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Can Work from Home Help Balance the Parental Division of Labor?

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Abstract

Remote work expanded persistently after the Covid-19 pandemic. We study whether this increased job flexibility reduced within-household specialization in the Netherlands, where the pandemic's childcare demand spike was transitory, isolating remote work's effect. Using time-use and administrative data from 2016–2023 and a difference-in-differences design exploiting pre-pandemic remote work potential, we find each additional hour of potential raised parental childcare by about 10 minutes. As fathers have higher potential, the childcare gender gap narrowed by one-third. Mothers also increased market work when fathers could work from home. Thus, remote work can promote more equitable household labor division.

Keywords: job flexibility, remote work, childcare, division of labor, time-use data

JEL Classification: J13, J16, J22

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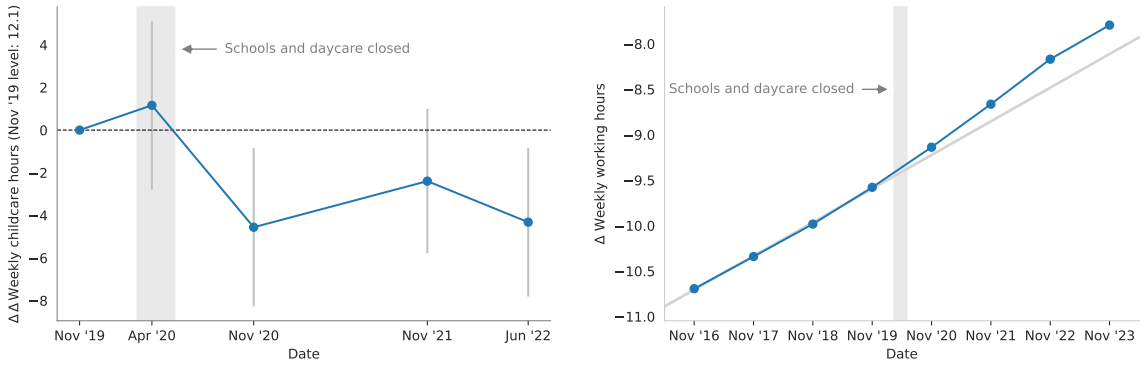
Among recent cohorts, the lion's share of the gender pay gap opens up with parenthood (Angelov, Johansson, and Lindahl, 2016; Kleven, Landais, and Leite-Mariante, 2025; Kleven, Landais, and Søgaard, 2019). A compelling mechanism described by Goldin (2014) is based on "greedy jobs", which place high and inflexible demands on employees' time use in exchange for substantial remuneration. Since children also place inflexible demands on their parents' time use, this often leads to within-couple specialization. The dominant outcome is that mothers balance market and non-market work, whereas fathers concentrate on market work. This mechanism may explain why policies promoting gender equality among parents often have little effect (Kleven et al., 2024).

This paper asks to what extent working remotely may help reduce the amount of specialization within couples. Working from home not only provides flexibility regarding the place of work, but also—by reducing frictions—relaxes scheduling constraints. There are two main pathways of how these gains in flexibility could equalize the type of work parents do. First, they may enable mothers to do more work in their chosen careers. Second, they may allow fathers to get more involved in childcare, which could allow mothers to provide more work hours in the labor market.

We focus on the second channel using Dutch survey and administrative data, and show that it feeds back into mothers' labor supply. Figure 1 provides the motivating evidence. The data for November 2019 show that the Netherlands is a typical case when it comes to the gendered division of labor. Among parents living in two-parent heterosexual households with one 6-year-old child, the mother-father gap in weekly time spent on childcare was more than 12 hours. The gap in market hours was 9.5 hours in the opposite direction.

Both gaps have narrowed substantially during and after the Covid-19 pandemic. The childcare gap fell by more than four hours between late 2019 and mid-2022. Between November 2019 and November 2023, the gap in market hours fell by almost two hours, which corresponds to 20 minutes more than what would have been predicted by the linear trend that fit nearly perfectly before the pandemic.

We relate these patterns to changes in parents' remote work by exploiting the unique Dutch setting during that time: an unexpected and persistent reduction in the relative costs of working from home (e.g., career, technological, and social costs), driven by pandemic necessity



(a) Childcare hours: $\Delta_{t,\text{Nov 2019}}\Delta_{\text{mother, father}}$ (b) Working hours: $\Delta_{\text{mother, father}}$

Figure 1: Mother-father differences in childcare and working hours

Notes: Both figures show differences between female and male weekly hours among working-age (18-55 years old) different-sex couples with at least one child below the age of 16 in the household. Panel (a) displays changes in the childcare hours gap relative to November 2019; Panel (b) shows the gap in working hours. Family composition is held constant by controlling for the number of children and the age of the youngest child, both interacted with a gender dummy. Values are shown for families with one child of average age (between 6 and 7 years). The data source of Panel (a) is the LISS panel with 2,586 observations in total, see column (1) in Table 1 for the regression results. Regressions underlying Panel (b) are based on administrative data covering the entire Dutch population. In those regressions, we additionally control for the composition of the workforce by education × sector × year fixed effects, where the sector is measured in year $t-4$. We set hours of individuals who are not working in t to zero and exclude the self-employed because we do not observe their hours. We show the full set of coefficients in Online Appendix Table A.6. Both figures display 95% confidence intervals with standard errors clustered on the household level; in Panel (b) they are hidden by the circles marking the regression coefficients.

and strong government encouragement, while childcare demand remained largely stable. Restrictions on economic activity and especially formal childcare and schools were limited to a relatively short period compared to many other countries. The grey areas in Figure 1 mark the period of school and daycare closures, which was confined to spring 2020. As in other countries (e.g., Heggeness and Suri, 2021; Jessen et al., 2022; Sevilla and Smith, 2020), the total amount of childcare provided by both parents shot up drastically during this period. It was back to the 2019 level for the remaining three measurements in Figure 1a.

To examine the role of remote work for changes in parents' childcare time, we employ a continuous difference-in-differences design that compares how childcare evolves over time across parents whose pre-pandemic jobs differ in their *potential* for working from home. Our key explanatory variable is a measure of remote work potential, a time-invariant characteristic of the pre-pandemic job. Identification requires that, absent the pandemic-induced expansion of remote work, parents with higher versus lower potential would have followed the same

childcare trends, conditional on observables, and that those who benefit most from the increase in flexibility are not disproportionately sorted into jobs with high remote work potential (no selection on gains). Consistent with this, we find no economically meaningful positive association between remote work potential and childcare time prior to the pandemic.

This changed suddenly and drastically. For our two observations in 2020, each hour of working from home potential translated into about 20-25 minutes of childcare work. Thereafter, it was 10-11 minutes. All these numbers are quantitatively very similar for both genders. They imply a more equal division of childcare duties across parents because on average, fathers have a substantially higher degree of remote work potential. Two factors lead to this. First, they tend to work in jobs in which they can do a larger share of tasks from home. Second, they work more hours. In sum, these differential changes in working from home explain 30-60% of the change in the gender care gap. In line with this mechanism, intra-household analyses show that the decrease of the childcare gap is almost entirely driven by couples in which the father has an above-median remote work potential and the mother has a below-median one.

In the administrative data, we also find evidence for the second-round effect, that is, mothers increase labor supply if their partner can work from home more. At baseline, working hours of mothers and their partners' remote work potential bear a negative relation. The treatment effect is strong enough so that this relationship has reversed after the pandemic. Magnitudes are much smaller compared to the effects on childcare. On average, each hour of fathers' remote work potential caused one more minute of mothers' market work in 2023 compared to 2019. The findings for both childcare hours and working hours are robust to an extensive set of sensitivity checks, including alternative measures of remote work potential, different sample restrictions, alternative regression specifications, and the use of different outcome variables.

Several features of our setting and data make this study uniquely suited to examining how remote work reshapes the parental division of labor. First, in most countries affected by the pandemic, an increase in remote work went hand in hand with a sustained rise in the total demand for parental childcare, confounding the two. Because childcare demand in the Netherlands returned to pre-pandemic levels after the spring of 2020, the persistent changes in the *division* of childcare that we document can be attributed to the expansion of remote work rather than to elevated aggregate childcare demand. Second, by combining customized

survey modules from the LISS panel with population-wide administrative records, we can track remote work potential, remote work realisation, time use, and labor supply across multiple waves at short intervals. While many studies rely on occupation-level measures of remote work feasibility, our data provide an individual-level measure of remote work potential based on the pre-pandemic job. We can compare this measure to a more conventional sector-education-cell measure. Third, both data sources identify household members, which enables within-couple analyses that trace how one partner's remote work capacity affects the other partner's childcare time and labor supply.

Our paper contributes to the literature on workplace flexibility and gendered outcomes. At a broad level, the importance of this nexus has been a common theme of Claudia Goldin's work of the past two decades (e.g. Goldin, 2014, 2023; Goldin and Katz, 2011), but empirical evidence, especially causal, remains sparse. Bang (2021) documents that in the US, job flexibility of both parents is associated with a lower maternal child penalty while Ciasullo and Uccioli (2024) show that a policy change in Australia that increased schedule regularity led to higher maternal labor supply. We contribute to this literature by looking at an exogenous shift in an important dimension of job flexibility, remote work, and by examining within-household spillovers, namely how increases in paternal job flexibility affect mothers' labor supply.

Angelici and Profeta (2024) report on a controlled experiment with one Italian firm. Workers were randomized into being allowed to work remotely one day per week. Among many other effects, the paper shows that both genders increased the time use for household and care activities in similar ways. We generalize their childcare findings to a broad population sample and extend the analysis to intra-household effects and labor supply. Harrington and Kahn (2025) document the direct channel of working from home on market hours mentioned above using U.S. data for the 2010s. This mechanism may well contribute to the overall trend seen in Figure 1b. Berresheim (2025) studies the consequences of an expansion of remote work for women's careers using a general-equilibrium model calibrated to pre-pandemic U.S. data. She finds that, in the long run, women benefit from increased remote work opportunities, with labor supply rising in own and partners' remote work take-up. We examine the latter channel empirically using data spanning the pre- and post-pandemic period.

More generally, our paper contributes to the literature on the implications of rising remote work usage. This literature examines, for example, the implications for the employment of physically disabled persons (Bloom, Dahl, and Rooth, forthcoming), for productivity (Angelici and Profeta, 2024), learning on the job (Emanuel, Harrington, and Pallais, 2023), or income inequality and home prices (Davis, Ghent, and Gregory, 2024). Aksoy et al. (2025a) provide a recent summary. We show that the rise of remote work has important consequences for the intra-household allocation of market and non-market work.

1 Data and Setting

Our study is based on customized survey data from the LISS panel, population-wide administrative records from Statistics Netherlands (CBS), and the Dutch national working conditions survey (NEA). Both survey data sets are linked to the population registers at the individual level. A detailed description of all data sets, our extraction procedures, and summary statistics are in Online Appendix A.

We observe household members' time use in the LISS panel during the years 2019–2022. The data is based on a probability sample of individuals registered by Statistics Netherlands. Annual core surveys cover a wide range of topics on households' socio-economic situation. On top of that, the LISS panel allows researchers to implement their own questionnaires. We make use of two sets of surveys that we ran ourselves or helped design. These are five waves of time-use data and several questionnaires in 2020 related to the Covid-19 pandemic, which allow us to measure working from home potential.

We use the population-wide CBS records for analyzing hours worked. In order to relate these to working from home capacity, we impute a measure of remote work ability based on the NEA data.

Throughout our analysis, we consider heterosexual couples where both partners are between 18 and 55 years of age and who have at least one child below the age of 16 in the household. Our LISS sample consists of 1,285 (1,301) mothers (fathers) $\times$ year observations, respectively. In the administrative data we further exclude couples where either parent is self-employed since we do not observe working hours, resulting in more than five million person $\times$ year

observations for each gender. The average age is slightly below forty years for mothers in both samples, fathers are about two years older on average. The mean number of children is around two; the average age of the youngest child is between 6 and 7 years.

1.1 Market and Non-Market Work before the Pandemic

Over the 2016–2019 period, the Dutch economy was in a robust state and parents' labor force participation was high. For both mothers and fathers, no more than three percent received unemployment benefits in any given year. On average, a little more than one in five mothers and one in ten fathers was outside the labor force. The employment rate increased steadily over this period and somewhat faster for mothers (4.1 percentage points vs. 1.8 for fathers).

The biggest driver behind the level and the trend of unconditional working hours in Figure 1b are differences in hours worked among the employed. On average, 15% of mothers in dependent employment worked full-time, but 86% of fathers. Conditional on dependent employment, mothers worked 26 hours per week on average, fathers 38. The high part-time share of women is a long-standing feature of the Dutch labor market and similar to countries like Germany, Italy, or the U.K. (see Bick et al., 2019). Between 2016 and 2019, conditional hours of mothers increased by almost one per week, while fathers' hours decreased slightly.

The flipside of the distribution of market hours is that mothers take on a much larger share of childcare work than men (Table 1). Mothers of a single child aged 7 years spent 31 hours per week on childcare in 2019, fathers 18. One year of age of the youngest child is associated with mothers spending about 2.4 hours less on childcare per week. The same number is 1.3 hours for fathers. Hence, the gender gap is largest for households with young children.

1.2 Market and Non-Market Work after the Pandemic's Onset

Broadly sketched, the Dutch reaction to the Covid-19 pandemic was similar to many other Western countries. After downplaying the situation in early 2020, in mid-March the government imposed measures to slow the virus' spread, which included limits on social gatherings and the closure of many businesses involving personal contacts (e.g. Zimpelmann et al., 2021). Such measures remained in place with varying stringency until early 2022. In an international

comparison, measures were rather lenient with no general curfew or stay-at-home mandate at any point in time.

Most importantly for our analysis, schools and childcare facilities were only closed between mid-March 2020 until May (daycare, primary schools) or June (secondary schools) 2020. In the summer of 2020, policymakers made very clear these would be the last institutions to close in case of a renewed tightening of restrictions. Except for slightly prolonged vacations around Christmas 2020, this promise was kept. Thus, closures were very limited in comparison to many other countries.

Starting in March 2020, the government implemented a comprehensive set of economic support measures. The most important policy was the short-term allowance (NOW), which subsidized labor hoarding with a 100% wage replacement rate. Dependent employees did not see their incomes drop regardless of hours worked during the early phase of the pandemic (Zimpelmann et al., 2021).

Labor market trends broadly continued. Mothers' and fathers' employment rates kept rising steadily at a similar pace to prior years (3.6 and 1.5 percentage points, respectively, from 2019 to 2023). By 2023, mothers' hours conditional on working had increased by another 1.4 per week, while fathers' weekly hours decreased by 0.3. These findings are supported by Alon et al. (2022), who show that contrary to many other countries, the impact of the pandemic on labor market outcomes was gender-neutral in the Netherlands. Importantly for our purposes, there is no evidence that parents dropped out of the labor force to take care of their children. This differentiates our setting from countries where schools and daycare facilities were closed for prolonged periods of time (e.g., Heggeness and Suri, 2021).

Possible confounding factors for the later analyses are parental leave reforms in July 2020 and August 2022. We do not model these reforms in our main specification since robustness checks reported on below yield the same conclusions when excluding families whose children are young enough to be affected by these reforms.

1.3 Working from Home: Potential and Realization

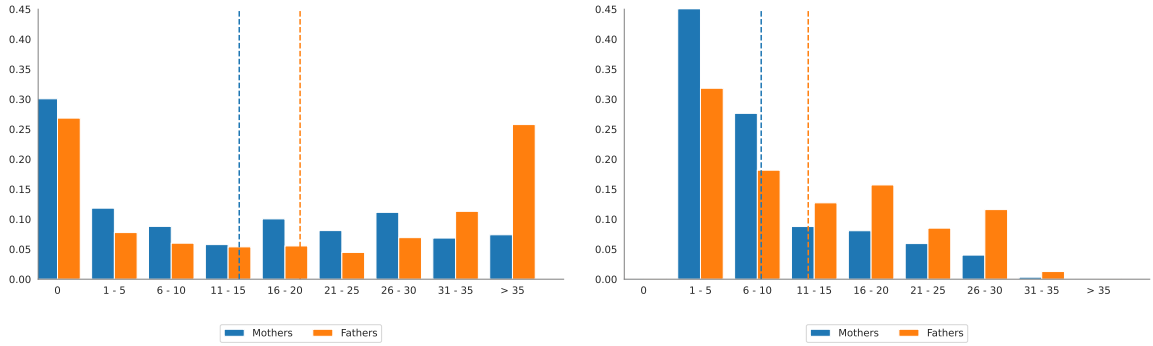
While Dutch employees had the legal right to work from home under certain conditions already prior to the pandemic, from March 2020 onwards the government strongly encouraged remote

work. Consistent with this, we document a sharp increase in working from home during the pandemic that has remained persistently elevated, similar to patterns described in Barrero, Bloom, and Davis (2023) for the US. In February 2019, 15% of maternal working hours and 12% of paternal hours were worked from home. These numbers jumped to just above 50% in April 2020 and are still at 30% in June 2022.

Individual working-from-home experiences were highly endogenous to personal and contextual factors, so we construct job-level measures of remote work *potential* corresponding to a period prior to the pandemic. This is similar in spirit to papers like Dingel and Neiman (2020) and Hansen et al. (2023)—which measure working from home potential at the occupation level—or Adams-Prassl et al. (2022), which document that a measure at the level of the individual job reveals considerable heterogeneity in remote work potential within occupations.

In May 2020, we asked LISS panel participants "What percentage of your normal work prior to the Covid-19 outbreak can you do while working from home?". The question explicitly abstracts away from potential changes in jobs or task content due to the pandemic. We repeated the question in December 2020, except that we asked for "normal work" rather than a job at a specific point in time. Our main results are based on the mean of the individual-level data. As we discuss in the next section, none of our estimates change much when using either measure in isolation; they even stay similar when using an occupation-level metric.

Our analysis focuses on the potential *hours* of remote work as a quantitative measure of the change in a parent's flexibility. To construct this measure, we multiply the elicited share of remote work potential by the number of working hours prior to the pandemic. The resulting distribution is shown in Figure 2a. Among mothers, there is a 30% probability of not being able to work from home at all, which is 5 percentage points higher than the probability of being able to work remotely for at least 25 hours per week. In contrast, the distribution for fathers is more polarized: over a quarter each have either no possibility to work from home or they can work remotely for at least 35 hours per week. On average, mothers have 13.5 potential remote working hours, compared to 18.8 for fathers. Decomposing this difference reveals that fathers' higher working hours play the larger role; but they also have a four-percentage-point higher share of tasks that can be performed from home.



(a) LISS sample (self-reported)

(b) CBS sample (sector-by-education level)

Figure 2: Potential hours of remote work by gender

Notes: This figure shows the distribution of our measure of potential remote working hours by gender in the LISS sample (Panel a) and the CBS sample (Panel b). In the LISS sample, potential remote working hours are calculated by multiplying the pre-Covid self-reported share of tasks that can be done from home with the pre-Covid working hours of an individual. For the CBS sample, we multiply working hours in $t-4$ with the share of remote work potential (imputed on the sector-by-education level) in the job held at that time. Both measures are designed so that working from home potential is measured before the pandemic's onset. Dashed lines display the gender-specific means (13.5 hours for mothers and 18.8 hours for fathers in the LISS sample, 7.8 hours and 12 hours in the CBS sample).

In 2019, each hour of remote work potential corresponded to about a quarter of an hour actually worked from home. This number more than tripled during both April and November 2020; available capacity for remote work was utilized to a very substantial degree. In 2022, it was still twice as high. Based on this observation, we construct a measure of remote work potential in the CBS data. Specifically, we calculate the fraction of remote working hours using data from the 2020 wave of the NEA survey, which was conducted in October. We then generate predictions for sector-by-education cells by linking this information with CBS data. To ensure comparability over time and to avoid confounding effects from pandemic-induced changes, we base our measure on labor supply choices observed four years prior to each data year. For example, remote work potential for 2023 is determined using sector, hours, and education level as recorded in 2019; similarly, the 2016 measure uses information from 2012.

Figure 2b presents the distribution of potential remote working hours for mothers and fathers, pooled across all years in the CBS sample. Compared to the individual-level measure in the LISS data, these distributions exhibit greater concentration because of the within-cell aggregation. Their lower overall levels also appear sensible given the rates by which remote work potential was used in the LISS data.. Importantly, the fundamental gender differences

persist. Mothers are significantly more likely to have very limited potential to work from home. Fathers' average potential remote working hours are more than four hours higher than mothers'.

2 Childcare

We employ a difference-in-differences design to identify the causal effects of the pandemic-induced shift in the realization of remote work on parental time spent on childcare. Potential hours of remote work function as a continuous treatment variable governing the expected effect of the exogenous change in remote work.

We have a single measure of childcare hours before the pandemic, taken in November 2019. The following specification relates it to the parent's gender D_i^{mother}, working from home potential, and family structure $X_{i,t}$ (age of the youngest child and dummies for the number of children) interacted with gender. For subsequent measurements at four points in time τ, gender-specific levels and effects of remote work potential can be different:

$$
\begin{aligned}
(1) \qquad \text{childcare hours}_{i,t} = {} & \alpha_{\text{pre}} + \cdot\beta_{\text{pre}} \cdot D_i^{\text{mother}} + \gamma_{\text{pre}} \cdot \text{wfh potential}_i \\
& + \sum_{\tau \neq \text{2019-11}} D_i^{t=\tau} \cdot \left(\alpha_\tau + \beta_\tau \cdot D_i^{\text{mother}} + \gamma_\tau \cdot \text{wfh potential}_i\right) \\
& + \mathbf{X}_{i,t} \cdot \boldsymbol{\delta} + D_i^{\text{mother}} \cdot \mathbf{X}_{i,t} \cdot \boldsymbol{\delta}^{\text{mother}} + \varepsilon_{i,t}
\end{aligned}
$$

Our coefficients of interest are γ_τ. We interpret these as intention-to-treat effects of an additional hour of remote work when the extent to which working from home potential is realized changes exogenously. This is a difference-in-differences setup with a continuous treatment as studied in Callaway, Goodman-Bacon, and Sant'Anna (2024). They show that in a setting with heterogeneous effects, the key assumption is a strengthened version of the usual parallel trends assumption (which, in Equation (1), is embodied in homogeneous α, β). The strengthened version states that conditional on controls, the average treatment effect for parents with a given working from home potential equals the average treatment effect the entire population would experience if they were exposed to the same level of working from

home potential. Most importantly, this rules out selection on gains: individuals who respond particularly strongly to a large increase in flexibility must not have self-selected into jobs with high remote work potential. Supporting this, we show below that before the pandemic, we can exclude a meaningful positive association between remote work potential and childcare hours on average.

The specific experience of the Netherlands is important for this interpretation. In many countries, the increase in remote work went hand in hand with a jump in childcare demands on parents. In our data, this is only the case in April 2020 as documented in the first two columns in Table 1 where we estimate Equation (1) excluding remote work potential, i.e., the numbers underlying Figure 1a. While schools and daycare facilities were closed, time spent on childcare increased by more than 13 hours for each parent. Our analyses on the effect of remote work rest on the subsequent three waves of data, where the total amount of childcare provided by both parents was about the same as in 2019. One may, of course, be concerned about pre-existing trends; we will come back to those after presenting our results.

The second specification in Table 1 presents our main estimates. The third specification additionally includes interactions of remote work potential and gender at each point in time. We demean all non-dummy explanatory variables so that the α and β coefficients stay comparable across specifications.

Before the pandemic, our results allow us to exclude a substantial positive association between remote work potential and time spent on childcare. The point estimate is negative and suggests that each hour of remote work potential is associated with 4 minutes *less* childcare per week. We can reject the one-sided hypothesis that an hour of remote work potential translates into more than four minutes of childcare with more than 99% confidence. The third specification shows that if anything, the negative relation might have been more pronounced among mothers. This does not rule out that individually, some parents may have used the flexibility of working from home to help organize childcare. However, balancing effects—for example higher pay in jobs where remote work was feasible leading to lower childcare provision overall—were at least as important.

Table 1: Evolution of the gender care gap and potential hours of remote work

	(1)		(2)		(3)	
Dependent variable: Childcare hours per week	main	mother interaction	main	mother interaction	main	mother interaction
Constant	16.7	12.1	16.9	11.4	16.8	11.4
	(1.19)	(1.95)	(1.17)	(1.96)	(1.17)	(1.98)
2020-04	13.1	1.16	12.3	3.58	12.3	3.42
	(1.43)	(2.02)	(1.34)	(1.97)	(1.33)	(2)
2020-11	2.92	−4.56	1.89	−2.35	2.13	−2.21
	(1.21)	(1.9)	(1.16)	(1.93)	(1.13)	(1.95)
2021-11	1.91	−2.39	1.22	−1.06	1.32	−1.01
	(1.06)	(1.73)	(1.03)	(1.76)	(1.02)	(1.78)
2022-06	3.2	−4.32	2.59	−2.95	2.81	−2.85
	(1.16)	(1.78)	(1.18)	(1.87)	(1.16)	(1.9)
Pot. hours remote work (demeaned)			−0.066		−0.047	−0.048
			(0.046)		(0.043)	(0.095)
Pot. hours remote work (demeaned) × 2020-04			0.493		0.543	−0.121
			(0.072)		(0.086)	(0.148)
Pot. hours remote work (demeaned) × 2020-11			0.389		0.299	0.22
			(0.071)		(0.074)	(0.135)
Pot. hours remote work (demeaned) × 2021-11			0.251		0.216	0.088
			(0.064)		(0.063)	(0.136)
Pot. hours remote work (demeaned) × 2022-06			0.239		0.157	0.194
			(0.069)		(0.072)	(0.143)
N children = 2	0.29	−1.1	0.017	−0.793	0.037	−0.809
	(1.35)	(2.04)	(1.28)	(2.03)	(1.28)	(2.04)
N children ≥ 3	−0.324	−2.37	0.139	−2.2	0.079	−2.03
	(1.63)	(2.39)	(1.54)	(2.31)	(1.55)	(2.32)
Age youngest child (demeaned)	−1.3	−0.993	−1.24	−0.988	−1.24	−0.975
	(0.121)	(0.177)	(0.117)	(0.173)	(0.117)	(0.175)
Observations	2586		2586		2586	
R^2	0.304		0.341		0.344	

Notes: Coefficients of OLS regressions as specified in Equation (1), split up over two columns for each specification where the right column displays the interaction effects with D_i^{mother}. While potential hours of remote work is not an independent variable in Column (1), we add this explanatory variable (interacted with time dummies) in Column (2). In Column (3), we further interact potential hours of remote work with a mother dummy. Standard errors clustered on the household level in parentheses. The means are 16.2 potential hours of remote work and 6.6 years for the age of the youngest child.

In 2020, each hour of remote work potential translated into approximately 25-30 more minutes of childcare work, or 20-25 minutes on net. In 2021 and 2022, the net relation was about 10-11 minutes. Gender differences in these relations are small and not statistically significant.

Because of the higher potential remote working hours of fathers, these effects imply that remote work potential explains a substantial share of the decrease in the gender childcare gap that is evident from Specification (1). In particular, the β_τ coefficients for November 2020 and beyond are reduced by 30-60% once we include remote work potential in our main Specification (2). Specification (3) shows even slightly larger decreases of these coefficients.

These basic conclusions are robust to making a variety of different specification choices in the sense that point estimates for β_τ are close to our main specification and confidence intervals yield similar inference about possible effect sizes. Tables with results are included in Online Appendix B.1. We use a broader measure of non-market work, which includes chores in addition to childcare. Instead of processing the time-use data by winsorizing and dropping extreme outliers, we employ the raw responses. We drop families with children aged 0 and 1, so results cannot be affected by the 2020 parental leave reform. We include parents who are not working before the pandemic, setting remote work potential to zero for them. We change the treatment variable to use data from May 2020 only, or to use the percentage of work that can be done remotely (the different scale means that coefficient sizes are not comparable, but all of them point in the same direction as in Table 1). Finally, we make the sample and treatment variable comparable to what we will use in Section 3 by excluding the self-employed and using remote work potential imputed from the NEA data.

Complementing our previous analyses, we take a within-household perspective by looking at both partners' changes in flexibility due to remote work potential. In order to reduce dimensionality and because of the limited sample size—we have 582 observations on both partners with all relevant information—we dichotomize remote work potential by doing a median split (14.2 hours) for both partners leading to four groups.

The resulting figure is shown in Figure 3. The pre-pandemic gender childcare gap is between 9 and 11 hours in three of the four panels – those where both are in the same group or when mothers' potential gains are large and fathers' are small. Except for the lockdown period in the spring of 2020, changes are limited in these groups, though wide standard errors reflect the

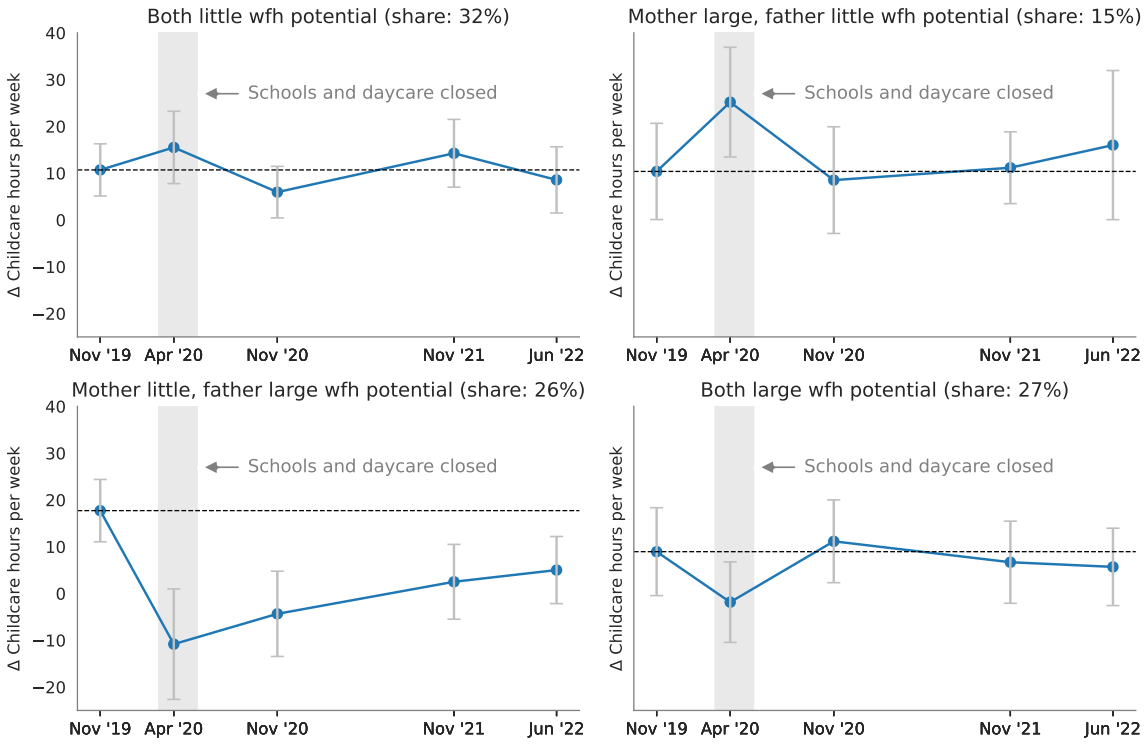


Figure 3: Mother-father differences in childcare hours by both partners' remote work ability

Notes: Coefficients of OLS regressions of mother-father differences in childcare hours on intra-household remote work ability group. We classify couples based on a median split of potential remote working hours of both partners. Error bars indicate 95% confidence intervals where standard errors are clustered on the household level. Sample: couples in our main sample for which we observe remote work ability and childcare hours for both parents. Regressions control for the number of children and the age of the youngest child. The full regression results are in Online Appendix Table B.3.

sample size. Consequently, it is the group where fathers' potential flexibility gains are large while mothers' are small that drives the narrowing of the gender childcare gap. Before the pandemic, this gap is at almost 18 hours, which lines up well with the traditional specialization patterns often being the norm for men working in fairly high-powered, white-collar professions (Goldin, 2023). Early changes in this group are very large, even suggesting a reversal of the gap during the lockdown period. In 2021 and 2022, the point estimates are smallest in this group, though we cannot distinguish groups statistically.

This shows that remote work potential of both parents matters for the intra-household allocation of childcare time. Additional analyses in Online Appendix B.1 reveal that the decrease of the childcare gap in this group is both driven by an increase in paternal childcare time and a reduction in maternal childcare time. Furthermore, results are again robust to the set of alternative specifications mentioned above. We take this as further evidence in support of our hypothesized mechanism.

The within-couple analyses also speak to a possible interpretation of our results as a continuation of pre-existing trends. That is, parents with high remote work ability may have moved more quickly towards a more equal division of labor already before the pandemic. For example, Harrington and Kahn (2025) document a steady rise in the employment of mothers for degrees with a high remote work potential during the 2010s. By this token, the strongest trends towards a more equal division of childcare work should have been in the right column of Figure 3. The observation that, before the pandemic, the largest differences were found among families where fathers had significant potential to work from home while mothers did not (conditional on both parents working in 2019), makes it unlikely that pre-existing trends—at least of a magnitude comparable to the effects we observe—could explain our findings.

In summary, we have shown that after the pandemic, remote work potential is associated with an increased childcare provision on the individual level. Because working from home potential is larger for fathers, the effect is stronger among them. Indeed, within couples we only see reductions in the gender childcare gap if fathers' remote work potential is large. The most likely mechanism is that working from home reduces frictions—shorter commutes or easier task-switching—freeing up mothers' time. Most utility functions would predict that some of it will be spent on market work, which we will examine in the next section.

3 Market Work

Using administrative records and a difference-in-differences design, we examine how the pandemic-induced change in remote work realization affects the labor supply of mothers, depending on fathers' remote work potential. Our main specification is the following:

$$
\begin{aligned}
(2) \qquad \text{mother's hours worked}_{i,t} = \; & \gamma_{\text{pre}} \cdot \text{father's wfh potential}_{i,t-4} \\
& + \sum_{\tau \neq 2019} \gamma_\tau \cdot D_i^{t=\tau} \cdot \text{father's wfh potential}_{i,\tau-4} \\
& + \alpha_{sec,edu,t} \cdot D_i^{\text{sec}_{t-4} \times \text{edu} \times t} + \mathbf{X}_{i,t} \cdot \boldsymbol{\delta} + \varepsilon_{i,t}
\end{aligned}
$$

where all measures of working hours refer to the month of November. We include both the extensive and intensive margin, i.e., market hours are set to zero for non-working mothers. Fathers' remote work potential is imputed from 2020 NEA data as described in Section 1.3. We then assign it to observations based on education $\times$ sector realizations in $t-4$. This specification is closely aligned with our childcare analysis, but allows for changes in remote work potential over time by employing a time-varying measure. It is still unaffected by pandemic-induced job changes because our latest observation is from 2023.

Our coefficients of interest in Equation (2) are γ_τ. These measure the change in working hours due to the remote work potential of the partner after the pandemic-related lockdowns under a strong parallel trends assumption. The treatment effect for a given level of fathers' remote work potential would be, on average, the same for all mothers if they had a partner with that level of remote work potential, conditional on controls. Control variables consist of fully interacted sector $\times$ education $\times$ year fixed effects, own and partner's age, dummies for the number of children, and dummies for the age of the youngest child (single ages up to age 5, categories for age groups 6-11 and 12-15). Controlling for own sector ensures that the identifying variation in labor supply is not driven by differential sectoral exposure to the pandemic shock, which might otherwise be problematic if there is sectoral sorting within couples.

We visualize the estimated γ_τ coefficients in Figure 4, setting the scale to minutes for easier interpretation. Until 2019, the relationship is flat. The overall relation as measured by γ_{pre} is

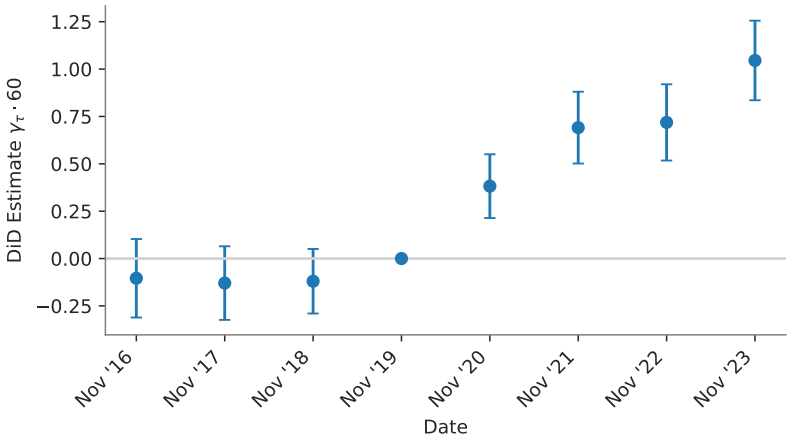


Figure 4: Change in mothers' minutes worked per hour of fathers' remote work potential

Notes: This figure shows the evolution of the effect of partners' potential remote working hours (measured in $t-4$) on weekly minutes worked by mothers relative to 2019, i.e., the γ_τ coefficients as specified in Equation (2). Error bars show 95% confidence intervals with standard errors clustered on the household level. Controls are age of both partners, number of children, age of the youngest child, and maternal sector × education × year fixed effects where the sector is again measured in $t-4$. Full results are in Online Appendix Table B.5.

negative. Moving from the first to the third quartile in the distribution of fathers' remote work potential (about 15 hours) is associated with a reduction in mothers' market work by more than 8 minutes. The coefficients for 2020-2023 visualized in Figure 4 imply that this relation gradually reverses until in 2023, the same move is associated with almost 7 minutes more market work of mothers, or a difference of 15 minutes relative to baseline. Put differently, the treatment effect of an hour of fathers' remote work potential in 2023 on mothers' market work is one minute relative to the 2019 baseline. While this may seem small, the estimated effect is an average across all mothers, including the large majority who have not (yet) adjusted their working hours. Changing contracted hours typically requires renegotiating with an employer or switching jobs—a process that takes time (e.g., Blundell, Brewer, and Francesconi, 2008). A simple decomposition illustrates the that the implied magnitudes seem plausible: among mothers whose partners can work 30 hours per week from home—a typical full-time job performable remotely—the effect is consistent with roughly one in ten having increased her weekly hours by about 5 hours.

Again, these results are robust to a large number of specification choices, which we discuss in Online Appendix B.2. To make sure that our results are unaffected by the parental leave

reforms described at the end of Section 1.2, we restrict the sample to families with children who are at least four years old. To check whether gendered patterns of remote work potential by education and sector drive some of our results, we impute the treatment variable separately by gender, i.e., on the education × sector × gender-level. To make sure that our results are not simply a pre-existing trend, we estimate the effects of interest as differences relative to a linear trend in fathers' remote work potential extrapolated from the 2016–2019 period. We control for the concurrent own sector instead of the lagged version. In all these cases, the point estimates are virtually identical to our main specification. When using the remote work share without multiplying with working hours, all qualitative conclusions stay the same.

Finally, we run a placebo regression on childless couples, where we find, if anything, the opposite pattern. That is, female working hours are positively related to male remote work potential at baseline and the relation does not persistently strengthen after 2019, but is actually weaker by the end of the sample period. This helps support our proposed mechanism with the effects of remote work potential working through increased flexibility for parents rather than other factors happening at the same time.

4 Discussion and Conclusion

Reducing the gender wage gap in modern economies is widely believed to require a decline in the returns to within-household specialization (Goldin, 2023). Working from home offers a potential avenue for lowering frictions that lead to specialization patterns, but empirical identification is challenging. Job characteristics are often endogenous to fertility choices (Adda, Dustmann, and Stevens, 2017), and both the uptake of working from home and employer policies may reflect underlying career concerns or productivity expectations.

Our study leverages the unique experience of Dutch families from 2016 to 2023 to address these challenges. The Covid-19 pandemic triggered a sharp, exogenous increase in the realization of remote work potential, while—after an initial period of school and daycare closures—the total amount of childcare provided by parents returned to pre-pandemic levels. This setting, combined with our intention-to-treat design based on pre-pandemic remote work potential, allows us to sidestep confounds from endogenous career sorting and elevated childcare demand.

From 2020, each additional hour of remote work potential raised childcare provision, more so for fathers given their greater potential. Childcare consequently became more balanced within households, enabling mothers to increase market hours and narrowing gender gaps in both paid and unpaid work at the aggregate level.

Looking ahead, remote work is likely to remain a salient feature of developed labor markets. While overall rates of working from home have declined somewhat since their pandemic peak, hybrid work arrangements offering flexibility remain elevated among parents (Aksoy et al., 2025a,b). Our results suggest that the normalization of remote work can serve as a lever for gender equity by encouraging greater paternal involvement in childcare. Beyond this indirect channel, mothers' own remote work may also matter directly: Online Appendix Table B.6 shows that the previously negative relationship between maternal remote work potential and labor supply turns positive after the pandemic, a pattern absent among childless women. We leave a detailed investigation to future work, as our design cannot cleanly separate sector-specific shifts in remote work from direct pandemic effects on sectoral labor supply in the administrative data.

Several important questions remain. First, our analysis is limited by the granularity of available time-use data: weekly records do not capture the precise structure of remote work and childcare activities. The distinction between, for example, a fixed day of remote work versus fragmented hours spread across evenings has very different implications for whether working from home is helpful for combining career and family. More detailed time-use data would be valuable for unpacking these mechanisms. Second, spillover effects merit examination. The proliferation of flexible jobs may compel employers in sectors with constrained remote work capabilities to implement compensatory benefits—particularly childcare support—to attract and retain talent.

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