

HOW MANY AMERICANS WORK REMOTELY?

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IN THIS BRIEF

Despite widespread recognition that remote work surged during the coronavirus pandemic, there is still disagreement about the extent of this change.

To address this limitation, we field a new, nationally representative Remote Life Survey.

As of October 2020, nearly a third (32%) of the continuously employed workforce always worked from home, while nearly a quarter (23%) worked from home only sometimes or rarely.

However, other, alternative measurement approaches deliver different results. To understand these differences, we focus on five main factors and criteria such as industry sectors and frequency of remote work.

We discover that questionnaire design and intensity of remote work can have a substantial impact on the results, increasing the remote work share by double-digit percentages.

The COVID-19 pandemic and associated quarantine policies led to a surge in the share of remote workers (Brynjolfsson et al. 2020). Unfortunately, there remains wide disagreement and resulting uncertainty about aggregate remote-work numbers, including data from the U.S. Current Population Survey. We conducted our own survey and documented the wide dispersion in remote-work measures to explain how various survey decisions affect aggregate measurement discrepancies.

Understanding the incidence of remote work is important for four main reasons:

- A large literature exists that documents the link between work policy coordination and firm performance (Bresnahan et al. 2002).
- Depending on how and which employees value remote work, the nature of the workplace and the supply chains of products and services may fundamentally change (Barrero et al. 2020, Bai et al. 2021).
- The shift to remote work is having profound effects on migration within the U.S. as well as on the composition and structure of cities (Coven et al. 2021, Delventhal et al. 2020, Althoff et al. 2020, Ramani and Bloom 2021).
- Because remote work is a general-purpose technology, a variety of spillovers beyond those enumerated here, or otherwise anticipated, may occur throughout the economy.

However, before these resulting effects can be quantified, we need a proper measurement of remote workers and the work itself. In this paper, we approach this task in five parts:

1. We introduce a new survey instrument with two main features: It is nationally representative, and it covers respondents who prefer to reply via the mail.
2. We compare this new measure of remote work with five other measures, including one that underestimates the remote-work rate by up to 33%.
3. We assess potential explanations for the differences in estimates about the incidence of remote work.
4. We examine whether industry mix is likely to explain the gap.
5. We show how either inclusion or exclusion of pre-pandemic work can affect the measurement of remote work.

was sent to U.S. adults aged 18 and older, drawn from a nationally representative sample of polling company Gallup's household panel. We received a total of 6,672 responses; of these, 6,049 responses (approximately 91% of all) were completed online, while 623 (approximately 9%) were submitted by mail.

One advantage of the RLS over other studies is that it contains representation from adults who lack internet access. This could matter greatly for understanding the incidence of remote work and heterogeneity in its effects across the population.

While the RLS presented a full suite of questions, we focus here on responses to just one: "In the past month, about how often did you work from home as part of your job?" Respondents could choose from six possible replies: never; a few times a year; about once a month; about once a



One randomized and controlled trial was conducted at China's largest online travel agency. It finds that working from home led to a 13% increase in performance and an overall increase in employee satisfaction.



Our paper builds on a larger literature about the effects of remote work on productivity and workers. While there is a great deal of descriptive evidence, causal estimates have been difficult to obtain. One pioneering, randomized and controlled trial was conducted at China's largest online travel agency (Bloom et al. 2015). It finds that working from home led to a 13% increase in performance and an overall increase in employee satisfaction. However, there is also much evidence of adverse and unintended effects, especially when remote-work arrangements have been adopted either poorly or in a rush (e.g., Gibbs et al. 2021). These contradictory results hinder overall understanding of the trends, benefit, and pitfalls of remote work arrangements.

REMOTE LIFE SURVEY

To measure remote work and its intensity, we launched the Remote Life Survey (RLS) in October 2020. The survey

week; three to four times a week; and I always worked from home.

All samples were drawn using a stratified sampling method to ensure that respondents represented the U.S. adult population. To encourage participation, we also included a small financial incentive of \$2.

We find that as of October 2020, about a third (31.6%) of the continuously employed workforce always worked from home, while nearly a quarter (22.8%) worked from home only sometimes or rarely. Further, we estimate that overall, nearly half the U.S. workforce (45.7%) currently works remotely at least one day each week.

In addition, we have information about remote work prior to the pandemic. This helps reconcile some of

disagreement that already exists in the literature; it also allows us to estimate the increase in remote work during the pandemic—but direct pre-pandemic and post-pandemic comparisons are tricky because there are many sets of data.

COMPARATIVE RESULTS

While there has been a flurry of interest in measuring the remote work economy since the onset of the pandemic, different surveys ask different questions, and these differences sometimes lead to substantially divergent conclusions.

For example, the U.S. Bureau of Labor Statistics (BLS) surveyed 60,000 households between May 2020 and December 2021 with this question: “At any time in the last four weeks, did you telework or work at home for pay because of the coronavirus pandemic?” The response options were a simple Yes or No.

Figure 1

Comparative Work from Home Survey Results

Survey	11/2020 through 6/2021 average	11/2020 through 11/2021 average
BLS CPS	20.0%	17.3%
Gallup	51.8%	50.8%
BHORST	45.7%	NA
Barrero et al	52.0%	51.9%
BBM	37.8%	NA%

BLS CPS = U.S. Bureau of Labor Statistics, current population survey (2020 - 2021)

BHORST = Brynjolfsson, Horton, Ozimek, Rock, Sharma, TuYe (2020)

Barrero et al. = Barrero, Bloom, Davis (2021)

BBM = Bick, Blandin, Mertens (2020)

By contrast, another survey, this one by Gallup, asked: “To what extent are you taking the following steps to avoid catching or spreading the coronavirus?” Here, the response options were: Working remotely always, working remotely sometimes, and never working remotely.

The differences in their response rates were striking. For the 12 months from November 2020 to November 2021, the BLS response rate from those working from home was roughly 17%. By marked contrast, Gallup’s response rate for the same period was nearly 51% (See Figure 1).

POTENTIAL EXPLANATIONS

Which data is most accurate? Many surveys on remote work are conducted online, which could disproportionately attract individuals who are more likely to engage in remote work. In our review, three in four surveys were web-only.

We deliberately include responses from individuals who are more likely respond to surveys through the web as well as those who are more likely to respond by mail. In this way, the survey produces a highly representative sample.

Another difference is that some surveys do not include individuals who are self-employed; our survey does. Even before the pandemic, those who were self-employed were already more likely to engage in working from home (WFH). For this reason, the pandemic prompted the largest WFH increase among those who were not self-employed (that is, were employed by others). Similarly, looking ahead to the pandemic’s end, self-employed workers expect a smaller reduction in WFH rates than do other workers.

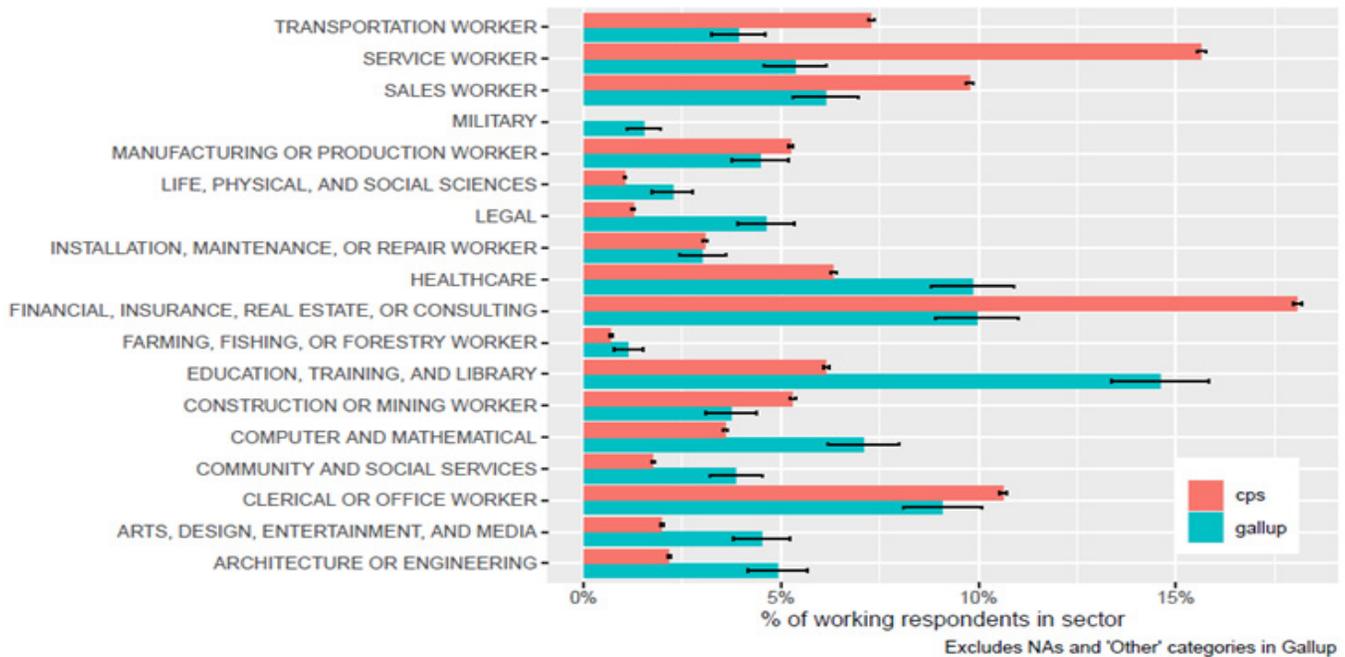
INDUSTRY MIX: HOW IMPORTANT?

Different polling groups include and exclude different industries, and this can affect their findings. For example, the BLS current population sample (CPS) does not include the “military” category. While this is a relatively small portion of the data, military-related jobs appear to have higher WFH adoption than average, and this could explain some of the gap between CPS and Gallup.

Similarly, three occupational groups—transportation, services, and sales workers—have lower remote-work intensities, but have greater representation in the CPS data. Conversely, Gallup has heavier representation of remote-work-intensive groups including the categories computer and mathematical professions, designers, and engineers. These factors could further widen the CPS-Gallup gap (See Figure 2).

As mentioned earlier, the way a survey question is framed can account for differences in the results. For example, the BLS CPS question explicitly asks whether a person is working from home “because of the coronavirus pandemic.” By doing so, the question could exclude two groups of people: those who worked from home before the pandemic; and those who are now working from home, but no longer as a temporary adaptation to the pandemic.

Figure 2
Occupational Distribution: BLS CPS and Gallup



Fortunately, because of our RLS survey design, we can measure the effect of excluding pre-pandemic workers two ways. As a reminder, in our RLS wording for measuring explicit qualifier that ties remote work to the pandemic.

Excluding those who were occasionally working from home pre-pandemic reduces the share working from home sometimes during the pandemic from 53.6% to 28.3%. If we’re interested in the effects on those always working from home, then excluding those doing so pre-pandemic reduces the measure of those always working from home from 31.6% to 24.9%. In short, excluding those previously working from home reduces pandemic WFH rates by 25.3 to 6.7 percentage points.

CONCLUSIONS

Remote work represents a massive, fast-moving shift in how we work. But how massive and how fast-moving is being studied. The timing and incidence of remote work is a crucial topic for economists and policymakers.

To understand how remote work will affect the economy and society, we must first know how many people are working remotely. That requires careful, deliberate measurement criteria.

In this paper we have documented a variety of measurement issues that practitioners should consider. While web versus mail-in can affect results, the effects appear quite modest. Self-employment can have a more substantial impact, as self-employed workers are significantly more likely to be remote, and they also are a non-trivial share of the workforce. Questionnaire design and the intensity of remote work can also have substantial impact, and these factors can increase remote work share by double-digit percentages. Finally, whether a survey is designed to capture all remote work or simply post-pandemic remote working is of first-order importance.

REPORT

Read the full research paper [here](#).

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