in the data after childbirth (whether working or not). There were 619 couples where the man had the higher wage; in these couples, the average male wage in the five years before the birth was £13.25 while the average female wage was £8.54. There were 375 couples where the woman had the higher wage; in these couples, the average male wage in the five years before the birth was £8.93 while the average female wage was £12.50. The figure plots estimated employment and hours around the birth of a first child using identical specifications to those outlined in the note to Figure 1, except here we run separate regressions for the subsamples where the woman had the higher wage and where the woman had the lower wage.

Further evidence from mothers' and fathers' time use during the pandemic

In addition to seeing how men and women change their labour supply differently upon becoming parents – an event that is often planned well in advance – it is informative to see whether fathers and mothers react differently to unexpected changes in their lives. The recent COVID-19 lockdowns and school closures – which massively increased the need for childcare – are a rather dramatic recent natural experiment in this regard.

Using data from time-use surveys that IFS and the Institute of Education collected during the March 2020 lockdown, we look at how 3,591 two-parent opposite-gender couples in England who were both working for pay both before and during the crisis shared paid work, domestic work and childcare. Figure 3 plots the ratio of the average amount of time that mothers spent on various activities – including paid work, housework and childcare – to the average amount of time that fathers spent on these same activities. It plots these ratios separately for households where the mother earned more prior to the crisis and households where the father earned more.

Figure 3. The sharing of paid and domestic work during the pandemic provides additional evidence



Note: Authors' calculations using data from the IFS-IoE Online Survey of Time Use. The figure plots the ratio of the time the mother spent in each activity to the time the father spent in each activity, splitting by who earned more in 2019. Details of the data and sample can be found in Andrew et al. (2020).

We see that couples' behaviour is, to some extent, related to who the higher earner was: mothers who earned more than their partners pre-crisis do relatively more paid work, and less housework, during the crisis than their partners. However, the pattern is very far from symmetric. When fathers earned more pre-crisis, they do less than half the amount of housework that their partners do, whereas when mothers earned more, they still do more housework than their lower-earning male partners. Similarly, mothers always do more childcare, on average, regardless of whether or not they were the higher earner. Likewise, when fathers earned more,

they do almost double the amount of paid work that their partner does and more than double the amount of uninterrupted paid work. However, when mothers earned more, they only do the same amount of paid work hours as their partners and they do fewer hours of uninterrupted paid work.

This evidence suggests that even in the response to an unanticipated economic crisis, such as that brought on by COVID-19, the division of work appears strongly gendered and appears to be driven by much more than households maximising their financial interests.

3. Conclusions

We have seen that the large gender gaps in hours of work, hourly wages and earnings that open up after people become parents do not look as if they simply reflect pre-existing gender gaps leading to further specialisation in tasks between mothers and fathers. Families in which the woman earned the highest hourly wage prior to childbirth seem to behave in a very similar way to other families after childbirth, with respect to choices over who does paid work and who does childcare. Similar dynamics have played out during the pandemic: in families in which the woman earned the higher hourly wage prior to the closure of schools and childcare facilities, it was still the mothers who reduced hours of paid work by far the most and increased hours of childcare by far the most.

The implication is that families' decisions about paid work and childcare when they start a family are not merely, or even primarily, the result of where the mother's and father's careers are at that point. Other factors, such as gendered preferences over how to share domestic and work responsibilities, may also be important. These are likely influenced by social norms: if the mother is the main carer in most families, and expected to play that role by employers, schools and other families, then it may seem natural and uncontentious for new parents to adhere to that rule. Meanwhile, social expectations that men *should* play a breadwinning role, or that career success is particularly important for men's self-worth, may create pressure on families to prioritise the paid work of the father over the mother. The policy environment may play a role too. For instance, parental leave policies that are much more generous towards new mothers than new fathers may reinforce this gendered division of labour by incentivising mothers, but not fathers, to take on the role of primary carer for their infant child.

The effects of gendered specialisation in tasks once families are formed may well be long lasting, by fostering the development of expectations, habits and caring skills that establishes mothers as the main carer for their growing children at a potential high cost for their careers. That this specialisation is not itself the result of pre-existing differences in career trajectories between men and women is an important fact. It means that an important focus should be on understanding the role of social norms and maternity and paternity policies – and the links between the two – in driving changes in career patterns after childbirth.

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