Tapping Business and Household Surveys to Sharpen Our View of Work from Home

NBER CRIW March 6, 2025

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Any opinions and conclusions expressed herein are those of the authors and do not represent the views of the U.S. Census Bureau. The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data used to produce this product (DMS) number: MOPS (P- 7512395): Disclosure Review Board (DRB) approval number : CBDRB-FY24-CES022-004; BTOS (P-7529868): CBDRB-FY23-0478, CBDRB-FY24-0162, CBDRB-FY24-0225, CBDRB-FY25-ESMD010-001; BTOS Supplement (P-7529868) CBDRB-FY25-0117).

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Two Perspectives on Work from Home (WFH)

The Census Bureau collects data through both household surveys and business surveys providing different perspectives on work from home.

Demographic Surveys

- American Community Survey (ACS)
- Household Pulse Survey (HPS)
- *Current Population Survey (CPS)*

Current Work:

Listening tour and research to improve the ACS WFH question.

Business Surveys

- Annual Business Survey (ABS)
- Small Business Pulse Survey (SBPS)
- *Business Response Survey (BRS)*

Current Work:

Newly released supplement from the Business Trends and Outlook Survey (BTOS) to provide the business perspective on Work from Home.

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This paper

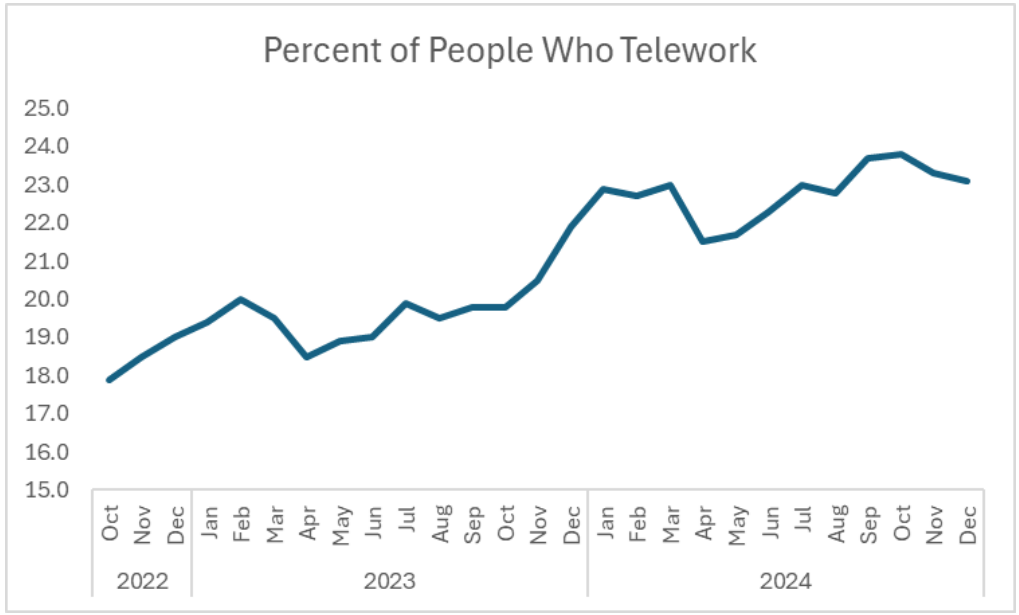
- The goal of this paper is to create a more accurate and complete picture of WFH prevalence/measurement by using this dual perspective.
  - To delineate enhancements and improvements to Census surveys.

- Focus the attention on the *new and recently collected* Business Trends and Outlook Survey (BTOS) – WFH supplement
  - 11 WFH questions: Developed with Census and academic advisors
  - Headline results (public data)
  - What can we learn from this survey?

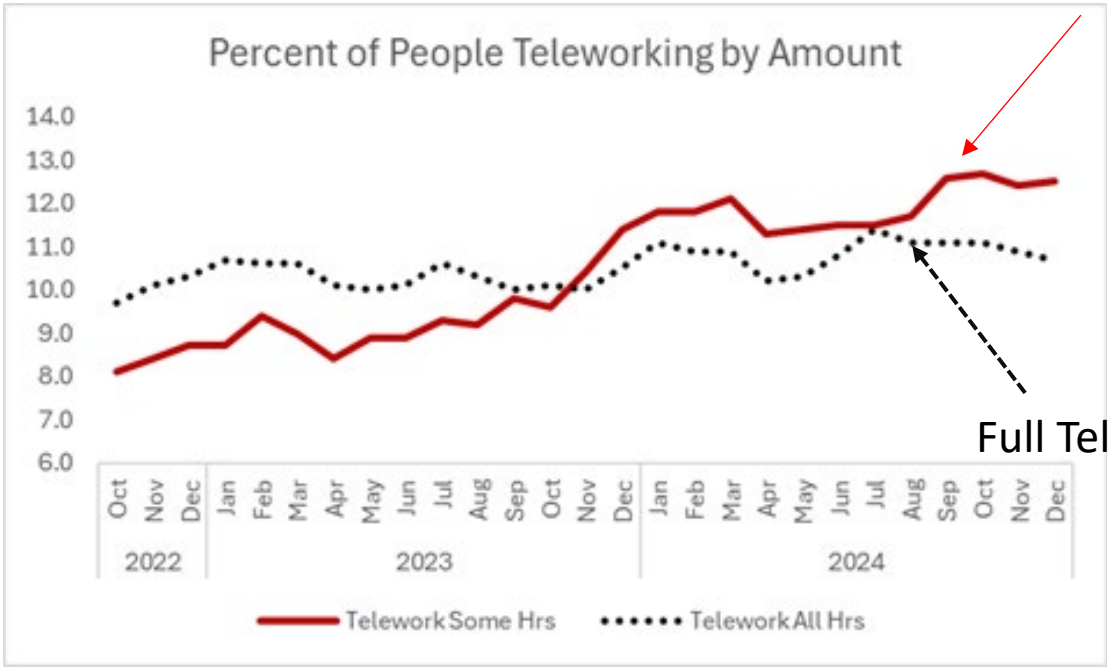
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Telework Trends Oct 2022 – Dec 2024 (CPS)

Extensive margin: Did you telework Yes/No

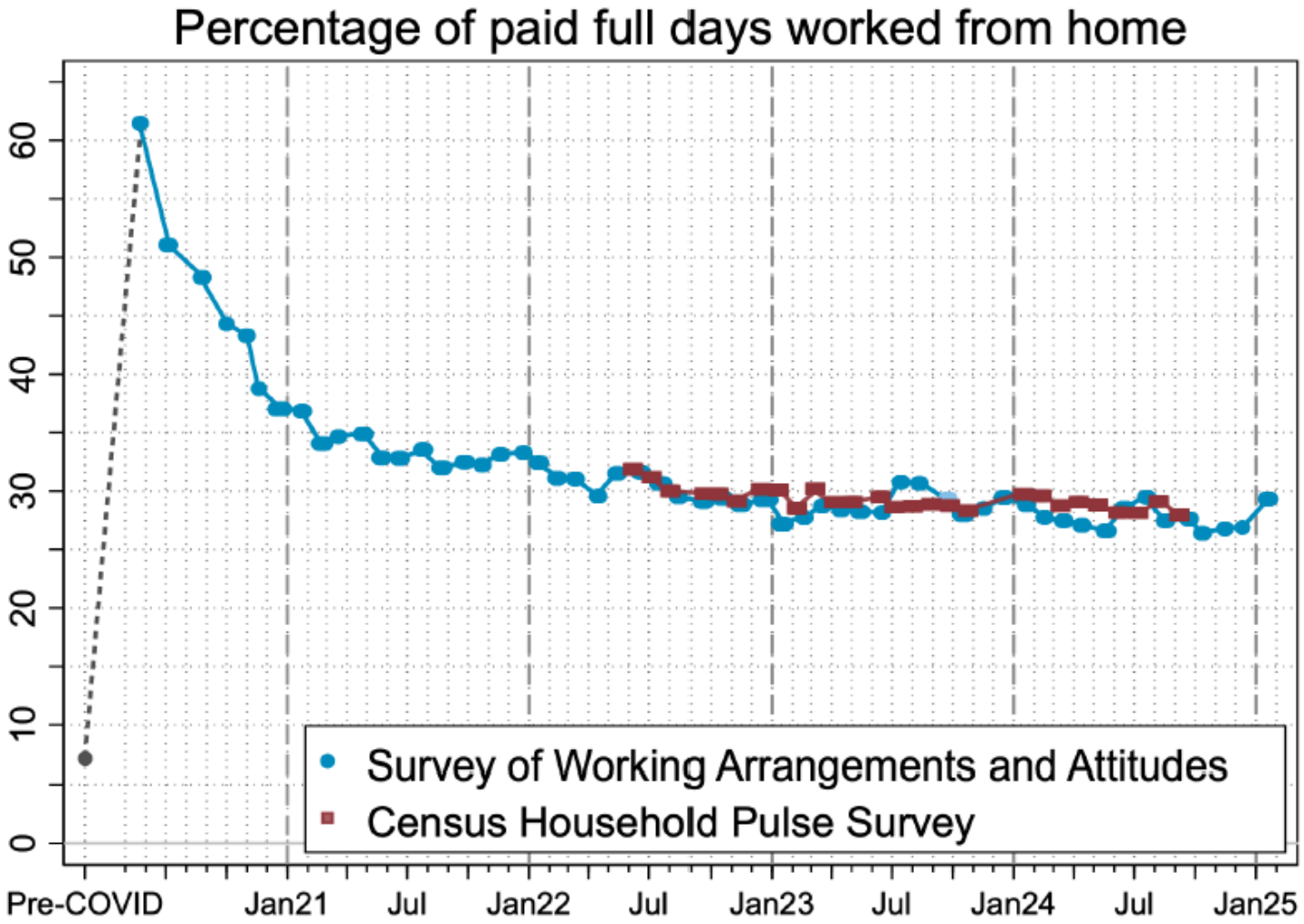


Intensive margin: Hybrid vs Full-Telework



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Survey of Working Arrangements and Attitudes (SWAA)



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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.

BTOS Methodology, Collection, and Publication

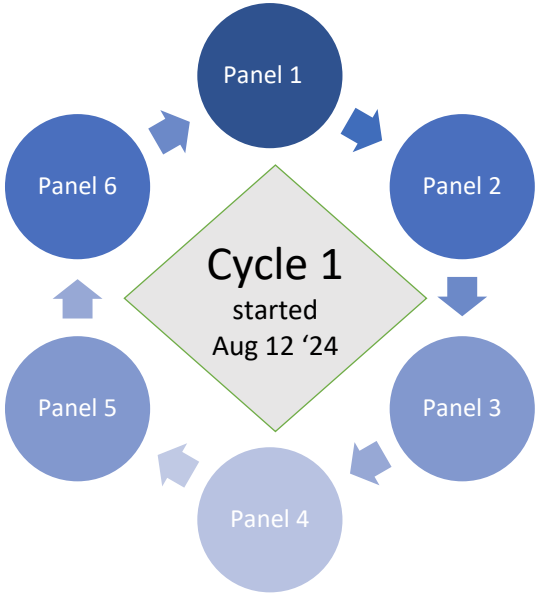
Methodology

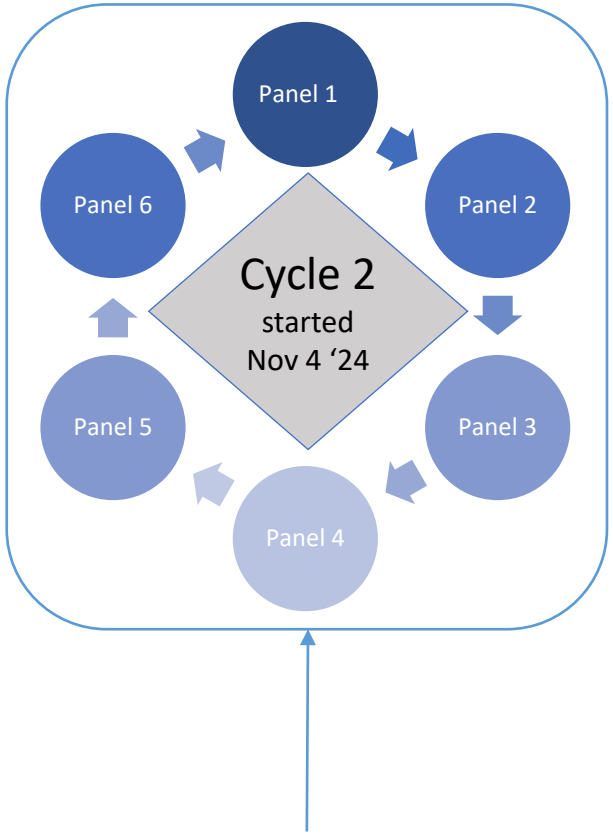
- Target population for BTOS is all nonfarm employer businesses with receipts of $1,000 or more in the United States.
- New sample of 1.2M businesses is drawn annually; Sample is split into six bi-weekly panels of 200K; Sampled companies are surveyed once every twelve weeks for a year (4-5 times within the year)
- Survey weights are adjusted for survey non-response and are used to make sample-based estimates representative of the number of businesses in the target population.

Publication

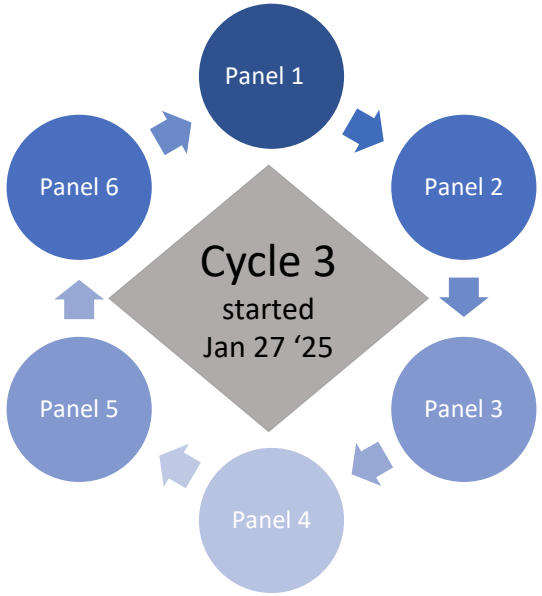
- Data products: national, sector (NAICS2), state, Top 25 MSA, subsector (NAICS3), employment size class
- Bi-weekly on Thursdays; on the fourth business day after collection closes

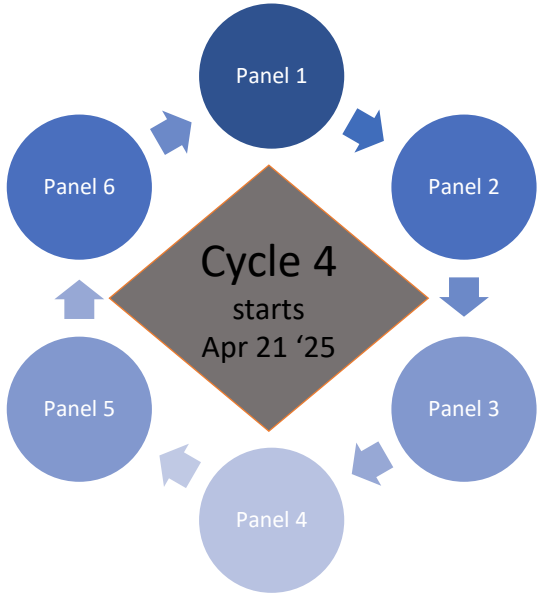
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(Supplemental WFH questions fielded)





- 6 bi-weekly panels = cycle
- Cycle = 1.2M sample/ 6 bi-weekly panels
- Same companies in panel, 1, panel 2, etc.
- Survey year includes 4 cycles
- Cycle 2 received WFH supplement

BTOS 2024 - 2025 Sample Year

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Design of BTOS Work From Home Questions

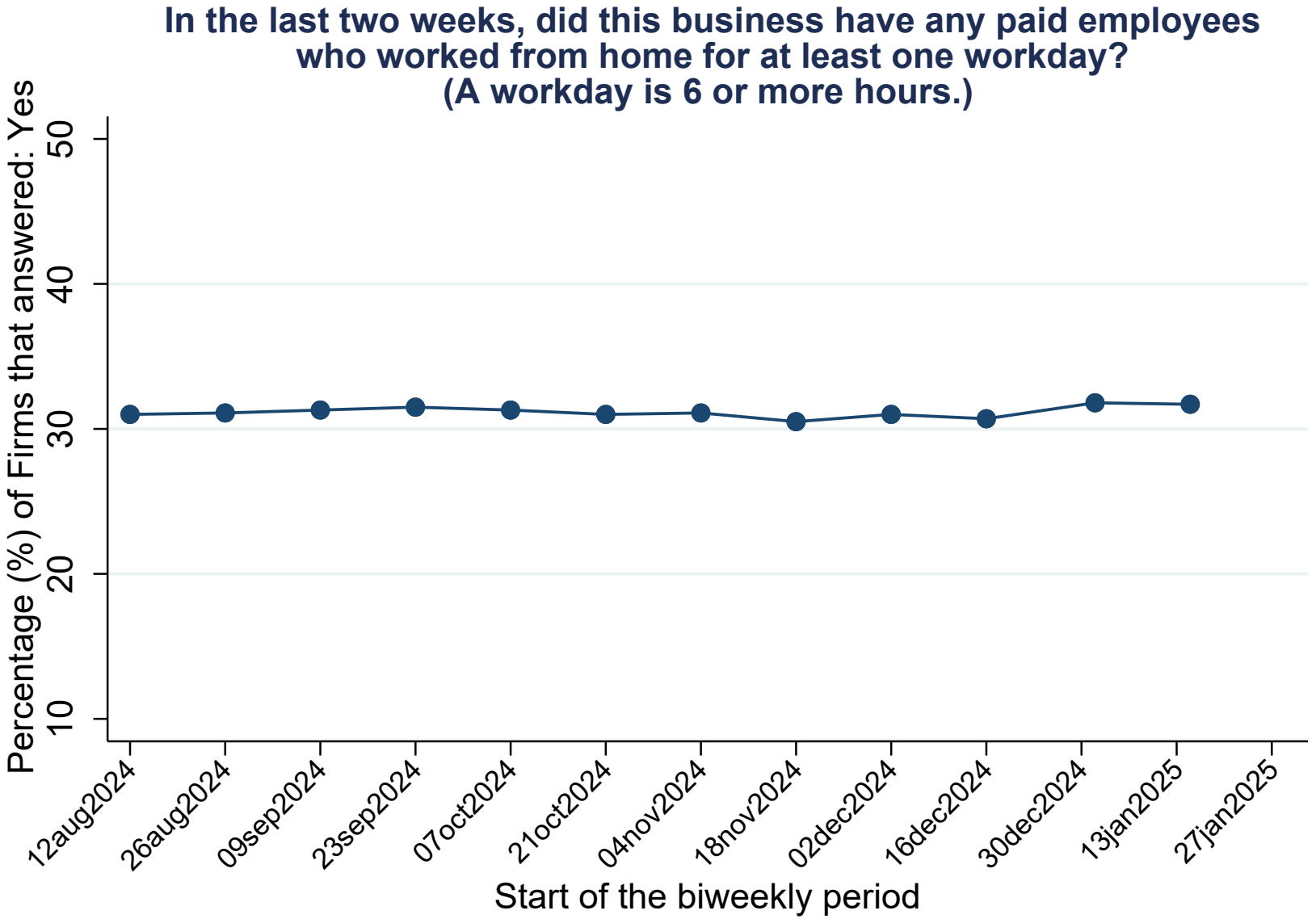
- Design built on existing surveys and experiences (government and private)
- Underwent cognitive testing; OMB approval

- 1 Q: Core question covers (1 year: Aug 2024 – July 2025)
  - Extensive margin: *"Between MMM DD – MMM DD, did this business have any paid employees who worked from home the majority of at least one workday?"*

- 10 Q:Supplement questions cover (3 months: Nov 2024 - Jan 2025)
  - Intensive margin: % of employees WFH 1,2,3,4,5 days+. For three time frames: current, past, future.
  - Limiting factors
  - Management practices: including locality pay and monitoring
  - Productivity

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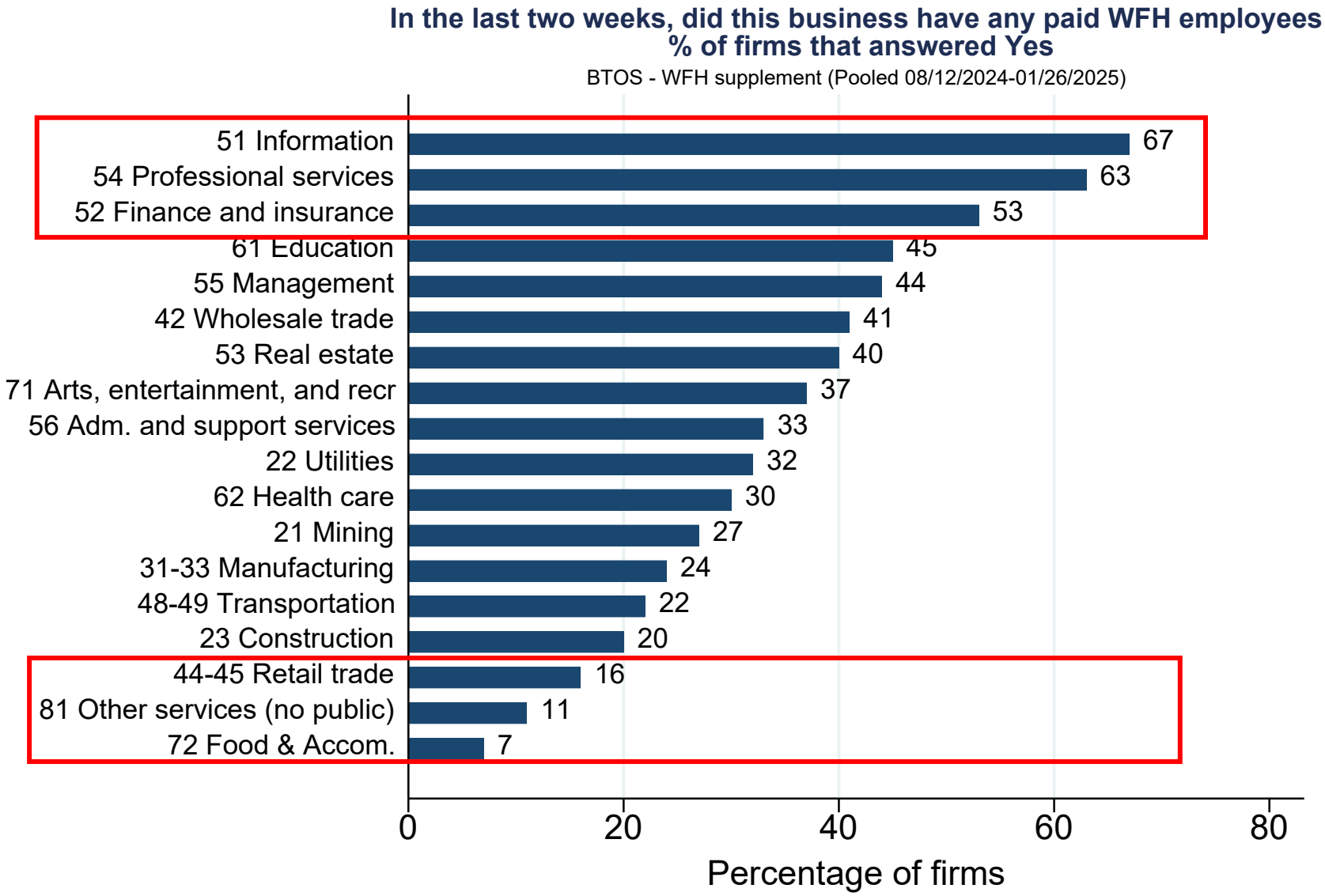
Trend of Extensive Margin



SWAA (worker-level) finds very similar pattern for the same time period.

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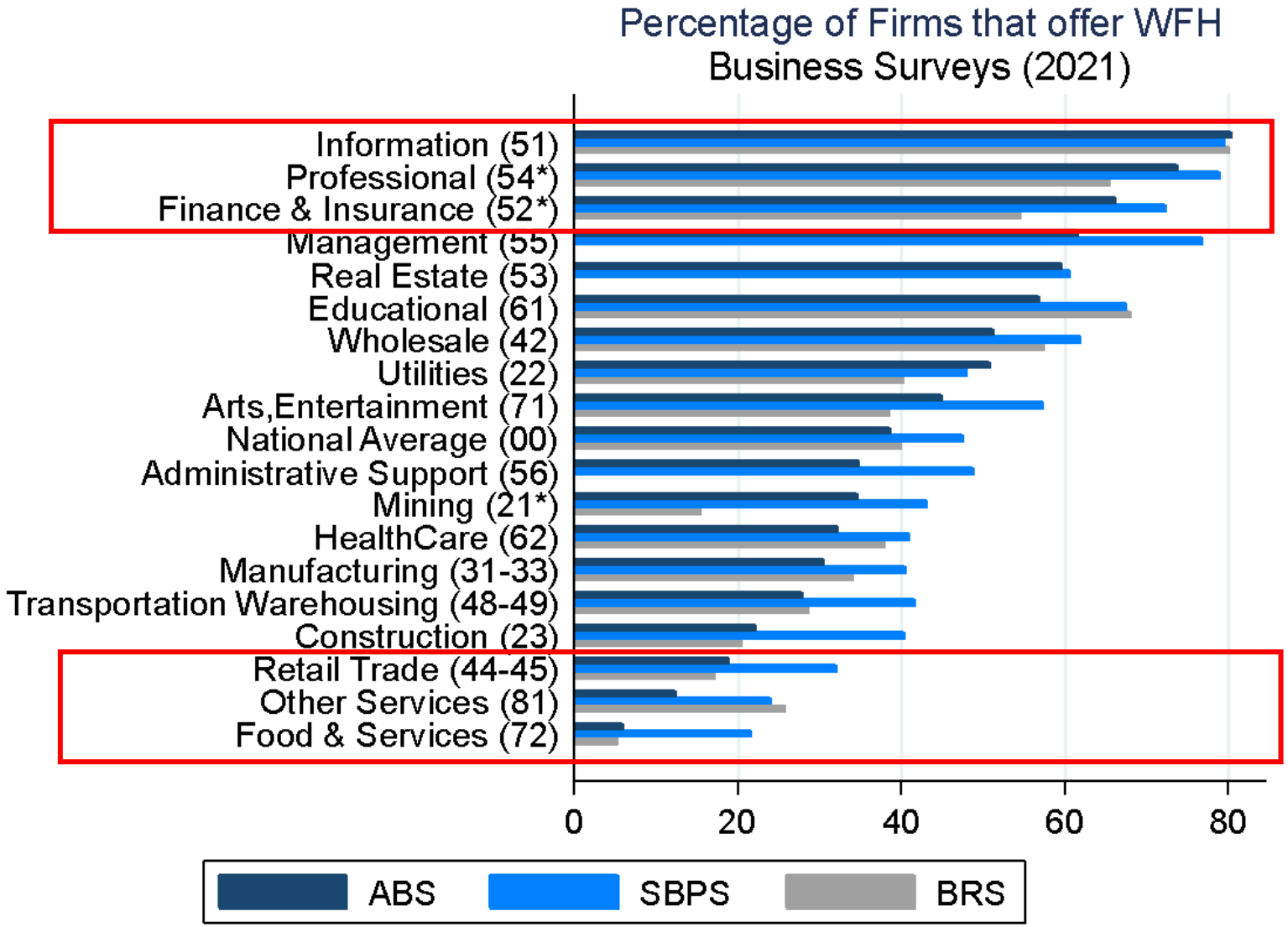
Sectoral for Extensive Margin (08/2024-01/2025)



*WHF employees: employees who worked from home for at least one workday?

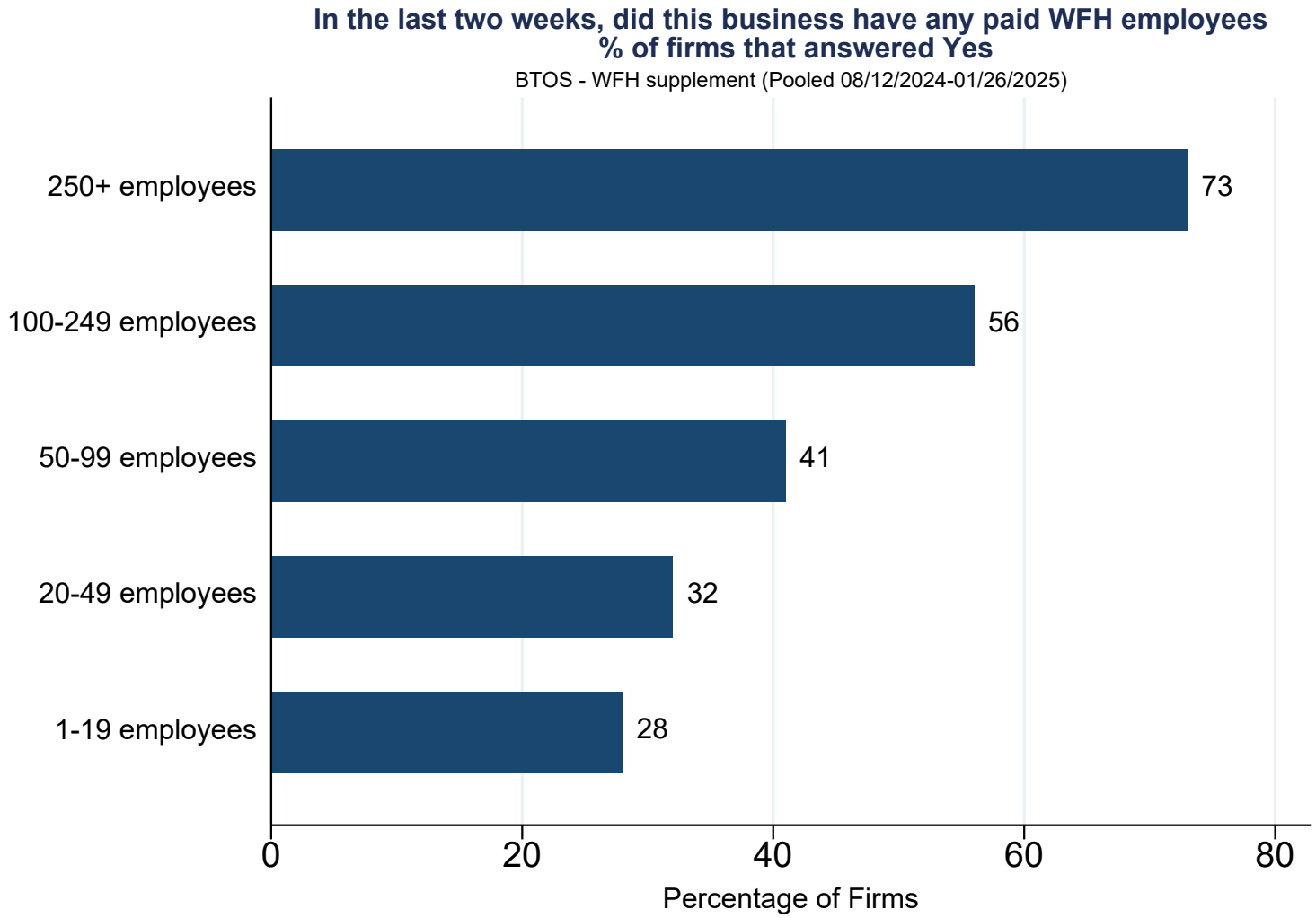
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Sectoral for Extensive Margin (2021)



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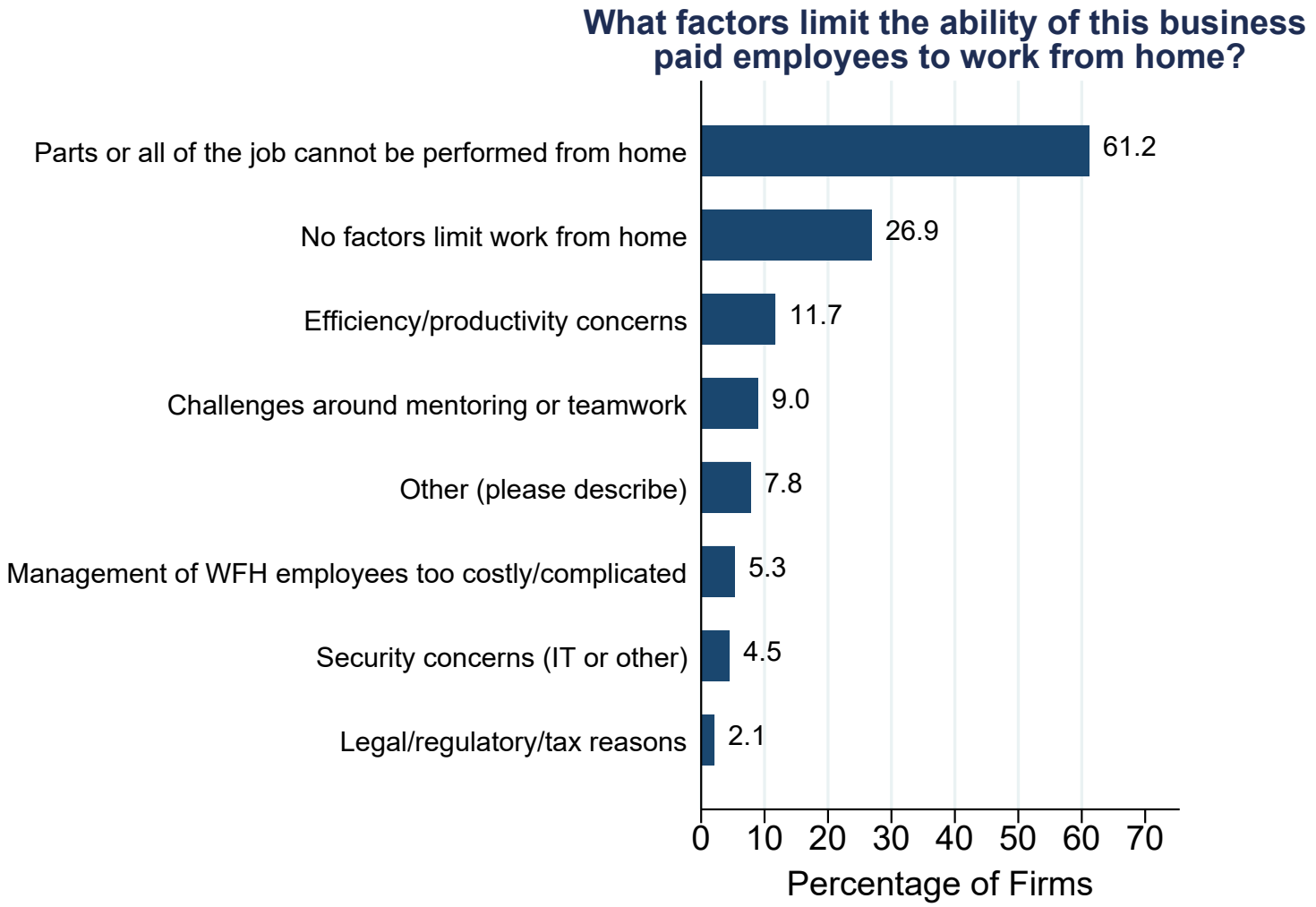
Firm Size for Extensive Margin



*WHF employees: employees who worked from home for at least one workday?

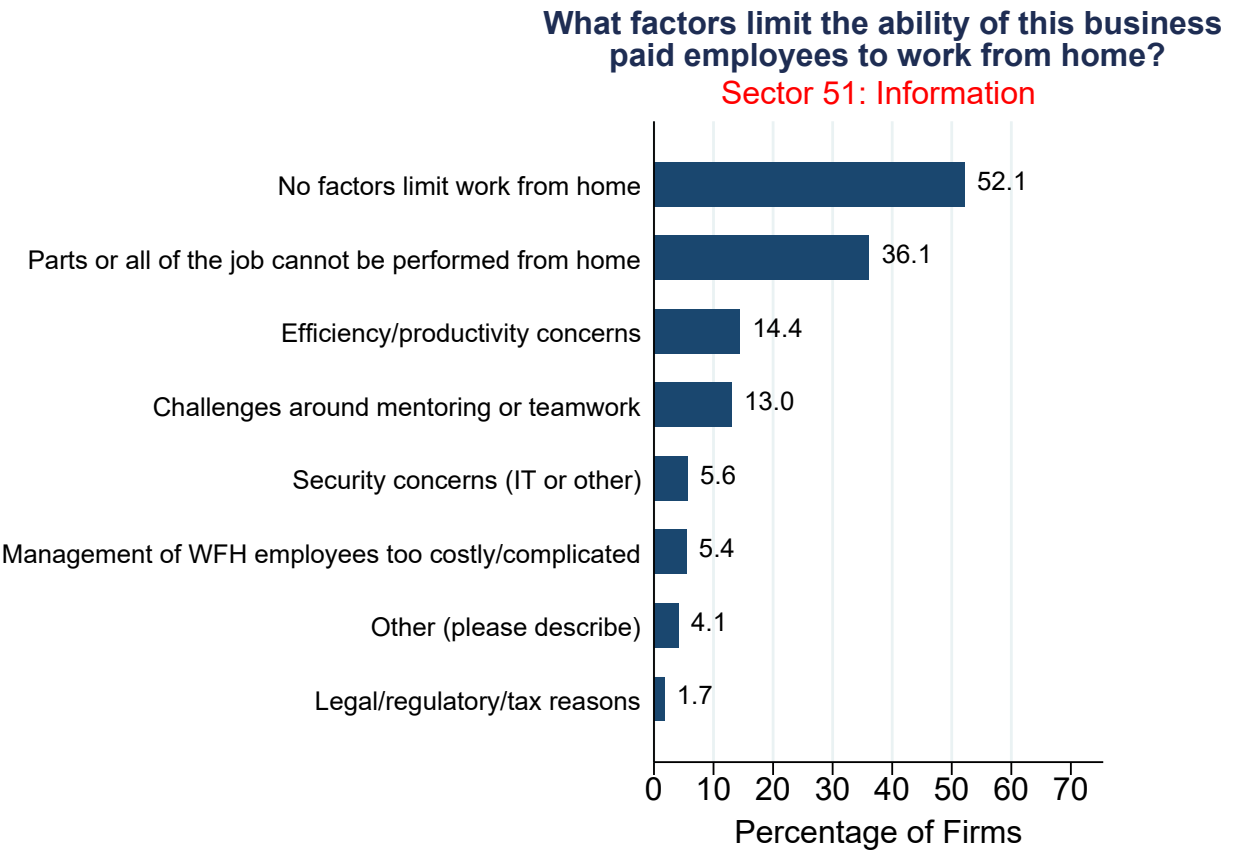
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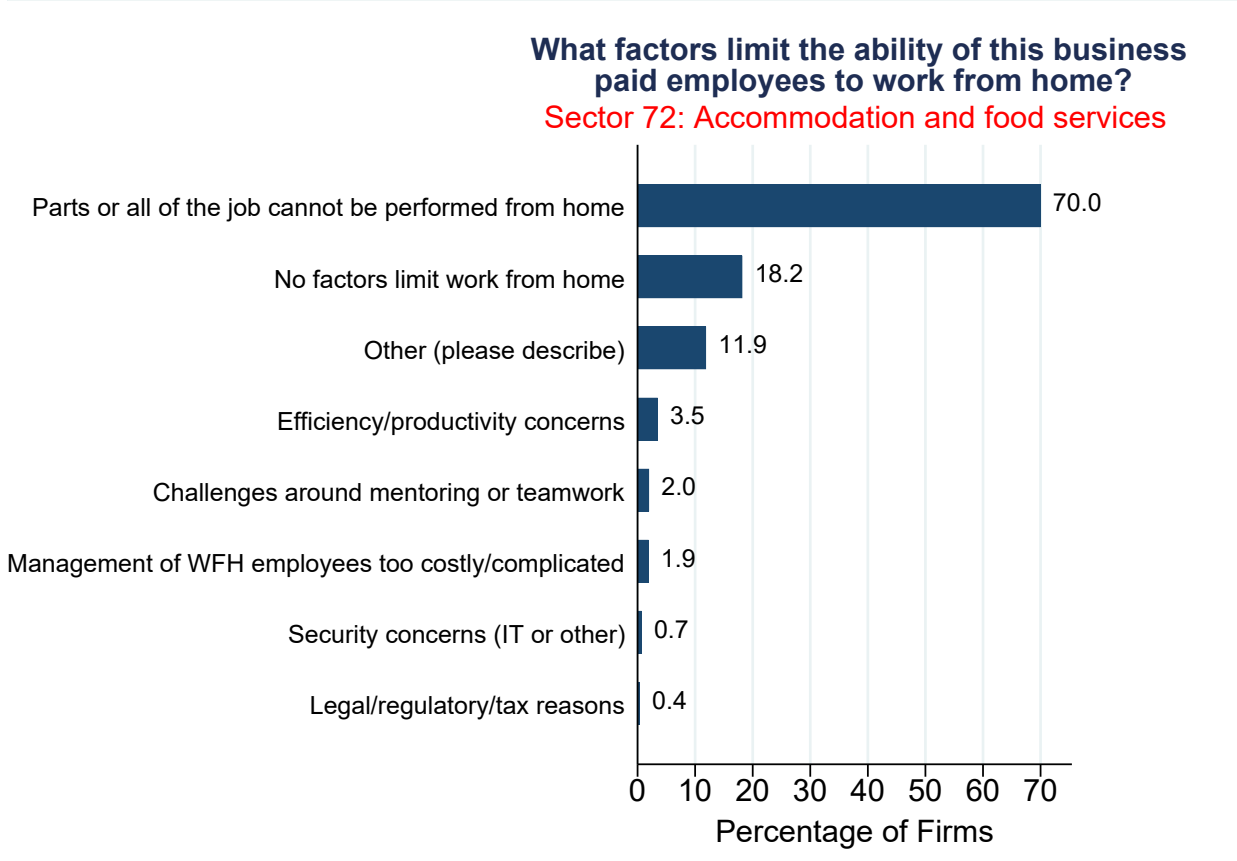
Limiting Factors



Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Limiting Factors

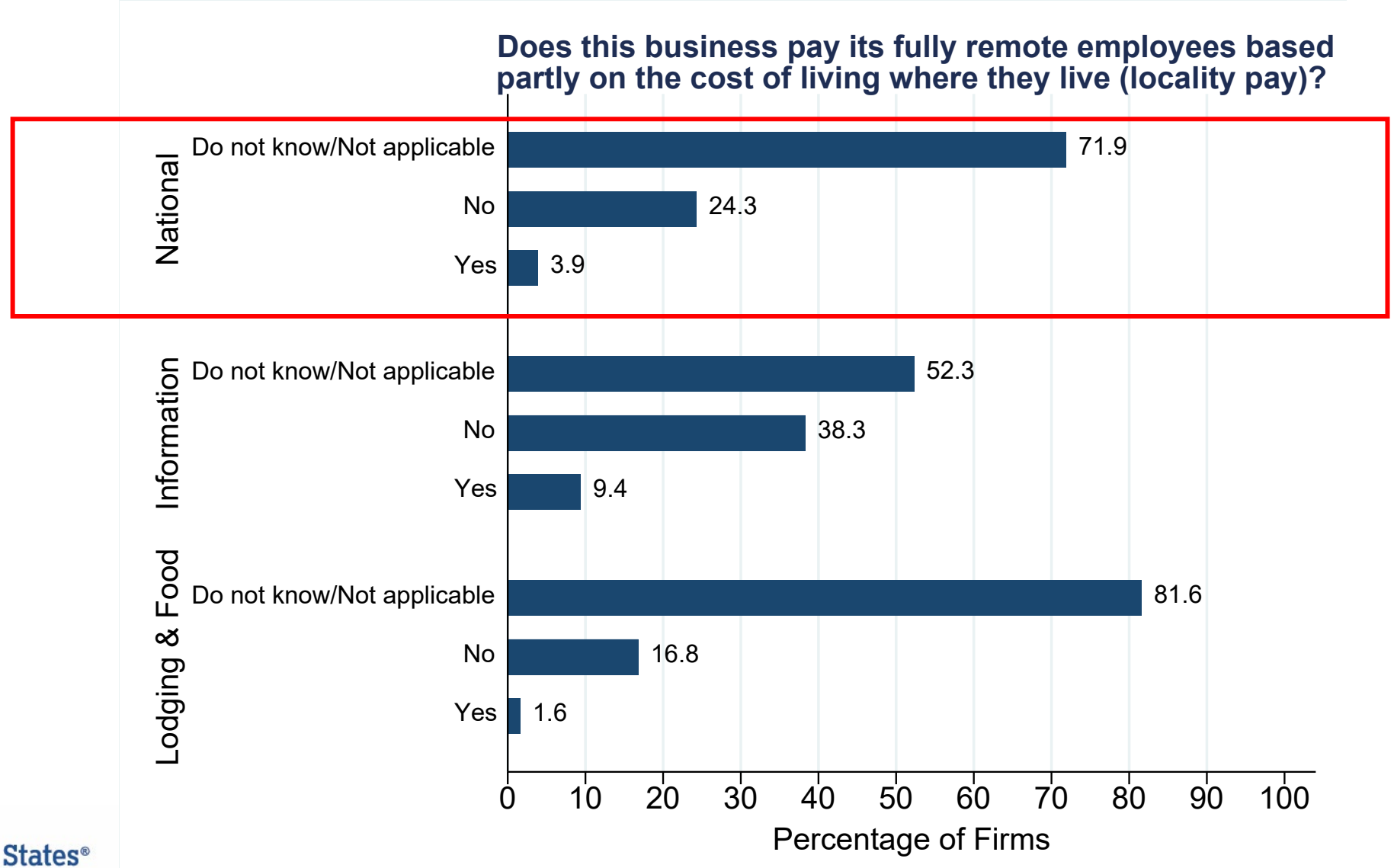




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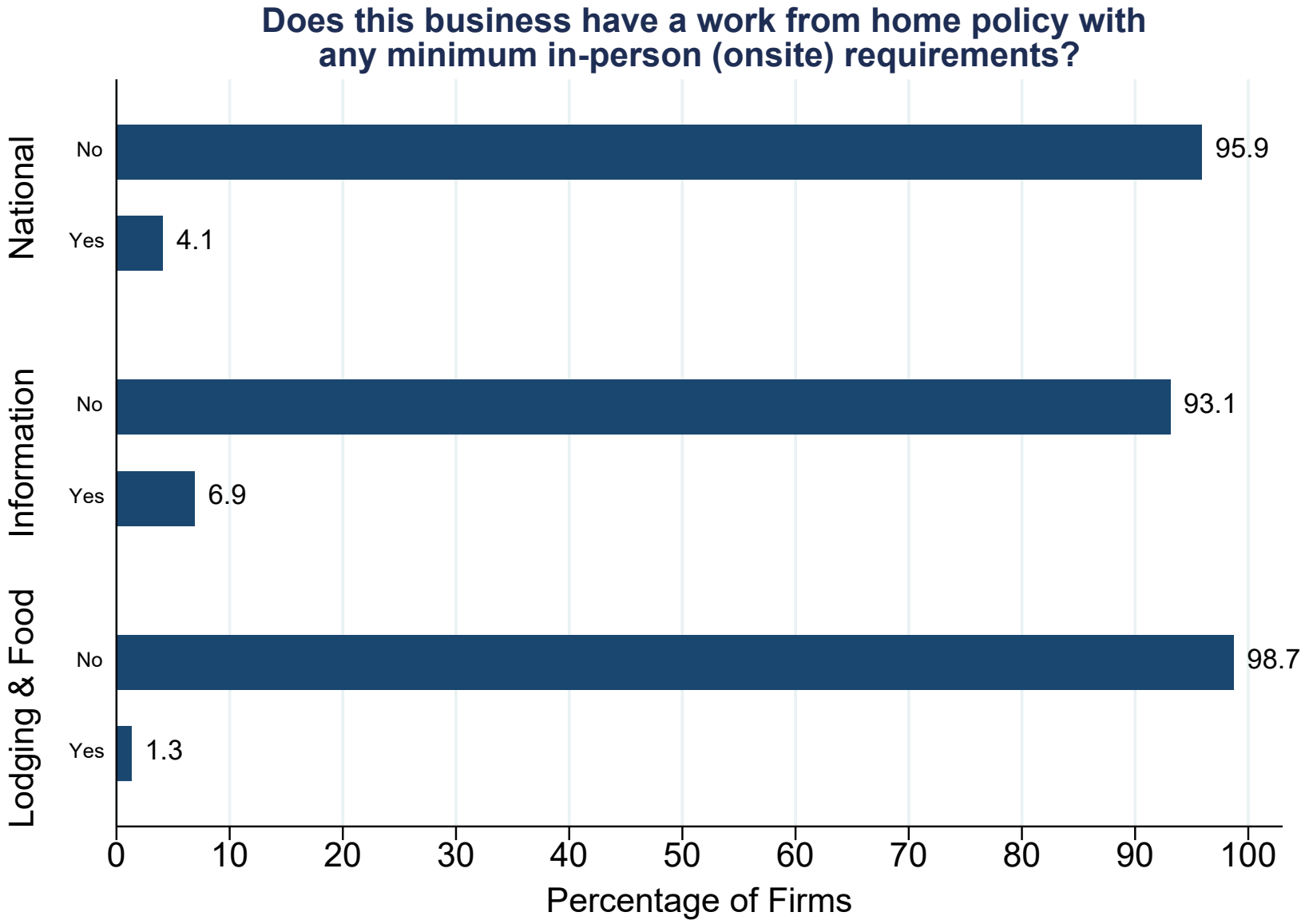
Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Locality Pay



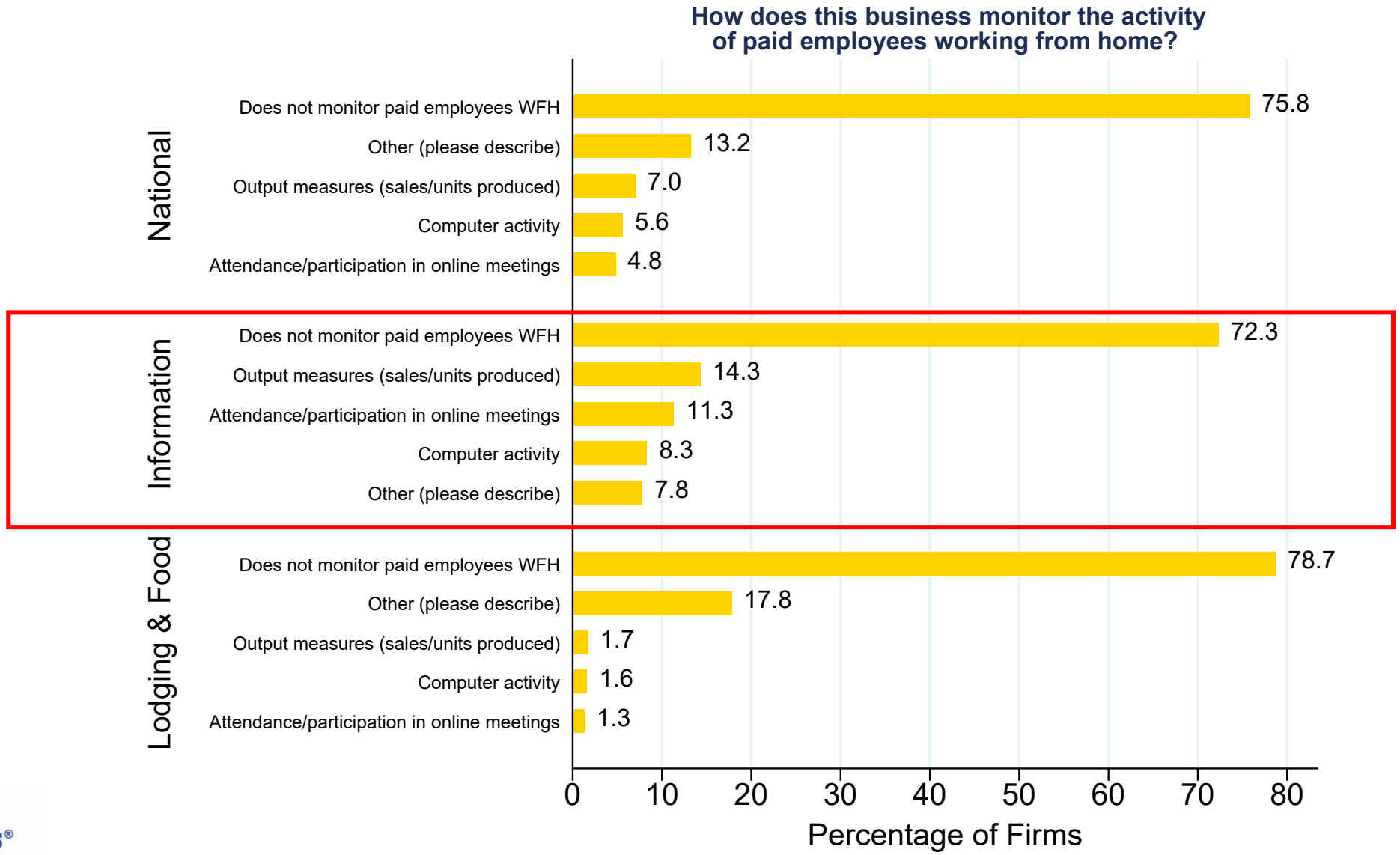
Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Monitoring – having onsite requirements



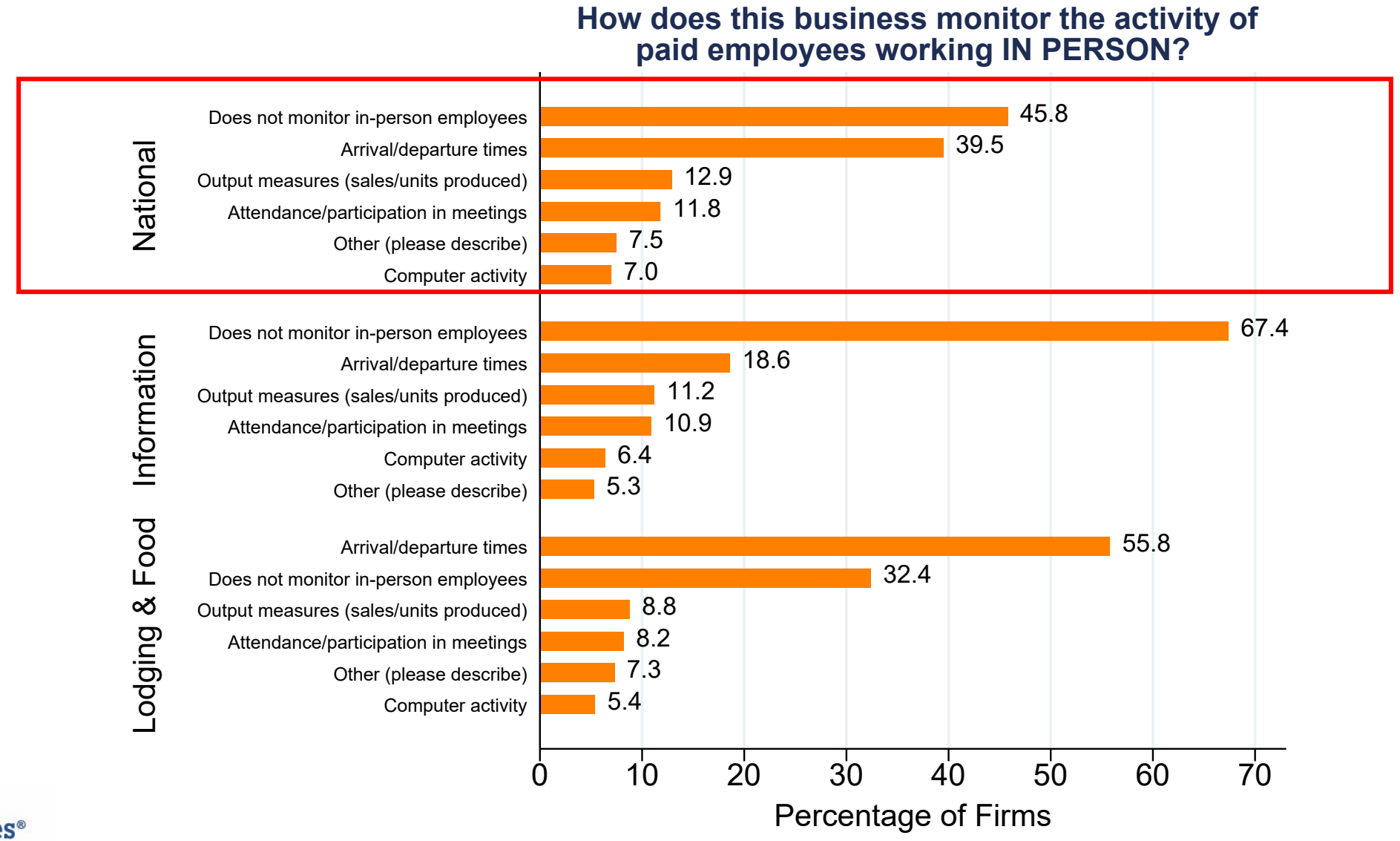
Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Monitoring – tracking activity at home



Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

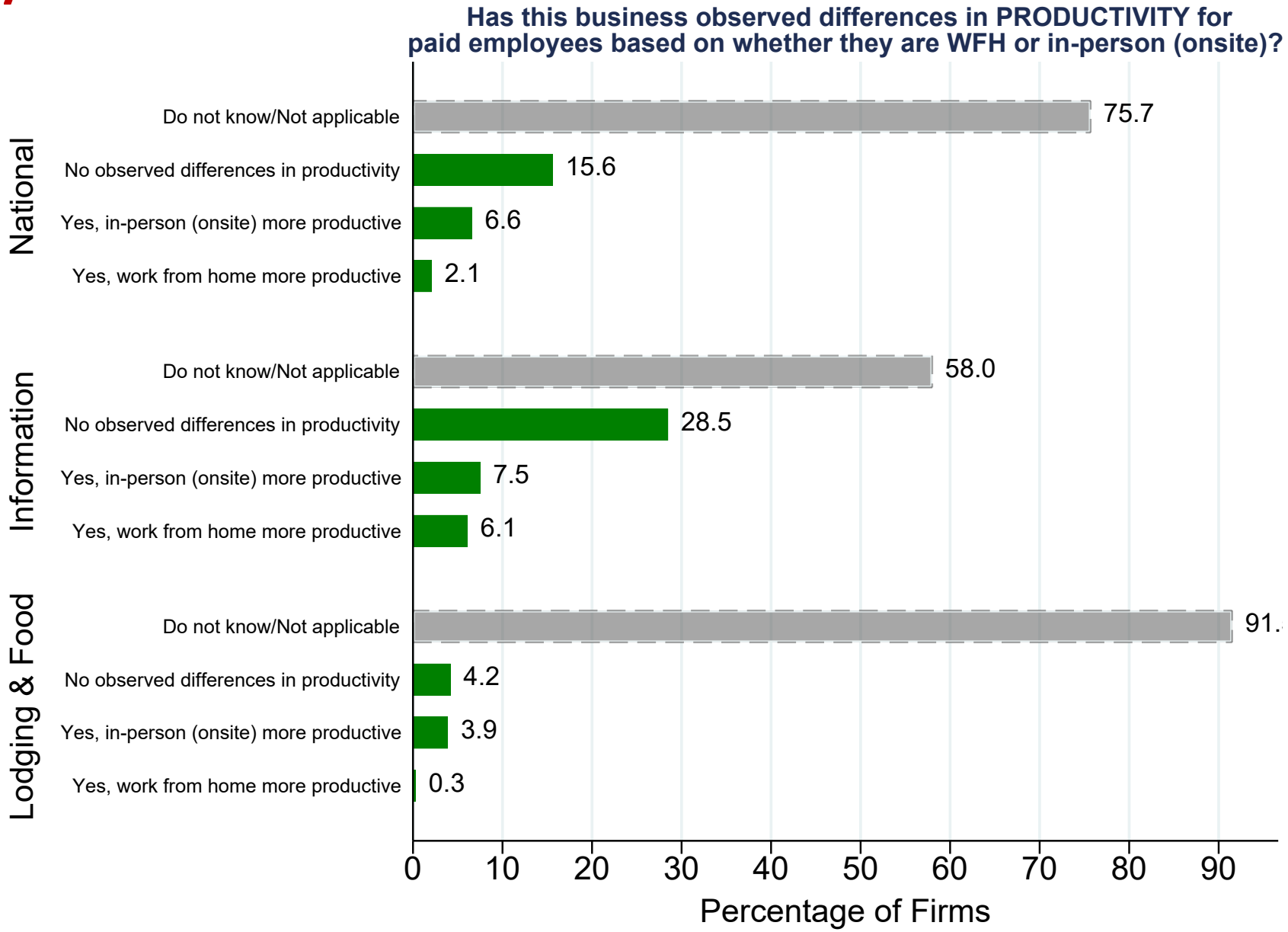
Monitoring – tracking activity at onsite



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Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Productivity Differences



Source: BTOS - Data Collected 11/4/24 - 1/26/25 (6 collection periods pooled)

Future Work

Business Side

- Explore write-in information in “other” responses.
- Intensive margin exercises using the published data.
- Employment-weighted results.
- Empirical exercises using micro data will enable us to control for characteristics.
- Try to link to LBD to measure productivity at the firm level.

Household Side

- Continue to develop ACS questions.
- Compare to the CPS supplement release of telework and productivity results.

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