

Parental Division of Labor and Jobs' Temporal Flexibility: The Shift Towards Remote Work Induced by the CoVid-19 Pandemic

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Preliminary – please do not quote

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In this study, we analyze how young parents react to the change in working conditions during the COVID-19 pandemic using representative panel data from the Netherland (2019-2021). We find that when school and childcare facilities close early in the pandemic, the overall level of childcare burden on parents drastically increases but the difference between mothers and fathers does not change significantly. However, once schools reopen and the overall burden decreases, the gender childcare gap substantially decreases. We find that this change can be fully reconciled by fathers gaining asymmetrically more temporal flexibility through the shift to remote work accelerated by the pandemic. Our results provide evidence that part of the residual differences in market and non-market division of labor within families is driven by an asymmetric distribution of temporal flexibility which can be the result of joint household optimization when temporal flexibility in jobs is necessary for childcare provision but punished in terms of enumeration. In particular, we suggest that redistributing temporal flexibility towards fathers leads to more equal division of non-market work within households.

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Extended Abstract

Despite advances towards gender equality, in almost all countries mothers are still taking over the lion's share of childcare hours which is accompanied by a large expansion of the gender working hours gap and the gender pay gap after children are born. A recent literature (Goldin, 2014; Magda and Lipowska, 2021) argues that the childcare gap is driven by fathers working in less flexible jobs. Children require some temporal flexibility as non-parental childcare provision is usually limited to specific hours in most countries, and childcare emergencies happen. Children get sick, schools and childcare facilities close (e.g., Houghton, 2020, study weather-related closures). That is, even in the absence of norms and gender specific preferences, joint optimization within the household can yield an unequal distribution of market and non-market work within an household. Put differently, insurance against such shocks is provided through flexible work arrangements by at least one parent.

The flexibility hypothesis is naturally hard to test as gender specific preferences for jobs, preferences for childcare, and the norms and constraints young parents face, have to be disentangled. In this study, we utilize the shift towards remote work induced by the COVID-19 pandemic to examine whether a change in temporal flexibility of jobs shifts the allocation of market and non-market labor of fathers and mothers. For that purpose, we make use of detailed time use data collected in November 2019, April 2020, November 2020, and November 2021 in a probability sample of the Dutch population (LISS panel). We complement the time use data with information on job characteristics, job market outcomes, and social norms regarding female labor supply and childcare both before and during the pandemic. Among others, we elicit the self-reported fraction of usual work that can be done from home.

In line with the literature, we find that before the onset of the pandemic, mothers are less likely to be employed. Conditionally on being employed, they work fewer hours and spent less time commuting than fathers. In turn, mothers take over the lion's share of childcare and household chores.

We then move on to analyze the changes induced by the pandemic. We first show that the COVID-19 pandemic led to a sharp increase in working from home for a large share of individuals. We further show that this shift towards remote work increases the temporal flexibility of parents by reducing commuting hours and by being able to combine work and childcare to

some degree. We, then, move on to analyze the gender differences in these additional flexibility gains through remote work. We find that these are asymmetrically distributed. Mothers work in jobs in which a lower share of tasks can be performed remotely. Together with the fact that they work less hours and commute less, their potential gains in temporal flexibility through a shift towards remote work are significantly lower than for fathers. Thus the shift towards remote work during the pandemic increased flexibility and availability more for fathers than for mothers.

We then turn to the evolution of childcare hours during the pandemic. We find that indeed the gender gap in childcare hours decreases substantially during the pandemic when childcare and schools are open and that this decrease can be fully explained by the differential gains in temporal flexibility through remote work. There is no change in April 2020, when schools and childcare facilities are closed. There is mixed evidence on whether this is accompanied by a shift in the distribution of market production within a household suggesting no statistically significant short term increase in working hours of women in response to a decrease in childcare hours. We additionally do not find any evidence that social norms during or through the pandemic. However, parents are on average very egalitarian already before the pandemic leaving little room for further shifts towards egalitarianism.

COVID-19 Pandemic in the Netherlands

Similar to other countries, the COVID-19 pandemic which started in the spring of 2020 prompted the Dutch government to impose restrictions on economic and social life to stop the spread of SARS-CoV-2 through out the years 2020 and 2021. Given that the precise rules changed on a monthly basis, we will only highlight the policy environment in the relevant months: April 2020, November 2020, November 2021. While most of the policy measures resembled those of other European countries, they did not involve a general curfew and some measures were more lenient in these months. For instance, businesses such as stores for clothes, utilities, or cafes remained open as long as they could guarantee to maintain the social distancing rules most of the time. Public locations were accessible and traveling or the use of public transportation was possible. Schools and childcare facilities were only closed between mid-March 2020 and mid-June 2020 as well as between the 19th of December 2021 and 3rd

of January. Emergency childcare was available in the time of closure for parents in essential occupations. That is, during our data collection in November 2020 and November 2021, schools and childcare facilities were open, while in April 2020 they were closed. For further information on the COVID-19 pandemic see Zimpelmann et al. (2021).

To counteract the effects of these measures on the labor market, the government provided a comprehensive set of economic support measures. The largest and most influential policy was the short-term allowance (Noodmaatregel Overbrugging voor Werkgelegenheid, NOW), which subsidized labor hoarding with a 100% wage replacement rate. In turn, only very few people became unemployed or dropped out of the labor force. However, there was a substantial drop in working hours early in the pandemic, which gradually but not fully recovered towards the end of 2020 (Zimpelmann et al., 2021). The drop was largest for individuals that could not work remotely and very slightly larger for women, such that this dynamic, if anything, works against our overall results.

Preliminary Results

In our analysis, we explore the role of the flexibility of working arrangements for the gender childcare gap. To do so, we define "flexibility hours" as all hours spent at home, including hours in remote work, and use it as a measure for the flexibility of working arrangements. The more flexibility hours an individual has, the more he/she is available for taking care of the children. Pre-pandemic, mothers have more flexibility hours since they are less likely to be employed and conditional on being employed they work less hours and spent less time commuting than fathers. In turn, they on average take over more childcare hours than the fathers.

Taking the pandemic as a shock to flexibility hours, we then calculate the theoretical gains of flexibility hours from remote work. We calculate the expected increase in hours of work that can be done remotely by multiplying the pre-pandemic working hours with the self-reported share of tasks that can be done remotely. We find that this theoretical increase in hours of work from home is highly predictive for actual hours of work from home during the pandemic. Since mothers both work in jobs in which a lower share of tasks can be done remotely and generally work and commute less hours, there is a substantial gender difference in the gains

Table 1: Hours of Childcare

	(1)	(2)	(3)	(4)
	OLS	FE	OLS	FE
Apr2020	11.16*** (1.39)	11.75*** (1.43)	0.91 (1.80)	1.19 (1.70)
Nov2020	3.23*** (1.22)	2.05 (1.34)	-5.99*** (1.60)	-7.91*** (1.57)
Nov2021	1.83* (1.07)	0.00 (1.12)	-5.68*** (1.49)	-6.64*** (1.35)
Female	9.89*** (1.26)		7.92*** (1.33)	
Apr2020 \times Female	-0.66 (1.87)	-0.79 (1.87)	4.39** (1.83)	4.76*** (1.75)
Nov2020 \times Female	-5.47*** (1.78)	-6.10*** (1.82)	-1.94 (1.82)	-0.69 (1.81)
Nov2021 \times Female	-2.72* (1.60)	-4.57*** (1.58)	0.54 (1.68)	-0.89 (1.56)
Gains Flexibility Hours			-0.15*** (0.04)	
Apr2020 \times Gains Flexibility Hours			0.55*** (0.07)	0.54*** (0.06)
Nov2020 \times Gains Flexibility Hours			0.50*** (0.06)	0.52*** (0.06)
Nov2021 \times Gains Flexibility Hours			0.36*** (0.06)	0.32*** (0.06)
Constant	15.90*** (0.84)	22.30*** (0.60)	19.01*** (1.38)	21.89*** (0.56)
Observations	2508	2508	2256	2256
R^2	0.084	0.163	0.135	0.228

of flexibility hours during the pandemic. While fathers gain on average around 19 flexibility hours, mothers only gain around 12 flexibility hours.

We restrict the sample to parents who are aged between 18 and 55 and for whom we observe a child below the age of 14 in the household. This leaves us with an unbalanced panel of 1,159 individuals and 2,508 observations. We summarize our first preliminary results in Table 1. Since we have panel data, we report both the results from simple OLS regressions as well as results using fixed effects regressions.

In the first two columns, we document that the gender gap in childcare hours during the beginning of the pandemic in April 2020, when schools and childcare facilities are closed, is

similar to its pre-pandemic level. This finding is in line with other studies in similar countries (e.g. Hank and Steinbach (2020)). For the subsequent period of the pandemic, when schools and childcare facilities are open, we, however, find that the gender gap in childcare hours declines, as reflected by the negative and significant interaction terms for the subsequent months.

In columns 3 and 4 we then show that this decline in the gender childcare gap disappears when additionally controlling for the theoretic gains in flexibility hours. Interestingly, the gains in flexibility hours is before the pandemic predictive of less childcare hours, but associated with more childcare during the pandemic. We take this as evidence that asymmetric shocks to flexibility hours can explain the decline in the gender childcare gap during the course of the pandemic and that the lack of flexibility among men might be an important driver of the gender childcare gap.