Methodological Note: How We Track the Amount of Work from home in the US Economy*

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Since 2021 we have posted and regularly updated a version of Figure 1 (see below) on www.wfhresearch.com, showing the average share of full paid days in the US economy that are work-from-home days. Since early 2022 we have also posted an Excel file each month with the data series underlying the most recent version of that figure, along with other series that may interest researchers and the broader public.

This methodological note summarizes how we use data from the Survey of Working Arrangements and Attitudes (SWAA) to produce that data series plotted in Figure 1 and posted on our website. For further details on the underlying survey data see Barrero et al. (2023; 2025) and Buckman et al. (2025). The latter also compares our series with other data sources.

Measuring Work From Home Since November 2021

The key survey question we use to track work-from-home rates in the US is shown in Figure 2 below. We first fielded this question in the November 2021 wave and have included in every subsequent SWAA wave. It asks respondents whether they worked each day of the previous week and, if so, where. This question has three key advantages: (1) It asks respondents to make an active choice for whether and where they worked each day of the reference week. (2) It allows respondents to report any number of workdays the prior week (including 6 or 7), instead of presuming a 5-day workweek. (3) Because it requires a choice for each day of the week, it does not bias respondents towards reporting 0 or 5+ total workdays or work-from-home days.

* This note updates and clarifies a previous version that can be found here.

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We use responses to the question shown in Figure 2 to estimate the percent of full paid days that employed respondents worked from home during the week prior to the survey.

- First, we count the total number of days the respondent either worked from home or on business premises (i.e., we add the number of rows for which the respondent picked the second or third columns in Figure 2).
- We count the total number of days they worked from home (i.e., we add the number of rows for which they chose the second column).
- For each respondent, the percent of full paid days they worked from home equals $100 \times (total\ WFH\ days)/(total\ days\ worked)$.

We then compute an average across employed respondents in each monthly wave, obtaining the time series value for that month. We denote the resulting series by $WFH_{new\ question,t}$.

Measuring Work From Home Before November 2021

The strategy above, however, does not work for months prior to November 2021 when we did not ask the question shown in Figure 2. In those months, rely on other questions about working arrangements.

Between May and October 2020 we asked respondents to report their working status and working arrangements categorically:

> ***Currently (this week)*** *what is your working status?*
>
> - *Working on my business premises*
> - *Working from home*
> - *Still employed and paid, but not working*
> - *Unemployed*
> - *Not working and not looking for work*

We compute the work-from-home rate as the share of respondents who select "working from home" among those selecting either "working from home" or "working on my business premises." (We treat persons "Still employed and paid, but not working" as not working.) We also make minor adjustments for potential misclassification as noted in footnote 10 of Barrero, Bloom, and Davis (2021). In those early months of the pandemic, most people who worked from home did so

full time and hybrid arrangements were uncommon, so this coarse approach is simple and captures the key variation in the data.[1]

We compute the work-from-home rate between November 2020 and October 2021 (inclusive) using a regression approach. During those months, we asked three questions about working status and working arrangements. First, we ask

Currently (this week) *what is your work status?*

- *Working, whether on business premises or working from home*
- *Still employed and paid, but not working*
- *Unemployed, looking for work*
- *Unemployed, awaiting recall to my old job*
- *Not working, and not looking for work*

For those who work, we ask a second question: *How many full days are you working this week (whether at home or on business premises)?* Response options are 1, 2, …, 5+ days. The third question asks where work happens: *You have indicated that you are working this week. How many* ***full paid working days*** *are you* ***working from home*** *this week?* Response options are: ***None****, all my paid working days were on business premises* and separate options for 1, 2, 3, 4 and 5+ full paid days WFH. We use responses to the second and third questions to compute the percent of full paid workdays that the respondent works from home. Averaging those respondent-level estimates by wave, we obtain a series we denote as $WFH_{old\ question,t}$, covering November 2020 and later months. By 2021, we were concerned about positive bias in $WFH_{old\ question,t}$, perhaps because some respondents reported working 5+ total days during the reference week, and 5+ days working from home without reading the question. These concerns led us to develop the key question shown in Figure 2, which has our core measurement tool since late 2021. That said, we continue to ask the questions mentioned in this paragraph that yield $WFH_{old\ question,t}$ as of July 2025.

To correct for the potential bias in $WFH_{old\ question,t}$ and produce a consistent series going back to 2020, we use a regression model to impute values for $WFH_{new\ question,t}$ between November 2020 and October 2021, when we did not ask the question shown in Figure 2. Specifically, we estimate the following regression model at the individual level using the first six

[1] Based on data from November and December 2020, 85% of respondents worked either fully remote or fully in-person.

months where we have data for both the question shown in Figure 2 and the questions underlying $WFH_{old\ question,t}$ (November 2021 to April 2022):

$$WFH_{new\ question,it} = \alpha + \beta \cdot WFH_{old\ question,it} + \varepsilon.$$

The dependent variable is the percent of full paid days that are work-from-home days for respondent i in wave t according to the Figure 2 question. The independent variable is the corresponding estimate based on the legacy questions that generate $WFH_{old\ question,t}$. We use the estimated regression $\hat{\alpha}$ and $\hat{\beta}$ coefficients to impute $WFH_{new\ question,it}$ between November 2020 and October 2021:

$$\widehat{WFH}_{new\ question,it} = \hat{\alpha} + \hat{\beta} \cdot WFH_{old\ question,it}.$$

The regression has an in-sample R-squared of 0.53, confirming the predictive power of $WFH_{old\ question,it}$. We obtain the imputed time series value $\widehat{WFH}_{new\ question,t}$ by averaging across respondents in each wave. We also tested specifications where $WFH_{old\ question,it}$ enters quadratically and with separate coefficients by age-sex-education cells, obtaining similar results.

The Excel file on our website publishes the resulting core series shown in blue in Figure 1 on the first tab after the README. The June 2022 and later versions of the Excel file also include data for the legacy time series $WFH_{old\ question,t}$, but we no longer update it. The figure and published series impute a value for September 2023 using the average for October and November. After examining the September 2023 data, we found it to be unusually low quality and implying a work-from-home rate significantly higher than in adjacent months. We chose not to publish an estimate based on those low-quality data.

Figure 1 shows a value for 2019 using data from that year's American Time Use Survey, and a series based on a Census Household Pulse Survey question. See Barrero et al. (2023) and Buckman et al. (2025) for more details about those data. Buckman et al. (2025) also discuss how alternative data sources yield measures of work from home that differ conceptually from ours. Some focus on hours worked from home, for example, while others reflect fully remote work. We focus on the share of work-from-home days among all paid days because we think the shift in working arrangements since 2020 is mostly about the number of workdays that people don't commute to a worksite.

References

Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why Working From Home Will Stick." NBER Working Paper 28731.

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Figure 1: Time series of the extent of working from home before and during COVID – NEW methodology used from June 2022

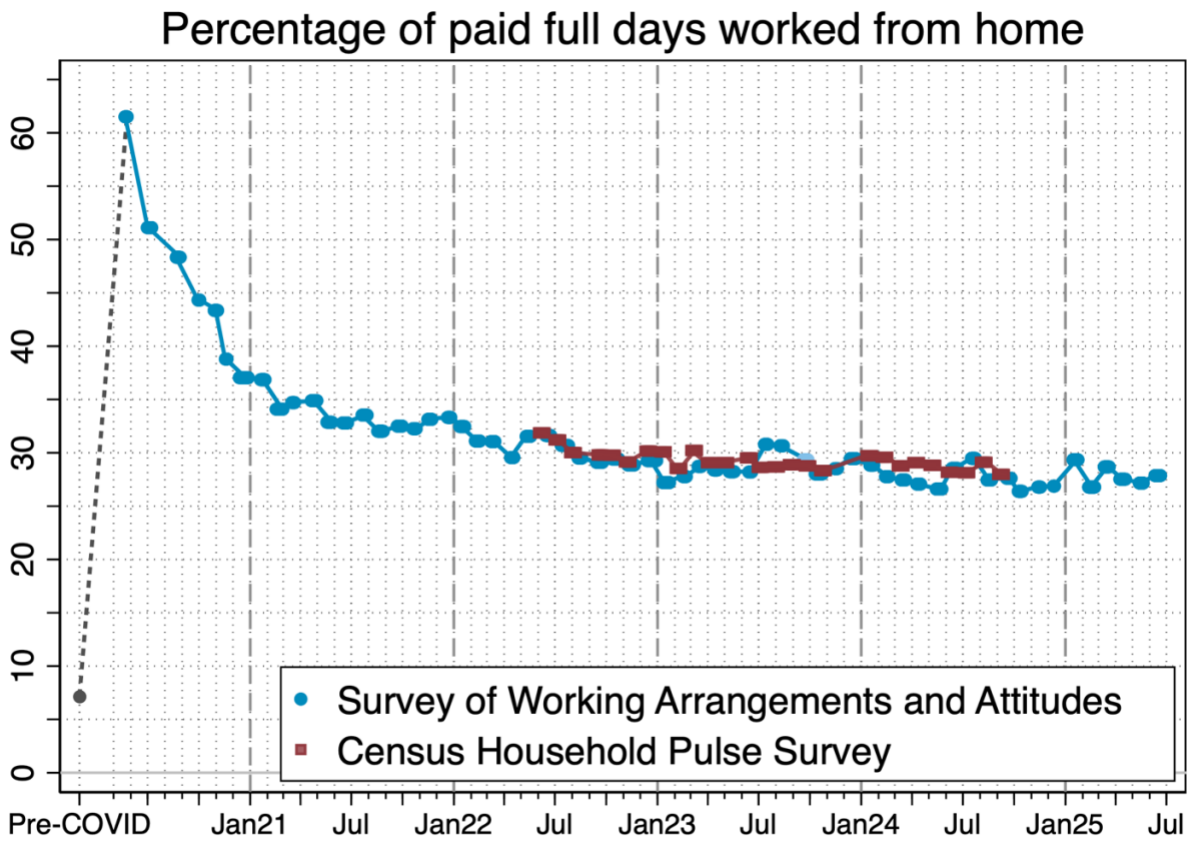

Figure 2: Key question from the Survey of Working Arrangements and Attitudes used to track work-from-home rates in the US

For each day ***last week***, did you ***work a full day (6 or more hours)***, and if so ***where?***

Day of the week	Did not work 6 or more hours	Worked ***from home***	Worked at ***employer or client site***
Monday	○	○	○
Tuesday	○	○	○
Wednesday	○	○	○
Thursday	○	○	○
Friday	○	○	○
Saturday	○	○	○
Sunday	○	○	○
	Did not work 6 or more hours	**Worked *from home***	**Worked at *employer or client site***