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Abstract: The Business Trends and Outlook Survey collected detailed data on work from home (WFH) practices at more than 150,000 American firms from November 2024 to January 2025. These data fill a key gap by providing timely business-level measures of WFH for the U.S. economy and complementing parallel data collection efforts in household-level surveys. We document four main results. First, employees WFH one day per week on average across firms, ranging from 2.8 days per week in the Information sector to 0.1 days in the Accommodation and Food Services sector. Second, looking five years ahead, businesses expect WFH rates at their own organizations to remain at one day per week, on average. Third, the most common view of businesses is that productivity is similar for WFH and onsite work. Seven percent of firms say onsite work is more productive, while two percent say WFH is more productive. Fourth, 70 percent of firms do not monitor whether their employees meet onsite work requirements, and 75 percent do not track how much their employees WFH. These results confirm that WFH is an enduring feature of the U.S. economic landscape, with massive variation in its extent across employees, businesses, and sectors. These lessons also serve as a starting point for enhancing WFH-related content in the American Community Survey and other household surveys.

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1. Introduction

The COVID pandemic triggered an enormous increase in work from home (WFH), and WFH remains much more common than before the pandemic (Bick et al. 2023, Barrero et al. 2021, 2023). However, it has proved challenging to precisely estimate the extent of WFH and its variation across businesses. Indeed, estimated WFH rates often differ greatly across surveys and other data sources, including those based on cell phone mobility data and online job postings (Abraham et al. 2024, Buckman et al., 2025, Brynjolfsson et al., 2023, Hansen et al., 2023). In addition, questions remain about which businesses allow WFH, their views about its effects on productivity, whether and how they monitor onsite work requirements, and what they expect about the extent of WFH in their own organizations in the years ahead. We address these issues by developing and collecting new *business* survey content on WFH practices, yielding new insights about WFH practices and complementing *demographic* surveys.

The U.S. federal government has long collected information on WFH via demographic surveys. Starting in 1960, the decennial census long form collected data on commuting, letting respondents choose worked at home. Those efforts continue today in the American Community Survey (ACS). The Current Population Survey (CPS) collected data on telework through occasional supplements and now collects WFH data each month. Starting in the pandemic, the Household Pulse Survey (HPS) provided timely information on WFH and telework (before transitioning into the Household Trends and Outlook Pulse Survey (HTOPS)).[2] Coverage by federal business surveys has been less consistent and timely. The Annual Business Survey (ABS), Business Response Survey (BRS), and Small Business Pulse Survey (SBPS) started gathering data on WFH during the pandemic.[3] Only the ABS continues to collect WFH data, but its results are released with long lags. The most recent WFH statistics from the federal government derived from these business surveys is for 2022.

The Business Trends and Outlook Survey (BTOS) fills this gap by providing timely information on WFH practices from *businesses'* perspective. In developing content for the BTOS, we relied on lessons learned from previous federal surveys and from the Survey of Working Arrangements and Attitudes (SWAA, see Barrero et al., 2021). Additionally, we tapped the experiences and insights of Bureau of Labor Statistics experts with knowledge of the CPS and BRS. The result is a new, large-scale effort to collect *business*-level data on WFH practices, including a year-round question and ten supplemental questions fielded from November 2024 through January 2025.

[2] It is not possible to discuss all the federal surveys on this topic; Pratt (1997) includes the following: Characteristics of Business Owners (CBO), Current Population Survey (CPS), Decennial Census of Population, Health and Retirement Survey (HRS), National Education Longitudinal Study (NELS), National Household Education Surveys (NHES), National Longitudinal Surveys of Labor Market Experience, National Survey of Families and Households (NSFH), Nationwide Personal Transportation Survey (NPTS), Panel Survey of Income Dynamics (PSID), Statistics of Income (SOI), Survey of Income and Program Participation (SIPP). To this list we add American Time Use Survey (ATUS), Management and Organizational Practices Survey (MOPS), and National Longitudinal Survey of Youth (NLSY).

[3] Prior to the pandemic, WFH data were occasionally collected by the Characteristics of Business Owners Survey (CBO) and Management and Organizational Practices Survey (MOPS).

The resulting BTOS dataset covers over 150,000 businesses and yields four key findings. First, employees WFH about 1 day per week, on average across firms. This summary statistic masks enormous heterogeneity across sectors and employers. The average WFH rate among businesses in the Information sector (NAICS 51) is 2.8 days per week, twenty times higher than the 0.1 day per week in the Accommodation and Food Services sector (NAICS 72). About 15% of employees WFH 5+ days per week (fully remote), about 11% WFH 1 to 4 days a week, and 75% do so rarely or never. This breakdown varies greatly across sectors. Averaging across firms in the Information sector work, for example, 47% of employees work in a fully remote capacity, 15% WFH 1 to 4 days each week, and 38% rarely or never WFH.

Second, businesses anticipate that their employees will continue to WFH 1 day a week on average in five years.[4] In other words, we confirm the widespread, enduring character of WFH in the U.S. economy and find no evidence that, on average, private-sector employers will revert to traditional, pre-pandemic working arrangements in the next several years.

Third, our survey uncovers key factors that businesses see as limiting WFH. The top concern is feasibility – whether employees can do some or all work tasks from home. Productivity concerns come second, but most businesses do not associate WFH with productivity losses. In fact, the share of business that say nothing inhibits WFH is greater than the share expressing productivity concerns related to WFH. When asked directly about productivity, 16% of businesses say they see no productivity differences between WFH and onsite employees, 7% see onsite work as more productive, and 2% see WFH as more productive. These figures also differ across sectors. In the high-WFH Information sector, 29% of businesses report no productivity differences between WFH and onsite employees, 8% see onsite workers as more productive, and 6% say WFH employees are more productive. In the Accommodation and Food Services sector, hardly any respondents (0.3%) say WFH is more productive.

Fourth, 76% of businesses do not track the WFH activity of their employees, and 70% do not monitor whether their employees meet onsite requirements. When focusing on onsite employees, 46% of businesses say they don't monitor them at work, while almost 40% say they monitor arrival and departure times. These numbers suggest that many U.S. businesses rely on in-person monitoring of employee inputs. Because that management style is hard to translate to remote employees, it points to management practices as a factor that limits WFH adoption.

Our survey efforts yield timely data at scale and address media speculation about possible declines in WFH. We build on earlier studies that sample businesses, including surveys of firms in the Russell 3000 by Flynn, Ghent, and Nair (2024). We also corroborate findings based on smaller samples of business executives in the Atlanta Federal Reserve Bank's Survey of Business Uncertainty (SBU). Using SBU data, Barrero et al. (2025) also report an average WFH rate of about one day per week, and that firms expect no future cutbacks in the overall WFH rate.

[4] One in three businesses reports having employees that WFH at least one workday in the prior two weeks, as we gather from the year-round question. There seems to be no trend in the share of businesses with WFH employees between August 2024 and January 2025.

We also contribute to a broader literature on WFH across individuals, regions, and countries. Barrero, Bloom and Davis (2025) draw on the SWAA to provide WFH measures for U.S. residents aged 20 to 64 at a monthly frequency since May 2020. Aksoy et al. (2022, 2025a) develop and analyze WFH measures for many countries. Other U.S.-focused studies include Barrero, Bloom and Davis (2023), Bick et al. (2023), Brynjolfsson et al. (2024), Buckman et al. (2025), and Hansen et al (2023).[5] For the most part, these studies find that WFH accounts for 5 to 7% of full paid workdays in the late 2010s, more than 50% during the pandemic lockdown in April and May 2020, and 25 to 30% from 2023 onwards. Estimates are sensitive to measurement criteria, question design, and selection by age (as WFH rates are lower for those under 20 and over 60), earnings (as low earners and part-timers WFH less) and other criteria. Bick et al. (2024) and Buckman et al. (2025) seek to reconcile differences in measured WFH rates across multiple sources.[6] Kmetz et al. (2023) take a similar approach, focusing on cross-sectional variation in WFH rates.

Much research on WFH considers its effects on worker and business outcomes, including productivity (e.g., Bloom et al., 2015 and 2024, Gibbs et al., 2023, Atkin et al., 2023, Emanuel and Harrington, 2024, Choudhury et al., 2024, and Aksoy et al., 2025b). A typical finding is that hybrid work has little net impact on productivity, while fully remote work can reduce it. Most of this research focuses on output per unit of paid work, without regard to commute time or unrecorded work time. We provide new evidence on business perceptions of how WFH affects productivity and how they manage WFH in practice. Other research examines WFH effects on real estate prices and rents, city structure, consumer spending, and even crime patterns. Examples include Gupta et al. 2024, Ramani et al., 2024, Davis et al., 2024, and Monte et al., 2024.

Our BTOS data let us explore aspects of WFH that are difficult to address with household surveys or purely observational data. For example, some of the productivity challenges related to WFH might arise because it is hard to monitor employees from afar. That raises the question of whether businesses monitor onsite and WFH employees differently. Similarly, most workers are willing to forego some pay in exchange for some WFH (see, e.g., Aksoy et al., 2022, and Lewandowski et al., 2024). Fully remote work lets employees reside in places with lower living costs or better amenities, which can produce an even greater willingness to pay for some employees. That raises the question of whether business vary pay across locations for fully remote workers. Even with access to payroll records, these questions can be hard to address.

Section 2 below describes how we developed WFH content for the BTOS. Section 3 presents results based on BTOS data, and section 4 compares our results to those based on other surveys. To help the reader follow the progression from development, to results, to comparisons, these three sections are organized by common subsections (incidence, challenges, adaptions, and impact). In section 5, we describe ongoing research into improvements and enhancements of the ACS and HPS. Section 6 synthesizes the lessons from business and demographic surveys on WFH and offers some thoughts about directions for future research.

[5] Some of these researchers developed their own surveys or survey content, for example the Real-Time Population Survey and special questions included in the Atlanta Fed Survey of Business Uncertainty.

[6] The list of surveys covered by Buckman et al. (2025) includes some overlap with ones in this paper, but we have an expanded focus on business surveys. Their list is: SWAA, ATUS, HPS, CPS, ACS, Morning Consult, Survey of Business Uncertainty, Kastle badge swipe data, and Placer AI cellphone tracking data.

2. Developing WFH Content for the BTOS

The key data gap that we aim to address in this paper concerns data and metrics about WFH in *businesses*, from the perspective of managers. Specifically, we are interested in (1) the prevalence of WFH, and (2) what WFH means for business operations and management, for example in terms of productivity and personnel management. While there are several data sources on WFH, including from federal and academic surveys (see Buckman et al, 2025, and Bick et al., 2024), most of them measure WFH based on the behavior of individual workers. Many of those sources also gather evidence about the implications of WFH among workers, including whether they like it, and whether they feel more productive WFH or onsite, and why. Comparable data from business perspectives is less widely available, in part because it is more difficult to reach businesses than individuals, especially with the new survey technologies that allow for quick data collection via internet surveys (see Stantcheva, 2023).

Asking about the prevalence of WFH within businesses has both commonalities and differences with asking individuals. In both cases, it is important to define WFH carefully. Many of the differences across WFH metrics come from the use of different definitions of WFH, as Buckman et al. (2025) note.[7] While demographic surveys can be tailored to measure the number of WFH days workers have each week, business surveys must grapple with the fact that working arrangements can vary across employees. The nature of an employee's job, their seniority, and their preferences can lead some to WFH frequently while other employees in the same business do so only rarely or never. Getting a full picture of WFH prevalence within businesses can thus entail asking with more granularity about what *share* of their employees never WFH, what share do so only occasionally, or regularly for 1, 2, 3, 4, or 5+ days each week.

Table 1 shows the data gap in measures of WFH prevalence, comparing household (demographic) and business surveys. We focus on the American Community Survey (ACS), Current Population Survey (CPS), Household Pulse Survey (HPS), Survey of Working Arrangements and Attitudes (SWAA), Annual Business Survey (ABS), Business Response Survey (BRS), and Small Business Pulse Survey (SBPS). The table also includes information about the underlying question and WFH concept used by each source.

Some household data is available for 2025, but the most recent business data is for the ABS in 2022 due to its long data publication lags (and 2023 will be its last available data). While the table is consistent with WFH stabilizing post-pandemic, as Barrero et al. (2025) argue, there is frequent media coverage of large employers pushing for a return to the office. That raises the question of whether business-level measures of WFH might differ radically from those in

[7] At one extreme, the ACS measures WFH as the lack of a primary commute mode (see Appendix B.2), so its responses are often interpreted as a measure of fully remote work, failing to capture WFH among workers who commute a few times a week. By contrast, the most recent set of questions about WFH in the CPS ask about the number of hours WFH and the total number of hours worked per week (see Appendix B.4). Strictly interpreted, the CPS would measure some WFH hours among workers who commute every workday but who spend a few hours catching up on email or other tasks on evenings and weekends.

demographic surveys, for example, if the persistence of WFH comes primarily from self-employed and contract workers. The headline measures in the business-level data covered by Table 1 also fall short of capturing heterogeneity in working arrangements across employees.

Much of the debate about WFH centers on whether it has effects on productivity (see, e.g., Emanuel and Harrington, 2024) and business operations. Despite much media coverage, there is little systematic evidence on businesses' and managers' perspectives on the topic. Similarly, there are data gaps regarding the challenges businesses face with WFH, such as what factors limit their ability to offer it to their employees and whether their personnel management differs across WFH and onsite employees. The ABS does ask questions about some of these issues, but it faces long publication lags. Other business surveys asked about WFH during the acute pandemic period, such as whether operations were disrupted by factors like restrictions to in-person interaction. The resulting gap can be filled by posing business managers direct questions about WFH as it exists post-pandemic. Their responses can speak to why WFH is not higher or lower, or whether it might become more prevalent going forward? Demographic surveys do ask about WFH productivity, limitations, and (more rarely) about monitoring from workers' perspective, but it is not clear they will agree with businesses.

In designing new WFH questions for the BTOS, we centered on these key data gaps and considerations, aiming to fill them by including a supplement about WFH in a large-scale national survey of businesses.

Background information about the BTOS

The Business Trends and Outlook Survey (BTOS) is an experimental data product designed to capture high-frequency changes in economic conditions through a qualitative survey of employer businesses. The survey is intended to provide an overview of the state of businesses through a short series of questions conducted every two weeks. It provides information on current economic trends and expectations about core topics, such as prices, employment, and revenue. It also includes supplements focused on topical issues; for example, on business use of Artificial Intelligence, as documented by Bonney et al. (2024).

The BTOS sample includes approximately 1.2 million single- and multiple-location businesses.[8] Each survey cycle collects data from six panels, with data collection for each panel fielded for two weeks. Businesses in each panel are asked to participate again at the start of a new cycle, about every 12 weeks, for 4 or 5 cycles per sample year. The first time each biweekly panel is in sample, businesses are contacted either by email or letter with an invitation to respond to the survey. For

[8] The initial target population for BTOS is all nonfarm, single location employer businesses with receipts of $1,000 or more that are in the United States, District of Columbia, and Puerto Rico. From September 2023, the BTOS sample includes all employer businesses (single and multi-location) in the U.S., excluding the following 2017 North American Industry Classification System (NAICS) codes, which were designated as out of scope for the BTOS:
Agriculture production (NAICS in ["110000," "111," "112]); Railroads (NAICS = "482"); U.S. Postal Service (NAICS = "491"); Monetary Authorities – Central Bank (NAICS = "521"); Funds, Trusts, and other financial vehicles (NAICS = "525"); Religious grant operations and religious organizations (NAICS = "813"); Private households (NAICS = "814"); Public administration (NAICS = "92"); Unclassified with legal form of organization as tax-exempt or unknown.

each biweekly survey panel, initial letters are sent on the Friday before the 2-week period while initial emails are sent on the first Monday of the 2-week period. Starting with the second time each biweekly panel is in sample; businesses are contacted only by email with an invitation to respond to the survey. Both letter and email invitations describe the purpose of the survey collection, include the link to the online reporting tool, and contain the access code.

Business contact information is provided via administrative data and from other Census surveys. The BTOS includes a write-in field where respondents are asked to provide their title. Analysis of the responses provided for this field shows the two most common titles, comprising roughly 35% of responses, are "owner" and "president."

The BTOS WFH-Supplement survey was collected during the 12-week cycle covering November 2024 to January 2025, which received responses from about 150,000 individual firms. More details about the BTOS methodology are available online.[9] BTOS response data are not subject to editing due to the nature of the survey questions and its rapid cycle of data collection and release. Note, there are no skip patterns within the WFH questions.

BTOS results are published every other Thursday after data collection ends the previous Sunday, providing a near-real-time view of economic phenomena (Buffington et al., 2023). Published sector-level statistics restrict attention to businesses operating solely in that sector; businesses with multiple locations assigned to more than one NAICS sector are considered unclassified for sectoral purposes and are not included in any sector total (they appear in Sector "XX"). These exclusions from detailed totals prevent double counting at the sector level, but these unclassified businesses are included in national totals (including by firm characteristics such as firm size).

Designing the BTOS Supplement

We used the following criteria in designing the supplement: whether the content is appropriate, based upon the Census Bureau's mission and our role in the larger Federal Statistical System; consistent based upon the survey's goals (measuring business trends and outlook in a more qualitative biweekly survey); and optimal in terms of weighing the benefits of additional data collection to fill an information gap against the costs of respondent burden.[10] We considered the following dimensions in developing questions about WFH from the business perspective, informed by our experiences with federal and private surveys (specifically, the SWAA):

- **Concept**: Whether to measure work *at* home, work *from* home, or telework. We focus on work from home because WFH is generally understood to encompass work performed away from the workplace, including work done *at* home and at other remote locations (e.g., cafés and coworking spaces). By its nature, WFH excludes services provided in public

[9] See https://www.census.gov/hfp/btos/methodology.

[10] These are similar in spirit to the criteria that Census and BLS use in developing supplements to the CPS (see U.S. Census Bureau, Current Population Survey Design and Methodology Technical Paper 77, October 2019 (pp. 13-14)). We also considered using administrative data, but unfortunately, the most likely candidate administrative data, Longitudinal Employer-Household Dynamics (LEHD)'s Origin Destination Employment Statistics (LODES) is not currently a good candidate for measuring work from home.

locations (e.g., transportation services provided at public facilities and on vehicles) or work done on client premises (e.g., plumbing or construction services).[11]

- **Time period**: Whether the collection would cover the entire survey year and/or just one cycle. We choose to cover the entire survey year with one core question about whether any employees at the responding business WFH (to capture trends and seasonality) and to use one cycle for the supplement with its more granular questions.
- **Reference period**: Whether the questions should refer to current, past, and future amounts of WFH. We ask about current estimates based on the last two weeks in the core question and forward- and backward-looking estimates in the supplement.
- **Granularity**: Whether to focus on whether any employees WFH versus a detailed look at the share that do so occasionally, or regularly on one or more days each week. The core question asks about any WFH at the business, while the supplement questions ask about WFH frequency.
- **Challenges, Limitations and Adaptations**: Whether to collect information on limitations at the business that make work from home challenging and adaptations that are made to address these in adopting WFH. We chose to attempt to collect this information.
- **Impacts**: Whether to measure productivity or to use data from other sources to measure these impacts. We chose to ask a more qualitative measure of productivity (but note other possible other approaches) and attempted to measure other impacts.

The BTOS infrastructure imposed several implications for our data-gathering effort:

- **Scope**: The BTOS covers employer businesses, excluding self-employed workers who often have higher levels of WFH, as documented in the SWAA. This scope helps us speak to whether WFH trends in employer businesses differ from those in the broader population. Employer businesses are a key population of interest for many of the concerns related to WFH, including productivity, personnel management, and employee interactions within large organizations.
- **Frequency**: The BTOS has a biweekly collection period for each of the six panels surveyed during a cycle. The stability of WFH rates since about 2023 in the SWAA and HPS (and earlier in the SBPS), moreover, suggested we would not see significant biweekly variation in the data.
- **Latency**: Core results from BTOS are published within a few days of collection. Most of the pooled supplement results were published in February 2025, just weeks after the final data were collected in January 2025. Results from the detailed supplemental questions about weekly WFH frequencies followed in April 2025.
- **Context**: The BTOS provides information about industry and business size (measured by employment), which are standard for business surveys. Demographic surveys,

[11] As a further distinction, we are interested in capturing *paid* work from home. Elridge and Pabilonia (2010) discuss "bringing work home" but not being paid for it. We return to this point in section 2.3 when we justify asking about a "workday" to avoid incidental work from home.

analogously, report occupation and industry of the respondent's current or most recent job (CPS, SWAA), and the ABS reports demographic characteristics of the business owner.

Based on these considerations, the team drafted questions for two rounds of cognitive testing.[12] The questions were reviewed and approved by the Office of Management and Budget. Text Box 1 reproduces the full set of eleven questions, and the rest of this section describes their content and our design choices in greater detail. We also discuss how we built on other surveys during the design process.

2.1 Incidence of WFH

We created two separate questions about the extent of WFH for the BTOS. First, the year-round *core* question asks whether, over a recent two-week period, the business had any paid employees who WFH for at least one workday. By fielding this question throughout the year, we hoped to detect any clear seasonal patterns in WFH. We also specify that a (full) workday consists of 6 or more hours to avoid capturing incidental forms of WFH; for example, stints of time spent WFH in the evening or early morning on days that the worker commutes to the office and spends most of the day there. We borrow the definition of a full workday from the SWAA, whose primary WFH question asks respondents whether they worked "a full day (6 hours or more hours)" each day the prior week, and whether that was WFH or on business or client premises (Appendix B7, question 207). We tested this definition of a workday and decided to include the clarification that "A workday is 6 or more hours" in the finalized core question (Text box 1, question 6). This approach differs from the focus in the CPS and SBPS on *hours* WFH, which could in principle include incidental WFH on evenings and weekends rather than full WFH workdays (Appendix B4 and B6).

Second, the *supplement* asks businesses for greater detail about WFH patterns among their employees. Our aim with this question is to produce estimates that are comparable to those from worker-level surveys, such as the average share of WFH days per week across employees, or the share of employees who regularly WFH 5+ days each week, versus the share who never WFH. We settled on a question that asks for the current percentage of employees who never WFH, who do so occasionally, and those who WFH 1, 2, 3, 4, or 5 or more days per week (Text box 1, question 27). The question specifies that the total must equal 100% for internal consistency, and that estimates are acceptable. The latter aims to avoid overburdening respondents; for example, it implies that they do not need to consult detailed human resources records to provide an exact number.

Our detailed question builds on approaches taken in other surveys. The closest is the ABS, which asks for the percent of employees who WFH: never, less than one day, one day, two to four days per week, and five or more days per week (Appendix B1, question A17). The BRS asks for the

[12] The Data Collection Methodology and Research Branch used moderated cognitive interviewing and unmoderated survey collection to garner feedback on proposed new items for the BTOS including the Work from Home supplement. Representatives of over 150 companies (single and multi-firm units) participated over two rounds of cognitive testing (in May/June and June/July 2024). In general, the moderated participants held positions that were in finance, accounting, or human resources roles.

percent of employees who currently telework in a typical week: all the time, some of the time, and rarely or never (Appendix B3, question 2). These questions are designed to capture heterogeneity in WFH across employees of a business, just like our detailed question in the BTOS.

Our question can also yield measures of WFH that are comparable to those from some demographic surveys. The SWAA question (Appendix B7 question 207) yields data on the number of full paid working days that were WFH days by asking about each specific day of the prior week. The HPS, similarly, asks whether respondents WFH 1 to 2, 3 to 4, 5 or more, or no days in the past week (Appendix B5). Averaging across individual responses to these questions is, thus, conceptually equivalent to obtaining the average WFH share across employees in a business (by using the percentages for each amount of WFH as weights) and then averaging across businesses.

There is considerable interest in how WFH has changed since the pandemic and where it may be headed in the future. To address those questions, we decided to include versions of our detailed WFH question in the BTOS, focusing on actual WFH five years prior (in 2019) and five years into the future (in 2029, Text box 1, questions 28-29). While the lookback horizon is longer than Census Bureau business surveys usually use for recall questions, cognitive testing suggests that people can broadly recall working arrangements in 2019, since they represent WFH norms before the onset of the pandemic. There is also precedent for five-year recall questions in versions of the MOPS; for example, the 2015 MOPS asks for the percent of workers who WFH one day or more per week.[13]

Using a consistent question design to ask about current, past, and future WFH also makes the resulting estimates comparable. This provides an advantage relative to surveys like the BRS, which ask about current WFH, about the past (prior to the pandemic) and in the next 6 months (Appendix B3 questions 3 and 4), but the question design is different for each. Similarly, the SWAA asks workers to report their employer's plans for WFH one year into the future (Appendix B7 question 464).

2.2 Challenges (Limitations)

Results from existing surveys show WFH varies across workers, raising a natural question about what prevents some businesses from offering WFH to their employees. To investigate, we designed a question for the BTOS WFH supplement about factors that might limit the ability of a business's paid employees to WFH (see Text box 1, question 31). Respondents check all that apply from 7 reasons: (1) parts or all of the job cannot be done from home; (2) efficiency/productivity concerns; (3) challenges around mentoring/learning or teamwork/socialization; (6) legal/regulatory/tax reasons; (7) security concerns (IT or other) (see Text box 1, question 31). They can also cite "other" reasons or say that no factors limit WFH. We settled on this broad list of limitations to consider fundamental challenges for WFH, such as feasibility for front-line

[13] The question on the 2015 MOPS is: "In 2010 and 2015, what percent of employees at the establishment could be classified in the following ways?" The respondent is asked to fill in percentages (noting that estimates are acceptable) for each of the following four categories of employees: "part-time," "working flexible hours," "worked from home one day or more per week," and "cross-trained." The majority of manufacturing establishments do not offer telework (77% did not offer telework option).

employees in manufacturing, retail, or hospitality, as well as concerns that apply to professionals and managers. The latter include concerns about productivity, security, or legal/regulatory reasons among employees whose job otherwise can be done remotely with a laptop and internet connection. For example, some employees of financial institutions might need to be onsite to comply with regulations, even though they serve their clients using computers and other telecommunications equipment.

The question preserves the qualitative focus of the BTOS questionnaire and builds on similar questions directed at businesses in the ABS (see Appendix B1, question A18) and at workers in the CPS (see Appendix B4, question S15). The response options in the BTOS question include those from the ABS, adding concerns about productivity and teamwork/socializing motivated by the CPS question and work by Emanuel et al. (2023) and Battiston et al. (2022) about inter-personal interactions at work. It also distinguishes legal/regulatory/tax concerns from security concerns.

2.3 Adaptations (Management Practices)

If some businesses face challenges in adopting WFH, could they make changes to their operations to overcome them? For example, could they pay fully remote employees based on their location to lower wage costs, implement return-to-office policies to foster coordination, or change the way they monitor onsite and WFH employees? Any of these could, in principle, yield a stronger business case for WFH. We designed questions in the BTOS to find out whether businesses have implemented these sorts of adaptations.

Motivated by discussions concerning pay differentials for remote versus onsite workers (for example, see Barrero et al., 2023, and Pabilonia and Vernon, 2025), the first of these questions asks whether businesses with fully remote workers (5 or more days a week WFH) pay those employees based on the cost of living of where they live. See question 30 in Text box 1. The federal surveys we studied (ACS, ABS, BRS, CPS, HPS, or SBPS) do not ask about this practice, but the SWAA does (Appendix B7, question 486).

Return-to-office (RTO) policies dictate employers' desired working arrangements after pandemic-related reasons to WFH full time dissipated. Flynn et al. (2024) describe those policies among publicly traded firms, finding that most of them allow WFH but few allow employees to do so full time. Managerial and organizational choices and, to a lesser extent, office space costs predict different RTO stringency. To investigate how prevalent in-person attendance requirements are among employer businesses more broadly, we designed a question for the BTOS WFH supplement about such policies (see Text box 1, question 32). A follow-up question asks how businesses track employee compliance with attendance requirements (question 33).

These questions are motivated by the findings of Flynn et al. (2024), as well as by conjectures that onsite work is most productive (and worth the commute) when employees coordinate when they are onsite and comply with RTO policies. Recent media attention to the RTO policies of some large, high-profile employers also raises questions about whether businesses track and enforce compliance. Anecdotal evidence suggests some businesses track in-person attendance lightly

even when they have minimum in-person requirements, while others use badge swipes or more hands-on methods. The BTOS questions also follow on questions in the SWAA about the number of RTO policies employers have issued since 2020, about compliance and the consequences for non-compliance as perceived and reported by workers (Appendix B7, questions 523 to 525).

The final set of management questions in the BTOS WFH supplement ask about monitoring of onsite and WFH employees (Text box 1, questions 34 and 35). Under the conjecture that monitoring inputs (like being available and present during work hours) is difficult and possibly ineffective when WFH, the questions are designed to describe the most prevalent forms of employee monitoring. They might also reveal whether firms that use more output-based monitoring also have higher WFH rates. For WFH employees, businesses can choose all that apply from the following form of monitoring: computer activity; attendance/participation in online meetings; specific measures of output (for example, number of customers served, or calls answered, sales, units produced, etc.); and other (please describe). They can also say they do not monitor paid employees while WFH. For onsite employees, the response options are the same but also include arrival/departure times. These BTOS questions are similar in spirit to MOPS questions concerning the use of structured management practices, such as the use of key performance indicators.

2.4 Productivity Impact on the Business

The BTOS provides an opportunity to learn about how managers perceive the impact of WFH on the business. These perspectives are harder to obtain than those of workers, as individual workers are easier to reach via non-federal surveys like the SWAA. We designed BTOS questions about three types of impact: on productivity, operations, and indirect impacts from other businesses. The latter two topics did not make it on to the survey instrument, but we include them in the discussion at the end of this section as examples of proposed question content that did not work out during testing.

Much of the interest in WFH from a business perspective concerns whether managers perceive employees' productivity to be different when WFH versus onsite. See Barrero et al. (2023) for a discussion about the potential productivity impacts of WFH and hybrid work. They make two points that motivate our inclusion of productivity questions in the BTOS supplement. First, the impacts of WFH are likely to differ across businesses, due to different types of jobs, managers, and workplace cultures. Using information about the context, for example about the sector the firm is in, can reveal patterns in businesses' perceptions of WFH productivity. Second, adopting WFH can lead operational changes within the business, which could require trial and error and learning by doing. Thus, it may take time for the full productivity impact of WFH to play out. Emanuel et al. (2023) describe how employee mentoring and human capital building creates intertemporal tradeoffs involving WFH productivity. They show short-run productivity can be higher with WFH because senior staff devote more time to producing output and less to mentoring junior employees. In the long run, that lack of mentoring can depress productivity with ample WFH if the junior staff have built up less human capital.

These considerations led to a BTOS WFH question that asks businesses whether they have observed differences in the productivity of paid employees depending on whether they work from home or in person (Text box 1, question 36). There are four response options: yes, work from home more productive; yes, in-person (onsite) more productive; no observed differences in productivity; and do not know/not applicable.

Respondents in the cognitive testing protocols (see footnote 12 for more information) interpreted the productivity question in different ways. Some responded based on gut feelings, impressions, or personal experience, which is consistent with the intent of a sentiment-based survey. Others would only choose one of the Yes/No options if their business had conducted internal research on the issue; moderated participants noted that they appreciated the inclusion of a "Do not know/Not applicable" option, as it allowed them to respond appropriately when they were unable to draw firm conclusions. If WFH content is used in the future, it could potentially allow for a response that WFH productivity differs by workers (that is, is higher for some workers and lower for other workers). We could then further probe on productivity in respondent debriefings.

The BTOS question builds on similar questions directed at workers in the CPS 2024 Supplement (Appendix B4, question S15) and in the SWAA (Appendix B7). The latter uses a two-question approach, starting with a qualitative question like the one in BTOS: "How does your efficiency working from home compare to your efficiency working on business premises?" It also includes follow-up questions that quantify how much better or worse respondents perceive their WFH efficiency.

Two Impacts Questions Not Used (Operational and Indirect Impact)

We proposed questions for the BTOS WFH supplement that asked about businesses' use of physical space, given the rise in office vacancies associated with WFH. The BTOS already asks whether businesses are opening/closing locations, so our proposed question asked whether the square footage leased, rented or owned by the business for its operations changed since the start of the pandemic. The SBPS and the BRS each asked a similar question in 2021, but they were dropped by 2022. Survey methodologists noted that the proposed question yielded vague responses that added little information. Asking about the *amount* of square footage leased, rented or owned for operations could have led to more precise answers, but it likely required respondents to recall or refer to business records, raising respondent burden significantly. Additionally, the survey weights in the BTOS would probably be unsuitable for estimating changes in floorspace use. Without a clear path forward, the proposed question was dropped.

We were also interested in capturing indirect impacts on a business. Specifically, we proposed a question about how WFH at *other* businesses impacts the *responding* business; for example, whether the increase in WFH at downtown offices impacts retail or restaurant sales. The proposed question read "Has this business been impacted by other businesses' adoption of work from home? For example, has this business experienced lower sales due to a decrease in neighborhood foot traffic, or has this business experienced increased demand for products that

facilitate working from home?" Cognitive testing found that respondents "did not consistently interpret or understand the question about their business's revenues being impacted by other businesses' work from home policies…" We decided to drop the question given those findings and the added respondent burden it would entail.

3. WFH Metrics and Insights from BTOS

This section describes our three key findings from the BTOS WFH supplement, pooling across responses gathered during the 12-week fielding cycle (November 2024 to January 2025). We pool these data to allow for publication of more detailed estimates, with fewer quality or disclosure avoidance suppressions. About 1.2 million businesses receive the questionnaire over one BTOS cycle (split into six biweekly panels of 200,000 businesses), so the 13% average response rate over the cycle including our WFH content means the underlying sample includes about 150,000 business-level responses (see the BTOS website for a detailed discussion about response rates and fielding). Due to time constraints, our results below rely on tabulations and results published by Census rather than on confidential microdata. Before turning to the results, we remind readers that any sector-level results cover businesses that operate solely in that sector. Businesses that operate in multiple sectors are categorized into Sector XX in those results. Based on URR response rates, on average 1.4% of responses are multi-sector.

3.1 Incidence of WFH

Our main finding is that employees WFG one day per week on average. We quantify the average WFH frequency among employees of BTOS respondents based on the detailed questions in the supplement (questions 27, 28, and 29 in Text box 1), which ask for the percentage their employees who work from home:

- never,
- occasionally,
- 1 day per week,
- 2 days per week,
- 3 days per week,
- 4 days per week,
- and 5 days per week.

For this paper, we only have access to public tabulated results (available at BTOS WFH Q27–Q29), so we cannot see firm-level responses for the share of employees with each type of working arrangement. Therefore, in this paper's calculations, the results are unweighted employment-level results, meaning that each firm will have the same weight, regardless of its size.

We use the publicly tabulated results to approximate the share of employment for each firm with each of the above working arrangements. Then we use those estimated employment shares to estimate the average number of WFH days per week among BTOS respondents.

Table 2 reproduces the tabulation for the question about current WFH. Each row corresponds to a given working arrangement, and each column to a range of possible responses for the share of employment with that working arrangement. The percentage in each cell refers to the share of businesses who reported the percent of employees with the working arrangement given by the row within the range given by the column. For example, the first number from left to right on the row for "% who never work from home" mean that 24.7% of businesses said 0% of their employees never WFH. Moving one cell to the right, 1.7% of businesses said 1 to 24% of their employees never WFH. The entries in each row add up to 100%.

To calculate the average number of WFH days per week that employees we take the following steps:

1. We calculate the midpoint of the ranges in the top row, effectively assuming a uniform distribution for the employment shares covered by the range. Because the table uses the following response ranges [0, 1–24%, 25–49%, 50–74%, 75–99%, 100%], the midpoint values are [0%, 12.5%, 37.5%, 62.5%, 87.5%, 100%]. Note that for this calculation, the 49%. 74% and 99% endpoint are considered to include all values up to but not including 50%, 75% and 100% respectively.
2. We multiply the entries in each column by the midpoint value associated with that column. Then we sum the resulting products across the cells in each row. The result is a column which approximates the share of employment at the business level with each working arrangement, namely "never works from home," "works from home occasionally," "works from home 1 day per week," and so on. Because we don't see the microdata and instead impute the midpoint values as described above, these employment shares may not add up to exactly 100%.
3. We rescale the employment shares across working arrangements so that they add up to 100%.[14]
4. We compute the average WFH rate by combining the data on employment shares with a given WFH arrangement and numerical values for the corresponding amount of WFH days per week. We use 0 days per week for employees who "never" WFH, 0.25 (or once every four weeks) for those who WFH "occasionally," and 1, 2, 3, 4, or 5 days per week for the remaining cases.

The equations below express our calculations mathematically:

$$AverageWFHDays = \sum_{WFHDays \in \{0,0.25,1,2,3,4,5\}} WFHDays \cdot \%Emp_{WFHDays}$$

$$\%Emp_{WFHDays} \approx \sum_{i \in \{0\%,1\%-24\%,25\%-49\%,50\%-74\%,75\%-99\%,100\%\}} Midpoint_i \cdot \%Bus_{WFHDays,i}.$$

The rows of the table are indexed by $WFHDays$ and the columns by i. The entry cell $\%Bus_{WFHDays,i}$ shows the share of businesses that reported a share of employment within the range corresponding to i in the row corresponding to working arrangement $WFHDays$. The second equation shows how we use the midpoints of the ranges i and the raw cell entries to

[14] Figure 2a plots the resulting shares for the leading question on current WFH.

approximate the share of employment with a given working arrangement, $\%Emp_{WFHDays}$. The first equation computes the weighted average of $WFHDays$ using those employment shares as weights.

Figure 1 reports the average number of WFH days per week among employees of BTOS businesses was 1.02 days during over supplement's collection (November 2024 to January 2025). Note that these estimates are not employment weighted because they are derive from public tabulations which report equal-weighted statistics across firms. [15] Applying the same methodology to the forward-looking question about WFH intensity suggests that businesses foresee an average of 0.98 WFH days per week in five years' time (i.e., in 2029). That is virtually identical to the current number, suggesting current amounts of WFH are near their steady state. Responses to the core, year-round question about whether any employees of the business WFH also suggest WFH rates are stable. About 33% of businesses report having any WFH employees, as Figure A.1 in the appendix shows, with little variation across two-week fielding periods between August 2024 and January 2025.

Responses to the detailed look-back question about working arrangements five years before (before the pandemic, in 2019), the average number of WFH days per week was 0.68. That seems higher than estimates based on data collected in 2019 itself. For example, Barrero et al. (2023) examine the 2019 American Time Use Survey and estimate that 7% of paid workdays were WFH days then – about 0.35 days per week for a typical five-day workweek. We suspect responses to the backward-looking question in the BTOS might be subject to positive recall bias, accounting for this discrepancy.

Behind the average WFH rate of 1 day per week there is wide heterogeneity across employees. Figure 2a plots the approximate employment share with each type of working arrangement (the distribution of $\%Emp_{WFHDays}$). 15% of employees in the BTOS national sample WFH 5 or more days per week, while 68% never WFH. Those who do some WFH but are not fully remote are spread out between occasional WFH and 4 WFH days per week.

We also find wide heterogeneity in the average number of WFH days by sector as shown in Figure 3. The top three sectors with the highest average number of work-from-home days per week are Information (2.78 days), Professional and Technical Services (2.27 days) and Finance and Insurance (1.56 days). At the bottom we have Accommodation and Food Services with 0.13 average days per week, Other Services with 0.33, and Construction with 0.40. The pattern is

[15] Once we are able to work with the microdata, we will be able to publish weighted results. To approximate for an employment-weighted statistic we combine estimates of average WFH days per week by firm size, shown in Appendix Figure A.4 with data on employment shares by firm size category from the 2022 Business Dynamics Statistics (BDS) to approximate the employment-weighted average WFH intensity 0.83 days per week. That is somewhat lower than the unweighted result of 1.02 in Figure 1. Because the BDS does not disaggregate the 20-99 and 100-499 employees categories each into two, we assume employment for that category is split evenly between the 20-49 and 50-99 categories in the first case, and evenly between the 100-249 and 250-499 categories in the second case.

consistent with the type of jobs that are most prevalent by sector. Those with many jobs done by college graduates on a computer over the internet rank high in Figure 3, whereas sectors with many front-line employees who provide in-person services or use equipment onsite rank low. Responses to the year-round question about any employes WFH at the business reveal a similar pattern (Figure A.2 in the Appendix). Focusing on the highest (Information) and lowest (Accommodation and Food Services) sectors, we see a pattern of relatively stable shares from August 2024 to January 2025 (Figure A.3).

Even within sectors there are major differences across employees in how much they WFH. Figure 2b shows the average distribution of employment across working arrangements for the top and bottom WFH sectors; respectively, Information (51) and Accommodation and Food Services (72). In the Information sector nearly half (47%) of employees WFH 5 or more days a week while about a quarter (28%) never do, and the remaining 25% are spread out between occasional WFH and a regular 4 days per week rate. Together with the national results, this figure confirms that WFH covers a wide range of arrangements rather than a single one-size-fits-all standard for all employees. That contrasts with industries in which most employees cannot WFH, like Accommodation and Food Services. As we can see in Figure 2b, 95% of employees in that industry never WFH. Yet, the rest are spread out across a wide range of WFH with at least occasional WFH.

Other cross-firm patterns in average WFH rates are more difficult to explain. Figure A.4 in the appendix reveals a u-shaped pattern in the average number of WFH days by firm size. For very small businesses (less than 5 employees) it might be cost-effective and efficient to forgo office rentals (possibly altogether) and offer lots of WFH. Larger firms with lots of IT infrastructure and high productivity might also be able to coordinate and manage WFH employees effectively. It might also be that firm size and sector are correlated, for example if businesses in Accommodation and Food Services sector are more likely to have 5 to 10 employees and a low WFH. A similar pattern emerges in the share of businesses with any WFH employees, which rises with firm size in Figure A.5.

As with differences across sectors, it is helpful to keep the gradient by firm size in mind when comparing across surveys with very different underlying compositions. For example, the data collected by Flynn et al. (2024) about return-to-office mandates among Russell 3000 firms will capture mostly large firms with over 250 employees, whereas the wider BTOS sample includes many small firms.

3.2 Challenges (Limitations)

The most common factor that limits businesses' ability to offer WFH is feasibility: that parts or all of their job cannot be done from home. About three-fifths of businesses (61.2%) cite infeasibility as an important challenge, as shown in Figure 4. More than one in four, however, cite no factors limiting WFH. Other common concerns relate to efficiency or productivity (11.7%), WFH's impact

on teamwork and mentoring (9.0%) and, to a lesser extent, their ability to monitor WFH employees (5.3%). Concerns about security or IT (4.5%) or with legal, regulatory, or tax concerns (2.1%) are cited the least often, and likely most salient to large firms that operate in multiple jurisdictions. In future work, we hope to dig deeper into the write-in responses among those who reported having other concerns (7.8%).

The patterns in Figure 2b seem consistent with the fact that feasibility is a key reason why employees of some businesses don't WFH. In sectors like Accommodation and Food Services, most jobs require employees to be physically onsite, resulting the vast majority not WFH at all. In other sectors where many jobs are well suited to WFH, a large fraction of businesses cites no reason limiting WFH – over 50% in the Information sector, as Figure A.6 in the appendix shows.

3.3 Adaptations (Management Practices)

That WFH productivity and feasibility are concerns for many businesses raises questions about how they handle WFH. Responses to several questions in the BTOS WFH supplement suggest most businesses have not adopted policies or management practices that would help them handle WFH.

First, more than 90% of businesses say they do not have a WFH policy with minimum onsite requirements (Figure A.7). In many cases, the lack of such a policy probably owes to them not having any WFH employees. But even in the Information sector where one fourth of employees have a hybrid schedule between 1 and 4 days per week, 93.1% of businesses report having no minimum onsite requirement. Given that about 30% of businesses have any WFH employees, we estimate that only about 1 in 10 have minimum in-person requirements.[16] In future work with access to the microdata we will be able to focus on responses from among those who do have WFH employees.

Most businesses nationally as well as in the top and bottom sectors for WFH also say they do not track whether employees meet minimum in-person requirements, as Figure 5 shows. Manual checks by managers are the most common tracking method nationally and in the Information sector, but in Accommodation and Food, where hourly pay and overtime are common, 17% of businesses use digital and paper records to track attendance. That said, interpreting the data from the public tabulations shown in Figure 5 is difficult because, again, they seem to include responses from businesses reported that have no WFH employees or no in-person requirements. This inclusion would explain why nearly 70% of firms say they do not track employee compliance with such in-person requirements. With access to the microdata in future work, we will be able

[16] Another potential weakness of the underlying question is that it is "double barreled," asking both whether the business has a WFH policy and whether there are minimum in-person requirements. The answer need not be "yes" for both, but it could have been difficult for businesses to express that.

to focus on businesses with WFH employees and/or businesses with minimum in-person requirements.

Responses to the BTOS WFH supplement also suggests that most businesses do not use management practices that could boost WFH productivity or more broadly help them track employee output. Figures 6 and 7 show responses to a pair of questions about how businesses track employees while WFH and onsite, respectively. About three quarters of businesses nationally and in the top and bottom sectors for WFH say they do not monitor WFH employees in Figure 6. This lack of monitoring could easily translate into concerns with productivity even if WFH employees are diligent. It could also cause low productivity if employees realize they can shirk when WFH. "Other" forms of monitoring are the second most popular response, but without access to the microdata we cannot investigate more deeply what the associated free-text responses entail. Output measures are the next most popular response and would likely incentivize employees to stay productive when WFH, but they are comparatively uncommon – 7% of businesses nationally and 14% of in the Information sector use them. More businesses report using input-focused monitoring of attendance and computer activity than output.

Figure 7 shows monitoring is also uncommon when employees are onsite. Nationally, 46% of businesses say they do not monitor employees at the worksite, and two-thirds of those in Information say the same. When they do monitor their employees, businesses typically track arrival and departure times. In sectors like Accommodation and Food services that have many front-line employees who must be onsite to do their job (often to serve customers), attendance can be central to personnel management. But businesses rely on it heavily even in high WFH sectors like Information, where 18.6% track arrival and departure times but only 11.2% track employee output. Altogether, businesses monitor input measures (including meeting attendance and computer activity) much more often than outputs. Since monitoring inputs is often more difficult (or even impossible) when employees WFH, this reliance on inputs could even prevent businesses from letting their employees WFH even when they could do their job with access to an internet connection.

Businesses also don't seem to use WFH as a strategy to lower personnel costs, by hiring from remote locations where wages and costs of living are lower. Only about 3.9% of businesses say they pay fully remote employees based on where they live, compared to 24.3% which do not and 71.9% who say they don't know or the question does not apply (Figure A.8). The sample for this question includes all businesses (with or without fully remote employees), explaining why so many respondents say "don't know/does not apply." Again, in future work with access to the microdata, we will be able to say more about which types of businesses do use locality-based pay, for example whether it is most common among fully remote businesses or whether it also applies to fully remote employees at firms that have many onsite or hybrid employees.

3.4 Productivity Impact on the Business

Productivity concerns are often cited as challenges for offering WFH. It is the second-most-often concern cited by businesses nationally (recall from Figure 4), and even in highly WFH-amenable sectors like information it ranks high (recall from Figure A.6). So, how often do businesses observe differences in productivity between WFH and onsite employees? Figure 8 shows the distribution of responses in the full (national) sample and for the top and bottom sectors for WFH (Information and Accommodation and Food Services). The question lets respondents select "don't know/not applicable," and that option accounts for a majority of responses (nearly 76% nationally, and 58% even in the high-WFH Information sector). Many of those businesses probably have no employees WFH, so we focus on the more informative responses of the rest.

Nationally, 15.6% of businesses – or about two thirds of those who did not select "don't know/not applicable" – report seeing no difference in productivity between employees WFH or onsite. In both the Information and Accommodation and Food Service sectors, "no difference" is also the most popular option among those who do not choose "don't know/not applicable." That means that businesses do not overwhelmingly associate WFH with lower productivity. Nationally, 6.6% of businesses do say they have observed higher productivity onsite, compared to 2.1% who observe higher productivity WFH, but that comparison ignores the much larger number who say they have observed no difference.

Productivity perceptions correlate with WFH adoption, at least when comparing the Information and Accommodation and Food Services sectors. In Information, 28.5% of businesses have not observed productivity differences across WFH and onsite employees, and the share who say onsite versus WFH employees are more productive is smaller than in the full national sample (7.5% versus 6.1%, compared to 6.6% versus 2.1% nationally). The opposite is true in Accommodation and Food Services, where just 4.2% of businesses report no difference in productivity between onsite and WFH employees, and about 10 times more favor onsite productivity (3.9% versus the 0.3% who favor WFH employees' productivity).[17]

Barrero et al. (2023) note the relevant measure of productivity might consider the full amount of time it takes workers to provide a full day of services onsite (including time spent commuting and getting ready for work). If businesses focus on a narrower measure of productivity, consisting of output per hour of paid work, that could lead to less positive views of WFH productivity among managers.

4. BTOS Results in Comparison with Other Surveys

How do the data from BTOS compare with other sources, in particular the surveys in Table 1? Given the many differences across surveys (in terms of sample, the definition of work from home, and collection and reference periods), these can put the BTOS results into rough context

[17] Differences between Information and Accommodations and Food Services are all statistically significant. So are the within-sector differences, except in Accommodations and Food Services the share who say WFH employees are more productive is not statistically different from zero).

providing a broad overview of work from home from both business and demographic surveys. Buckman et al. (2025) run a more formal comparison that attempts to align results over these dimensions.

4.1 Incidence of WFH

The most recent data on WFH from large, federal *business* surveys goes back to 2022. The Annual Business Survey (ABS) reports that 35.8 % of employer businesses had WFH workers that year (down from 38.7% the year before). The Business Response Survey (BRS) also shows a decline in the share of paid employees who WFH from 2021 to 2022 (40.1% to 27.5%). Those numbers, respectively, resemble our findings in BTOS that about 31% of businesses had any WFH employees in the second half of 2024 and early 2025, and the average intensity of WFH was about 1 day per week (20% of a five-day workweek). That said, it is hard to compare our results directly against the ABS and BRS numbers because the sample period and potentially the sample composition differ.

Even if it hard to compare quantities, we can check whether broad sectoral patterns in the BTOS resemble those in other sources. Figure 9 panel A plots the percentage of businesses offering WFH in the ABS, BRS, and the SBPS by sector (sorted from highest to lowest in the ABS). The share businesses offering WFH in all three surveys is highest in the Information sector (51), as in BTOS. It is generally high in the "50" sectors, and lowest in Accommodation and Food Services (72), which also has the lowest WFH prevalence in BTOS. Panels B and C show a similar pattern across sectors as reported in two demographic surveys, namely the American Community Survey (ACS) and Current Population Survey (CPS). Once again, this similarity is despite the quantitative metrics not being directly comparable with BTOS or other surveys. The ACS WFH metric stands for the share of workers who report WFH instead of a specific primary commute mode.[18] The CPS metric measures the share of workers who had any telework hours in December 2024. Both the ACS and CPS measures include the self-employed (a closer comparison would be for wage and salary workers only).

In Figure 10 we report key WFH metrics from the SWAA to compare them against BTOS. Panel A shows the trajectory of the average WFH rate in the SWAA, which stands at about 28% of paid days at the end of 2024. That number implies about 1.5 WFH days per week assuming a five-day workweek, compared to 1 day in BTOS, which is mostly accounted for by SWAA's inclusion of self-employed and contract workers. Indeed, Barrero et al. (2025) show wage and salary employees' WFH rate is highly consistent with that reported by business executives responding to the Atlanta Fed Survey of Business Uncertainty, and close to the 1 day per week average in BTOS. The other panels show the ranking across sectors by the share of their employees who

[18] The 2023 ACS publishes a related statistic, which is less relevant for our analysis; namely, the sectoral distribution among workers who WFH. 27.6% of them were in Professional, Scientific, Management, and Administrative Services; 18.2% were in Information and FIRE; and 4.1% were in Arts and Accommodation and Food Services.

WFH resembles that in BTOS, as do average WFH rates. Again, some of the metrics are not entirely consistent even though panels B to D focus on wage and salary employees. In panel C, for instance, the share of fully remote workers in the SWAA seems smaller than the one we obtain from BTOS in Figure 2b, and the average WFH rate for Accommodation and Food Services seems higher than the .13 days per week in BTOS. Because SWAA is fielded over the internet and then reweighted by age, sex, education, and, industry, some of the differences with BTOS could be due to differential selection across the two surveys.

Panel A of Figure 10 shows the average WFH rate in the SWAA stabilized near its current value by about early 2023. That stability is consistent with our key finding in Figure 1 that BTOS respondents see minimal change in WFH when forecasting the share of their employees who will WFH never, occasionally, 1, 2, 3, 4, or 5 or more days per week in 2029. Other surveys show similarly stable patterns, and the CPS even shows a rising share of people who telework, driven by the share of people who telework some but not all hours during the reference week (Figure A.9). Still, there is little evidence at the monthly frequency that WFH rates are declining rapidly.

4.2 Challenges (Limitations)

Data from the 2022 ABS about challenges and limitations with WFH reveal similar insights to the BTOS. Recall from Section 2 that the BTOS question about factors that limit the business's ability offer WFH is based closely on a similar question the ABS. Figure 11 shows the responses. Although the ABS data refer to an earlier period (2022 instead of 2024-2025), we corroborate the key result that a majority (61.7%) of firms cite a lack of suitability for WFH as the top reason why their employees don't (the corresponding number for BTOS in 2024-5 is 61.2%). Similarly, 35.0% of firms report no limiting factors for WFH, compared to 26.9% in BTOS. Management and security-related concerns, the two other options that appear in both BTOS and ABS are cited by many fewer businesses, at 4.2% (5.3% in BTOS) and 4.3% (4.5% in BTOS), respectively.

When we look at the two sectors of interest, we see that again ABS and BTOS tell similar stories (Figure 11). 34.5% of firms in Information noted that jobs were not suited to WFH, compared to 80.7% of those in Accommodations and Food Services (in BTOS the numbers are 36.7% and 70.0%, respectively). 62.1% of businesses in Information note that they had no limiting factors as compared to 16.8% of businesses in Accommodation and Food Services (in BTOS that is 51.2% versus 18.2%). Information businesses also noted management and security concerns 4.5% and 4.9% of the time, compared to BTOS: 5.4% and 5.6%. Virtually no respondents in Accommodation and Food services noted such concerns.

As of this writing, there are few sources of information about what workers think limits WFH, especially from federal demographic surveys. In future work we hope to compare our BTOS results to data from the detailed CPS Supplement relating to WFH, which will be released later in 2025. That comparison will yield information about whether workers and their employers have similar perspectives about what limits WFH.

4.3 Adaptations (Management Practices)

There are no contemporaneous results from *business* surveys concerning management practices and WFH. The 2015 MOPS has some information that could be used at the micro level to relate WFH to questions about the quantity and quality of monitoring. Similarly, it may be possible to examine microdata from the ABS in years where it also runs an occasional management practices module (esp., survey years 2021 and 2024). That module includes 12 questions, some which touch on key performance indicators and targets within the business, but unfortunately not on internal monitoring (it does ask about monitoring customer satisfaction). Future work might be able to say more about the relationship between WFH adoption and management practices by examining these other datasets.

The SWAA does offer some evidence of business practices related to WFH, including return-to-office (RTO) policies and whether pay varies by location for fully remote workers. In early 2024, the SWAA found that 39% of employees had been subject to two or more return-to office (RTO) policies (see the July 2024 SWAA report at www.wfhresearch.com/research-and-policy). Often it is employees with hybrid arrangements who are subject to more RTOs. Those who still work fully remotely in 2024 or later are unlikely to face demands for them to return to the office. Fully remote employees are, however, more likely to report being paid based on their location than BTOS businesses report. The November 2024 SWAA results show 43.0% of those fully remote employees respond "yes" when asked, "As a fully remote employee, your pay depend on where you live?" Younger fully remote workers are more likely to get locality-based pay, as are men. In BTOS only about one in six businesses report using locality-based pay. But it is hard to say whether these numbers are inconsistent with each other, because there might be differences in the underlying sample, for example by firm size and industry.

4.4 Productivity Impact on the Business

Few *business* surveys ask questions about productivity and WFH, so we have little data compare against the BTOS results in this paper. Bloom et al. (2023) examine SWAA and SBU data and show managers and workers disagree about the productivity implications of WFH, with managers being on balance negative and workers on balance positive. In the about 40% of WFH workers say they are more productive working from home, whereas 14% believe that they are less productive. Worker perceptions of the relative productivity of remote work became more positive during the pandemic, as workers became more comfortable with WFH and the early struggles of the pandemic (e.g., school closures) subside. We are cautious about taking workers' self-assessments literally, but they do seem to capture some of the key tradeoffs inherent to remote work. Most workers attribute at least part of that efficiency to time saved by not commuting. Their self-assessments also correlate with actual remote work, so that workers who say they are less efficient at home commute to the workplace more often. Those with longer commutes, who save more time when WFH, also have more positive self-assessments of their WFH productivity and prefer to do so more often.

Much of the objective and causal evidence on WFH productivity comes from individual firms.[19] Using firm-level data from a U.S. Fortune 500 company call center, Emanuel and Harrington (2024) decompose the productivity gap between office and remote workers into selection and treatment effects. While selection is important (less productive workers tend to select into WFH), there is also a negative treatment effect of working remotely. That negative effect could justify BTOS respondents' (on balance) negative views of WFH productivity. Other evidence is more positive, especially about hybrid WFH. Running a randomized control trial at Chinese technology company, Bloom, Han, and Liang (2024) find that *hybrid* work (two days of WFH per week) does not have a clear impact on performance among skilled workers (college graduates). They randomly assign employees to hybrid WFH or fully onsite working arrangements and compare detailed performance reviews, promotions, and (for computer engineers) the number of lines of code submitted. Instead, there is a positive impact of hybrid WFH on worker retention, which could boost firm-level profitability. They also show managers' and employees' views of WFH improve following the experiment.

5 Research on Developing Expanded Content for the ACS and HPS Transition

The American Community Survey (ACS) and its predecessor, the decennial census long form, collect information on WFH as a checkbox response to a question about workers' primary travel mode (see Appendix B2). The question asks about how the person usually got to work and since the respondent can only choose one mode, it is not possible to capture information about hybrid work schedules.[20] For decades, the current version of the ACS WFH question has generated much data on WFH and shaped our understanding of historical WFH trends. The increased prevalence and complexity of WFH since 2020 has prompted further interest.

The Census Bureau has seen an increase in the number of questions and comments about WFH in recent years, prompting it to workshop ideas and understand data user priorities as it works to improve the ACS WFH question. Interested parties across federal agencies such as the U.S. Department of Transportation's Bureau of Transportation Statistics provided valuable feedback. Several U.S. Department of Transportation initiatives, including some mandated by law, require use of federal transportation data related to how people get to work or whether they work from home. Beyond federal partners, the Census Bureau also presented to and solicited feedback from transportation professionals at industry conferences such as the Transportation Research Board Annual Meeting. For household survey data, stakeholders most often requested information about how many days per week workers telework and about the specific days they telework. Such information could improve the accuracy of travel demand forecast models.

[19]Another form of evidence is industry-level analyses. Pabilonia and Redmond (2024) examine the relationship between the change in the percentage of remote workers and total factor productivity growth at the industry level for 2019-2022 and find a positive correlation.

[20] If the respondent uses more than one mode to commute, they are instructed to pick the mode that covers the most distance. For those who commute some days and work at home others, this instruction would seem to bias away from choosing work at home. Starting in 1960 and continuing through 1970, the decennial long form asked how a person got to work last week with a response including "worked at home." Starting in 1980, the question was modified to ask how the person usually got to work last week. The decennial long form was discontinued after 2000 and was replaced by the annual American Community Survey with results first published in 2005. From 2005-2018 the response was worked at home in 2019 and onward it became worked from home.

While the ACS includes limited details about WFH, it provides a broad snapshot of its prevalence in recent decades. The meaning of WFH has evolved over time as technology and industry have evolved (see Salopek 1998).[21] Prior to 2020, decennial Census and ACS data showed a slow and steady increase in the share of workers who primarily WFH. Between 1990 and 2000, the rate of working from home modestly increased from 3.0 to 3.3%.[22] By 2010, the share of home-based workers increased to 4.3%.[23] It changed little during the 2010s before the pandemic sparked a dramatic increase in home-based work. The share of workers who primarily WFH changed from 5.7% in 2019 to 17.9% in 2021 based on ACS data. As the pandemic subsided, the rate declined to 15.2% in 2022 and 13.8% in 2023.[24]

To provide more detailed information about those who WFH, starting with the 2023 ACS, the Census Bureau added "Work from Home" as a category to the Table S0802 "Means of Transportation to Work by Selected Characteristics." This means that users can now learn about the characteristics of those who WFH, for example, their age, sex, race and Hispanic or Latino origin, occupation, and industry.

Transportation-related stakeholders have provided other feedback about elements of the home-based work experience that they would like the ACS to capture. The Census Bureau plans to use this feedback to inform changes to the survey's commuting content in the next ACS Content Test opportunity for which planning will begin in 2025. ACS Content Testing is a multi-year process by which new or modified survey content is tested prior to becoming part of the official ACS survey. The content in the ACS is determined by the Office of Management and Budget (OMB). Thus, any changes to the ACS content must adhere to a rigorous process consisting of cognitive testing, field testing, and final approval by the OMB and an interagency working group. In addition to more detailed information about home-based work schedules, data users have requested information about multi-modal commutes (for example, allowing respondents to check both subway and bus).

5.1 Household Pulse Survey

[21] The number of those who worked at home declined steadily over 1960 to 1980 "largely reflecting the number of family farmers who elected to give up farming" before a "dramatic increase" in 1990 (Salopek (1998)). The 1990 increase was fueled by the self-employed workers. "The primary difference between those who worked at home and those who worked away from home was the source of employment. More than half the workers who labored in their homes (54 percent) were self-employed in 1990, 10 times the rate of self-employment found among those who worked away from home (CENBR/98-2, p.2)."

[22] Clara Reschovsky, "Journey to Work: 2000," Census 2000 Brief, U.S. Census Bureau, Washington, DC, 2004. https://www.census.gov/library/publications/2004/dec/c2kbr-33.html

[23] Michael Burrows, Charlynn Burd, and Brian McKenzie, "Home-Based Workers and the COVID-19 Pandemic," American Community Survey Reports, ACS-52, U.S. Census Bureau, Washington, DC, 2023. https://www.census.gov/content/dam/Census/library/publications/2023/acs/acs-52.pdf

[24] Michael Burrows, Charlynn Burd, and Mehreen S. Ismail, 2025. "New U.S. Census Bureau Data Show Detailed Characteristics of Home-Based Workers.
https://www.census.gov/library/stories/2025/01/work-from-home-inequalities.html.

The Household Pulse Survey (HPS) also collects information on commuting at both the household and person levels. The HPS question on telework is sponsored by the Bureau of Transportation Statistics. In September 2024, the Census Bureau announced that Phase 4.2 of the HPS was the final phase using current methodology as the HPS transitions the HPS to a new longitudinal design. The HPS was relaunched as the Household Trends and Outlook Pulse Survey (HTOPS) in 2025 and contains a small number of transportation-related questions. This includes a person-level question about whether the respondent worked from home in the last 7 days. This HTOPS WFH data was collected in the first quarter of calendar year 2025 and, as of this writing, was not yet publicly released. The HTOPS has a panel design like surveys such as the Survey of Income and Program Participation (SIPP). Like its predecessor, HTOPS data collection and processing is designed for rapid data dissemination.

6 Conclusions and Future Research

Tapping into business and household surveys from both the federal sector (especially BLS and Census surveys) and the private sector enabled us to develop targeted questions for a *business* survey intended to fill an important measurement gap concerning WFH. The resulting questions included in the Business Trends and Outlook Survey (BTOS) complement earlier business surveys and add to information provided by current household and worker surveys. For example, in the BTOS wave we asked about businesses' perceptions about productivity differences between onsite and WFH workers that cannot be asked on household or worker surveys. The WFH questions on the BTOS could be redeployed in the future if conditions warrant their inclusion. For example, a future deployment could ask what businesses are doing to ensure that their remote employees benefit from the mentoring, training, and networking that are routinely available to fully onsite employees. While it is still in research phase, we hope this paper will also help to inform future questions on the American Community Survey so that it too can provide information to fill important data gaps on this topic.

We hope to build on this descriptive paper through a second set of empirical exercises that leverage the underlying micro data. We can use the micro data to more fully characterize firm-level variation in WFH. Future microdata analysis could correlate firm-level WFH with firm-level monitoring, productivity perceptions, etc. The sectoral comparisons we have right now are suggestive, but the argument would be tighter with firm-level evidence. We could also compare the growth rates of high- versus low-WFH businesses, controlling for sector and other characteristics, in future work. There is some evidence that WFH startups grow faster and we could potentially build upon that work.

We also would like to dig more deeply into the write-in information provided in "other" responses. In some cases, these form a significant number of responses and may help uncover patterns not captured by the structured response options. For example, we could be missing limiting factors for WFH in sectors like Accommodation and Food Services, where 11.9% of businesses choose "Other (please describe)."

Since the incidence of WFH varies by firm size, we would like to produce descriptive statistics that are weighted by employment. With the microdata we will also be able to run regression analyses that control for multiple business characteristics. We would like to bring in firm age characteristics by linking to the Longitudinal Business Database, since firm age could also be an important dimension over which WFH varies.

One of the most interesting areas of future research concerns productivity. We can imagine multiple related inquiries on this topic. Starting with the questions on the BTOS, it would be useful to understand why some firms choose "Do not know/Not applicable" when asked about the productivity of onsite versus WFH employees. This is a very large category, which unfortunately could contain two very different types of firms. Many respondents that "Do not know" could be similar to those who respond with "No observed difference in productivity," or they might not know because they have no WFH employees. With the microdata, we could construct direct measures of productivity based on other firm-level data such as the Longitudinal Business Database and link them to the productivity assessments businesses provide in BTOS. We could even examine the impact of WFH on productivity growth over time using firm-level ABS data, which collects WFH data going back to 2019. That would let us explore some of the intertemporal dynamics in WFH and productivity described by Barrero et al. (2023) and Emanuel et al. (2023). Finally, we hope our results will help inform future work on WFH content and question design in the ACS and other surveys.

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Table 1: Gaps in Information on Work from Home
Percent of Work from Home (or Similar Concept)[1] by Different Surveys

Year[2]	Workers				Businesses			
	ACS	CPS	HPS	SWAA	ABS	BRS	BTOS	SBPS
2019	5.7				28.1			
2020					41.9			46.8
2021	17.9				38.7	40.1		47.6
2022	15.2	17.9	29.1		35.8	27.5		
2023	13.8	19.8	29.2					
2024		23.1	29.0	29.0			31.0	
2025		21.6		29.0			31.7	

1/ Concepts listed by survey below. Exact questions used in surveys are in Appendices A and B.
2/ Reference periods listed by survey below.

ACS: American Community Survey. Percent of workers who say they work from home in response to a question about commute mode, 1YR results.

ABS: Annual Business Survey. Percent of employer businesses who allow employees to work from home, (reference) year.

BRS: Business Response Survey. Percent of employees who currently telework in a typical week. 2021 (collected July-Sept); 2022 (collected Aug-Sept).

BTOS: Business Trends and Outlook Survey. Percent of employer firms who had any paid employees who worked from home at least one workday (6 or more hours) during the reference period. 2024 (7/29-8/11/24, which is first week of core collection [202417]), 2025 (12/30/24-1/12/25, which is last week of supplement collection [202502]).

CPS: Current Population Survey. Percent of people who worked during the reference period who teleworked or worked at home for pay in the last week. 2022 (October), 2023 (October), 2024 (December), 2025 (April).

HPS: Household Pulse Survey. Anyone in Household Teleworked or Worked from Home in the Last 7 Days. Number shows the percent of three combined yes categories over total less did not report. 2022 (Phase 3.6; week 50), 2023 (Phase 3.10; week 63), 2024 (Phase 4.1; cycle 5).

SBPS: Small Business Pulse Survey. 100 minus the percent of small employer businesses who do not have employees who worked from home. 2020 (Aug09-15 2020), 2021 (Jan04-10 2021).

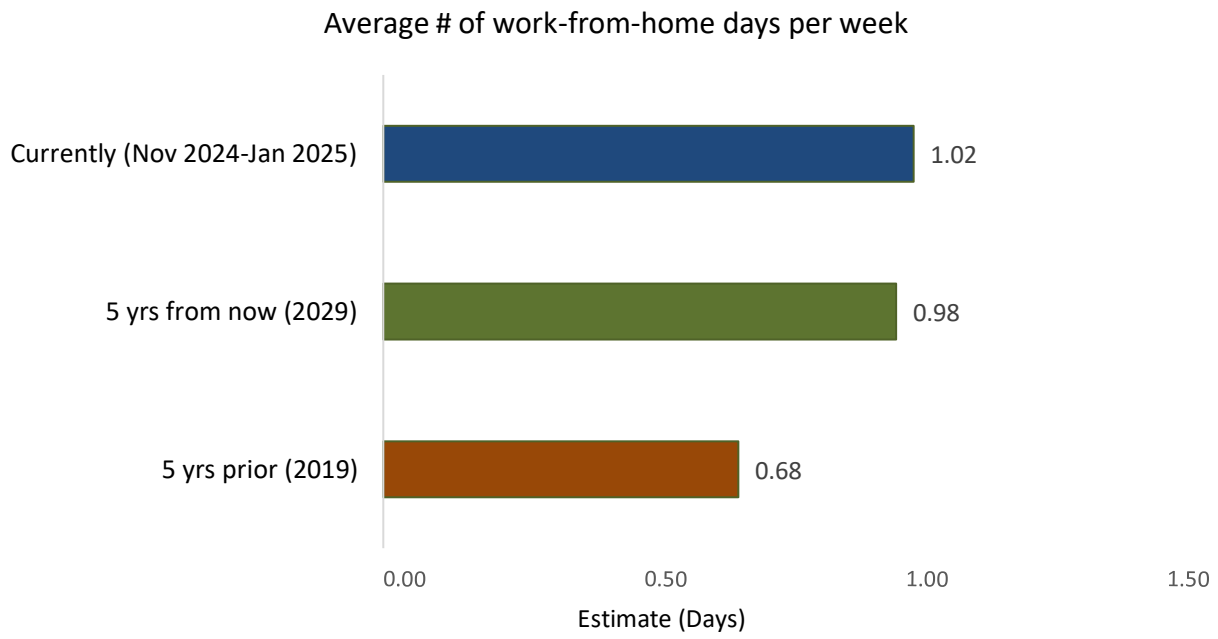
SWAA: Survey of Working Arrangements and Attitudes. Average percent of full paid workdays (6 or more hours) that were work-from-home days last week among employed respondents aged 20-24 who earned $20k+ in the prior year, 2024 (July), 2025 (January).

Table 2. Tabulated Results for Current WFH frequency

Answer	Estimate	0%	1 to 24%	25 to 49%	50 to 74%	75 to 99%	100%
% never work from home		24.7%	1.7%	1.7%	4.4%	13.7%	53.8%
% work from home occasionally		80.7%	11.0%	2.3%	2.1%	0.5%	3.3%
% work from home 1 day per week		92.6%	4.3%	1.1%	0.7%	0.2%	1.1%
% work from home 2 day per week		93.0%	3.7%	1.2%	0.9%	0.2%	1.1%
% work from home 3 day per week		94.1%	2.8%	0.9%	0.9%	0.3%	1.1%
% work from home 4 day per week		95.5%	2.2%	0.5%	0.4%	0.3%	1.0%
% work from home 5 day per week		77.8%	5.2%	1.7%	1.9%	1.2%	12.1%
Do not know/Not applicable	27.1%						

Source: BTOS WFH Supplement. Responses to Question 27 (see Text box 1) available at BTOS WFH Q27–Q29.

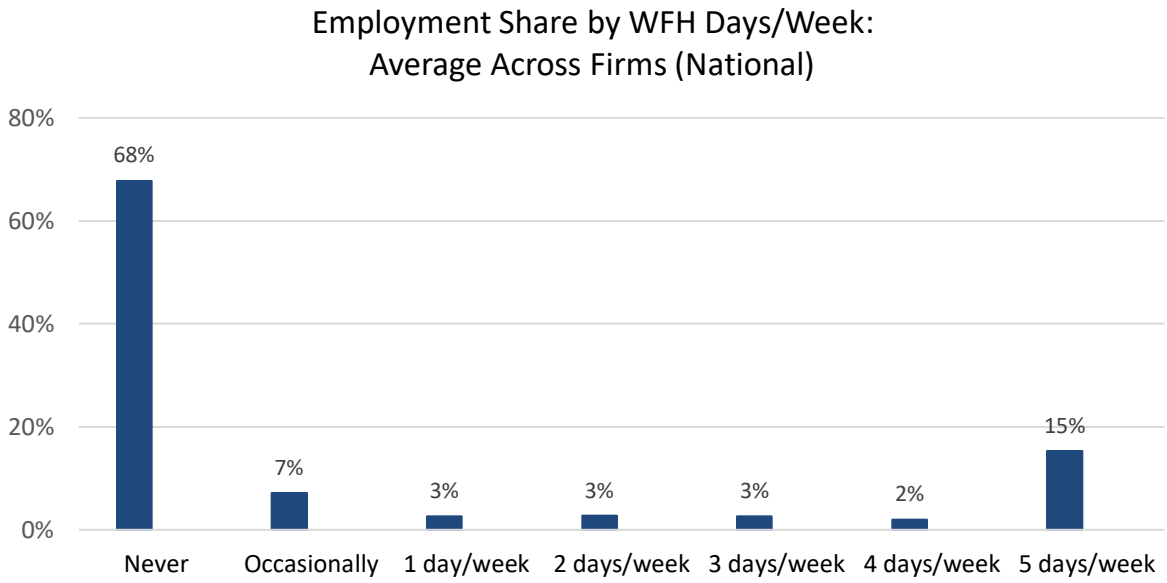
Figure 1: Firms Report an Average of About 1 Work-From-Home per Week, With Little Change in the Next Five Years



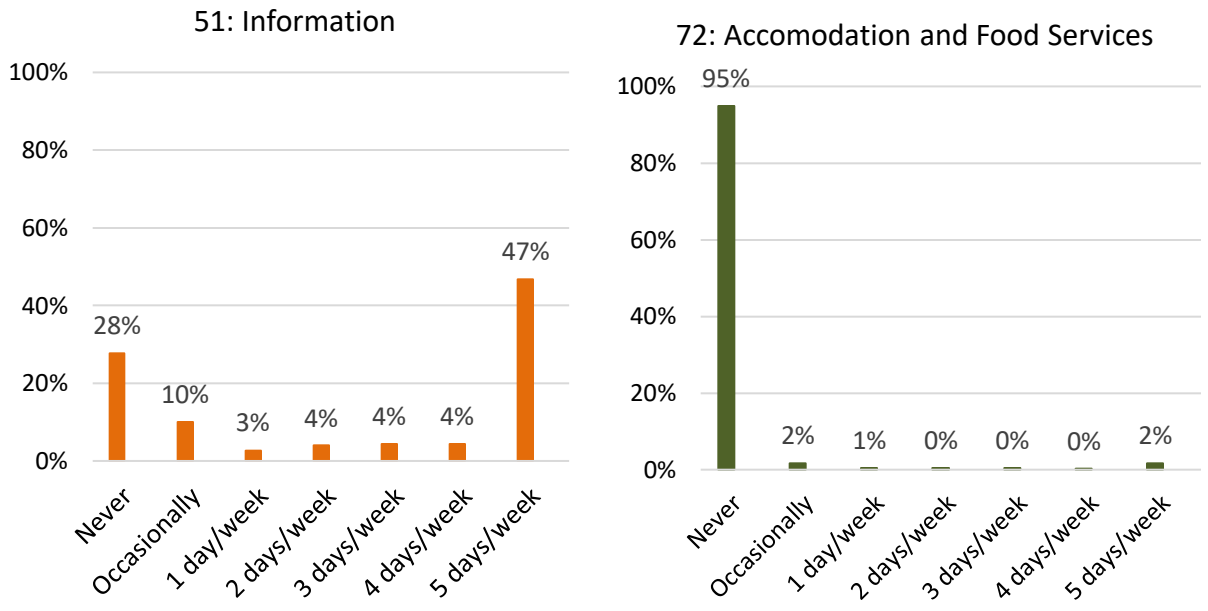
Source: Business Trend and Outlook Survey – Work from Home Supplement Questions 27-29: https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025.

Figure 2: Wide Dispersion in Work-From-Home Rates Across Employees

2a. National

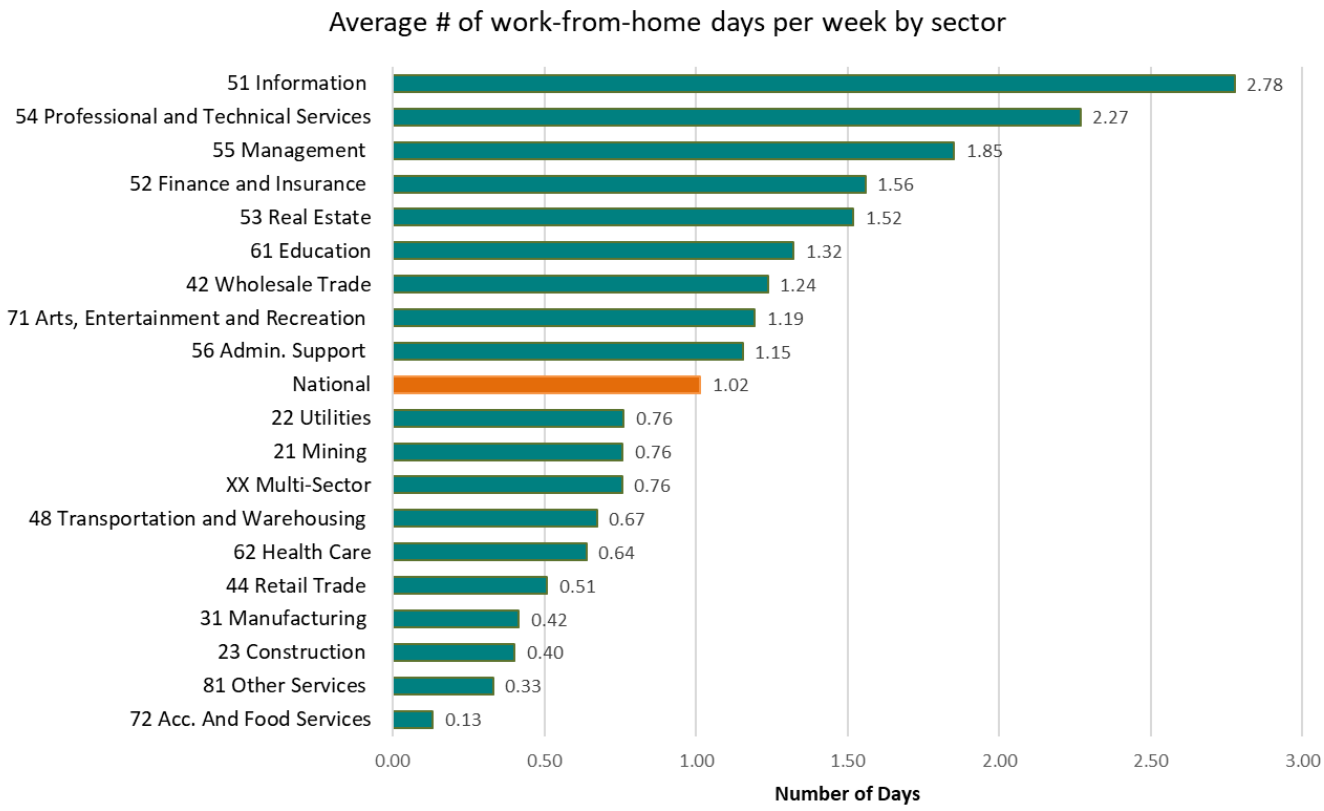


2b. Top and Bottom Sectors for WFH: Information vs. Accommodation & Food Services



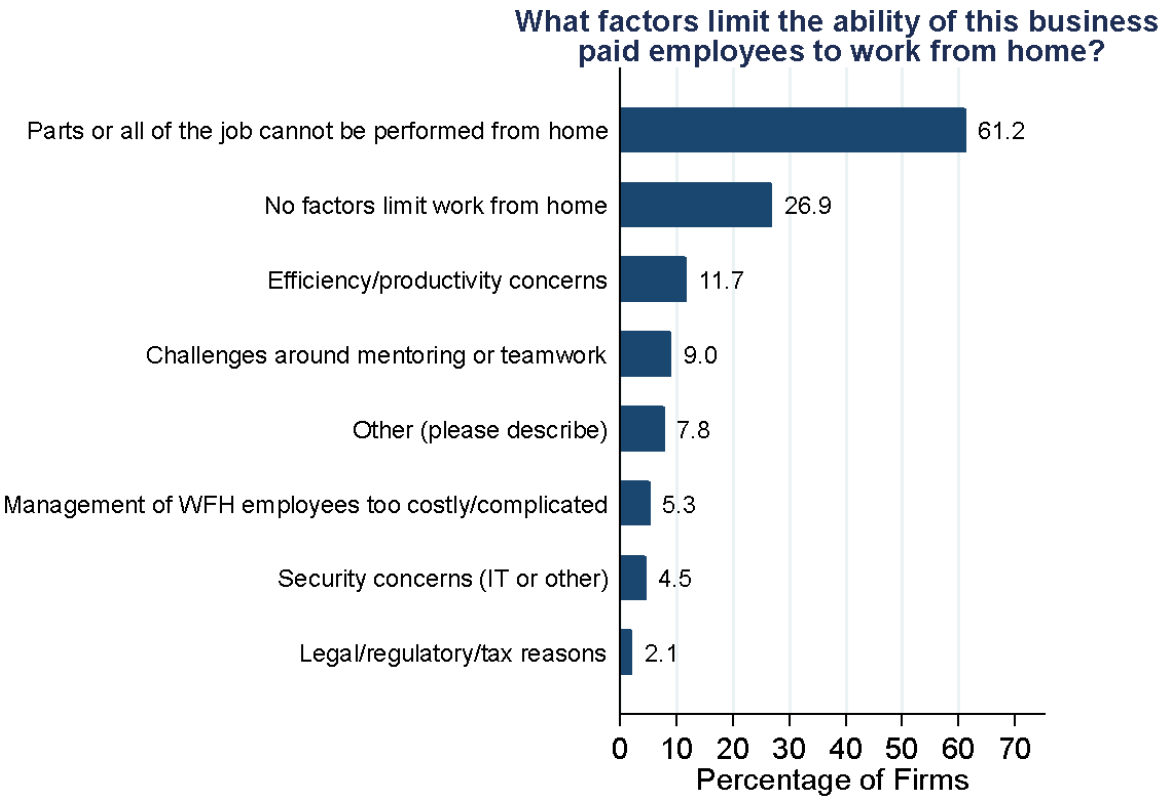
Source: BTOS-WFH Supplement Questions 27-29: https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. We estimate employment shares by working arrangements as described in Section 3 of the text.

Figure 3: Wide Dispersion in Work-From-Home Rates Across Sectors



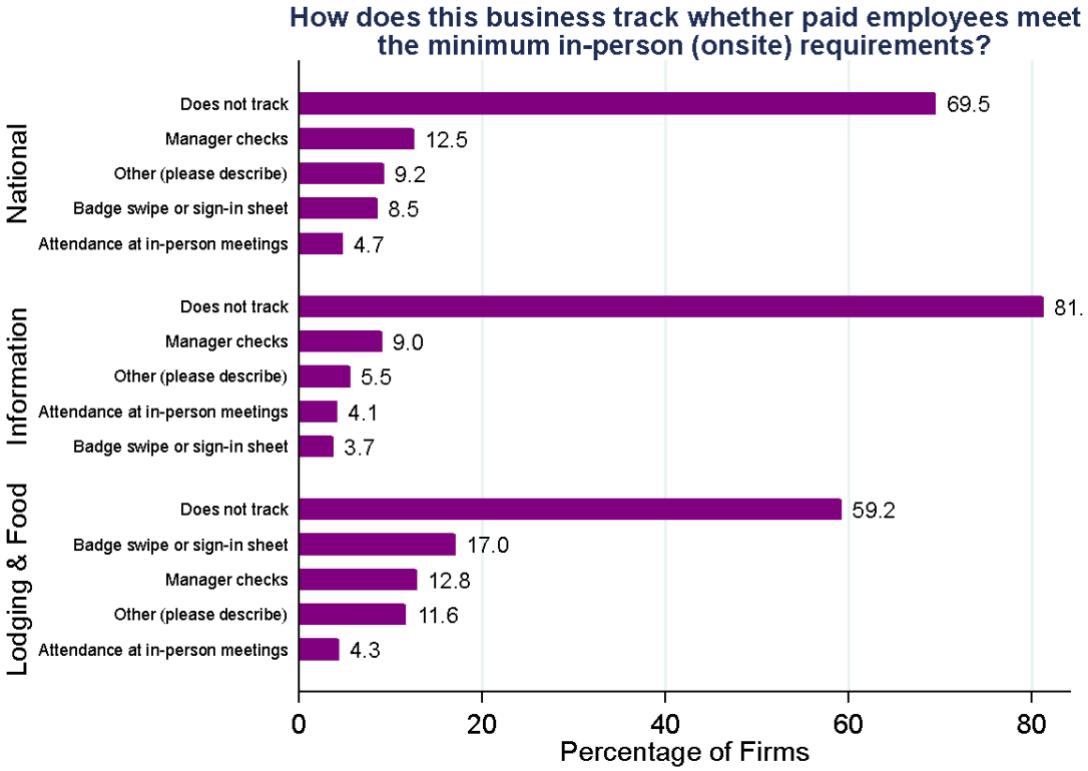
Source: BTOS-WFH Supplement Questions 27-29: https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure 4: Most Firms Say Some Jobs Cannot be Done from Home



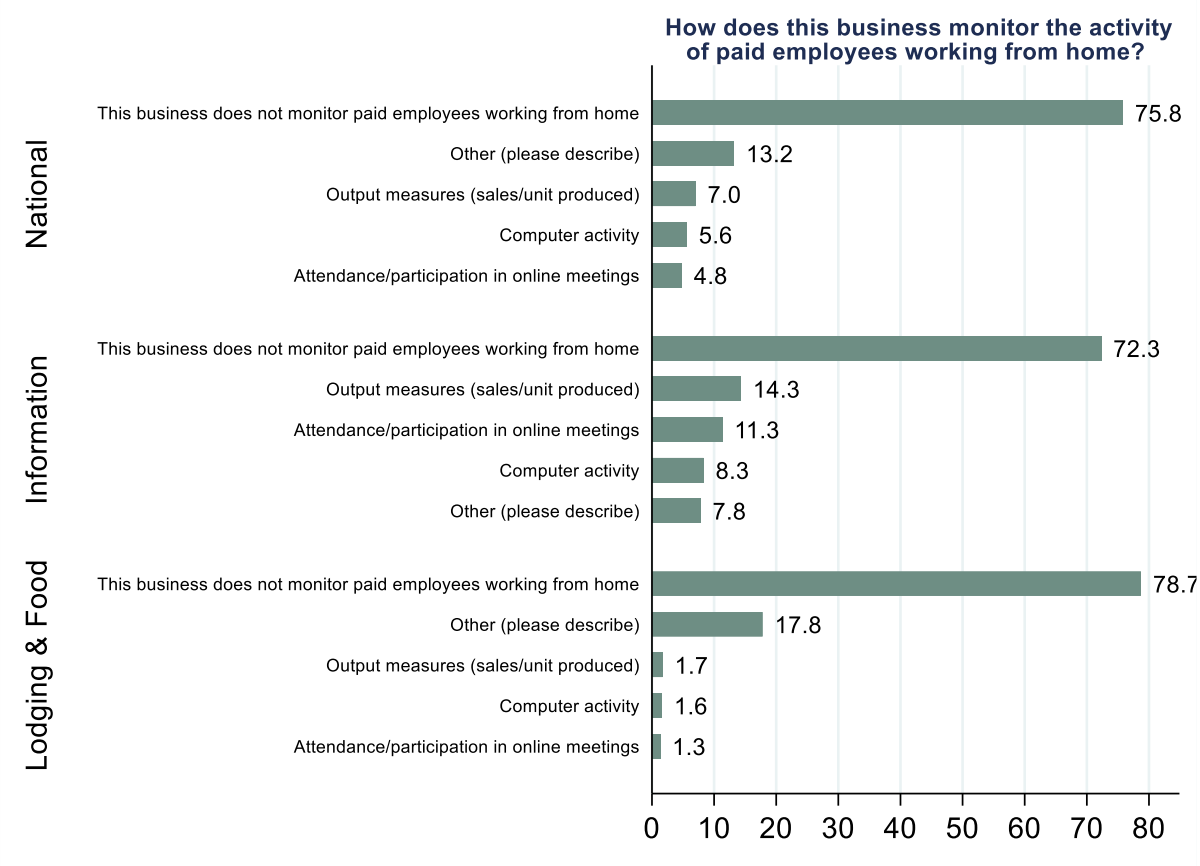
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure 5: Most Firms Do Not Track Whether Paid Employees Meet Onsite Requirements



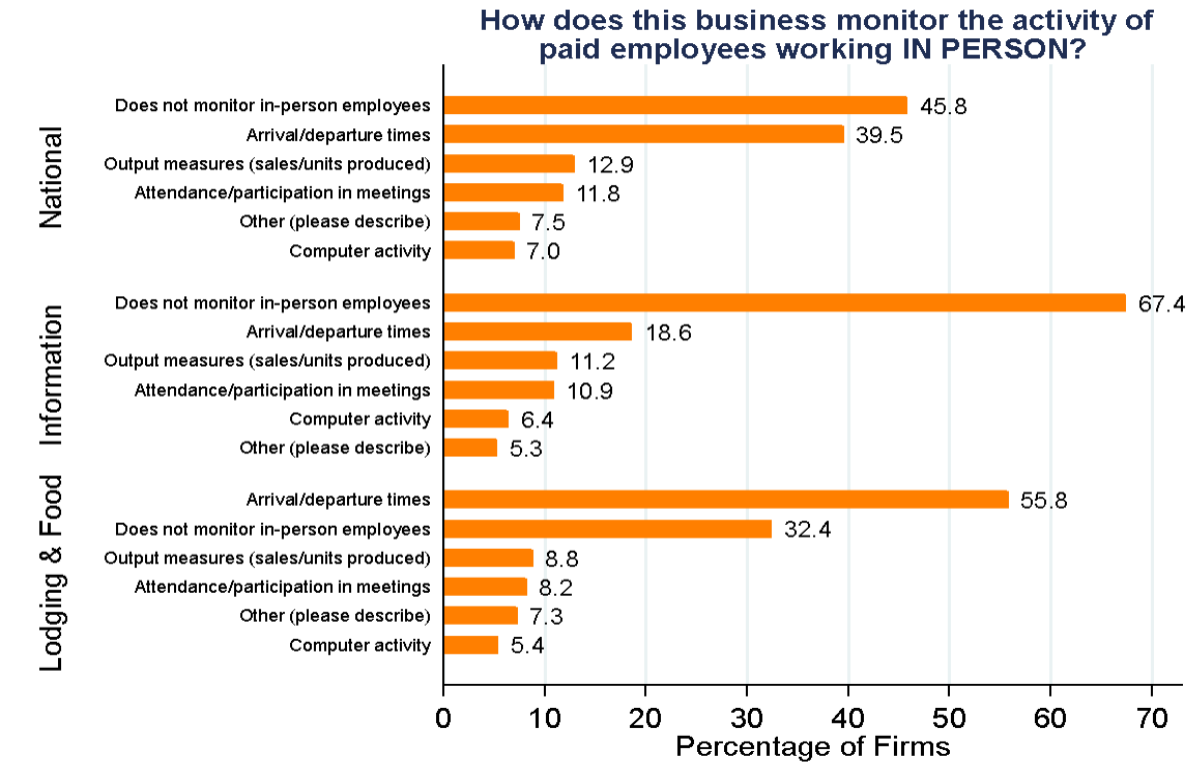
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure 6: Most Firms Do Not Monitor Employees When They Work from Home



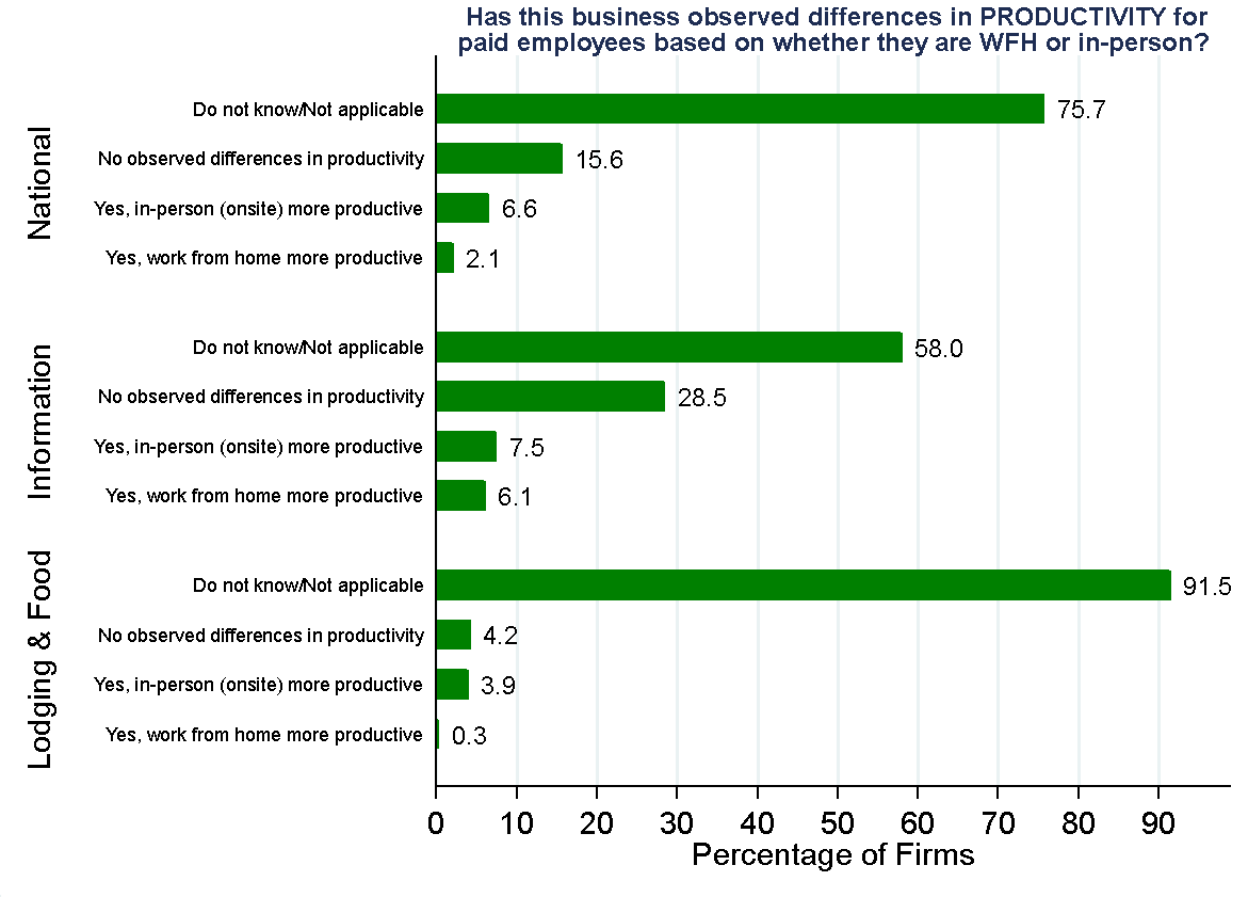
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure 7: Arrival & Departure Times Are the Most Common Way that Firms Track their Employees' Activity when Working in Person



Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

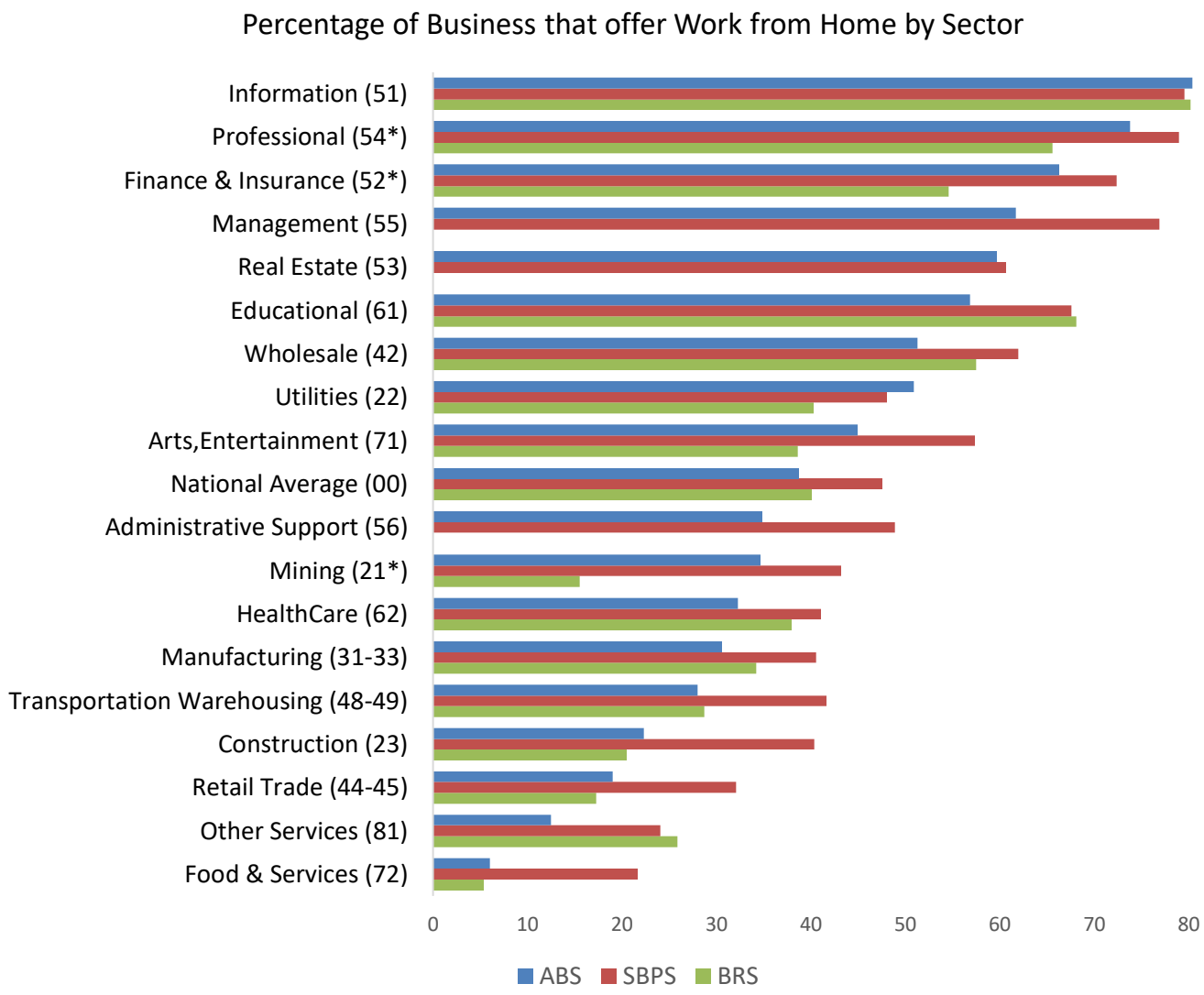
Figure 8: Many Firms Have Not Observed Productivity Differences Between Onsite and Work-From-Home Employees



Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

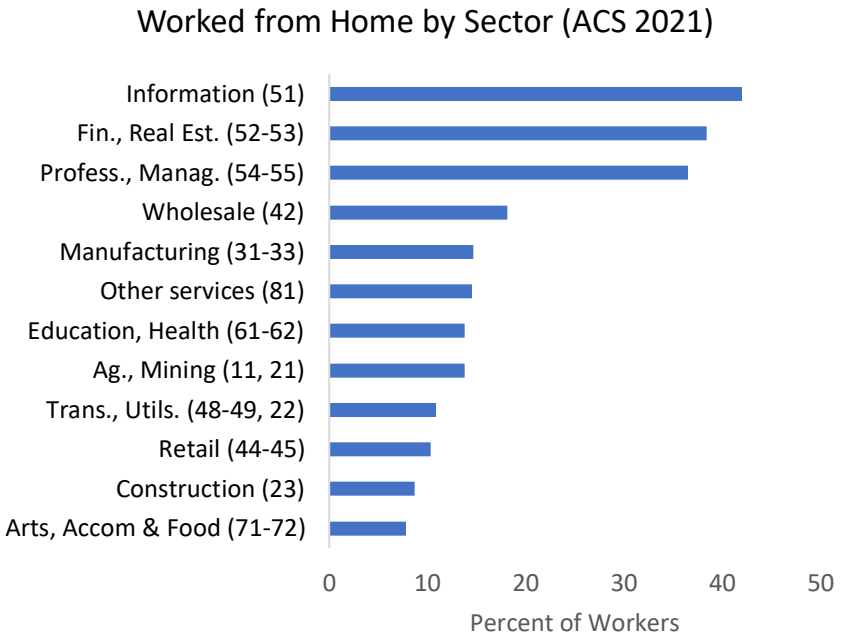
Figure 9: Measure of WFH from Other Surveys

A. Business Surveys:



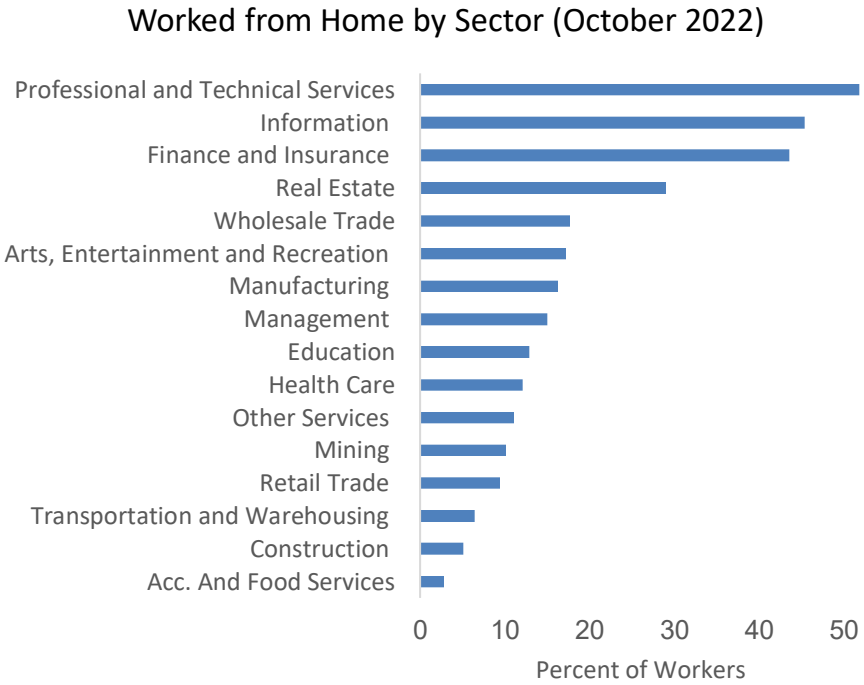
Source: Annual Business Survey (ABS 2021, AB2100CSCB01), Small Business Pulse Survey (SBPS, extracted January 2021), and Business Response Survey (BRS, 2021). Reference year 2021 for all surveys. Note: Differences across bars may not be statistically significant. Figure is for expositional purposes.

B: American Community Survey (ACS)



Source: Source: Burrows, Burd, McKenzie (2023) ACS-52

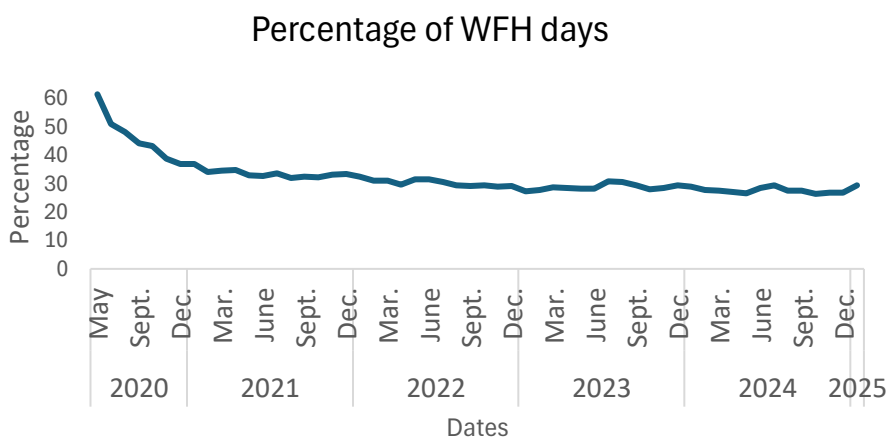
C: Current Population Survey (CPS)



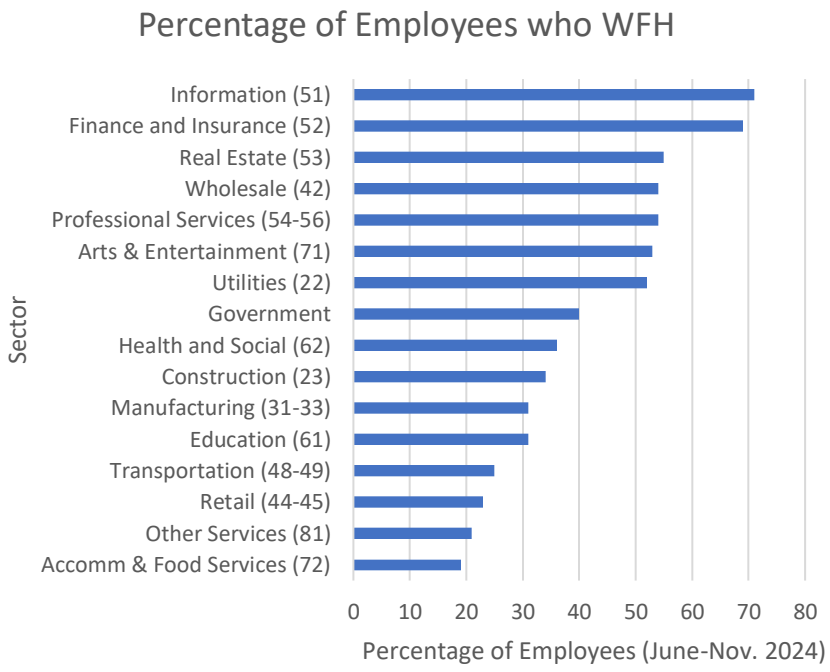
Sources: Publicly available data for CPS (October 22). See notes in Appendix B.

Figure 10: Work-From-Home Measures from the Survey of Working Arrangements and Attitudes (SWAA)

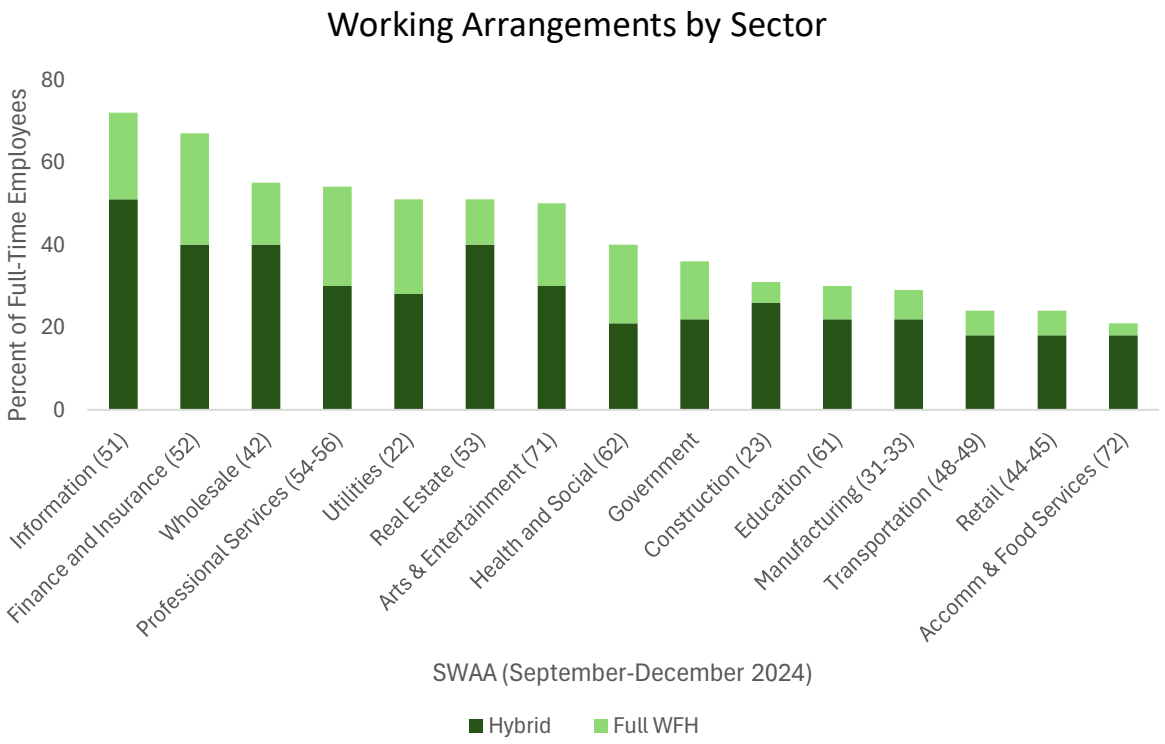
A. Average WFH Days Per Week



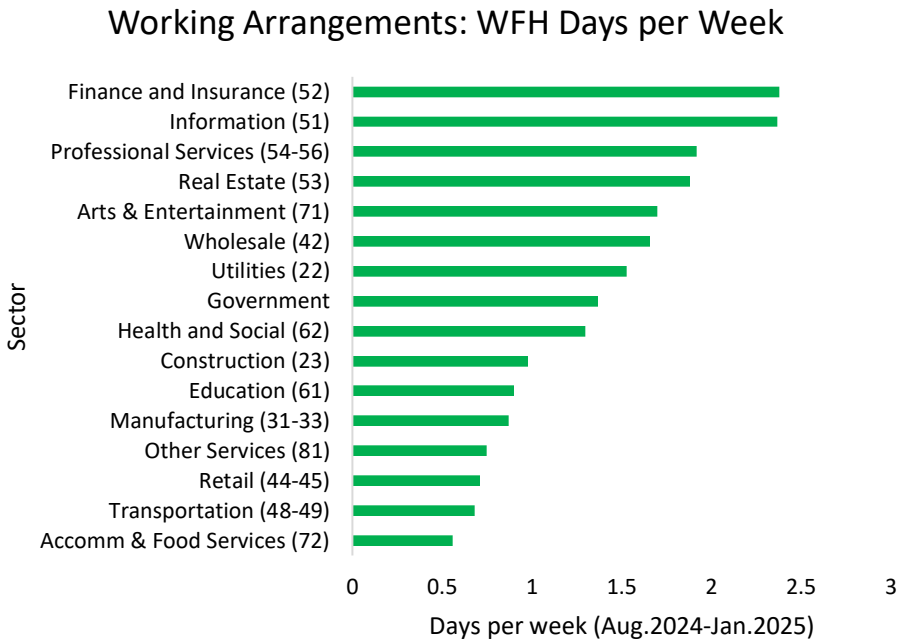
B. Employees Who WFH by Sector



C: Share of Employees with Hybrid, Fully Remote Arrangements by Sector

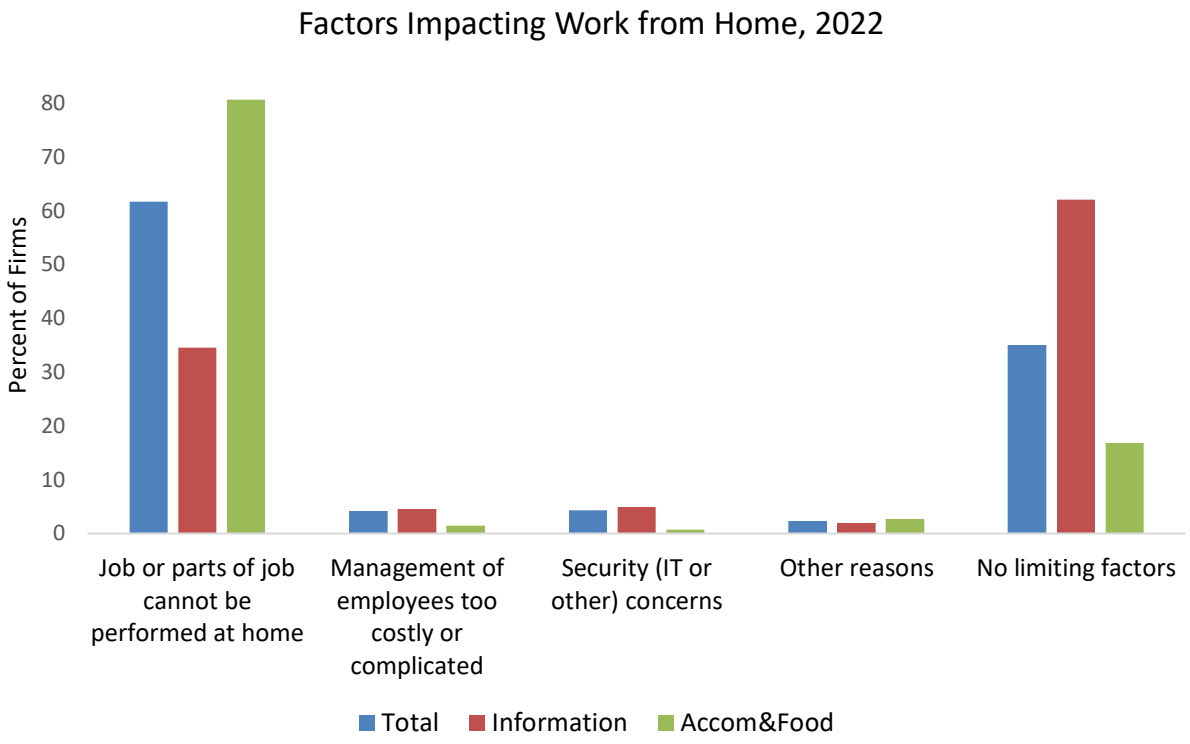


D. WFH Rate by Sector



Source: Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

Figure 11: Factors Affecting Work from Home, ABS



Source: Publicly available data from the ABS 2023 for reference year 2022. See notes in Appendix B.1 (these are responses to the example shown for question A.18).

Text Box 1: WFH Question on the BTOS

One WFH question appears over the entire BTOS sample year 3 (V3) collection: the question concerning the extensive margin (Question 6). The other ten WFH questions appear only as a supplement in collection from November 2024 to January 2025.

6. Between MM DD - MM DD, did this business have any paid employees who worked from home for at least one workday? *A workday is 6 or more hours.*
   - Yes
   - No

27. Approximately what percentage of this business's paid employees currently work from home any of their workdays? *A workday is 6 or more hours. Total must equal 100% of paid employees. Estimates are acceptable.*

    _____ % never work from home

    _____ % work from home occasionally

    _____ % work from home 1 day per week

    _____ % work from home 2 days per week

    _____ % work from home 3 days per week

    _____ % work from home 4 days per week

    _____ % work from home 5 or more days per week

    ____
    100% paid employees

    - Do not know/Not applicable

28. Five years ago (in 2019), approximately what percentage of this business's paid employees worked from home any of their workdays? *A workday is 6 or more hours. Total must equal 100% of paid employees. Estimates are acceptable.*

    ____% never worked from home

    ____% occasionally worked from home

    ____% worked from home 1 day per week

    ____% worked from home 2 days per week

    ____% worked from home 3 days per week

    ____% worked from home 4 days per week

    ____% worked from home 5 or more days per week

    ____
    100% paid employees

    - Do not know/Not applicable

29. Looking forward to five years from now (in 2029), approximately what percentage of this business's paid employees do you think will work from home any of their workdays? *A workday is 6 or more hours. Total must equal 100% of paid employees. Estimates are acceptable.*

____% will never work from home

____% will occasionally work from home

____% will work from home 1 day per week

____% will work from home 2 days per week

____% will work from home 3 days per week

____% will work from home 4 days per week

____% will work from home 5 or more days per week

____
100% paid employees

- Do not know/Not applicable

30. Does this business pay its fully remote employees based partly on the cost of living where they live (locality pay)?
    - Yes
    - No
    - Do not know/ Not applicable

31. What factors limit the ability of this business's paid employees to work from home? *Select all that apply.*
    - Parts or all of the job cannot be performed from home
    - Management of employees working from home too costly/complicated
    - Efficiency/productivity concerns
    - Challenges around mentoring/learning or teamwork/socialization
    - Legal/regulatory/tax reasons
    - Security concerns (IT or other)
    - Other *(please describe* _____*)*
    - No factors limit work from home

32. Does this business have a work from home policy with any minimum in-person (onsite) requirements?
    - Yes
    - No

33. How does this business track whether paid employees meet the minimum in-person (onsite) requirements? *Select all that apply.*
    - Badge swipe or sign-in sheet
    - Attendance at in-person meetings
    - Manager checks
    - Other (*please describe*_____)
    - This business does not track whether in-person (onsite) requirements are met

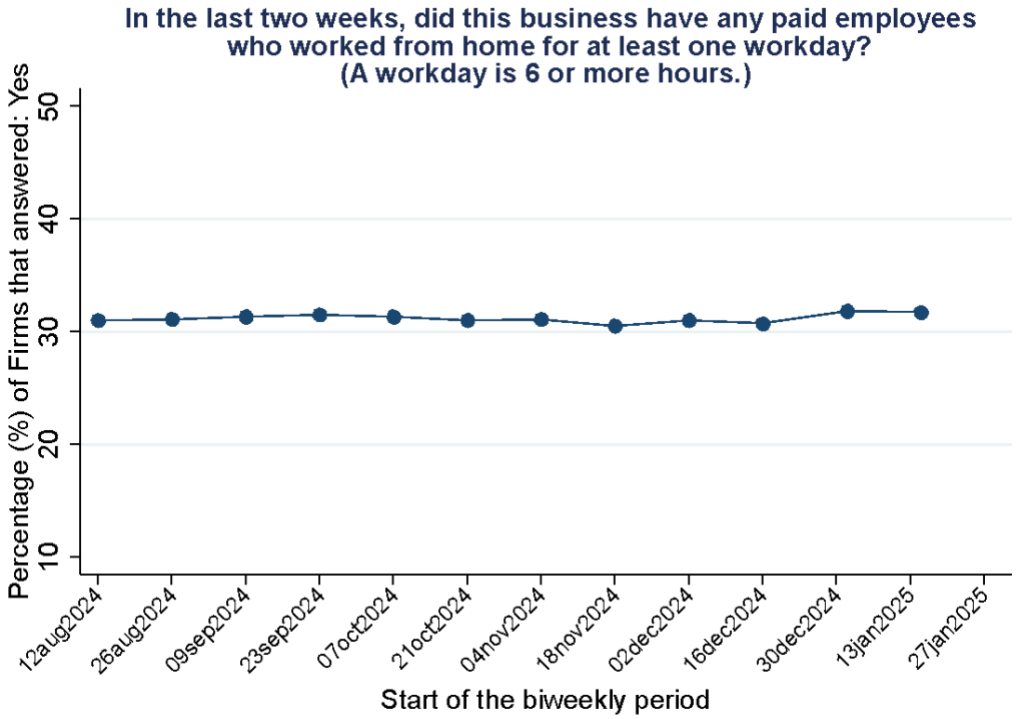
34. How does this business monitor the activity of paid employees working from home? *Select all that apply.*
    - Computer activity
    - Attendance/participation in online meetings
    - Specific measures of output (for example, number of customers served or calls answered, sales, units produced, etc.)
    - Other *(please describe _____)*
    - This business does not monitor paid employees working from home

35. How does this business monitor the activity of paid employees working in-person (onsite)? *Select all that apply.*
    - Arrival/departure times
    - Computer activity
    - Attendance/participation in meetings
    - Specific measures of output (for example, number of customers served or calls answered, sales, units produced, etc.)
    - Other *(please describe _____)*
    - This business does not monitor paid employees working in-person (onsite)

36. Has this business observed differences in productivity for paid employees based on whether they are working from home or in-person (onsite)?
    - Yes, work from home more productive
    - Yes, in-person (onsite) more productive
    - No observed differences in productivity
    - Do not know/Not applicable

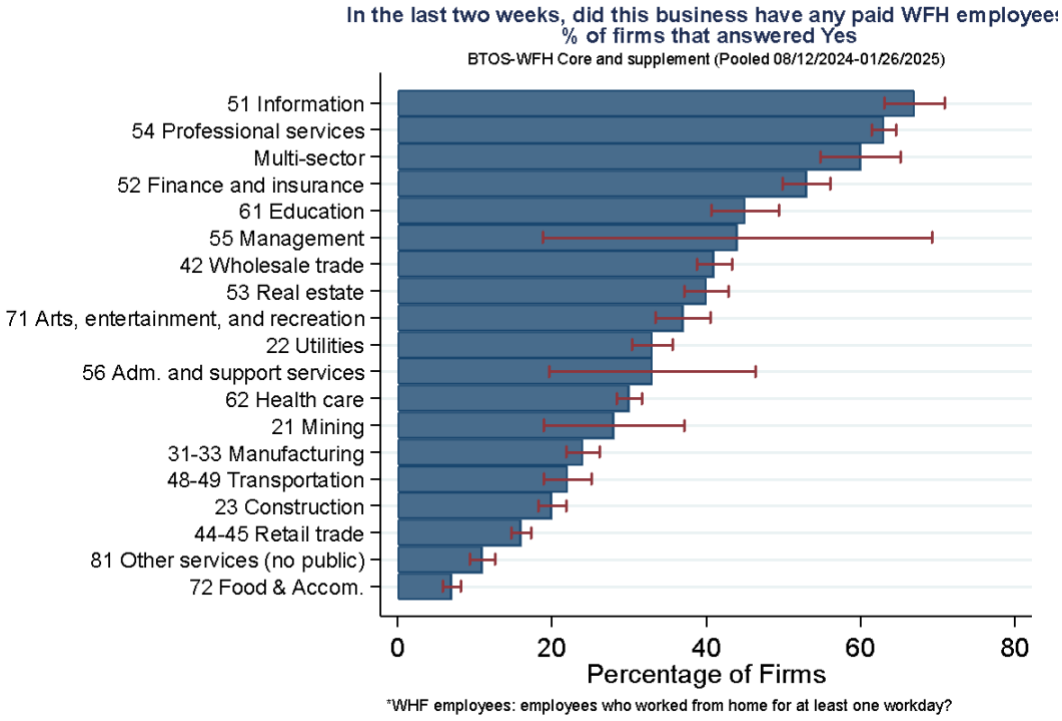
Appendix A: Additional Results

Figure A.1: About One-Third of Businesses Report Having Employees Who Work From Home



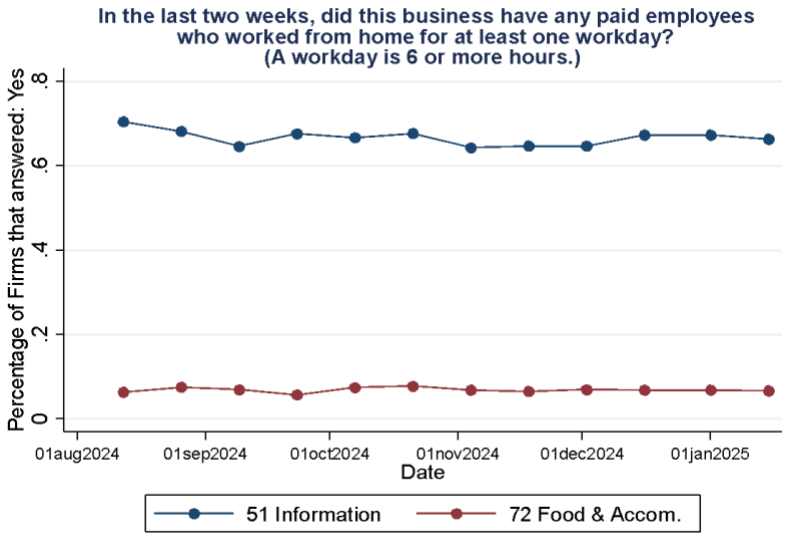
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure A.2: Over Half of Firms in the Information & Professional Services Sectors Have Employees Who Work From Home



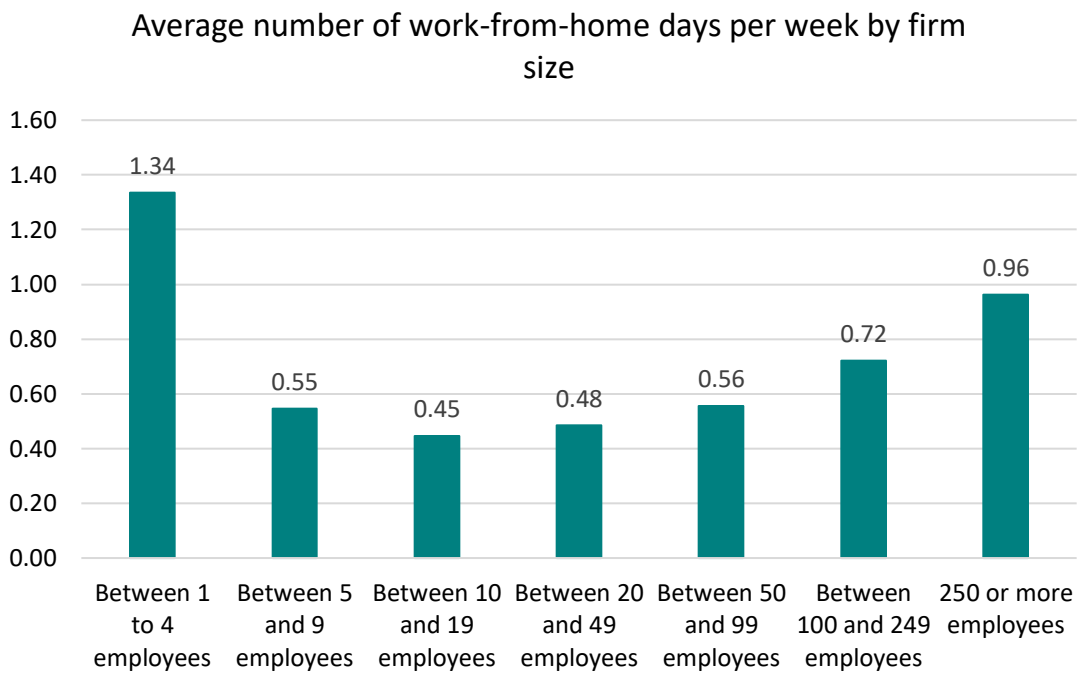
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms. 95% Confidence Intervals are represented by the horizontal red lines.

Figure A.3: The Share of Firms with WFH Employees Is Stable in the Top and Bottom WFH Sectors (Information, Food and Accommodation)



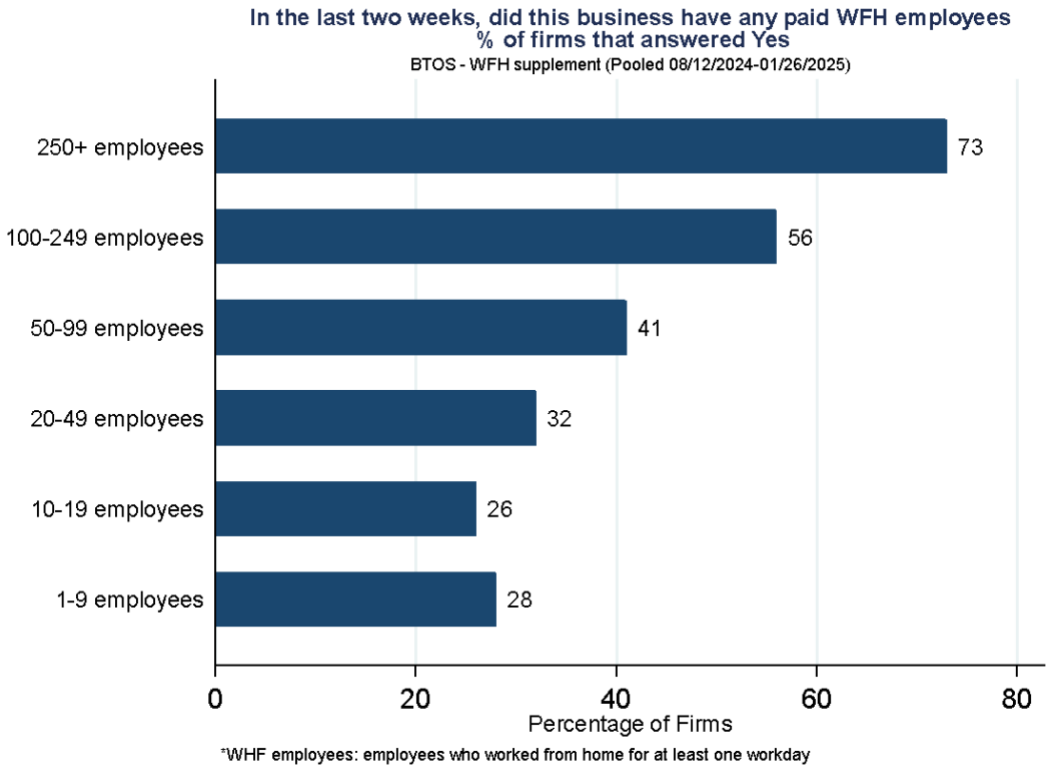
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure A.4: Work-From-Home Rates Are U-Shaped in Firm Size



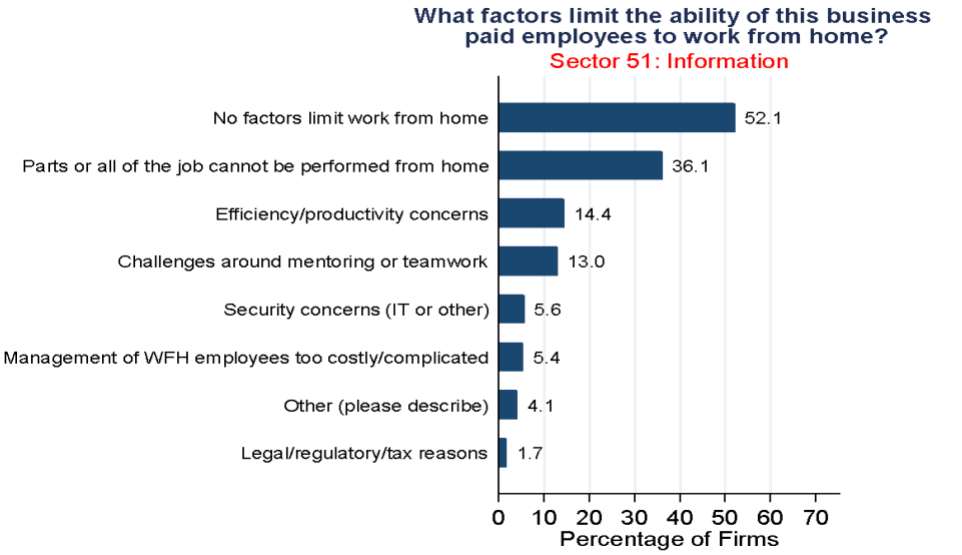
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

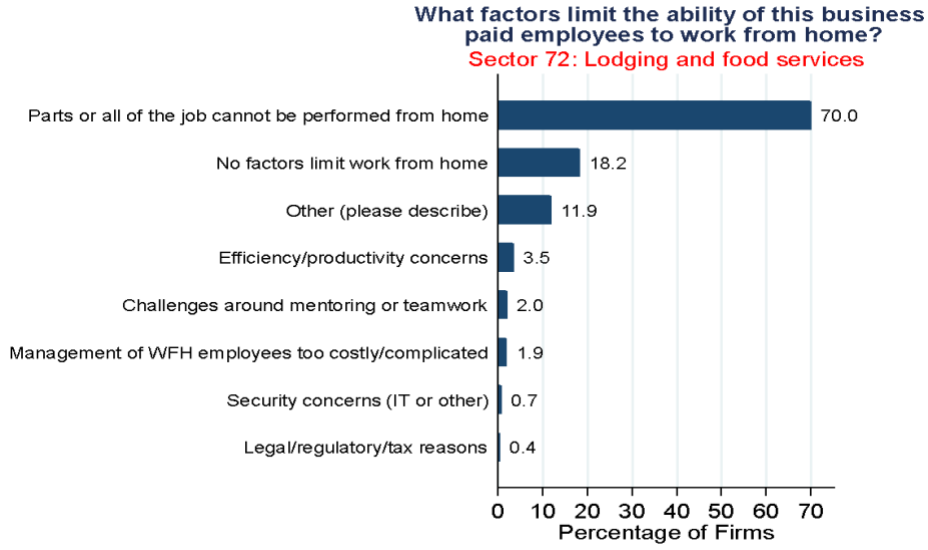
Figure A.5: The Share of Firms with Any WFH Employees Rises with Firm Size



Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

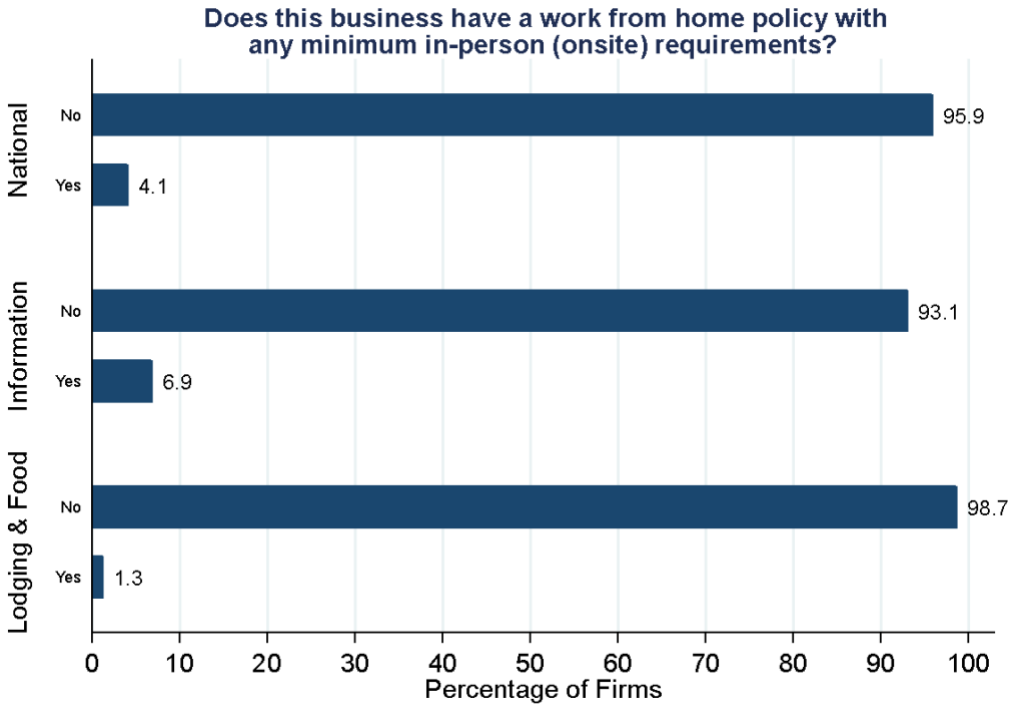
Figure A.6: Limiting Factors (Two Sectors)





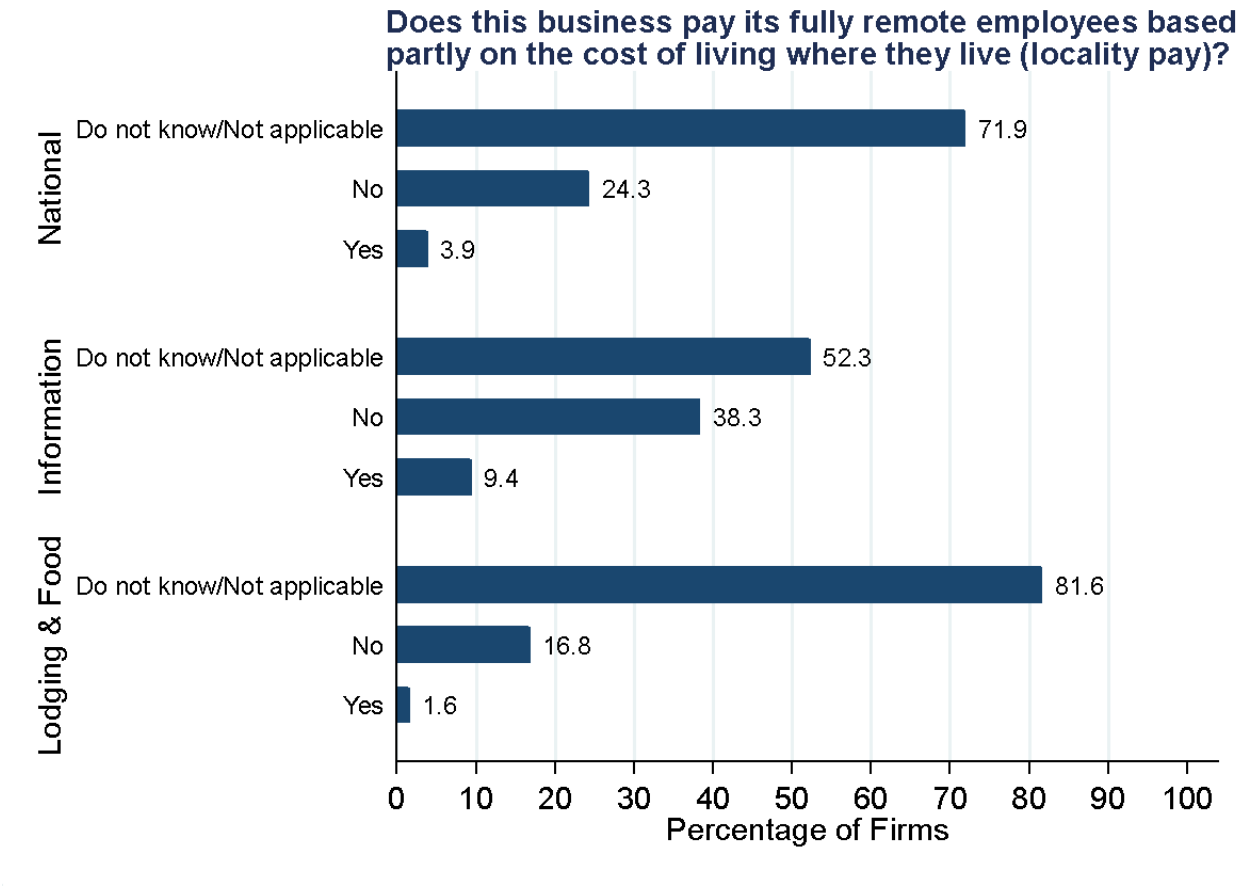
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure A.7: Onsite Requirements



Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

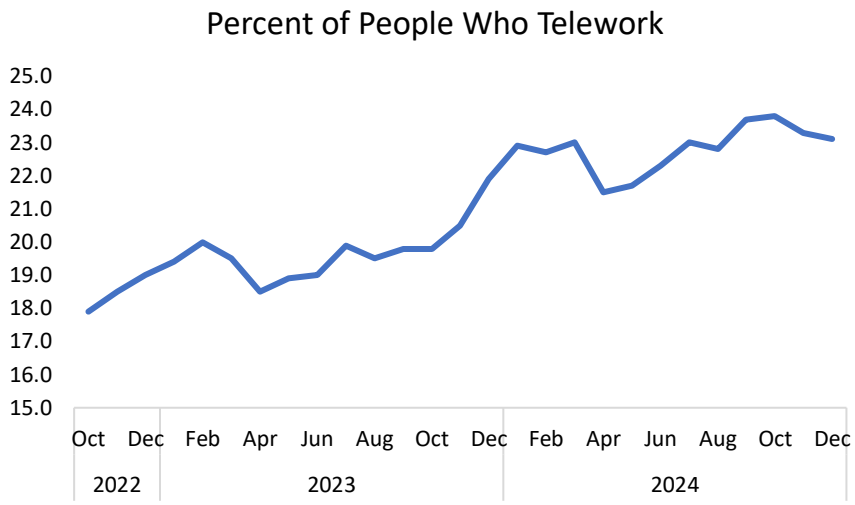
Figure A.8: Locality Pay



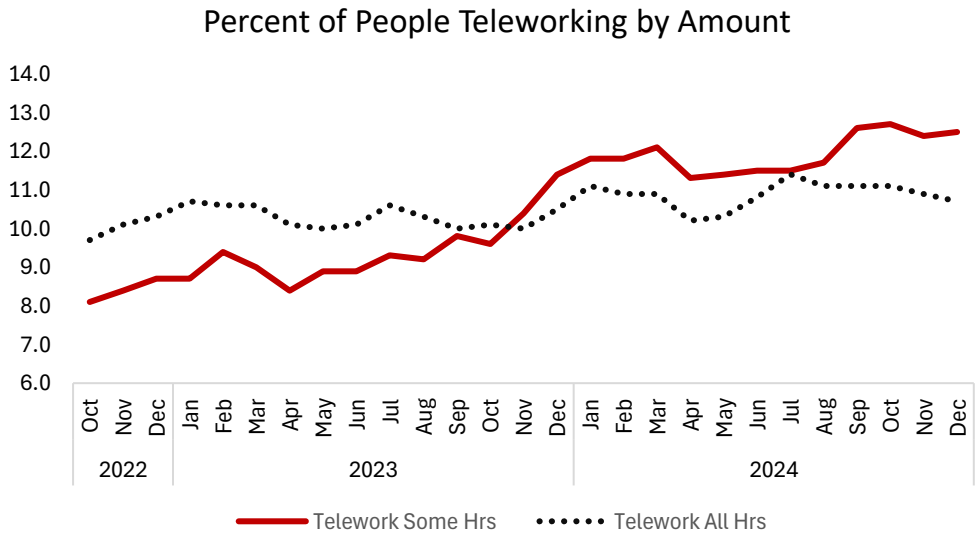
Source: BTOS-WFH Supplement https://www.census.gov/hfp/btos/data_downloads. Responses were received from over 150,000 firms for the BTOS WFH-Supplement survey conducted from November 2024 to January 2025. XX represents Multisector firms.

Figure A.9: Work-From-Home Measures from the Current Population Survey

A: Any WFH



B: WFH Some Hours vs. All Hours



Source: Current Population Survey, monthly data, 2022–2024. Figure A: Based on persons who teleworked or worked at home (all or some hours per day) for pay. Figure B: Based on persons who teleworked or worked at home either all hours (dashed line) or some hours (solid line) for pay.

Appendix B: Other Surveys Used in this Paper

B1. Annual Business Survey (ABS)

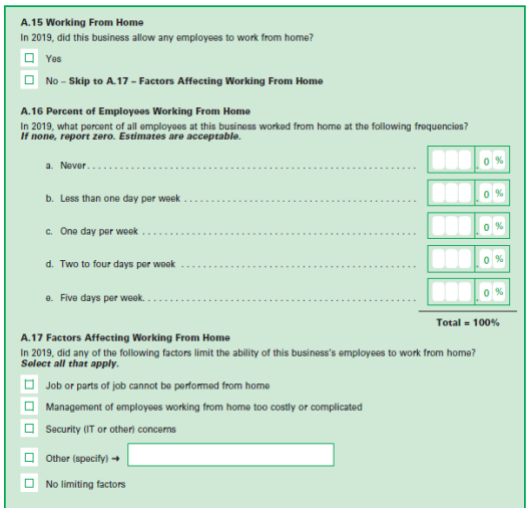
Source: Annual Business Survey (ABS) Program

The ABS is firm-level survey covering the private, non-agricultural economy. The sample size of the ABS varies from 300,000 firms in most years to 800,000 firms in Economic Census years (years ending in '2' or '7'). The ABS represents a partnership between Census Bureau and National Center for Science and Engineering Statistics and covers many of topics. For this reason, it tends to be more qualitative, asking questions that can be answered through checkbox responses. The ABS is denoted by its collection year rather than its reference year.

With the start of the covid pandemic (ABS2020, reference year 2019), three questions were added concerning work from home. The first question "In {reference year}, did this business allow any employees to work from home?" has Yes/No checkbox responses. Those who respond Yes, are asked the second question: the percent of employees in each of five categories of WFH frequency. The categories are: "Never", "Less than One Day", "One Day", "Two to Four Days per Week", and "Five Days per Week." The third question is asked of all firms and ask respondents to select all that apply for factors impacting WFH at the firm. In the interests of maintaining continuity and comparability across time, the three questions have been retained in their original form in every ABS since with one exception: the last category of responses for the second question was changed from "Five days per week" to "Five or more days per week" after ABS 2020.

The results from the ABS are weighted representation of firms that answered these questions. The program does not impute for non-response, and thus they are not representative of all firms. That is, they do not re-weight/adjust to account for the non-respondents to the Work from Home questions. Moreover, the sample covers only employer firms which is an important consideration since much of work from home is from the self-employed. Finally, due to the complexity of the ABS collection, there is a long lag between collection and publication of results.

ABS 2020 (reference year 2019)



A.15 Working From Home
In 2019, did this business allow any employees to work from home?
☐ Yes
☐ No – **Skip to A.17 – Factors Affecting Working From Home**

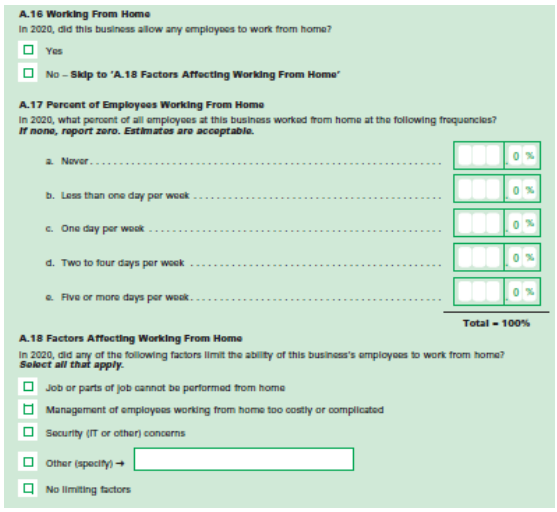
A.16 Percent of Employees Working From Home
In 2019, what percent of all employees at this business worked from home at the following frequencies?
If none, report zero. Estimates are acceptable.

a. Never . . . . . 0 %
b. Less than one day per week . . . . . 0 %
c. One day per week . . . . . 0 %
d. Two to four days per week . . . . . 0 %
e. Five days per week . . . . . 0 %

Total = 100%

A.17 Factors Affecting Working From Home
In 2019, did any of the following factors limit the ability of this business's employees to work from home?
Select all that apply.
☐ Job or parts of job cannot be performed from home
☐ Management of employees working from home too costly or complicated
☐ Security (IT or other) concerns
☐ Other (specify) →
☐ No limiting factors

ABS 2021 (reference year 2020) – ABS 2024



A.16 Working From Home
In 2020, did this business allow any employees to work from home?
☐ Yes
☐ No – **Skip to 'A.18 Factors Affecting Working From Home'**

A.17 Percent of Employees Working From Home
In 2020, what percent of all employees at this business worked from home at the following frequencies?
If none, report zero. Estimates are acceptable.

a. Never . . . . . 0 %
b. Less than one day per week . . . . . 0 %
c. One day per week . . . . . 0 %
d. Two to four days per week . . . . . 0 %
e. Five or more days per week . . . . . 0 %

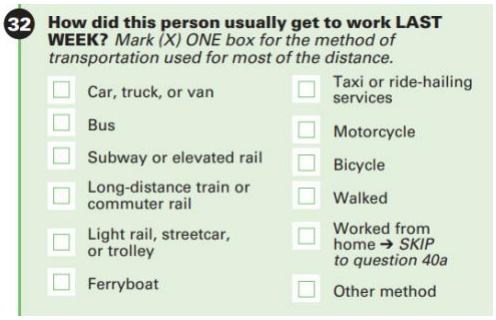
Total = 100%

A.18 Factors Affecting Working From Home
In 2020, did any of the following factors limit the ability of this business's employees to work from home?
Select all that apply.
☐ Job or parts of job cannot be performed from home
☐ Management of employees working from home too costly or complicated
☐ Security (IT or other) concerns
☐ Other (specify) →
☐ No limiting factors

B2. American Community Survey (ACS)

Source: [The American Community Survey - Informational Copy (2024) (census.gov)]

Starting in 1960 and continuing through 2000, decennial long form included a commuting question on how did this person usually get to work last week with checkboxes include “worked at home”; with the transition to the American Community Survey, the commute question is asked of up to 5 people in the household (example ACS 2024).” In 2019, the response “Worked at home” switched to “Worked from home”.



32 **How did this person usually get to work LAST WEEK?** *Mark (X) ONE box for the method of transportation used for most of the distance.*

☐ Car, truck, or van
☐ Bus
☐ Subway or elevated rail
☐ Long-distance train or commuter rail
☐ Light rail, streetcar, or trolley
☐ Ferryboat
☐ Taxi or ride-hailing services
☐ Motorcycle
☐ Bicycle
☐ Walked
☐ Worked from home → *SKIP to question 40a*
☐ Other method

B3. Business Response Survey (BRS)

Source: [BRS Survey Questions: U.S. Bureau of Labor Statistics (bls.gov)]

BLS fielded the Business Response Survey (BRS) in 2020, 2021, and 2022. The framing of the questions was initially tied to the COVID-19 pandemic, but the questions became more general over time. Since our focus is also more general, we focus on the later BRS collections.

The BRS 2021 asked three questions about telework (did telework increase since the pandemic; whether it was expected to increase; and a question about intensity of telework). The survey also asked two related questions about changes in square footage of space since the start of the pandemic and expected changes in the square footage of space.

The BRS 2022 asks about the extensive and intensive margins of telework. One question asks: "Do any employees at this location CURRENTLY telework in any amount?" with yes/no responses. Another question asks: "In a typical week, what percent of employees CURRENTLY telework in the following amounts? Answers should total 100%" The categories to be filled in are: All the time (remote employee); Some of the time (some work hours or days via telework); and rarely or never (rare occasions of telework, or full-time on-site).

Example: BRS 2022 Questions about Telework

Telework is a work arrangement that allows an employee to work at home, or from another remote location, by using the internet or a computer linked to one's place of employment, as well as digital communications such as email and phone. When answering the telework questions, if an answer is zero, please enter '0' in the answer field.

1. Do any employees at this location CURRENTLY telework in any amount?
   - ○ Yes
   - ○ No --> Skip to question 3

2. In a typical week, what percent of employees CURRENTLY telework in the following amounts?
   Answers should total 100%

   [____] All the time (remote employee)
   [____] Some of the time (some work hours or days via telework)
   [____] Rarely or never (rare occasions of telework, or full-time on-site)

3. In the next 6 months, does this location expect the amount of time that employees are permitted to telework to...
   - ☐ increase.
   - ☐ decrease.
   - ☐ stay the same.

4. In February 2020, before the coronavirus pandemic began, did any employees at this location telework in any amount?
   - ☐ Yes
   - ☐ No
   - ☐ Don't know
   - ☐ Location not in business in February 2020

7. How many of these new employees hired in July 2022, will telework all the time (be remote employees)? [____]

8. For positions filled in July 2022, did this location do any of the following to attract more applicants?
   Select all that apply.
   - ☐ Expanded advertising
   - ☐ Started using recruiters/talent agencies
   - ☐ Increased starting pay
   - ☐ Offered hiring bonuses
   - ☐ Offered more hours (e.g., changed position from part-time to full-time)
   - ☐ Reduced qualifications (e.g., education or experience)
   - ☐ Expanded benefits
   - ☐ Expanded telework or remote work
   - ☐ None of the above

18. How many of these open positions are eligible for full time telework (remote work)? [____]

B4: Current Population Survey (CPS)

Source: Telework (CPS): U.S. Bureau of Labor Statistics (bls.gov)

Due to the pandemic, work at home questions were added to the basic monthly labor force questions starting in May 2020, these questions were revised in October 2022, then revised again in November 2023 to broaden the type of telework by dropping the pandemic framing and to focus only on two questions (extensive margin and intensive margin). In January 2024, the placement of these questions was moved to follow immediately after employment questions and are now a permanent collection on the monthly CPS.[25]

Monthly CPS

The CPS identifies employed people who either worked during the reference week or who had a job but did not work during the reference for reasons such as illness or vacation etc. Information about telework is collected from the employed people who were "at work" during the reference week ("where 'at work' describes the fact that people worked and does not indicate where they worked"). The questions are (1) At any time LAST WEEK, did you telework or work at home for pay? and (2) Last week, you worked {} hours. How many of these hours did you telework or work at home for pay? BLS publishes the percent of workers teleworking some hours and all hours (as shown in the example from December 2024 below) as well as providing more detail on the number of hours. We focus on the categories some hours and all hours in this paper.

Introduction. I now have some questions related to how the COVID-19 pandemic affected where people work.

Beginning in December 2023, the introduction was changed to:

Introduction. I now have some questions related to where people work.

(Asked about all people who worked last week)

Q1. At any time LAST WEEK, did you telework or work at home for pay?

- Yes
- No (go to Q3)

(Asked about all people who teleworked or worked at home last week)

Q2. Last week, you worked [fill: person's total hours worked last week] hours [fill for multiple jobholders: total, at all jobs]. How many of these hours did you telework or work at home for pay?

- _____ hours

Table 1. Persons at work by telework status and selected characteristics, December 2024

[Numbers in thousands]

Characteristic	Total persons at work[1]	Persons who teleworked or worked at home for pay			Persons who did not telework or work at home for pay	Percent distribution				
		Total	Teleworked some hours[2]	Teleworked all hours		Total persons at work[1]	Persons who teleworked or worked at home for pay			Persons who did not telework or work at home for pay
							Total	Teleworked some hours[2]	Teleworked all hours	
Age and sex										
Total, 16 years and over	156,732	36,216	19,519	16,697	120,516	100.0	23.1	12.5	10.7	76.9

[25] See Telework (CPS): U.S. Bureau of Labor Statistics (bls.gov) and Dey et al. (2021).

Periodic Supplements

In addition to the monthly CPS collection on labor market statistics, the CPS also hosts regularly occurring and periodic supplements (the ASEC is an example of the former, and the Contingent Worker Survey is an example of the latter). Prior to the pandemic, there had been five collections of work at home as supplements on the May CPS (1985, 1991, 1997, 2001, 2004).[26] More recently, BLS conducted the "Work Schedule" Supplement in September 2024.[27] The supplement asks about a dozen questions related to work at home.

Many of the supplement questions are relevant only at the worker level, for example, asking the types of work done while at home (work that substitutes for work at a worksite, work that complements work at a worksite, or both) and whether a hybrid work schedule is such that modes of work are divided across days or within days (that is, does the worker have days where they both work at home and at the worksite).

Some of the questions that are directly relevant for our consideration concern factors for why a worker may choose not to work at home. The question is copied in below.

S15 (ReasonNotHome)

Universe:

Employed people who do not work at home
S13 = 2, D, or R

Question:

What is the MAIN reason (you/NAME) (do/does) not work at home? **(Choose one.)**

Response options & paths:

1. Job can't be done from home
2. Not interested/personal preference
3. Child care or family conflicts
4. No equipment to work remotely/no space at home
5. More productive at work, better connection with coworkers
6. Loss of opportunity, income, or promotion; manager doesn't support
7. Some other reason ***GO TO S15S***

[Blind] (D) Don't Know
[Blind] (R) Refused

All other than 7 ***GO TO S15CHK***

[26] See Horvath (1986), Demming (1994), and Noonan and Glass (2012). The supplements are not strictly comparable over time as noted in the press releases. There were no work from home supplements from 2005-2021, see Supplemental Surveys (census.gov).

[27] See Polivka, Allard, and Sok (forthcoming) for an excellent, detailed discussion of the development and deployment of this content. From Polivka et al. (2024), page 11: "BLS survey methodologists supplemented their findings with insights from an online assessment of questions from another survey, the Census Bureau's Household Pulse Survey." See also Federal Register :: Information Collection Activities; Comment Request.

B5. Household Pulse Survey

Source: [Phase 4.0 Household Pulse Survey (census.gov)]

The Household Pulse Survey (HPS) is a biweekly/monthly electronic survey of households started during the pandemic and ended in September 2024 (when it was replaced by the Household Trends and Outlook Pulse Survey). The content on the HPS was developed by the Census Bureau in partnership with stakeholders (including the Bureau of Transportation Statistics). As the pandemic and post-pandemic situations evolved, the questions on the HPS changed to remain relevant. For example, in 2020, the HPS reported results for "some adult in household substituted some or all of their typical in-person work for telework because of the coronavirus pandemic." Starting in late 2022, the HPS fielded two questions about working from home. The first concerns any of people in the household and is copied in below (from the January 9, 2024 version of HPS), given the detailed response categories, this can capture "all WFH", "no WFH", and hybrid work schedules. The second question concerns the respondent for households where someone in the household teleworked in the last 7 days (copied in below).

SPN5_DAYSTW In the **last 7 days**, have any of the people in your household teleworked or worked from home?

- ○ Yes, for 1-2 days
- ○ Yes, for 3-4 days
- ○ Yes, for 5 or more days
- ○ No

SPN5_DAYSTW_2 In the **last 7 days**, have you teleworked or worked from home?

- ○ Yes, for 1-2 days
- ○ Yes, for 3-4 days
- ○ Yes, for 5 or more days
- ○ No

Buckman et al. (2025) note the more relevant concept for their paper (and ours) is the household question since the respondent question is conditioned on two things: respondent worked for pay and someone in the household teleworked or worked from home in the last 7 days. In contrast, the household question does not include these conditions. Compare the red (household) and green (respondent) circles below. However, we need to keep in mind that this is a household response rather than an individual response.

Employment Table 4a. Anyone in Household Teleworked or Worked from Home in the Last 7 Days, by Select Characteristics: United States
Source: U.S. Census Bureau Household Pulse Survey, Cycle 05.
Note: These data are experimental. Users should take caution using estimates based on subpopulations of the data – sample sizes may be small and the standard errors may be large.**
Total Population 18 Years and Older

Select characteristics	Total	Anyone teleworked or worked from home in the last 7 days				
		Yes, for 1-2 days	Yes, for 3-4 days	Yes, for 5 or more days	No	Did not report
Total	256,311,560	21,204,022	14,122,792	35,825,915	174,390,327	10,768,504

Employment Table 4b. Respondent in Household Teleworked or Worked from Home in the Last 7 Days, by Select Characteristics: United States
Source: U.S. Census Bureau Household Pulse Survey, Cycle 05.
Note: These data are experimental. Users should take caution using estimates based on subpopulations of the data – sample sizes may be small and the standard errors may be large.**
Total Population 18 Years and Older in Households where the Respondent Worked for Pay and Someone in the Household Teleworked or Worked from Home in the Last 7 Days

Select characteristics	Total	Telework frequency of respondent in last 7 days				
		Yes, for 1-2 days	Yes, for 3-4 days	Yes, for 5 or more days	No	Did not report
Total	59,695,457	14,503,303	8,874,600	21,591,568	13,996,581	729,406

B6. Small Business Pulse Survey (SBPS) 2020-2022

Source: Small Business Pulse Survey Data (census.gov)

The Small Business Pulse Survey (SBPS) is a weekly experimental survey that the Census Bureau fielded from April 2020 to April 2022 in response to the COVID-19 pandemic (Buffington et al. 2021). Collection for the SBPS was all electronic and businesses were contacted through their email addresses. The SBPS target population was single location firms with 1-499 employees and more than one-thousand dollars in revenue. Each week, emails were sent out to 100,000 businesses asking them to participate in the survey, resulting in a response rate of about 25% (results are re-weighted to be nationally representative). [28]

Early in the SBPS collection (August 2020-January 2021, phases 2 and 3), a question about work from home included as a response that the businesses did not have WFH employees. The question was: "In the last week, did this business have a change in the total number of hours paid employees worked from home?" With three checkboxes about change (increase, decrease, no change) and "This business does not have paid employees who work from home." From this, we create a measure of businesses with WFH employees. The percent of businesses responding that they did not have WFH employees was relatively constant over time, ending at 52.4% (January 4-10, 2021) implying 47.6% of businesses had WFH employees. [29]

The SBPS collected changes in "the number of hours paid employees worked from home" using three different comparison periods. Early in the SBPS collection (August 2020-January 2021, phases 2 and 3), the current WFH was compared to the last week and only 10% of businesses had a change (about 50% of business did not have WFH employees and about 40% did not have a change in hours of WFH). Later in the SBPS collection (August 2021 to January 2022, phases 6 and 7), the comparison was to "what was normal before March 13, 2020" and about 25% of businesses had a change. In the last collection period (February 2022-April 2022, phase 8), the comparison is to "six months ago" and about 15% of businesses reported a change.

Finally, the SBPS collected information about factors impacting the operations of the business with one response regarding ability of employees to work from home.

WFH Extensive and Intensive Margins

Phases 2 and 3

In the last week, did this business have a change in the total number of hours paid employees worked from home?

- ○ Yes, increased
- ○ Yes, decreased
- ○ No change
- ○ This business does not have paid employees who work from home

Phase 6

[28] All results in this section are from the SBPS website: Small Business Pulse Survey Data (census.gov).

[29] However, since it could be that some of the 40.4% businesses responding no change did so because they did not have any paid WFH employees in both periods, so perhaps 46.8% should be thought of as an upper limit.

Q13. Comparing now to what was normal before March 13, 2020, how has the number of hours paid employees worked from home changed?

- Large increase in number of hours worked from home
- Moderate increase in number of hours worked from home
- Little or no change in number of hours worked from home
- Moderate decrease in number of hours worked from home
- Large decrease in number of hours worked from home

Phase 7

Q14. Comparing now to what was normal before March 13, 2020, how has the number of hours paid employees worked from home changed?

- Large increase in number of hours worked from home
- Moderate increase in number of hours worked from home
- Little or no change in number of hours worked from home
- Moderate decrease in number of hours worked from home
- Large decrease in number of hours worked from home

Phase 8

Q15. Comparing now to six months ago, how has the number of hours paid employees worked from home changed?

- Large increase in number of hours worked from home
- Moderate increase in number of hours worked from home
- Little or no change in number of hours worked from home
- Moderate decrease in number of hours worked from home
- Large decrease in number of hours worked from home

WFH as a Potential Constraint on Operating Capacity

(Collected in similar formats over Phases 2-5, example is from Phase 2.)

Phase 2

In the last week, was this business's operating capacity affected by any of the following?
Note: Operating capacity is the maximum amount of activity this business could conduct under realistic operating conditions.
Select all that apply:

- ○ Ability to re-hire furloughed or laid off employees and/or hire new employees
- ○ Availability of employees to work
- ○ Ability of employees to work from home
- ○ Physical distancing of employees
- ○ Physical distancing of customers or clients and/or limits on the number of concurrent customers or clients
- ○ Availability of Personal Protective Equipment (PPE) and/or related equipment or supplies
- ○ Availability of other supplies or inputs used to provide good or services
- ○ None of the above

B7. Survey of Working Arrangement and Attitudes (SWAA)

Source: [WFH February 2024 (wfhresearch.com)]

The SWAA is a monthly survey, starting in May 2020, of workers in the U.S. who report work-related earnings over a threshold (currently $10,000 for the prior year). Survey responses have increased over time and are currently about 10,000 responses. The SWAA research team designs the survey questions and uses commercial survey providers to field the survey via the internet (who share a link to the survey instrument with respondents).

The survey content varies "modestly" across survey waves and includes about 50 questions. A complete listing of the questions is available at: [Questionnaire-Repository-5-September-2024.pdf (wfhresearch.com)]. For our purposes it is important to note that the survey collects information on the industry of the worker and questions about working from home. The WFH examples from the February 2024 SWAA shown below cover the following topics: intensive margin, locality pay, expectations, productivity, and return to office policies.

A. Intensive Margin

4. You have indicated that you worked last week. How many ***full paid working days*** *did you* ***work from home*** last week?

Q_wfh_days | Multiple choice | Required | Vertical | Single-select

If this answer is greater than the previous answer, error reads:
"The number of total days working from home this week cannot exceed the total number of days you said you worked this week (in the previous question)."

a) **None**, all my paid working days were on business premises [TAG: 0]
b) **1 full paid day** working from home [TAG: 1]
c) **2 full paid days** working from home [TAG: 2]
d) **3 full paid days** working from home [TAG: 3]
e) **4 full paid days** working from home [TAG: 4]
f) **5+ full paid days** working from home [TAG: 5]

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

Matrix | Required | Group by: Row | Single-select | Randomize cols

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***

B. Locality Pay

486. As a fully remote employee, does your pay depend on where you live?

Multiple choice | Required | Vertical | Single-select | Randomize

a) Yes - by location, for example pay varies by US city
b) No - fully remote employees are paid the same across the US

C. Expectations

464. ***Looking one year ahead,*** how often ***is your employer planning*** for you to work full days at home?

Multiple choice | Required | Vertical | Single-select

a) Never
b) About once or twice per month
c) 1 day per week [TAG: weekly_wfh]
d) 2 days per week [TAG: weekly_wfh]
e) 3 days per week [TAG: weekly_wfh]
f) 4 days per week [TAG: weekly_wfh]
g) 5+ days per week [TAG: weekly_wfh]
h) My employer has not discussed this matter with me or announced a policy about it
i) I have no employer

D. Productivity

Worked from home

show block if Q6 selected choice is "Yes"

Set `random_efficiency_question` to select one of the efficiency questions 50/50

[Q144 logic: Show 50% of time]

144. How does your efficiency working from home compare to your efficiency working on business premises?

`Q_wfh_efficiency1` | Multiple choice | Required | Vertical | Single-select

a) Better -- I am **more** efficient at home than working on business premises
b) About the same -- I'm equally efficient in both places
c) Worse -- I am **less** efficient at home than working on business premises

[Q336 logic: Show 50% of time]

336. How does your efficiency working from home compare to your efficiency working on business premises?

`Q_wfh_efficiency2` | Multiple choice | Required | Vertical | Single-select

a) Worse -- I am **less** efficient at home than working on business premises
b) About the same -- I'm equally efficient in both places
c) Better -- I am **more** efficient at home than working on business premises

[Q145 logic: Show if "Better" selected in Q_wfh_efficiency1 or Q_wfh_efficiency2]

145. How much ***more efficient*** are you working from home than on business premises?

Multiple choice | Required | Vertical | Single-select

a) Under 5% more efficient
b) 5% to 10% more efficient
c) 10% to 15% more efficient
d) 15% to 25% more efficient
e) 25% to 35% more efficient
f) Over 35% more efficient

[Q146 logic: Show if "Worse" selected in Q_wfh_efficiency1 or Q_wfh_efficiency2]

146. How much ***less efficient*** are you working from home than on business premises?

Multiple choice | Required | Vertical | Single-select

a) Under 5% less efficient
b) 5% to 10% less efficient
c) 10% to 15% less efficient
d) 15% to 25% less efficient
e) 25% to 35% less efficient
f) Over 35% less efficient

Show if "Better" selected in Q_wfh_efficiency1 or Q_wfh_efficiency2

35. Is ***time saved by not commuting*** part of your ***extra efficiency when working from home?***

Multiple choice | Required | Vertical | Single-select | Randomize

a) Yes
b) No

[Q36 logic: Show if Q35 selected choice is "Yes"]

36. How much of your ***extra efficiency when working from home*** is due to the ***time you save by not commuting?***

[Please pick a number between 0 and 100%, where 0 means none of your extra efficiency is due to time saved from your commute, and 100 means all of your extra efficiency is due to time saved from your commute.]

Slider | Required | Min: 0 | Max: 100

None , 0% ———•——— All, 100%

E. Return to Office Policies

RTO policy questions

show block if Q5 selected choice is any of "I am a wage and salary employee, and my main job accounts for most of my earnings", "I am a wage and salary employee who also earns a lot of extra income from side jobs"

523. How many distinct ***Return to Office Policies*** has your employer announced since fall 2020?

Multiple choice | Required | Vertical | Single-select

a) None
b) One
c) Two
d) Three
e) Four
f) Five or more

524. Roughly what ***percentage of your co-workers comply*** with your employer's current ***Return to Office Policy?***

Number | Required | Min: 0 | Max: 100

_____ % comply with Return to Office Policy

525. What happens to ***employees who don't comply*** with your employer's current ***Return to Office Policy?*** Please select all that apply.

Multiple choice | Required | Vertical | Multi-select | Randomize

a) Nothing
b) Verbal reprimand
c) Negative performance review
d) Reduction in pay or bonus
e) Threat to terminate if it continues
f) Termination
g) Other [text input]
h) I don't know