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ABSTRACT

Child Penalties and the Gender Gap in Home Production and the Labor Market

The consequence of the arrival of children for the gender wage gap - known as the child penalty - is substantial and has been documented for many countries. Little is still known about the impact of having children beyond paid work in the labor market, such as home production. In this paper we estimate - deploying an event study with Dutch survey data - the child penalty in both home production and the labor market. In line with the literature we find no labor market effects for men. For women we find a strong reduction in work hours and lower wages. However, we find an increase in home production for women roughly similar to the decline in paid work. Consequently, time allocated to the labor market plus home production is roughly equal across gender before and after the arrival of children. This result rejects the hypothesis that women substitute paid work for leisure after the arrival of children.

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1 Introduction

The last few decades have seen a remarkable convergence in the economic roles of men and women in society. Nevertheless, persistent gaps in the labor market remain: a gender gap has been reported in labor supply, earnings, and representation in top jobs (Cortés and Pan (2020)). The under-representation of women in the labor market and the existence of a gender gap is not only problematic for equity reasons, but it also entails welfare losses (Hsieh et al. (2019)). Traditionally, much of the gender gap is attributed to gender differences in education and labor market discrimination (Blau and Kahn (2017); Van Bavel et al. (2018)). More recent literature investigates alternative mechanisms underlying the gender pay gap. These mechanisms include differences in personality traits, preferences, and norms. See e.g. Azmat et al. (2020), Bertrand et al. (2010), Blau and Kahn (2017), C. J. Flinn et al. (2018), and C. Flinn et al. (2021). And most recently, the arrival of children has been found a key catalyst for gender gaps in numerous countries. [1]. Labor force participation rate penalties vary from 15% to 50% whereas earnings penalties range from 20% to 60% depending on the institutional setting.

The recent availability of longitudinal and administrative datasets enable the causal estimation of gender gaps through event studies. Existing literature (such as Kleven et al. (2019)) provides causal evidence that the arrival of children increases the gender gaps in labor participation, earnings, and hourly wages. These gaps are explained by two key mechanisms. First, gender gaps may be the result of occupational choice: mothers choose more flexible and lower paid jobs(Blau and Kahn (2017); Casarico and Lattanzio (2023)). Second, gender norms may explain child penalties: existing literature finds larger effects for mothers whose own mother did not work (Bedi et al. (2018); Rabaté and Rellstab (2021); Kleven et al. (n.d.); Kleven (2022); Rellstab (2023)).

The arrival of children increases the total amount of household work/activity e.g. taking care of children, cleaning the house, etc. Reduced paid work hours (due to either changes in occupation or gender norms) may therefore be a result of women taking up most of these additional household work, see Becker (1965). More recent empirical literature investigates the role of household time allocation in gender wage gaps Cortés and Pan (2020); Erosa et al. (2022); Gimenez-Nadal and Alberto (2022); Campaña et al. (2023). Household time allocation is found to be unequally divided across gender, with women on average performing less labor market activity being offset by women performing more household tasks than men.

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[1]See e.g. Kleven et al. (2019), Cortés and Pan (2020), Kuziemko et al. (2018), De Quinto et al. (2020), Sieppi and Pehkonen (2019), Meurs and Pora (2019), Andresen and Nix (2019), Rabaté and Rellstab (2021), Lundborg et al. (2017)

This literature, however, has not yet linked time use with childbirth.

Our paper builds on the literature of the child penalty and gender gaps, in particular on the contributions by Kleven et al. (2019) and Rabaté and Rellstab (2021). The aforementioned literature has exclusively focused on the formal labor market. However, there are large gender-based discrepancies in non-paid work at home (Sevilla-Sanz et al. (2010); Sevilla-Sanz (2010); Bar and Leukhina (2011); Aguiar et al. (2012). As such, we add the role of childbirth to the time use literature. To our knowledge, we are the first to investigate how childbirth affects intra-household time allocation in the long run[2].

Our analysis bridges the gap between the literature on gender pay gaps and time use analyses by estimating how hours of work in the household change upon the arrival of children. Whereas existing literature on the one hand estimates the effect of childbirth on paid work and on the other hand shows an unequal distribution in household work, we provide some of the first long-run evidence on the role of children in the gender home production gap. To our knowledge, only one earlier paper estimates time use disparities as a result of childbirth (Kühhirt (2012)). Kühhirt (2012) use German survey data to estimate how the number of children affects time spent working and on home production. We add evidence from the Dutch institutional setting, a more recent sample time period, evidence on total household time allocation, and follow the methodology of Kleven et al. (2019) to estimate the effects of childbirth. The Netherlands is particularly an interesting case since reduced paid working hours is institutionalized at employers.

Studying the impact of children on (the gender difference in) the time spent on work in the household is also important for policy making. If women upon the arrival of children decrease their labor market activity in exchange for leisure, then financial incentives may increase female labor force participation, by an increased marginal utility of work as compared to leisure. However, if women exchange labor market hours only for work hours in the household, then the time constraint (from the inability to reduce time spent on household work) may be binding, and financial incentives will hardly increase labor market participation. Instead, policies that reduce the total amount of home production - such as increased access to child care - or reduces the share of home production that women take on (for instance via paternity leave) are then expected to be more successful.

The rest of this paper is organized as follows. Section 2 discusses the Dutch institutional setting. Section 3 then describes our estimation strategy. Section 4 provides an overview of the data we use, followed by section 5 presenting the results of our analysis. Finally, section 6 concludes.

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[2]Short-run evidence exists (Aguilar-Gomez et al. (2019)), but only for the first year after childbirth. Additionally, the Dutch and Mexican institutional settings are not comparable.

2 Institutional setting

This section describes Dutch institutional framework important for labor market decisions of parents and, particularly, how these differ from other countries and how this may affect the gender pay gap.

Part-time work is relatively common in the Netherlands, especially among women: Roughly 28% of all employed Dutch men and roughly 70% of all employed Dutch women work part time (CBS (2021)), as compared to the respective OECD averages of 10% and 25% (OECD (2023)). Additionally, roughly 76% of Dutch women are employed (OECD (2023)) as compared to the OECD average of 62% (OECD (2023)). Consequently, female labor market participation is high relative to other OECD countries, but primarily comprised of part-time work. It is worth noting that employers are legally obligated to offer part-time work options. As such, extensive margin child penalties are likely relatively small in the Netherlands.

The Netherlands has several schemes facilitating childcare by the parents. Options to reduce hours after the arrival of children exist for both men and women. The Netherlands has several flexible work arrangements and income support programs for parents, as Hartog and Salverda (2018) describe in an overview article up to 2016. In our sample, mothers and fathers are entitled to (unpaid) leave for up to 26 weeks after the birth of children (Plantenga and Remery (2009)). This leave can be taken up as is, but can also be taken up by parents working half of their usual hours for 52 weeks, allowing parents to combine taking care of their children with labor market activity. These support programs both make it relatively easy for parents to decrease their work hours and maintain their household income as a result of choosing to work less. As such, both men and women have many options to reduce their labor supply after childbirth relative to other OECD countries.

The Netherlands also have several formal childcare opportunities. Children enter primary school at the age of 4, before which they can (and often are) sent to daycare. Between the ages of 4 and 12, out-of-school childcare options are available. These childcare options are subsidized and means-tested: All parents are eligible for some degree of childcare subsidies, with effective subsidies being higher for low-income parents. These childcare opportunities make it relatively easy for mothers and fathers to maintain their labor market activity after having children, and are used for roughly 800,000 children on a yearly basis (Rijksoverheid (2021)). Additionally, informal childcare (i.e. by grandparents) is common in The Netherlands (Been et al. (2021))

Finally, the Netherlands has several measures of social insurances and protection in case of divorce or death of one's partner. In case of divorce, parents are legally obligated to make alimony payments on the basis of their income and the amount of time they spend

taking care of their children [3]. This means low-earners are relatively well-insured against income losses and may increase intra-household specialisation.

3   Methodology

We estimate how the arrival of children impacts the gender gaps in labor market participation, wages, and home production. We use a methodology similar to Kleven et al. (2019). To measure home production, we investigate time use and the role of childbirth in time use. We measure the evolution of labor market outcomes and household allocation over time. To estimate the effects of childbirth, we perform an event study centered around the birth of one's first child. We define $t = 0$ as the year of birth of one's first child. We then separate the event by men and women. In this manner, we find out for men and women how outcomes diverge after birth of a first child.

   Our estimation strategy requires several assumptions for causal inference. First, our event study assumes the exact timing of the arrival of children to be exogenous. Second, no confounding events are present. We observe neither observable anticipation effects before the arrival of children, nor effects on time use from placebo events[4]. This strengthens our belief that the two assumptions hold. The results of the F-tests are as follows:

   Our bedrock specification closely follows that of Kleven et al. (2019) and is as follows:

$$y_{ist} = \sum_{j \neq -1} \alpha_j * I[j = t] + \sum_k \beta_k * I[k = age_{is}] + \sum_e \gamma_e * I[e = s] + X_{ij}\delta + u_{ist} \qquad (1)$$

Where i denotes the individual, s denotes event time, t denotes calendar time, and X denotes a vector of control variables[5]. We estimate (1) with a set of controls consisting of time, event time, age, and education level dummies[6]. u is a residual term assumed to be normally distributed and uncorrelated with our regressors. Time, event time, and age are measured on a yearly basis. α is the vector of interest for our analysis. We use the year prior to childbirth for men as our reference category. As such, α measures effects relative to men before childbirth.

   As our data leaves us with relatively few observations, we estimate year linearly as opposed to as a fixed effect. This increases precision, but does not meaningfully affect our

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[3]Additionally, there are options to take up life insurance and remaining pensions are passed on to one's partner after death Rijksoverheid (2023).

[4]We test for the former through a joint F-test on the pre-childbirth coefficients by gender, the results of which can be found in table ?? in Appendix 1. We find no time use effects, and some labor market pretrends that can be explained by career development. Additionally, we control for time-effects to limit confounding events.

[5]We obtain the same rough estimates without control variables

[6]These controls are the same as in Kleven et al. (2019)

results otherwise.

4 Data

We use survey data from the Longitudinal Internet studies for the Social Sciences (LISS) panel for our analysis. The LISS panel is an online survey, administered by CenterData and Tilburg University, held among a representative sample of approximately 5,000 Dutch households. The LISS panel runs from 2007 to 2022 and covers a broad range of topics, including but not limited to work and schooling, family, and time use. LISS panel surveys are held monthly for demographic characteristics, and surveys asking for detailed information on topics such as work, schooling, and family are held yearly. The LISS panel is administered online among a representative group of individuals. Additionally, individuals without computers are provide one. As such, self-selection is precluded.

We supplement these data with the time use and consumption survey from the LISS panel. The time use and consumption survey is not part of the the main panel, and as such is not observed every year in our sample. Instead, the time use and consumption surveys in our sample were held in 2009, 2011, 2013, 2016, 2018, 2019, 2020, and 2021. For a detailed overview of this data, we refer to Been et al. (2023).

Survey data has several key advantages over administrative data for our analysis. First, survey data allows us to measure outcomes that administrative data cannot, such as detailed time use measured as self-reported time spent on activities per week. Second, we can measure differences between actual time use and formal working hours.

In our analysis, we estimate child penalties with respect to the event time around childbirth. We estimate effects on labor market participation rates, monthly and hourly wages, total labor market activity, and home production. To isolate the effect of childbirth, we impose balancedness in our sample with respect to individuals having children. As such, we estimate our event solely for individuals we observe the year before, the year of, and the year after childbirth.

	Male			Female			Diff
	Mean	SD	Obs	Mean	SD	Obs	P-value
Working	0.95	0.22	2018	0.85	0.36	2500	0.00***
(Conditional) Monthly gross wage	3211.70	1761.19	1253	2624.90	1782.87	890	0.00***
(Unconditional) Monthly earnings	3202.28	1522.74	1876	2121.83	1315.01	2343	0.00***
Hours worked	33.64	17.89	1062	21.36	16.37	999	0.00***
Hours working+commuting	37.24	20.27	559	23.80	19.05	641	0.00***
Hours children	17.77	13.84	228	33.59	27.77	278	0.00***
Hours chores+children	26.30	16.77	168	44.80	28.27	219	0.00***
Hours total household	61.72	23.69	167	63.89	25.67	218	0.58
Age respondent	31.95	6.41	2007	30.59	4.81	1840	0.00***
Highest education: Primary School	0.02	0.15	2018	0.01	0.10	2493	0.00***
Highest education: Junior High School	0.07	0.25	2018	0.06	0.23	2493	0.00***
Highest education: Senior High School	0.06	0.23	2018	0.06	0.25	2493	0.00***
Highest education: Community College	0.28	0.45	2018	0.27	0.44	2493	0.00***
Highest education: College	0.36	0.48	2018	0.36	0.48	2493	0.74
Highest education: University	0.22	0.41	2018	0.25	0.43	2493	0.00***
Married	0.35	0.48	2976	0.48	0.50	2500	0.00***
Number of children	1.32	0.52	348	1.35	0.49	382	0.03**

$^{*}\ p < 0.10,\ ^{**}\ p < 0.05,\ ^{***}\ p < 0.01$

Table 1: Summary statistics by gender

Table 1 shows summary statistics for the variables used in the analysis. Our sample shows substantial gender differences. Men have a slightly higher participation rate, higher monthly gross wage and work more hours than women on average, whereas women perform more home production. Men are on average roughly a year older than the women in our sample. Women have slightly higher education levels, especially with respect to university degrees. Women are married more often than men. The majority of observations is unmarried as these summary statistics include the four years prior to childbirth. Finally, most individuals in our sample have 1 or 2 children.

We estimate event study models for hourly wages, monthly earnings, hours worked, commute time, hours spent on chores and children, and the sum of time spent on labor market and household activities. Figures 1 - 3 describe the outcome variables by event time (where the event is birth of the first child) and gender. As both our summary statistics and outcome variables are based on imposing balancedness, all of the plots over the event time have the same number of observations as in the summary statistics.

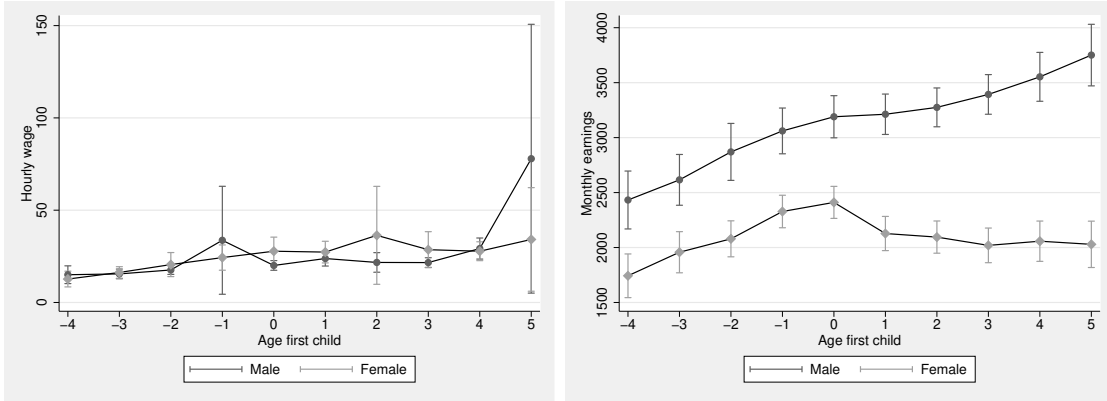Figure 1: Means and confidence intervals of hourly and monthly earnings over the event time.

Figure 1 shows how childbirth, on average, affects earnings for men and women over (event) time. Men experience a steady income growth that does not seem to be affected by childbirth. On the other hand, women experience an income shock relative to men that they do not recover from. We see that nearly the entire drop of earnings for women in the first 5 years after child birth come from the number of hours worked, not earnings per hour.

Figure 2: Means and confidence intervals of hours worked and commuted over the event time.
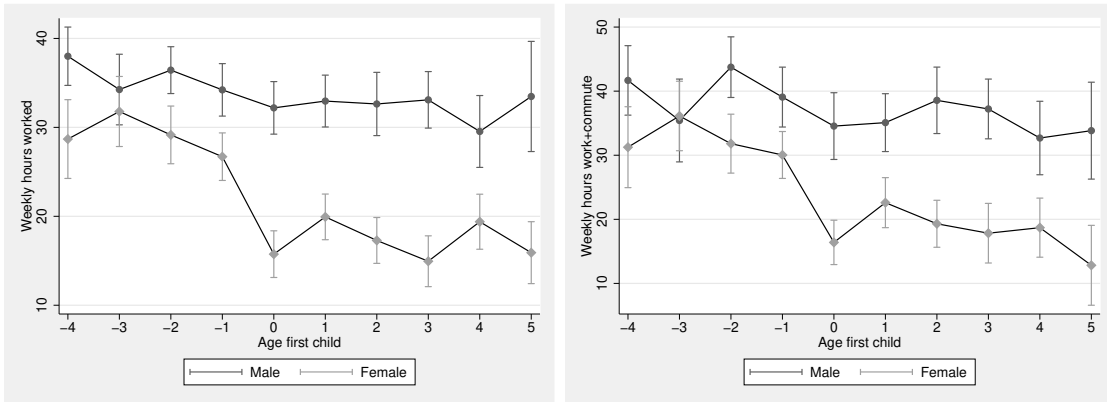
Figure 2 shows that childbirth affects time spent on labor market activity differently for women as compared to men. Men keep both their work and commute hours roughly constant over the years. Whereas women experience a sharp decline in labor market activity after childbirth, from approximately 30 work hours to 15 - 20 hours a week. We also observe differences in hours worked prior to childbirth, though these differences are comparatively small.

Figure 3: Means and confidence intervals of time spent on home production and the sum of labor market activity and home production over the event time.
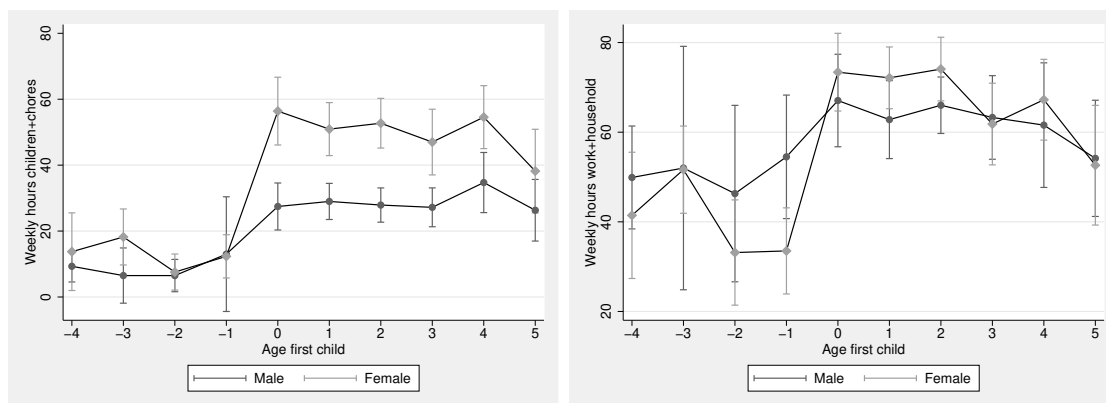

Figure 3 Shows how time spent taking care of children and chores, as well as the sum of labor market and home production. Before the birth of children we see no difference in the amount of time spend on home production. After the birth of children both men and women both increase their home production. However, the increase is much more pronounced for women. Whereas men spend approximately 30 hours a week on home production after childbirth, women spend approximately 50 hours. No discernible differences between men and women are found when aggregating labor market activity and home production, measured in the sum of time spent working, commuting, taking care of children, and doing chores. Total activity is roughly similar between men and women, though activity does increase for women after childbirth. That is to say, the decrease in female labor market activity after childbirth is spent on household work instead of leisure.

Overall, we observe an increase in the gender gap in wage, labor force participation, and work hours after the birth of one's first child, with differences being primarily driven by a decrease in female labor market activity. These statistical patterns are similar to those observed in Kleven et al. (2019) and Rabaté and Rellstab (2021). However, we observe the opposite effect when we look at time use, finding that women increase their home production more than men and after childbirth. Moreover, time spent on household chores roughly compensates for divergence in labor market activity.

5 Results

The previous section described the data and showed mean differences between men and women in their labor market activity and time spent on home production. However, men and women differ also in observable characteristics such as age and education level. We therefore estimate the effect of children using the framework laid out in the methodology,

specifically equation (1)[7].

We use participation rates, wages, hours worked and commuted, hours spent on chores and children, and hours spent on total home production as dependent variables. We then plot the coefficients estimated based on equation 1 and their confidence bounds by event time for men and women separately. Figures 4 - 6 graphically show the event time coefficients. As our time use data have gaps, we re-estimate our time use models by imputing the mean time use values in the years before and after the gaps for the missing years. The results of estimates on the basis of imputed data can be found in Appendix 2.

Figure 4: Participation rate coefficients by gender. Based on 3350 observations, and 746 individuals

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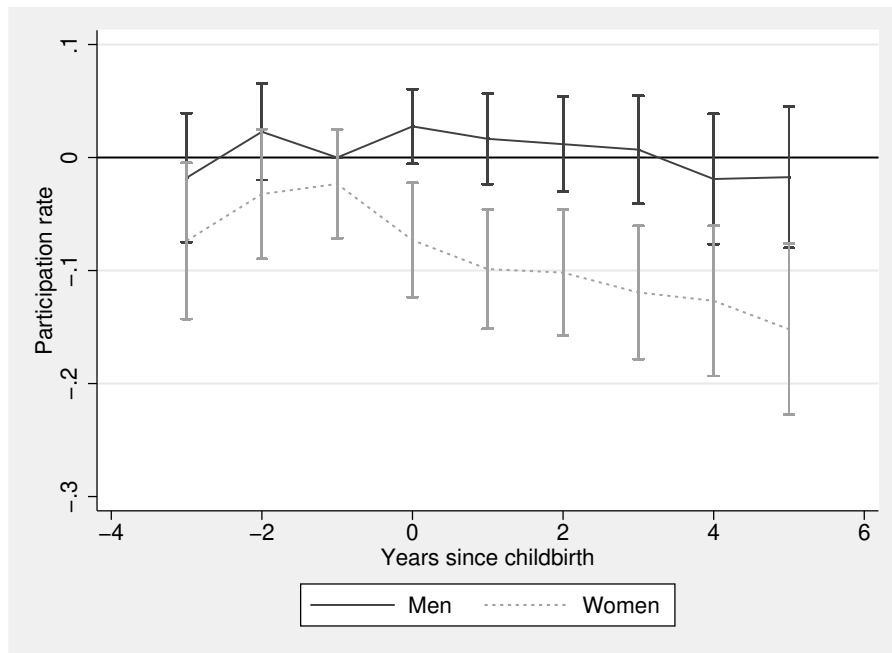
[7]Due to the small amount of observations, including individual-fixed effects does not leave enough variation in our estimates.

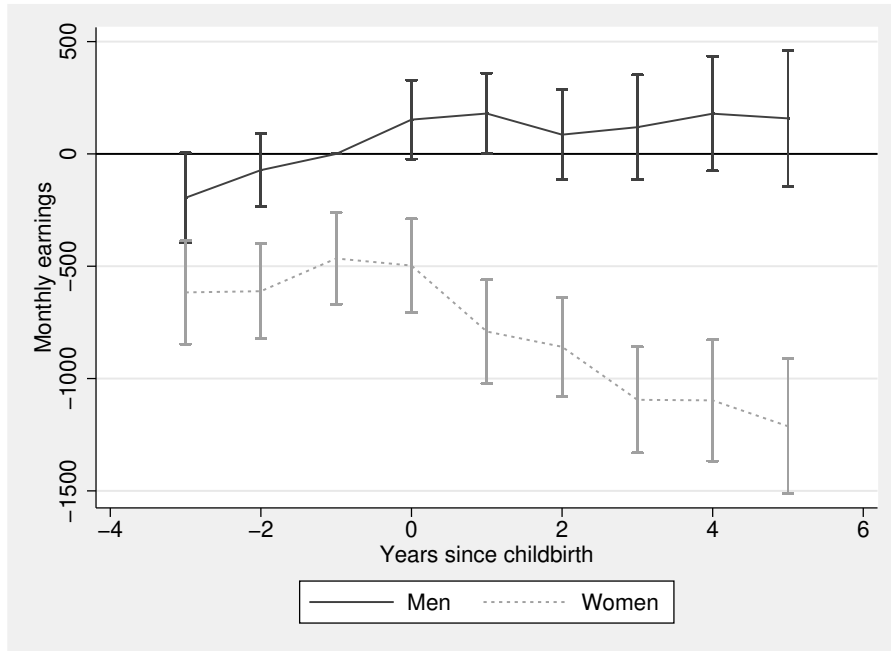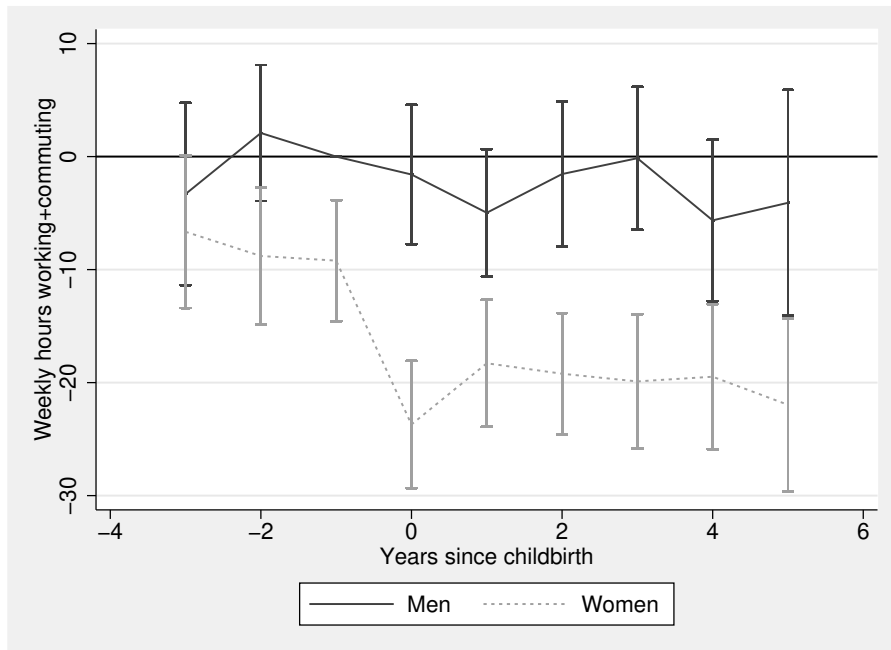Figure 5: Monthly earnings coefficients by gender. Based on 3131 observations, and 712 individuals

Figure 6: Weekly hours working and commuting coefficients by gender. Based on 1003 observations, and 564 individuals

Figures 4, 5, and 6[8] show labor market effects and penalties as a result of childbirth. Men do not face labor market penalties as a result of childbirth, whereas women exhibit a strong negative effect on hours worked. We additionally find some monthly wage penalties for women.

We find several labor market penalties for women compared to men before childbirth. First, participation rates drop by 7 percentage points at childbirth, increasing to 15 percentage points in the longer run. Second, women experience a decrease in earnings of about 20% relative to men in the long run. Finally, the observed decrease in earning for working women is primarily driven by a decrease in hours spent on the labor market. As such, child penalties are driven by decreases in labor market activity both at the extensive and the intensive margin[9].

We extend existing child penalty estimates by also including time use in the household as an outcome measure. As is conventional in the literature, we measure effects relative to men one year before childbirth. Results for household time allocation are as follows:

Figure 7: Weekly hours spent on children and chores coefficients by gender. Based on 331 observations, and 255 individuals.

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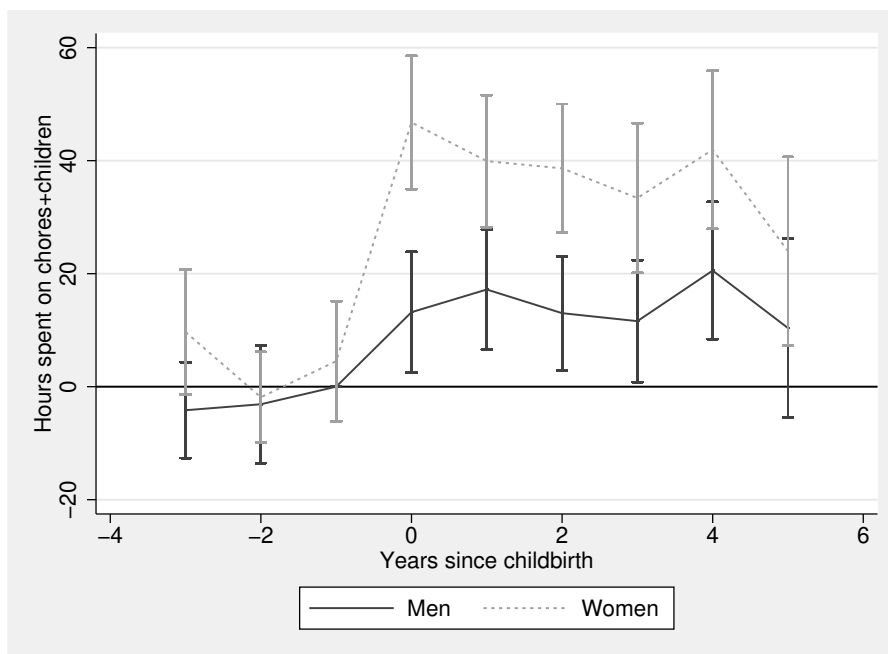
[8]Figures 19, 20, 21 and 22 in Appendix 3 show supplementary estimates for hourly wages, log monthly wages, level monthly wages, and weekly hours worked, respectively.

[9]We find similar results when we restrict our estimates to the years for which we observe time use and consumption

Figure 8: Weekly hours spent on working, commuting, children, and chores by gender. Based on 329 observations, and 255 individuals.
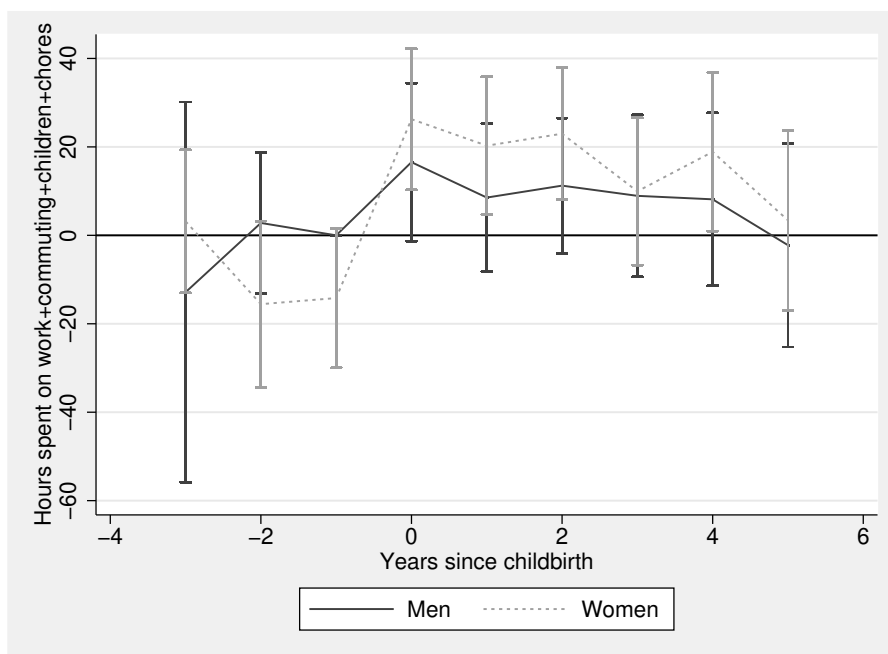
Figures 7, and 8[10] show how household tasks and total time use respond to childbirth. Both men and women increase their home production after childbirth, albeit women do so much more strongly than men: Whereas men increase their home production by approximately 10 to 20 hours a week after childbirth, women increase their home production by 30 to 40 hours a week. The sum of labor market activity and household activity, meanwhile, is approximately equal between men and women. These results indicate substitution between labor market activity and household activity rather than a decrease in total activity.

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[10]Figures 23 and 24 in Appendix 3 show supplementary estimates for weekly hours spent on children and weekly hours spent on leisure, respectively.

Outcome measure	Short-run penalty	Long-run penalty	Kleven et al. (2023) equivalent
Participation rate	-9.9%***	-15.2%***	15%
	(2.7%)	(3.9%)	
Monthly (unconditional) earnings	€-791***	€-1212***	44%
	(€106)	(€117)	
Monthly (conditional) wage	€-458**	€-1046***	42%
	(€211)	(€311)	
Weekly hours working	-14.9***	-16.6***	53%
	(2.0)	(2.5)	
Weekly hours working and commuting	-18.3***	-22.0***	51%
	(2.9)	(3.9)	
Weekly hours taking care of children	35.2***	28.9***	N/A
	(4.7)	(6.3)	
Weekly hours taking care of children and doing chores	39.9***	24.0***	-105%
	(6.0)	(8.5)	
Weekly hours total household activity	20.3***	3.4	-11%
	(7.9)	(10.4)	
Weekly hours total leisure	-2.8	-9.0**	2%
	(2.6)	(4.0)	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Child penalties relative to men by outcome measure relative to one year before the birth of one's first child. Short-run penalties are measured the year after childbirth (t=1). Long-run penalties are measured 5 years after the birth of one's first child (t=5). Penalties are defined in the same manner as in Kleven et al. (2023), and measure penalties for women relative to men and relative to before childbirth. Penalties are measured by dividing the post-childbirth coefficients by the predicted outcome measure absent childbirth for men and women, then subtracting the mean result for men by the mean result for women.

Table 2 shows child penalties for women compared to men relative to before childbirth both immediately after childbirth and 5 years after childbirth, as well as their relative order of magnitude[11]. Women decrease participation by 9.9 percentage points immediately after childbirth, accumulating to 15.2 percentage points in the long run compared to men. Monthly earnings drop by approximately €1000 in the long run, although this is driven by a decrease in labor market participation on both the intensive and the extensive margin. Contrariwise, home production for women increases by 47 hours a week in the short run, declining to an increase of 24 hours in the long run. As a result, women spend more hours on total activity as compared to men immediately after childbirth, though this effect dissipates in the long run.[12]

As compared to Rabaté and Rellstab (2021), we find very similar estimates, with at most a several percentage point difference in the point estimate. Adding to Rabaté and Rellstab (2021), household time allocation explains a substantial amount of the labor

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[11]We cannot compute a relative penalty for time spent on children as there is no pre-childbirth time use to scale by.

[12]Note that all our findings are not affected by the Covid pandemic: Restricting our sample to end at 2019 yields very similar estimates.

market divergence found in the literature thus far: Women have negative home production penalties, which both in relative and absolute terms can fully explain the decrease in female labor market activity as a result of childbirth.

All in all, we show that women suffer substantial child penalties on the labor market, though these penalties manifest due to women reducing their labor market activity. This decrease in labor market, however, is compensated for by an increase in home production, which increases much more sharply than for men.

6   Discussion and Conclusion

In this paper, we study the impact of the arrival of children on both gender gaps in the labor market and gaps in work in the household (home production). We find substantial gender gaps in the labor market that are exacerbated by the onset of children. These results are roughly in line with the existing gender gap literature, see e.g. Kleven et al. (2023) who show gender employment gaps throughout the world and find that child penalties are the main explanation in developed countries, like The Netherlands. Of particular note is that gender gaps are still present and substantial in the Netherlands despite the Netherlands having relatively high freedom to reduce working hours and options to return to work after childbirth.

We find that gender gaps in labor market outcomes are bridged by time use in the household. We find that women spend more time on household work and childcare, and that this difference (as compared to men) increases after childbirth. This finding also leads to total time use - i.e. the sum of labor market work and work in the household - being roughly equal between genders. This result suggests that in order to close the gender gap that is caused by the arrival of children, policy is needed that reduces the amount of work in the household that is done by women (both absolutely and relatively to men). Therefore labor market policies alone are likely not successful in closing the gender labor market gaps. As such, policies that target home production such as paternity leave Kleven et al. (n.d.) and childcare Andresen and Nix (2019) may play a role in reducing the gender pay gap.

A potential explanation for our findings is that women switch to more flexible jobs after the arrival of children. This explanation falls in line with existing literature: Norms are a potential explanation of gendered division of tasks after having children. As such, shifts in mothers' labor participation may be driven by household bargaining.

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Appendix 1: F-tests of pre-childbirth coefficients

Table 3 tests for pre-trends by showing joint F-tests of all pre-childbirth coefficients, by gender, for each of the outcome measures used. For men, we find some evidence of pre-trends for labor market participation, wages, and earnings. For women, we only find pre-trends with respect to wages. These results indicate that while pre-trends are for the most part absent, some caution is warranted with respect to labor market penalties.

Table 3: P-values of F tests with respect to pre-childbirth coefficients

Group	Men	Women
Outcome measure	P-value	
Participation rate	0.04	0.66
Log wage	0.03	0.01
Monthly earnings	0.01	0.16
Hours worked	0.59	0.39
Hours work/commute	0.77	0.44
Hours children	0.46	0.77
Hours chores/children	0.24	0.62
Hours work/household	0.10	0.69

Appendix 2: Time use with imputed data

Figure 9: Weekly hours spent working by event time and gender with imputed time use
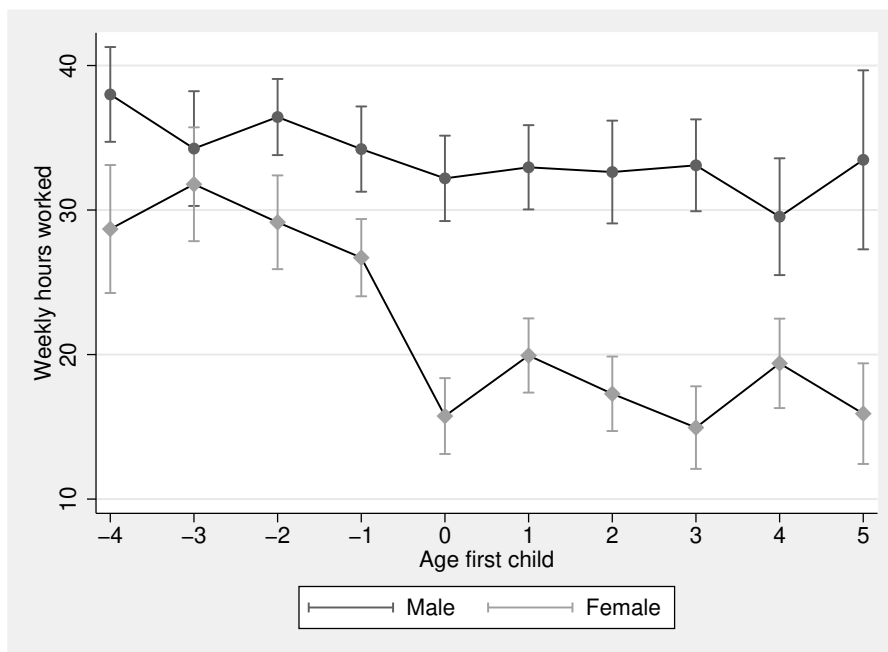
Figure 10: Weekly hours spent working and commuting by event time and gender with imputed time use
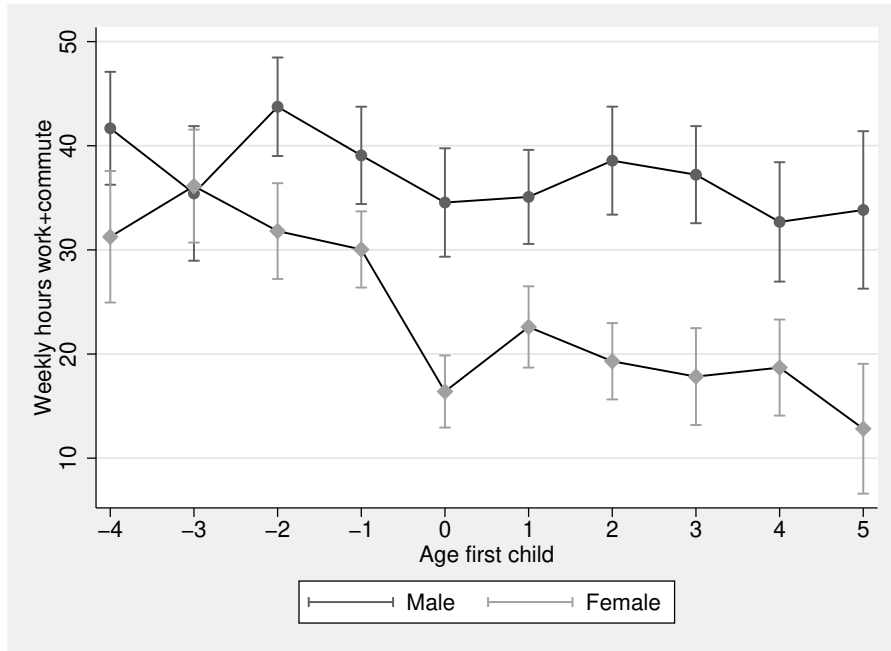
Figure 11: Weekly hours spent on children by event time and gender with imputed time use
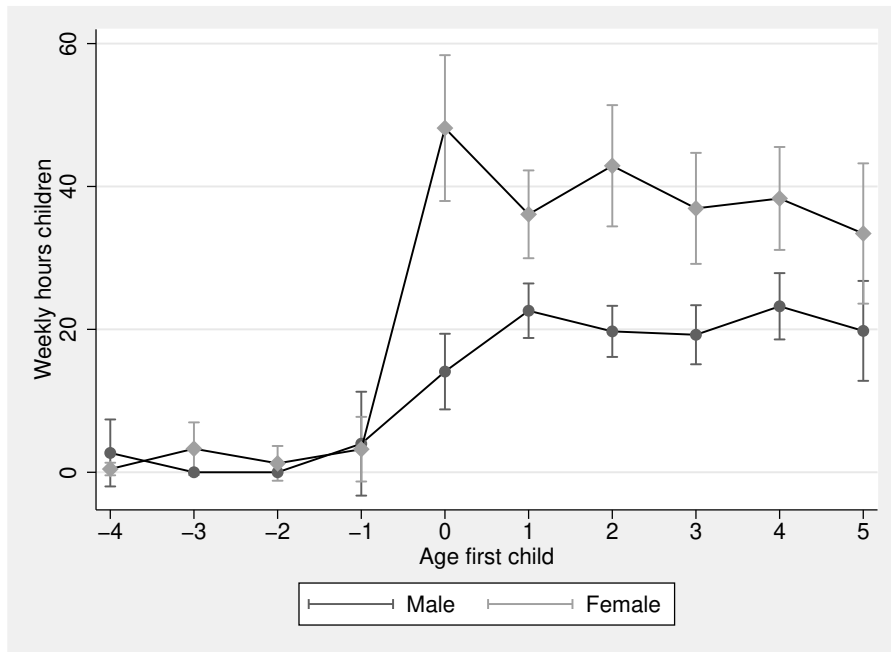
Figure 12: Weekly hours spent on chore and children by event time and gender with imputed time use
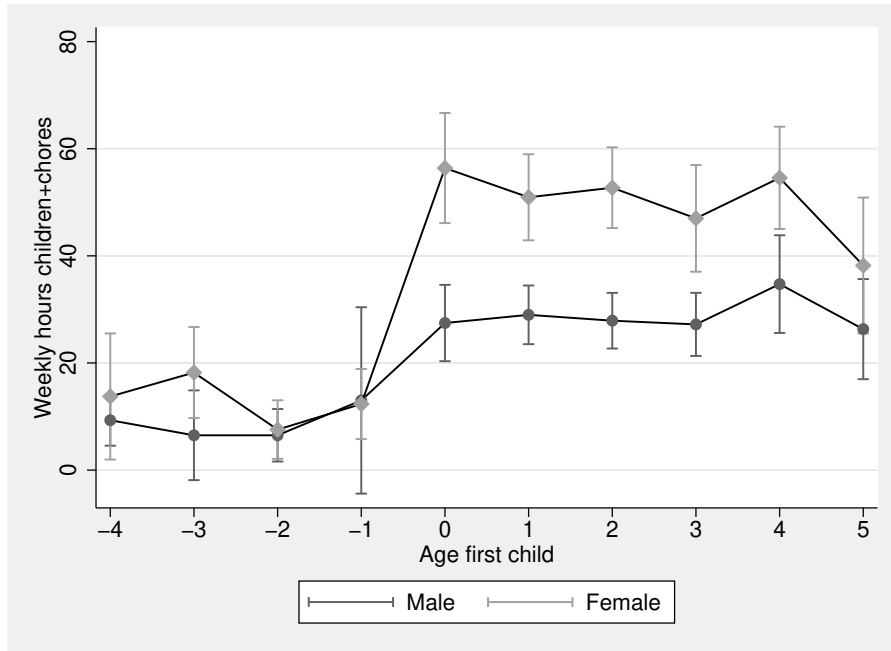
Figure 13: Weekly hours spent on total household activity by event time and gender with imputed time use
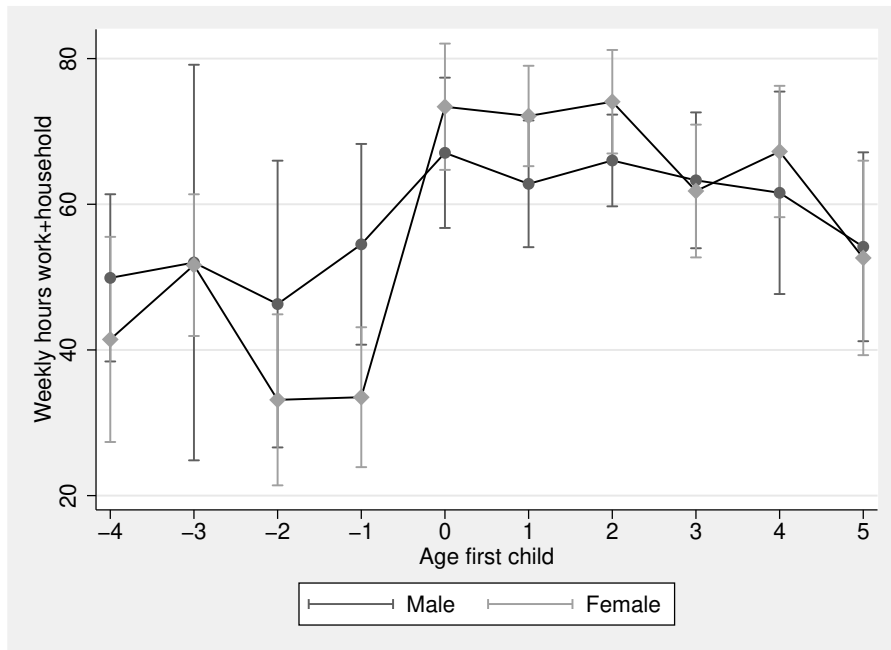
Figure 14: Effects of childbirth on hours spent working by event time and gender with imputed time use. Based on 1948 observations, and 666 individuals.
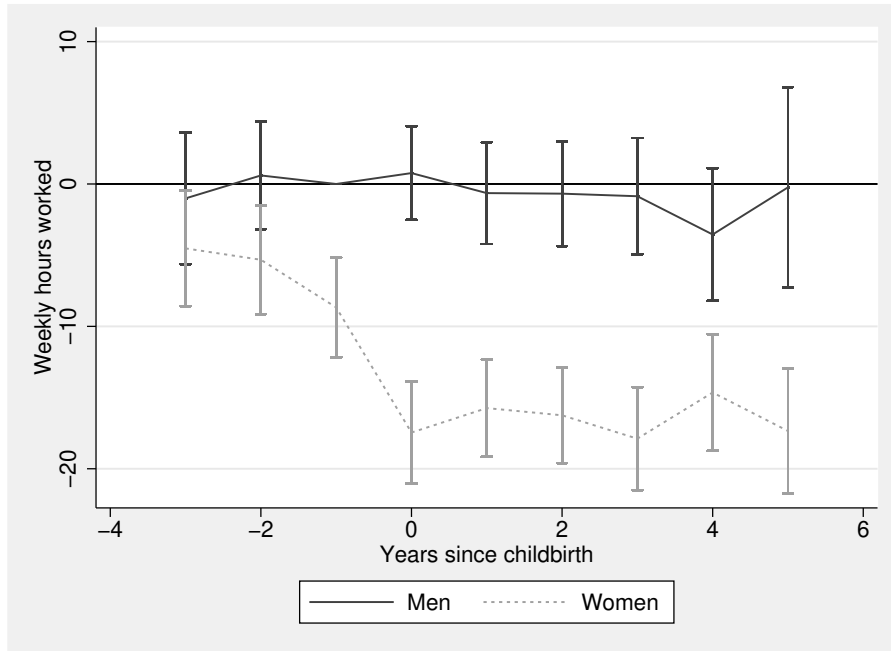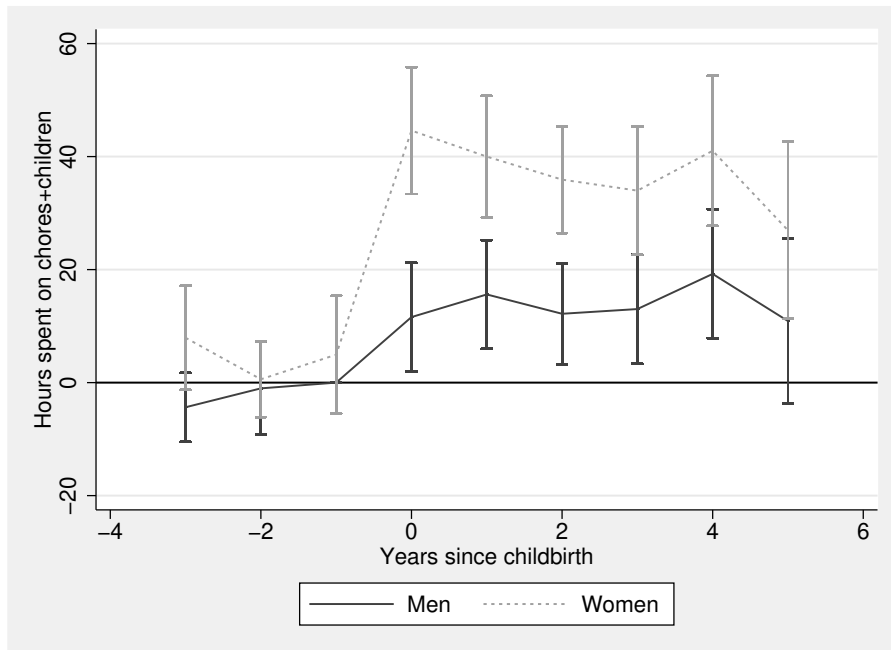

Figure 15: Effects of childbirth on hours spent working and commuting by event time and gender with imputed time use. Based on 1248 observations, and 565 individuals
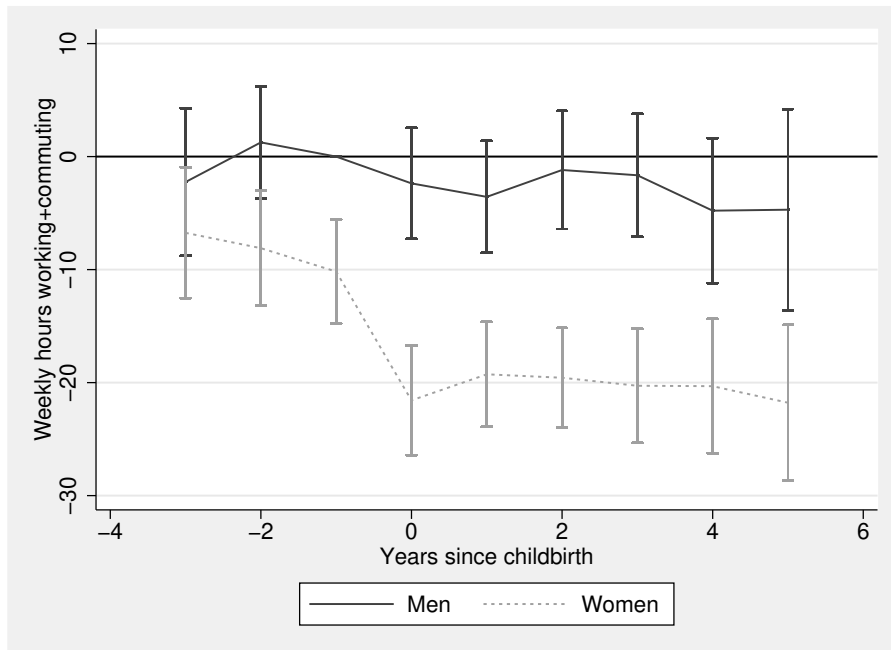
Figure 16: Effects of childbirth on hours spent on children by event time and gender with imputed time use. Based on 509 observations, and 312 individuals.
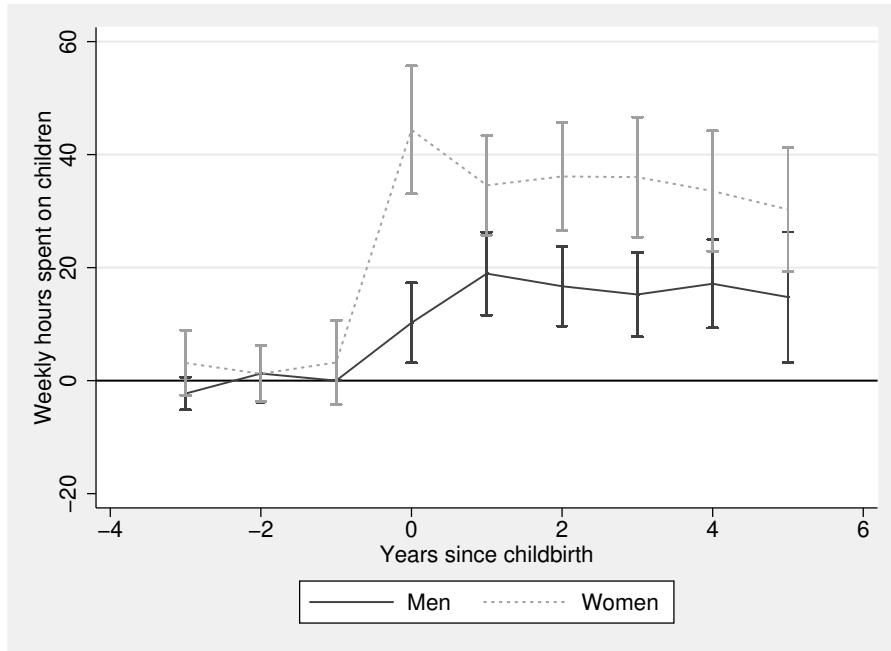
Figure 17: Effects of childbirth on hours spent on chores and children by event time and gender with imputed time use. Based on 387 observations, and 256 individuals.

Figure 18: Effects of childbirth on hours spent on total household activity by event time and gender with imputed time use. Based on 385 observations, and 256 individuals.
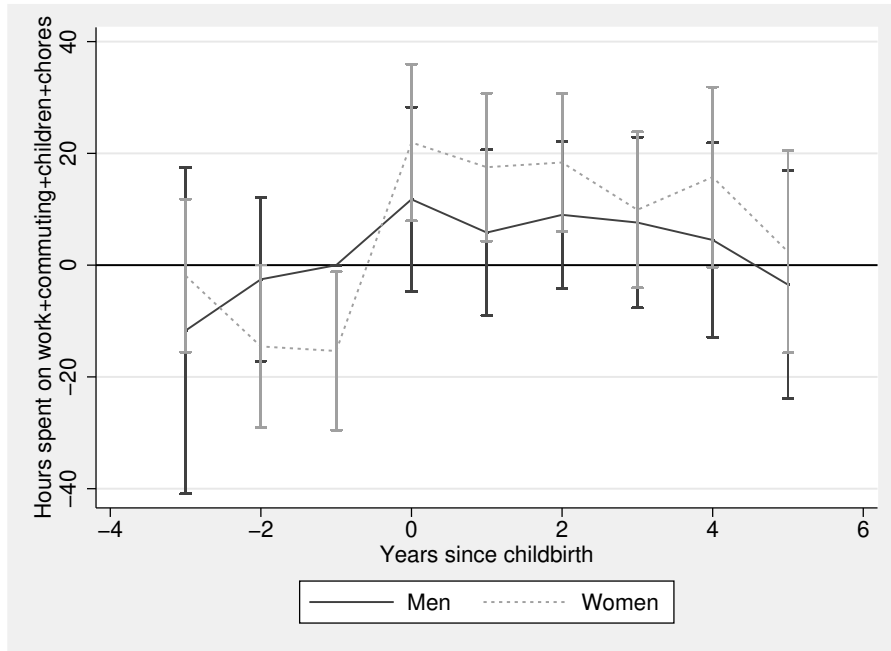
Appendix 3: Additional outcome measures

Figure 19: Hourly wage estimates by event time and gender. Based on 747 observations, and 404 individuals.
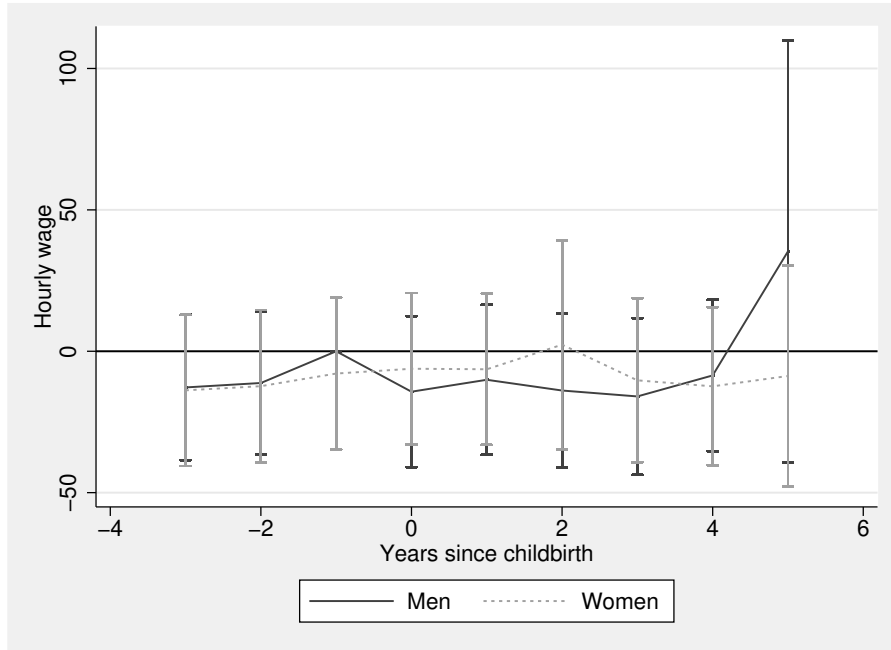
Figure 20: Log monthly wage estimates by event time and gender. Based on 1811 observations, and 565 individuals.
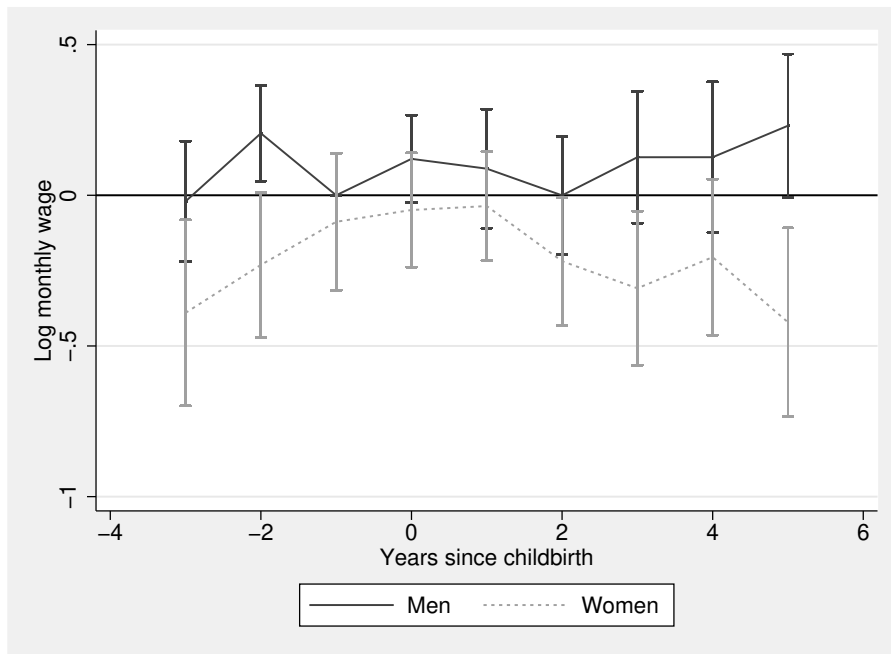

Figure 21: Level monthly wage estimates by event time and gender. Based on 1811 observations, and 565 individuals.
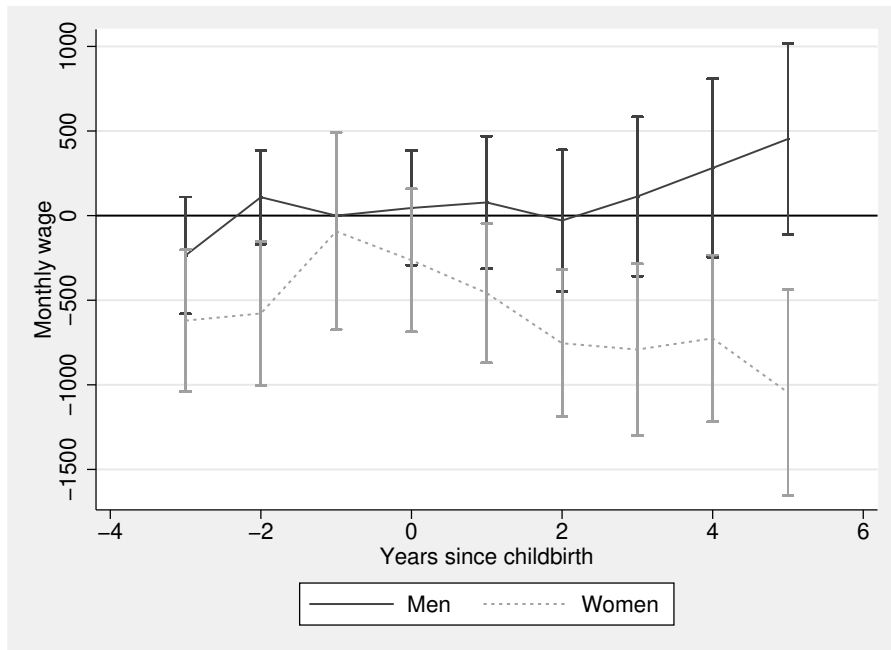
Figure 22: Weekly hours worked estimates by event time and gender. Based on 1573 observations, and 665 individuals.
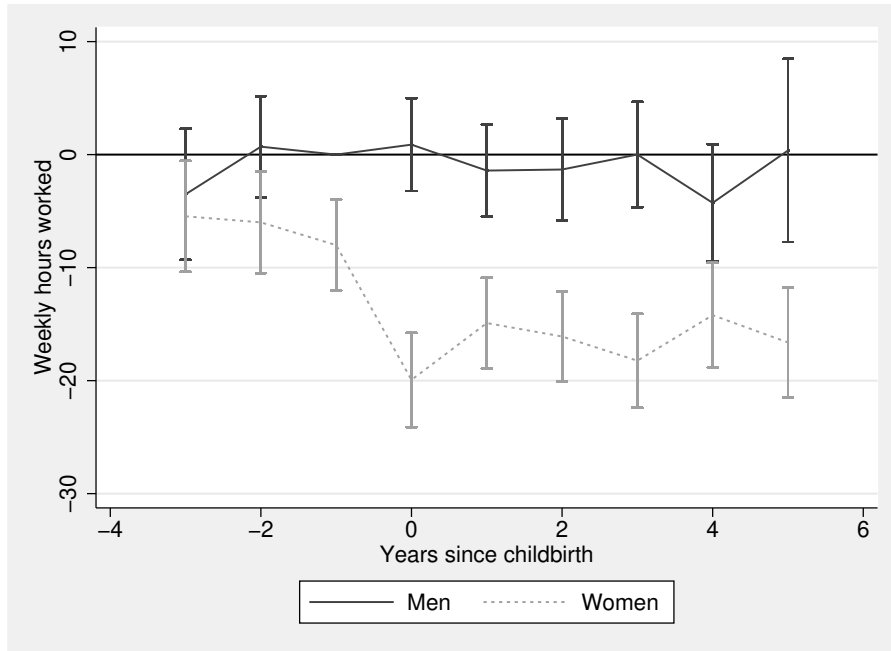

Figure 23: Weekly hours spent on children estimates by event time and gender. Based on 438 observations, and 312 individuals.
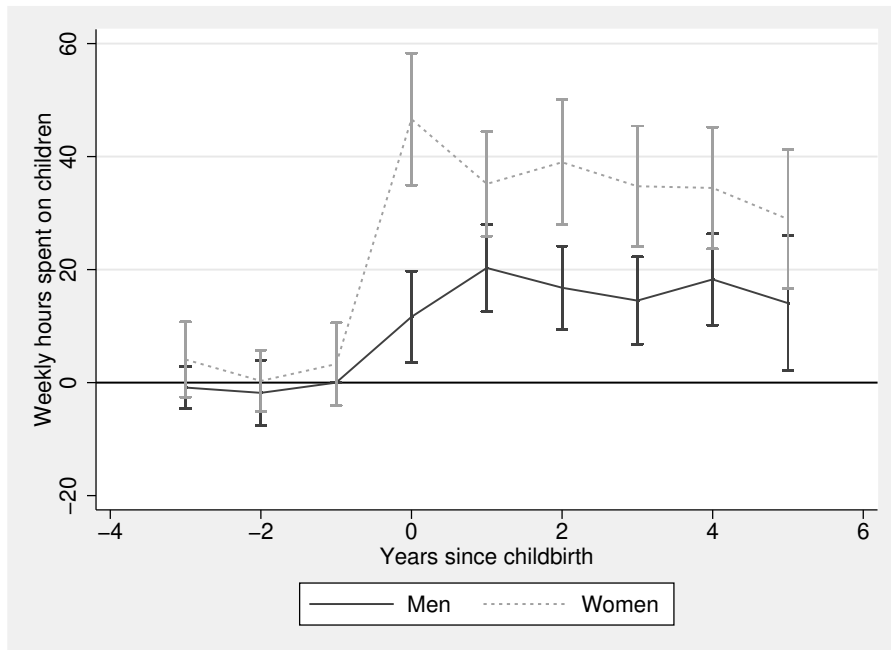
Figure 24: Weekly hours spent on leisure by event time and gender. Based on 1093 observations, and 593 individuals.