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THE IMPACT OF COVID-19 ON WORKERS' EXPECTATIONS  
AND PREFERENCES FOR REMOTE WORK

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### **ABSTRACT**

We study how COVID-19 affected the prevalence, expectations, and attitudes toward remote work using specially designed surveys. The incidence of remote work remains higher than pre-pandemic levels and both men and women expect this to persist post-pandemic. Workers also report increased preference for remote work as a result of the pandemic. These changes are strongly correlated with individuals' exposure to the pandemic induced work-from-home shock, indicating that experience with remote work during the pandemic likely shaped expectations and preferences toward WFH. The magnitude of the effects on preferences and expectations are similar across gender, marital status, and presence of children.

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# The Impact of COVID-19 on Workers' Expectations and Preferences for Remote Work

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Throughout the world, the COVID-19 pandemic led to a radical shift in the way work was organized. For example, data from the Survey of Consumer Expectations (SCE) indicate that the share of paid work hours performed by Americans at home increased from 14% in February 2020 (pre-pandemic) to about 50% between May and October 2020. Using specially-designed surveys of respondents drawn from the SCE and conducted at various stages of the pandemic, this paper examines how the large-scale work from home (WFH) shock affected the prevalence of flexible work arrangements post-pandemic, as well as workers' preferences for and expectations about the persistence of such work arrangements.

Consistent with previous work (e.g., Barrero et al. 2021; Bick et al., 2022), we find that the incidence of remote work remains substantially

higher than pre-pandemic levels even as the pandemic restrictions have eased with Americans reporting spending 38% of paid work hours at home in October 2021. Workers also expect such WFH arrangements to persist post-pandemic. Importantly, the pandemic appears to have shifted worker preferences for remote work, in terms of desired share of hours worked from home post-pandemic and the importance of having the option of WFH in one's job. The reported changes in stated preferences and expectations are larger among those who experienced greater shifts toward remote work during the pandemic, supporting the idea that these changes were induced by increased exposure to WFH due to the pandemic.

Looking across demographic groups, the pandemic-induced impacts on workers' expectations and preferences for remote work are similarly large for men and women, among those married vs. unmarried, and those with and without children under 18. This general increase in the expected availability and take-up of remote work arrangements likely implies a broader decline in the earnings penalties associated with flexible jobs, which would

bode well for reducing gender pay disparities in the labor market.

## I. Data Description

Our data are drawn from three online surveys administered to respondents from the Survey of Consumer Expectations (SCE) run by the Federal Reserve Bank of New York. The SCE is a nationally representative, internet-based survey of a rotating panel of about 1,300 household heads from across the U.S. The surveys were administered at different points during the pandemic. The first survey is a module that was added to the May 2020 wave of the SCE and asks questions about workers' access to and retrospective preference for remote work in February 2020 (pre-pandemic) and at the time of the survey (May 2020). The survey also elicits expectations about the extent of remote work in their jobs and preferences for remote work in the future (about one year later), assuming that the pandemic is over, and life resumes as before. The next set of surveys are based on a longitudinal panel of about 2,000 individuals created from a sample of respondents who

recently rotated out of the SCE.<sup>1</sup> We focus on individuals who responded to the first two survey waves which were administered in October 2020 and October 2021. Appendix Table 1 presents summary statistics of the key variables for each survey.<sup>2</sup>

## II. Results

### A. Shift in the Prevalence of Remote Work

We begin by documenting how the prevalence of remote work has evolved over the course of the COVID-19 pandemic. The surveys elicit the share of paid work that respondents did from home in a typical week at the time of the survey and in February 2020.<sup>3</sup> The share of work hours performed at home increased from 14% in February 2020 to 58% in May 2020, declining to about 49% in October 2020.<sup>4</sup> Even though most of the pandemic restrictions had eased by October 2021, the reported share of work hours from home remained 2.5 times higher than pre-pandemic levels at 38%.

Given the sharp onset of the COVID-19 pandemic and the ensuing shift toward remote work due to social distancing measures, we can

<sup>1</sup> This longitudinal survey was commissioned by the research team and conducted by NielsenIQ, which also runs the monthly SCE for the NY Fed. A third wave of the survey is planned for 2023.

<sup>2</sup> As is typical of online surveys, our sample is more well-educated relative to the general U.S. population. Apart from education, within the same age range, the other demographic characteristics of our sample are comparable to those of the Current Population Survey (CPS) sample.

<sup>3</sup> For the May 2020 wave, respondents were asked to directly report the percent of paid work they did at home in a typical week in the last four weeks and in a typical week in Feb 2020. For the Oct 2020 and October 2021 waves, the question was similarly phrased for the proportion of paid work done at home in Feb 2020; however, the current WFH share is calculated based on the number of hours respondents reported spending on paid work away from home or at home.

<sup>4</sup> The mean February 2020 share of WFH is 14% from the May 2020 SCE and about 20% in the October 2020 survey.

think of the change in the share of work performed from home as a measure of an individual's pandemic-induced exposure to remote work. For the May 2020 (October 2020 and October 2021) survey, this is defined as the change in WFH hours between Feb 2020 and May 2020 (October 2020 and October 2021, respectively). Exposure to the pandemic-induced WFH shock is likely to depend crucially on whether one's job can feasibly be done at home. Indeed, we find a strong positive relationship ( $r = 0.53$ ,  $p < 0.01$ ) between the individual-level change in WFH hours between February and May 2020 and Dingel and Neiman's (2020) index of the feasibility of remote work at the occupation level. Similar relationships are also reported in Bick et al. (2022).

### *B. Worker Preferences for Remote Work*

How did the pandemic affect worker preferences for remote work? We address this question using two complementary sets of questions – in the May 2020 survey, we asked respondents what proportion of their work they would have chosen to do at home, assuming that they could choose, currently as well as in February 2020. In addition, we asked them about their desired proportion of work to be done at home later in the year, if the COVID-19 outbreak is over and if the COVID-19 outbreak had not happened. The latter provides

the no-COVID counterfactual that takes into account the time horizon over which future preferences (e.g., post-COVID) are elicited. In the October 2020 and 2021 surveys, we directly asked respondents whether, as a result of the COVID-19 pandemic, the importance that they attached to having the option of working from home/remotely as a job amenity increased, stayed the same, or decreased.

We summarize the change in worker preferences for remote work over the course of the pandemic in Panels A and B of Figure 1. Pre-pandemic (in February 2020), the desired share of work to be done from home was 38% for women and 32% for men ( $p$ -value of difference = 0.06), with desired shares of WFH about twice that of the actual prevalence. During the pandemic in May 2020, the mean desired WFH increased by about 13 percentage points (pp) for both genders, coming close to the actual prevalence of WFH. When asked about their desired WFH later in the year, assuming that the pandemic is over, both genders report a significant increase relative to February 2020 ( $\Delta = 4$ pp,  $p < 0.01$ ) as well as the no-COVID counterfactual ( $\Delta$  for females (males) = 4 (6)pp,  $p < 0.01$ ). The October surveys provide further evidence of a persistent shift in worker preferences for remote work; the majority of respondents (61% in October 2020 and 55% in October 2021) report that

COVID-19 increased the importance that they attach to the possibility of working from home/remotely when choosing a job.

[Insert Figure 1 Here]

Panel A of Table 1 provides evidence supporting the idea that these changes in preferences are driven by exposure to the “WFH shock” brought about the pandemic. The first four columns show that the reported change in desired WFH share post-COVID (relative to no-COVID) in May 2020 and in the importance of having the option to work from home in October 2021 are strongly positively correlated with individual-level exposure to WFH during the pandemic. Similar correlations also hold with the Dingel-Neiman (DN) tele-workability index at the occupation-level (see Appendix Table 2). Columns (2) and (4) show that these individual-level relationships between changes in preferences and the pandemic-induced WFH shock are robust to controlling for demographic characteristics (gender, education, race, marital status, age, and presence of a child age below 18) and occupation fixed effects.

[Insert Table 1 Here]

### *C. Do Workers Expect Remote Work to Stay?*

We elicit expectations in two ways – first, we ask respondents to think about the job that they expect to be working at a year from now and state the proportion of weekly job hours

that they think they would be able to work from home/remotely at the job. This question is informative about expectations about remote work in a year’s time, but the responses likely depend on individuals’ expectations about the future COVID-19 situation. Therefore, we also elicit expectations under the assumption that the pandemic is over a year from now and society resumes as before. For this question, we calculate the expected WFH share based on the number of hours respondents reported spending on various activities (which includes paid work away from home or at home).

As depicted in Panels C and D of Figure 1, on average, both men and women expect to work a greater share of work hours remotely a year later relative to the reported share of WFH hours in February 2020 (elicited retrospectively in Oct 2020). Not surprisingly, expected WFH share one year later assuming that the pandemic is over is lower than the unconditional expectations, but the difference is quite small (around 6pp in October 2021). Moreover, for both expectation measures, the difference in expectations between October 2020 and October 2021 is quite small, indicating that workers expect a hybrid remote work environment to stick. This is consistent with the findings from Barrero et al. (2021). Similar to the shift in preferences, the last four columns of Table 1 (and Appendix Table 2)

show that both expectations measures from October 2021 are significantly related to individual-level exposure to the WFH shock during the pandemic (and the DN index).

A key driver of the large shift in expectations about remote work is likely to be a decrease in the actual or perceived costs of providing the amenity post-pandemic by firms. To explore this channel, we asked employed respondents in October 2021 about whether their company introduced policies regarding work from home as a result of the pandemic. Indeed, almost 60% responded affirmatively, and of this, close to two-thirds expect the changes to continue post-pandemic (the remaining one-third were unsure about whether the changes would continue).

#### *D. Heterogeneity*

To assess what these changes might imply for the gender pay gap, we investigate heterogeneity in the impact of the pandemic on worker preferences and expectations for remote work by gender, marital status, and the presence of a child under 18. The results are presented in Table 2. Perhaps surprisingly, the changes in preferences and future expectations of WFH are remarkably similar across these demographic characteristics. These findings

are robust to controlling for demographic controls and occupation FE.<sup>5</sup>

[Insert Table 2 Here]

The existing literature generally finds that pre-pandemic, women – especially those with young children – generally value flexible work arrangements more than men (e.g., Mas and Pallais, 2017; Wiswall and Zafar, 2018). Nevertheless, post-pandemic, it appears that preferences for a hybrid/split work arrangement involving some degree of WFH is prevalent across all demographic groups (Barrero et al., 2021; Aksoy et al., 2022). Our findings complement these studies by showing the pandemic-induced experimentation with WFH had broad impacts across groups, shifting preferences and expectations regarding remote work regardless of existing housework/childcare demands (as proxied for by gender and family status). A possible reason for this could be the aggregate nature of the WFH shock that allowed many groups of workers to experience working from home, coupled with experimentation and tangible investments by firms in technologies that facilitated remote work more broadly. Importantly, the general preference shift toward greater remote work portends well for

<sup>5</sup> In results available upon request, we show that the results are robust to controlling for an individual-level measure of the possibility of WFH at one's job pre-COVID as well as the change in total work hours at the time of the survey and February 2020 (pre-pandemic).

Furthermore, the relationship between the changes in preferences /expectations and the individual-level WFH shock does not vary systematically across gender, marital status, and the presence of a child under 18.

continued firm-level provisions that seek to cater to broad groups of workers, rather than arrangements to cater to select groups of workers (e.g., women or those with greater household demands on their time).

### III. Conclusion

We find that pandemic-induced experimentation with remote work led to an increase in the prevalence, preferences for, and expectations about the persistence of such work arrangements. The shift in preferences for WFH are systematically correlated with the WFH shocks that the workers received during the pandemic – this suggests that perhaps workers’ experiences with working from home during the pandemic has led them to shift their preferences in favor of WFH. From our survey, we observe that, on average, the shift toward greater remote work has been accompanied by a substantial narrowing in the gap between desired and actual/expected share of paid work from home, implying that the shift toward greater remote work will likely increase worker well-being. Moreover, the increase in expected take-up across gender and family status suggests that these shifts have the potential to facilitate a “grand gender convergence” (Goldin, 2014).

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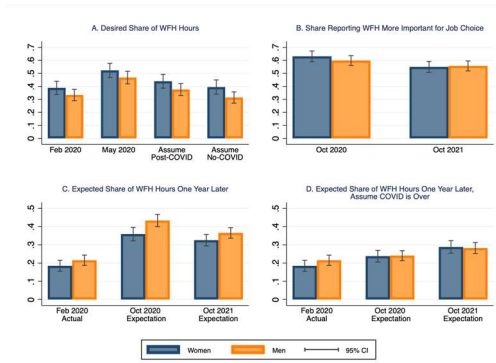


FIGURE 1. PREFERENCES FOR AND EXPECTATIONS OF REMOTE WORK BEFORE, DURING, AND POST-COVID

Note: The data for desired WFH share in Panel A is from the May 2020 SCE. The data for Panel B, C, and D, are from the October 2020 and October 2021 surveys.

TABLE 1—RELATIONSHIP BETWEEN PREFERENCES/EXPECTATIONS FOR REMOTE WORK AND THE PANDEMIC-INDUCED WFH SHOCK

Dep. Var:	A. Changes in Preferences				B. Expectations of WFH Share One Year Later, Elicited in Oct 2021			
	$\Delta$ in Desired WFH share (Post-COVID - no COVID)		Indicator for Increased Impt of WFH		Unconditional		Assuming COVID is Over	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WFH Shock	0.077*** (0.019)	0.077*** (0.022)	0.417*** (0.029)	0.351*** (0.032)	0.240*** (0.025)	0.185*** (0.026)	0.155*** (0.028)	0.103*** (0.029)
Dep. Var Mean	0.050	0.050	0.566	0.566	0.359	0.359	0.298	0.298
Observations	562	562	1015	1015	1017	1017	875	875
Demog. Controls		X		X		X		X
Occupation FE		X		X		X		X

Notes: The data for the change in desired WFH share in Panel A is from the May 2020 SCE survey. The data for the indicator that WFH is more important as well as expectations of WFH share is from the October 2021 survey. The “WFH shock” measures the pandemic-induced exposure to remote work at the individual-level and is constructed based on the difference in reported share of work performed at home between May (or October) 2020 and Feb 2020 (pre-pandemic) in the May 2020 (or October) survey. Demographic controls include a female dummy, an indicator for being white, a dummy for the presence of children under 18, an indicator for being married, a dummy for college completion, and age group dummies (four groups). Occupation fixed effects consists of 22 occupation groups. Robust standard errors in parentheses. \*\*\*significant at the 1% level, \*\*5% level, \*10% level.

TABLE 2—CHANGES IN WFH PREFERENCES AND EXPECTATIONS ACROSS DEMOGRAPHIC GROUPS

Dep. Var:	Panel A. Changes in Preferences		Panel B. Expectations of WFH Share One Year Later	
	$\Delta$ in Desired WFH share (Post-COVID - no-COVID)	Indicator for Increased Importance of WFH	Unconditional	Assuming COVID is Over
	(1)	(2)	(3)	(4)
Female	-0.005 (0.031)	0.045 (0.057)	-0.006 (0.042)	-0.028 (0.047)
Married	0.054* (0.030)	0.046 (0.051)	0.037 (0.038)	-0.016 (0.045)
Child Under 18	-0.010 (0.033)	-0.008 (0.043)	-0.019 (0.031)	-0.021 (0.035)
Female $\times$ Married	-0.039 (0.043)	-0.066 (0.069)	0.010 (0.051)	0.072 (0.058)
Female $\times$ Child Under 18	0.023 (0.040)	0.057 (0.061)	0.008 (0.044)	0.018 (0.049)
Demog. Controls	X	X	X	X
Occupation FE	X	X	X	X
Dep. Var Mean	0.132	0.554	0.349	0.283
Observations	563	1161	1162	996

Notes: The data for the change in desired WFH share in Panel A is from the May 2020 SCE survey. The data for the expectations of WFH share in Panel B is from the October 2021 survey. Demographic controls are an indicator for being white, for college completion, and age group dummies. Occupation fixed effects consists of 22 groups. Robust standard errors in parentheses. \*\*\*significant at the 1% level, \*\*5% level, \*10% level.