

The Big Shift to Remote Work

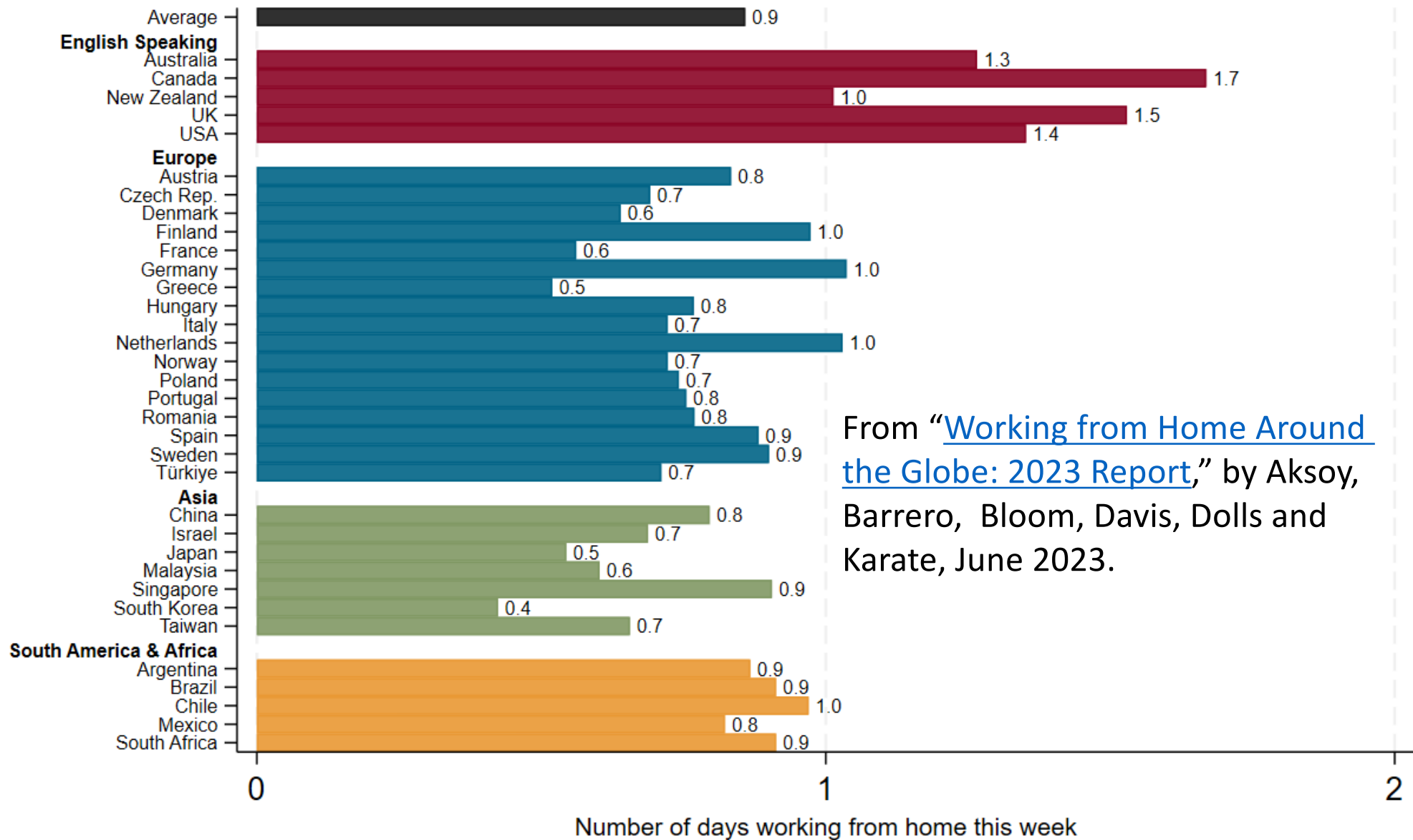
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Second RAP Symposium
Stanford, 22 March 2024

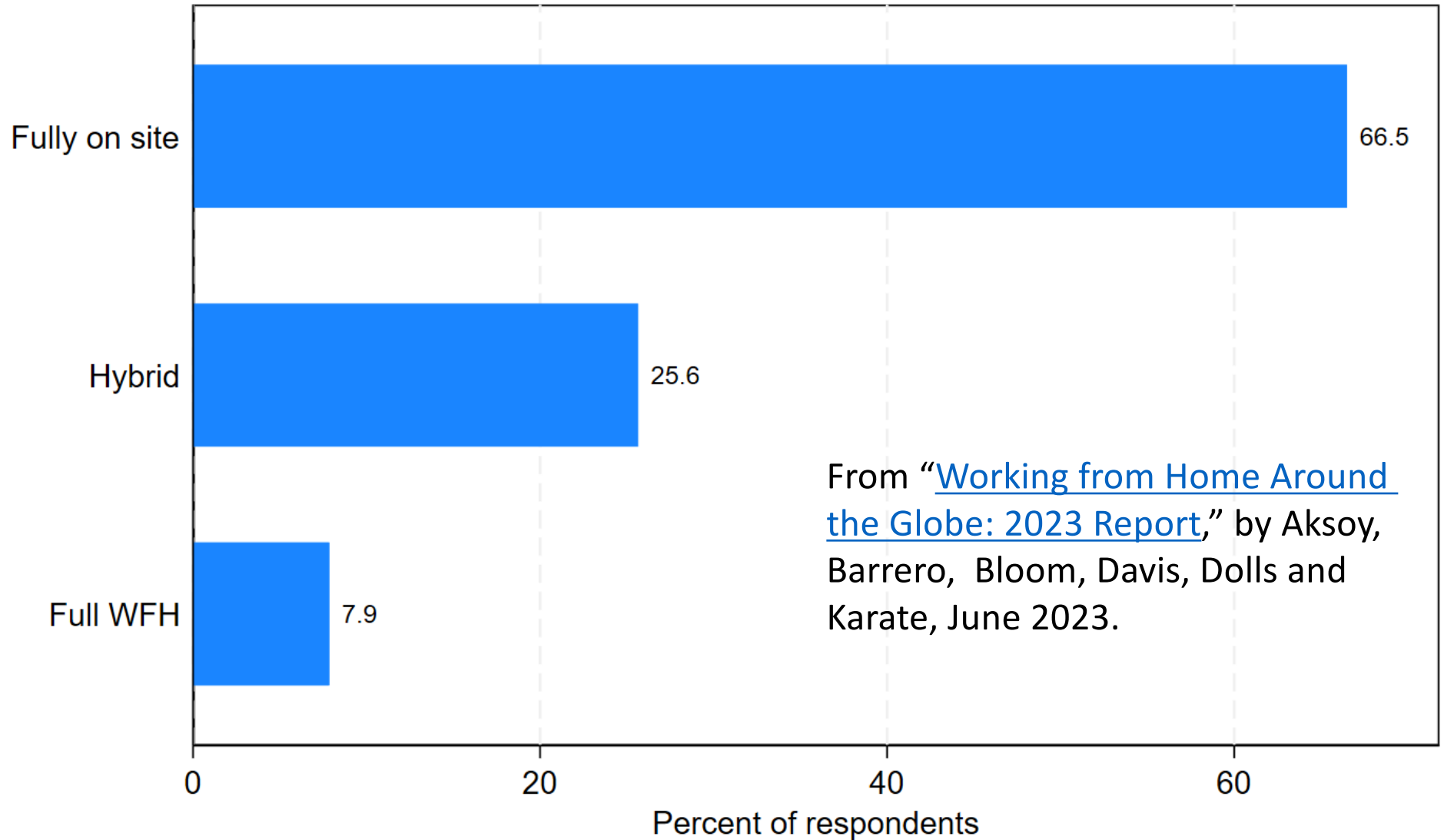
Paid Full Days Worked from Home per week (April-June 2023)



From “[Working from Home Around the Globe: 2023 Report](#),” by Aksoy, Barrero, Bloom, Davis, Dolls and Karate, June 2023.

Note: Responses to the question “For each day **last week**, did you work 6 or more hours, and if so **where**?”. Sample of N=42,426 workers in 34 countries surveyed in April-June 2023. The sample covers full-time employees, 20-64 years of age, who finished secondary school.

Current Working Arrangement (April-June 2023)



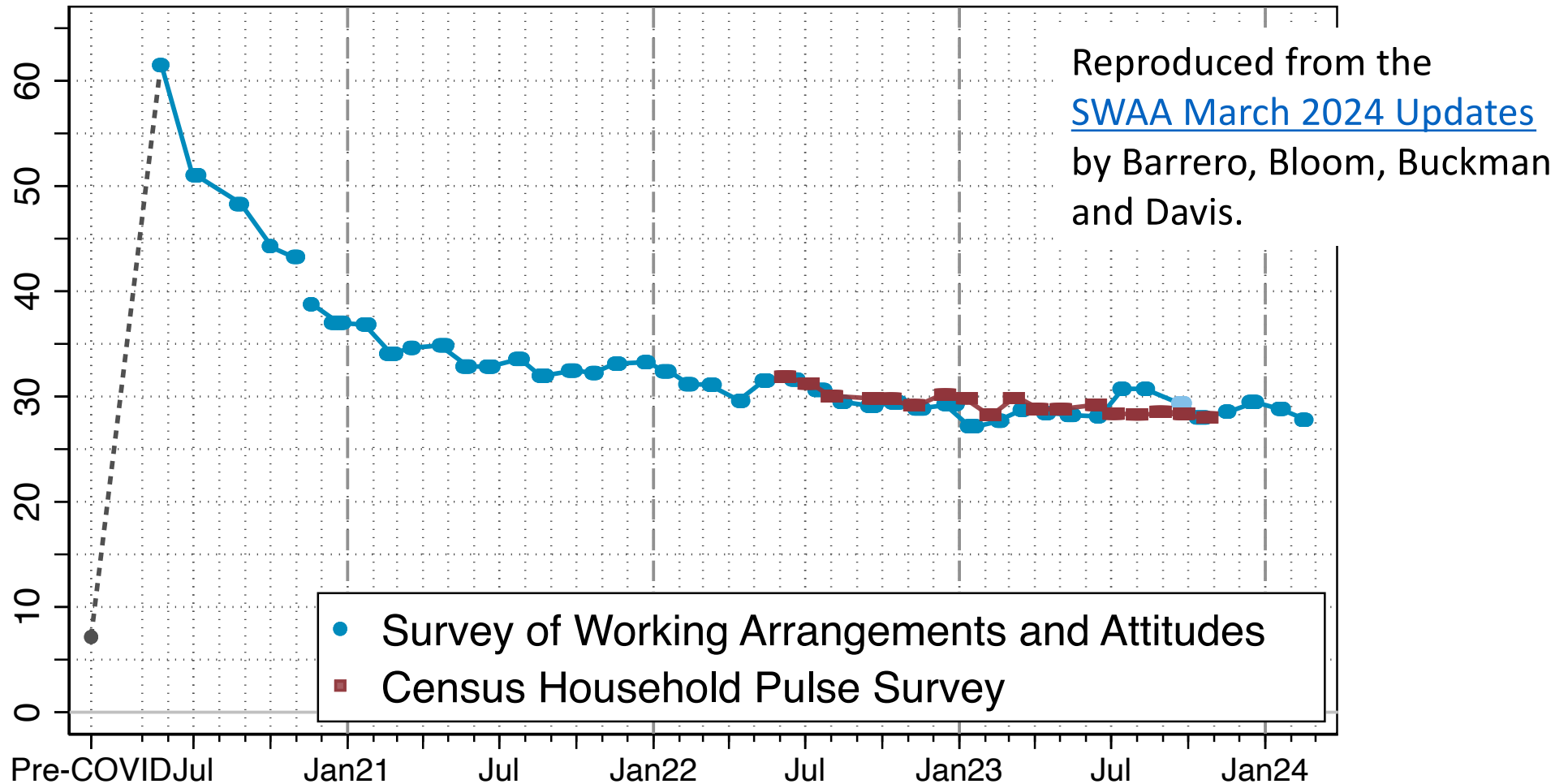
Note: The sample covers full-time employees, 20-64 years of age, who finished secondary school, and who worked 4 or more days during the survey reference week. Responses to the question "For each day **last week**, did you **work 6 or more hours**, and if so **where**". Sample of N=39,021 workers in 34 countries surveyed in April-June 2023.

Work-from-Home Rates in the U.S. Have Stabilized at About 28% of Paid Workdays



Americans, 20-64, with Annual Earnings of at Least \$10K

Percentage of paid full days worked from home



*We estimate the pre-COVID rate using the 2019 American Time Use Survey

*The break in the series in November 2020 reflects a change in the survey question.

When asked about their own firms, U.S. business executives foresee modest increases in remote work over the next five years

Hybrid Work

Harvard Business Review

Survey: Remote Work Isn't Going Away — and Executives Know It

by Nicholas Bloom, Jose Maria Barrero, Steven Davis, Brent Meyer, and Emil Mihaylov

August 28, 2023

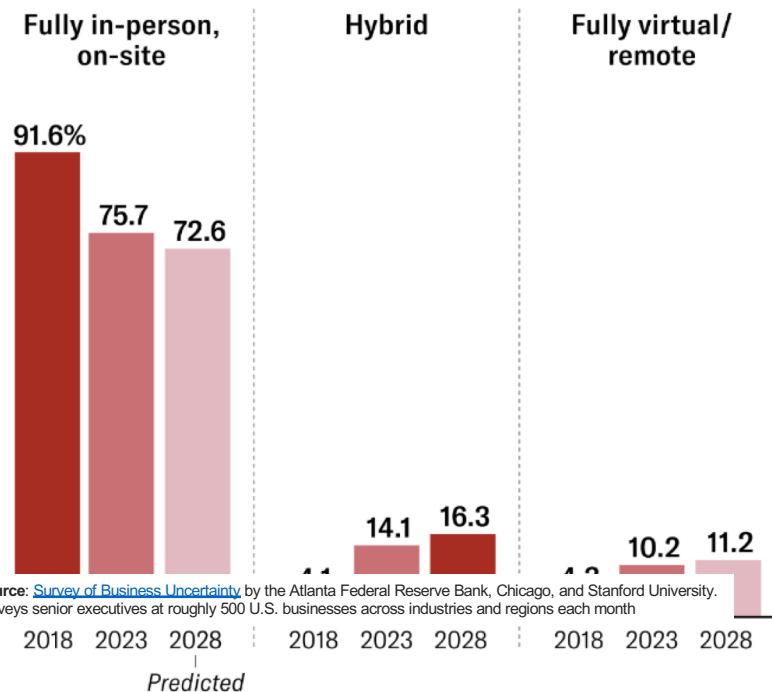


ER Productions Limited/Getty Images

U.S. Executives Expect Remote Work to Keep Increasing

Management doesn't expect a return to pre-pandemic office life.

What share of your firm's full-time employees are in each category?

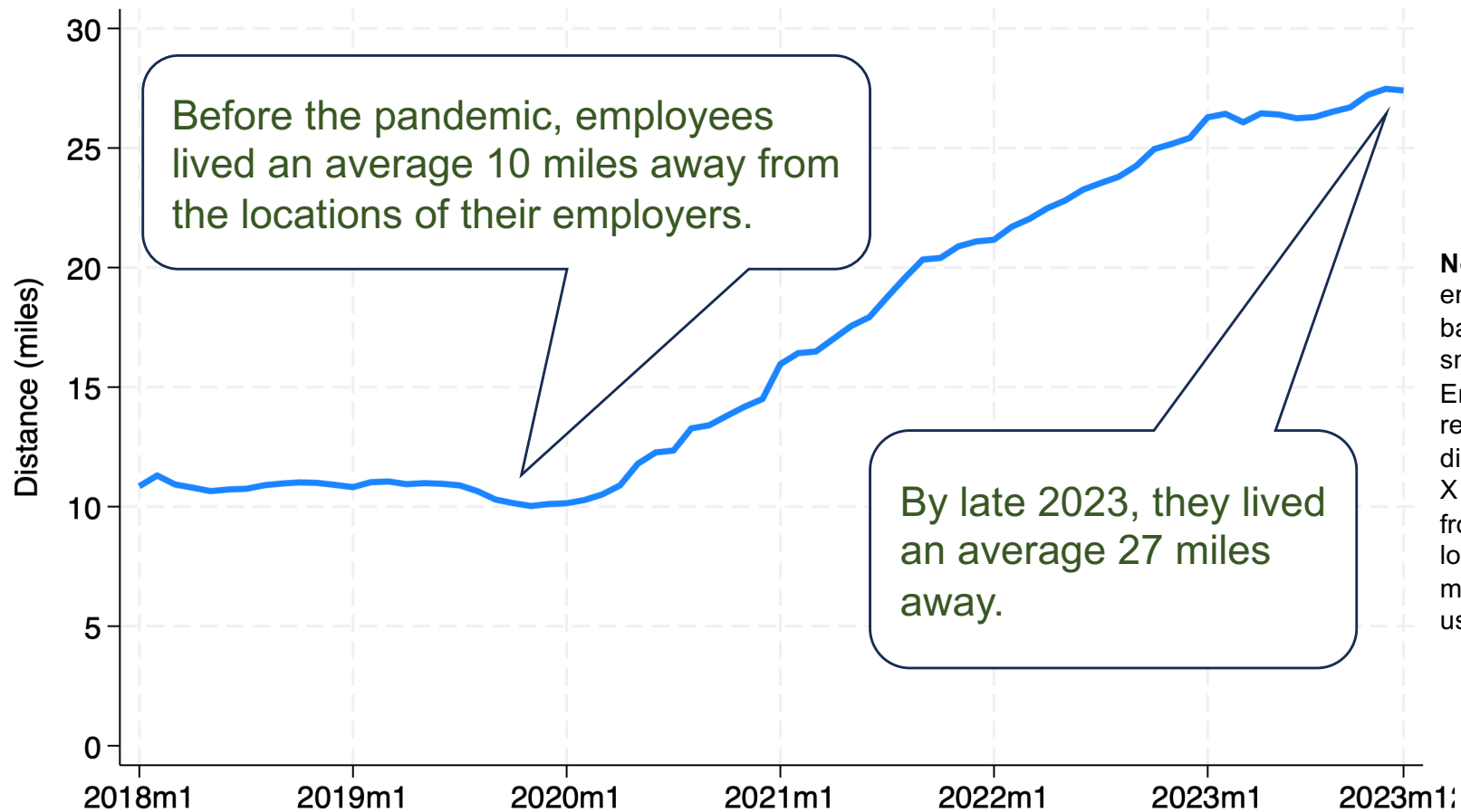


Source: [Survey of Business Uncertainty](#) by the Atlanta Federal Reserve Bank, Chicago, and Stanford University. Surveys senior executives at roughly 500 U.S. businesses across industries and regions each month

Source: Survey of Business Uncertainty

HBR

Americans Now Live Farther from Their Employers

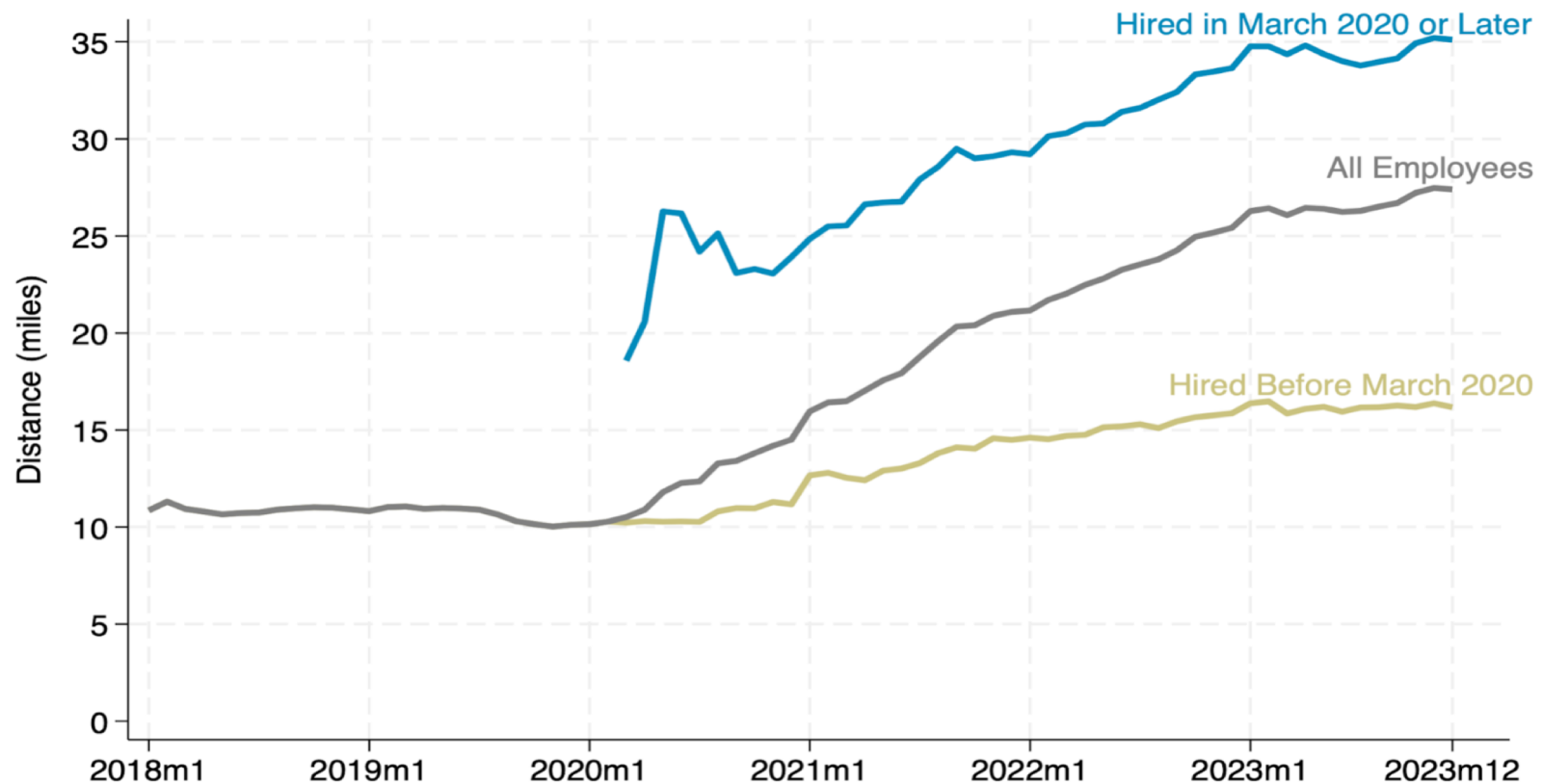


Notes: The sample contains employees of 5,793 firms in a balanced panel of mostly smaller and mid-sized firms. Employee-level data are reweighted to match the CPS distribution by (age bin) X sex X major industry. Distance from home to employer location is winsorized at 500 miles. Authors' calculations using Gusto payroll data.

Reproduced from "[Americans Now Live Farther from Their Employers](#)" by Akan, Barrero, Bloom, Bowen, Buckman, Davis, Pardue and Wilkie.

Employees Hired Since March 2020 Live Much Farther Away than Other Employees

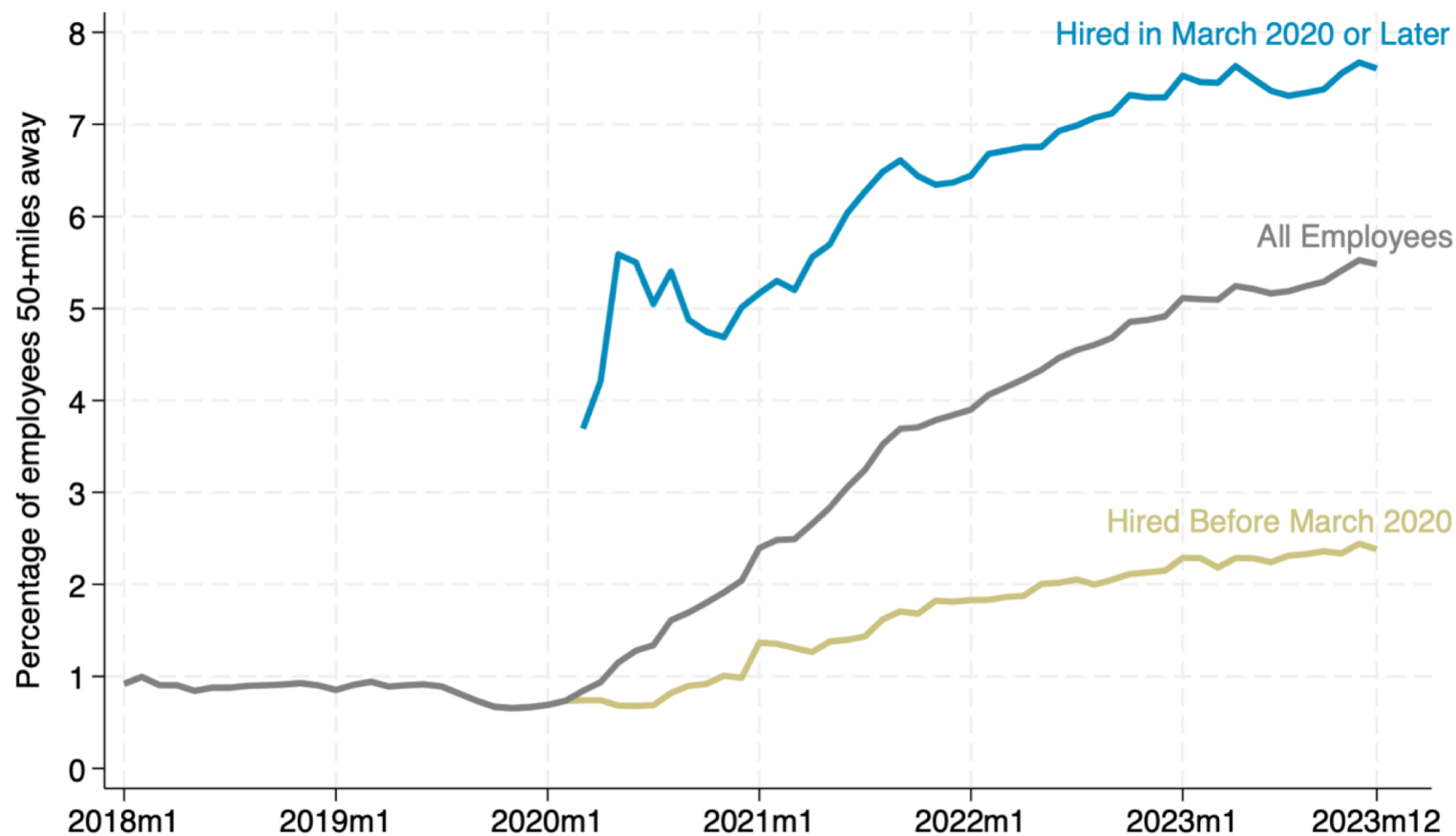
Mean Distance from Employee Residence to Employer Location



Reproduced from "[Americans Now Live Farther from Their Employers](#)" by Akan, Barrero, Bloom, Bowen, Buckman, Davis, Pardue and Wilkie.

Employees Hired Since March 2020 Live Much Farther Away than Other Employees

Percentage Living More than 50 Miles from Employer Location



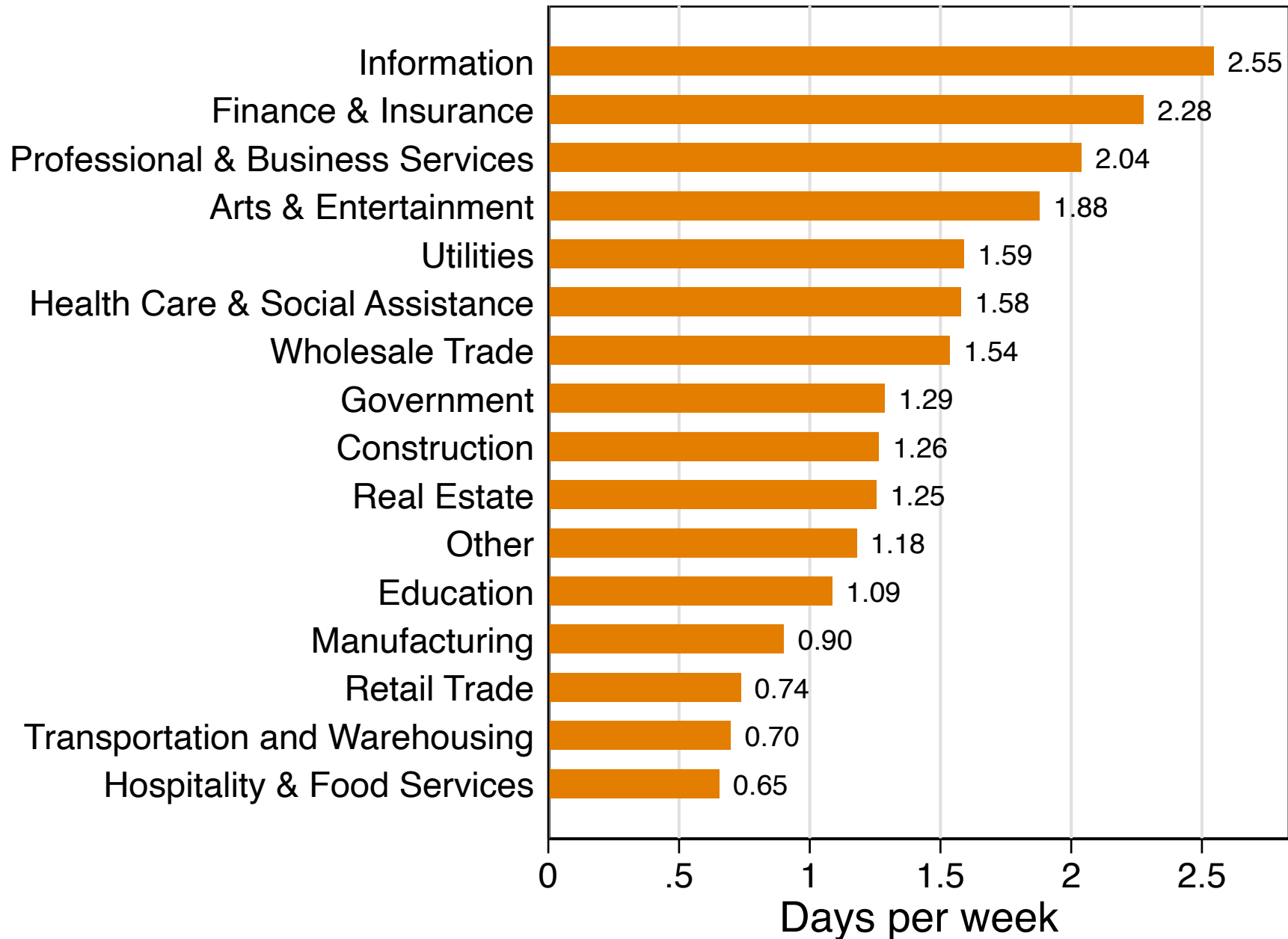
Reproduced from "[Americans Now Live Farther from Their Employers](#)" by Akan, Barrero, Bloom, Bowen, Buckman, Davis, Pardue and Wilkie.

A Large Shock with Unusual Features

- A. The big shift relaxes the time budget constraint of many workers.
- B. It raises the amenity value of work in many jobs.
- C. It gives employers new options to source labor from low-cost places, without relocating the business. Likewise, it relaxes locational constraints on workers.
- D. It also had surprisingly benign (or positive) effects on productivity in many jobs and tasks.
 - The surprise character of the productivity impact helps explain why the shift persisted, and why it did not happen sooner and more gradually, before the forcing event of the pandemic.

See [“Why Working from Home Will Stick,”](#) [“Working from Home around the World,”](#) and [“The Shift to Remote Work Lessens Wage-Growth Pressures”](#) for extensive evidence and analysis that support these claims.

U.S. Work-from-Home Rates by Industry Sector in 2023, Employees Who Work Five or More Days per Week

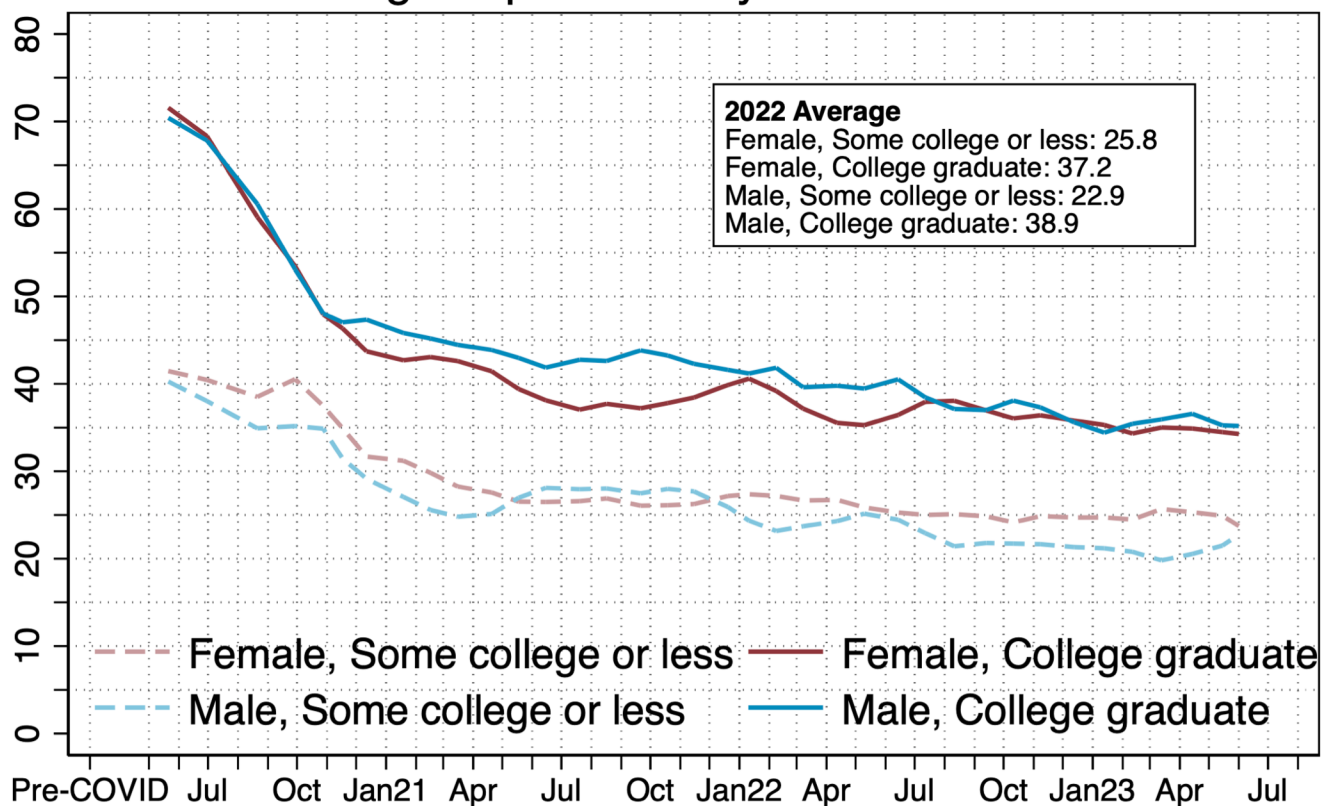


Source: [“The Evolution of Work from Home”](#) by Barrero, Bloom and Davis.

College Grads Have Much Higher WFH Rates

This chart uses U.S. data, but a similar education pattern holds in other countries.

Percentage of paid full days worked from home



SWAA data from May 2020 to June 2023
Smoothed with a 3 month centered moving average

Based on responses to the questions:

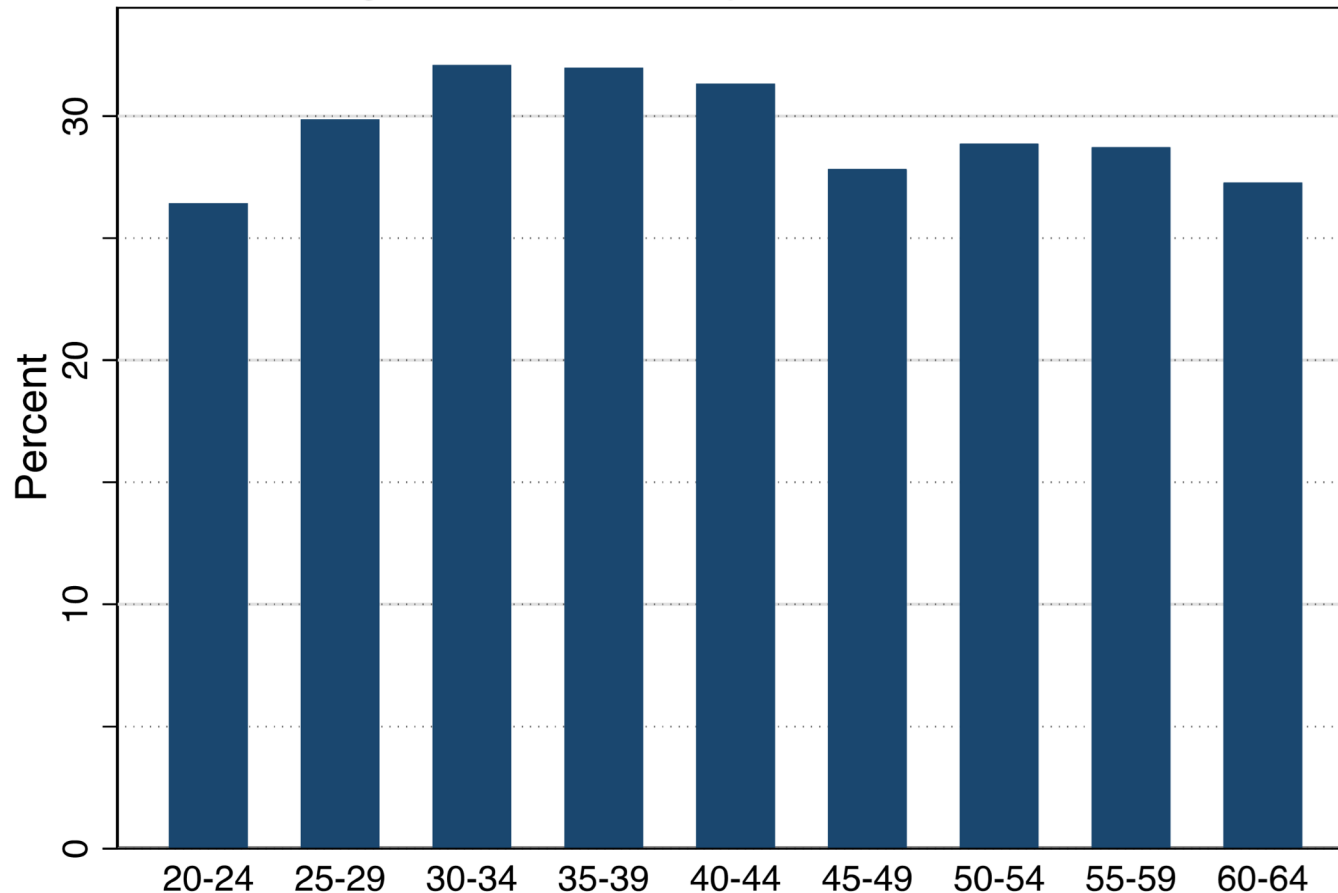
- **Currently (this week) what is your work status?**
- **For each day last week, did you work a full day (6 or more hours), and if so where?**

Notes: For each wave, we compute the percent of paid full days worked from home in the SWAA. The horizontal-axis location shows when the survey was in the field. We re-weight the sample of US residents aged 20 to 64 with annual earnings of at least \$10,000 in a prior year to match CPS shares by age-sex-education-earnings cells. **N = 143,511**

Source: “Why Working from Home Will Stick” by Barrero, Bloom and Davis.

People in Their 30s and Early 40s Have Higher WFH Rates

Percentage of paid full days worked from home

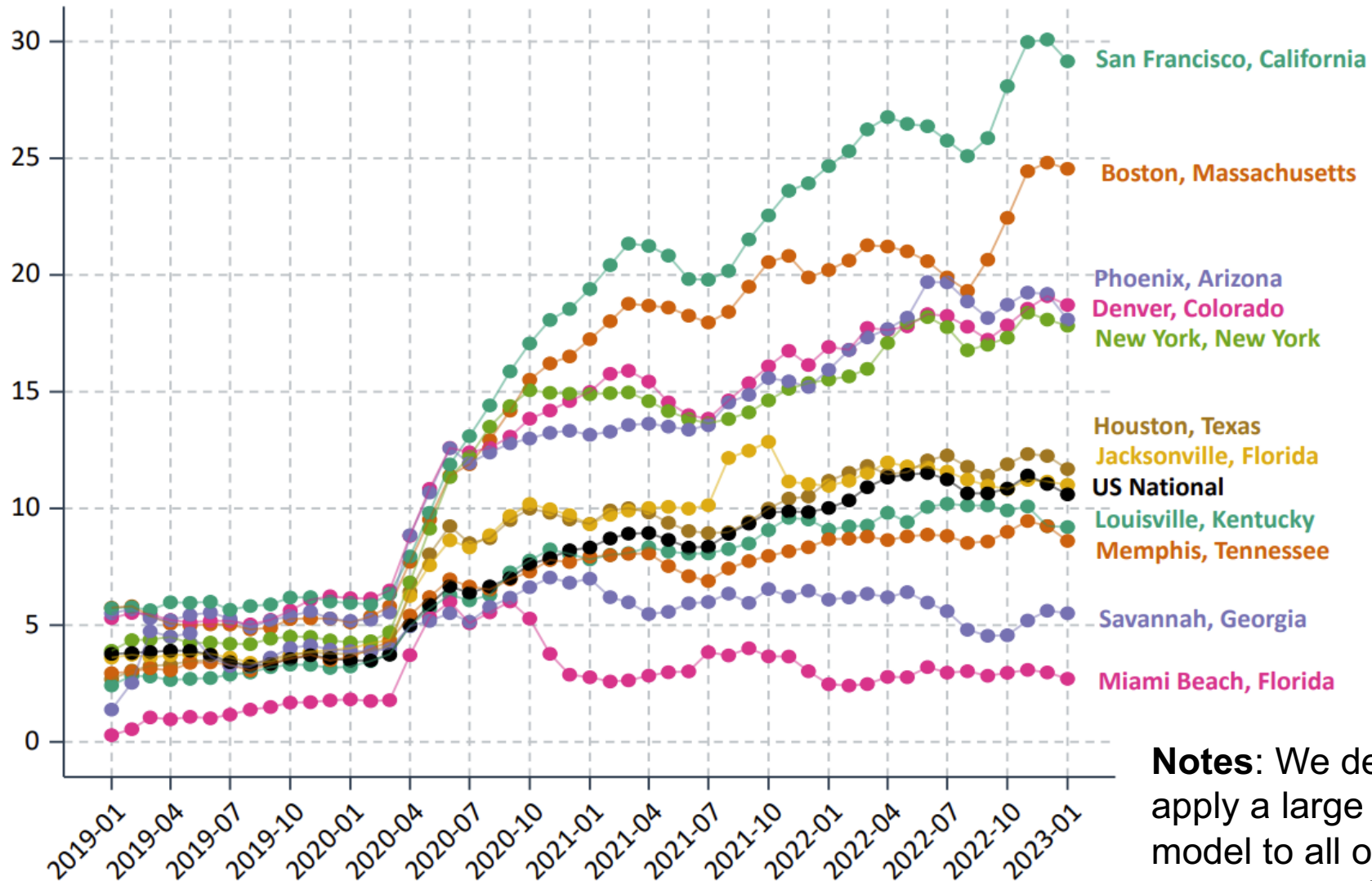


Notes: Full days worked from home as a percent of all paid workdays by age group in the Survey of Working Arrangements and Attitudes. We drop respondents who fail our attention-check questions. The sample runs from January 2022 through June 2023. **N = 71,000.**

Source: “Why Working from Home Will Stick” by Barrero, Bloom and Davis.

Work-from-Home Adoption Rates Vary Greatly Across U.S. Cities

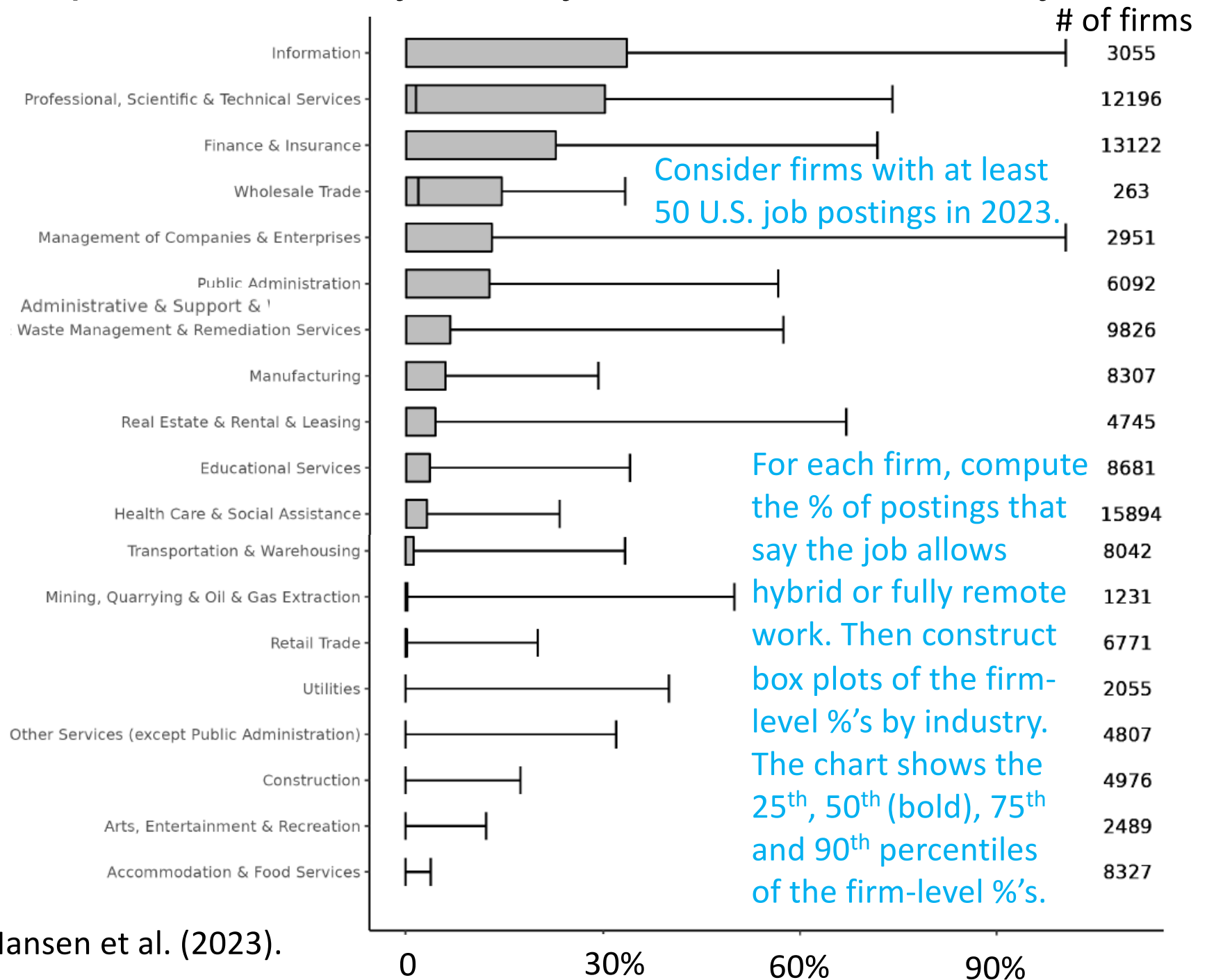
Percent of vacancy postings that explicitly say job offers hybrid or remote work



Notes: We develop and apply a large language model to all online job vacancy postings in the US (from Lightcast) to create these data. Updates at www.wfhmap.com.

Reproduced from “[Remote Work across Jobs, Companies, and Space](#),”
By Hansen, Lambert, Bloom, Davis, Sadun and Taska.

WFH Adoption Rates Vary Greatly Across Same-Industry Firms

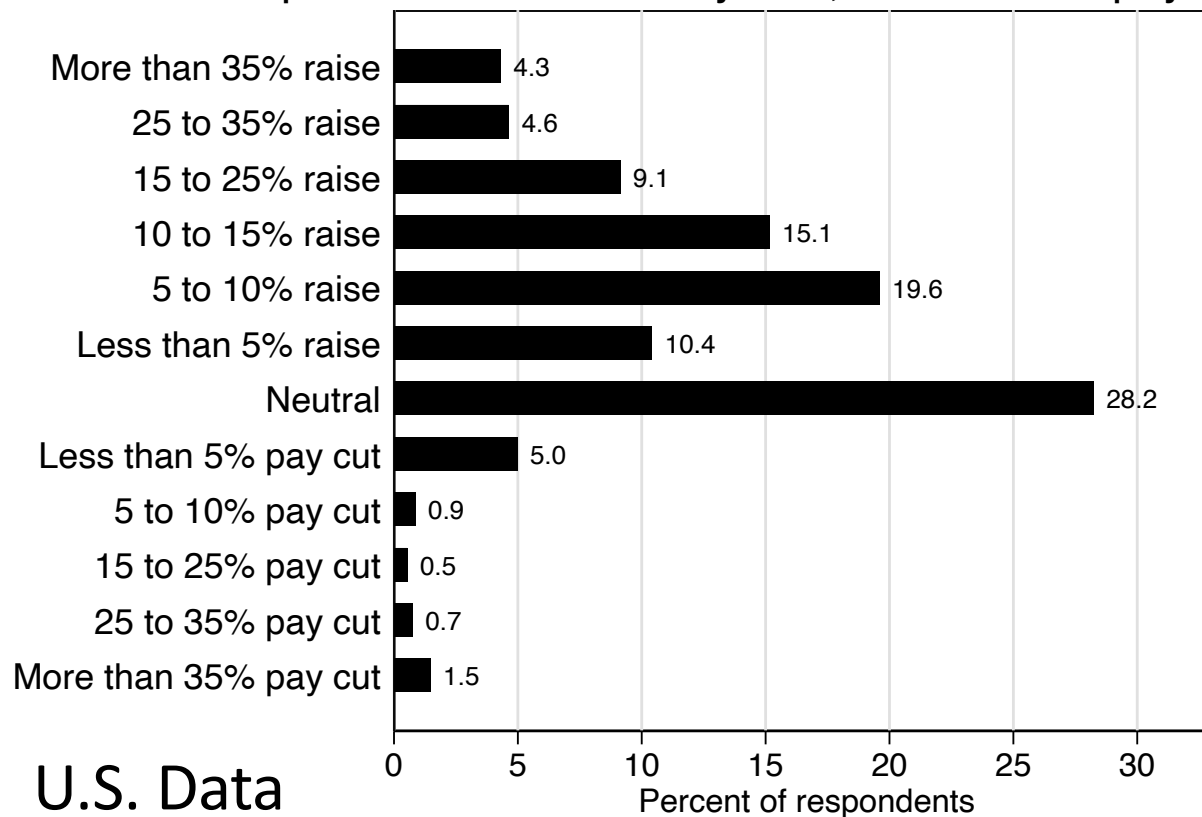


Source: Hansen et al. (2023).

When Asked Directly, Most People Place a High Value on the Option to Work from Home – But There’s a Lot of Heterogeneity in Valuations

Mean Value = 8% of Pay, Similar to Findings in Experimental Settings with Narrower Samples

Value of the option to WFH 2 - 3 days/wk, % of current pay?



Source: SWAA responses to a two-part question.

Part 1: **After COVID, in 2022 and later, how would you feel about working from home 2 or 3 days a week?**

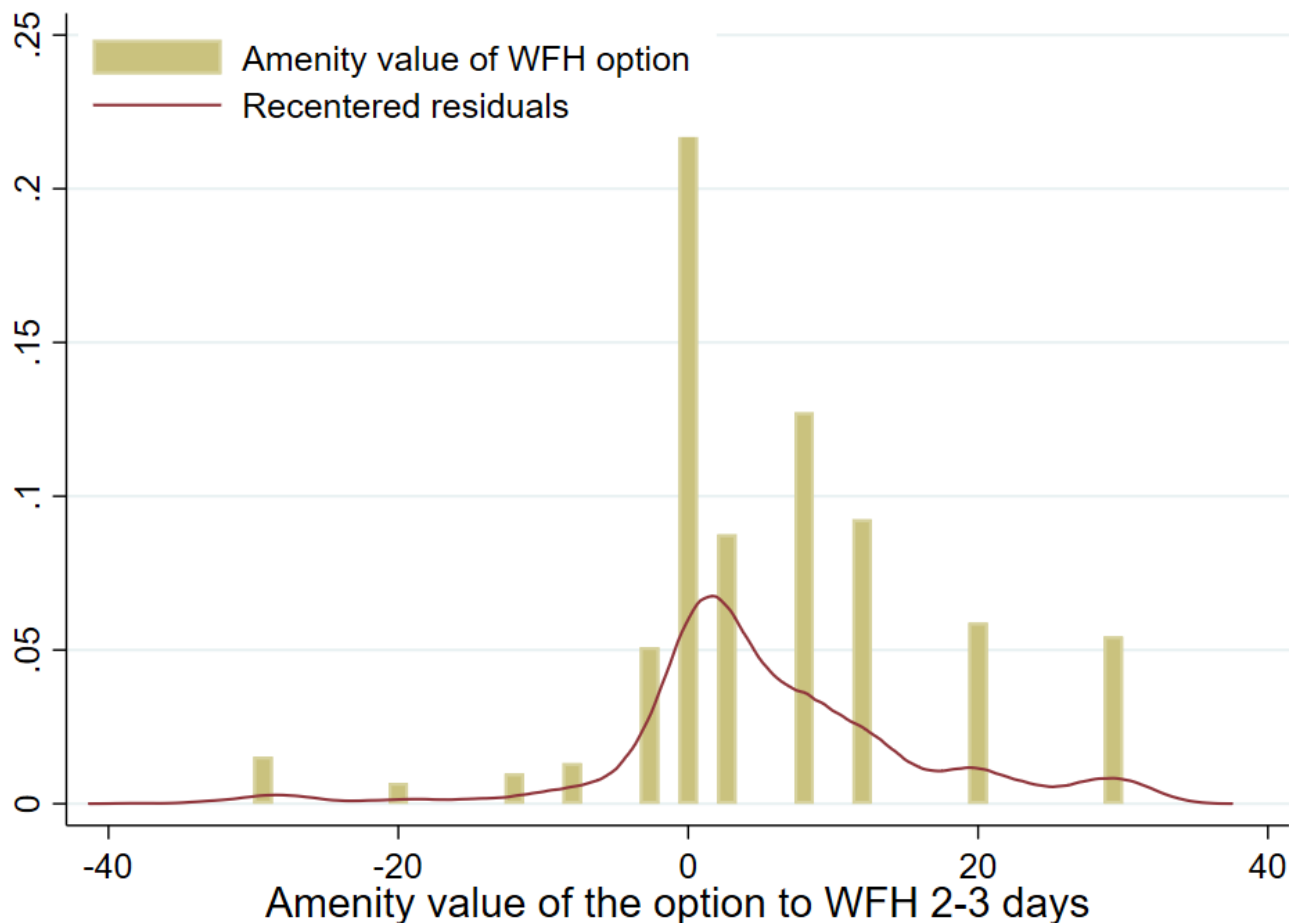
- *Positive: I would view it as a benefit or extra pay*
- *Neutral*
- *Negative: I would view it as a cost or a pay cut*

Part 2: How much of a **pay raise [cut]** (as a percent of your current pay) would you value as much as the option to work from home 2 or 3 days a week?

Data are from 20,750 survey responses collected from September 2020 to February 2021 by Inc-Query and QuestionPro. We asked a similar question in earlier and subsequent waves, but we focus on the above waves, which use identical questions and response options. We re-weight raw responses to match the share of working-age respondents in the 2010-2019 CPS by {age x sex x education x earnings} cells.

Source: “Why Working from Home Will Stick” by Barrero, Bloom and Davis

Histogram of the Willingness to Pay for the Option to Work from Home 2-3 Days per Week



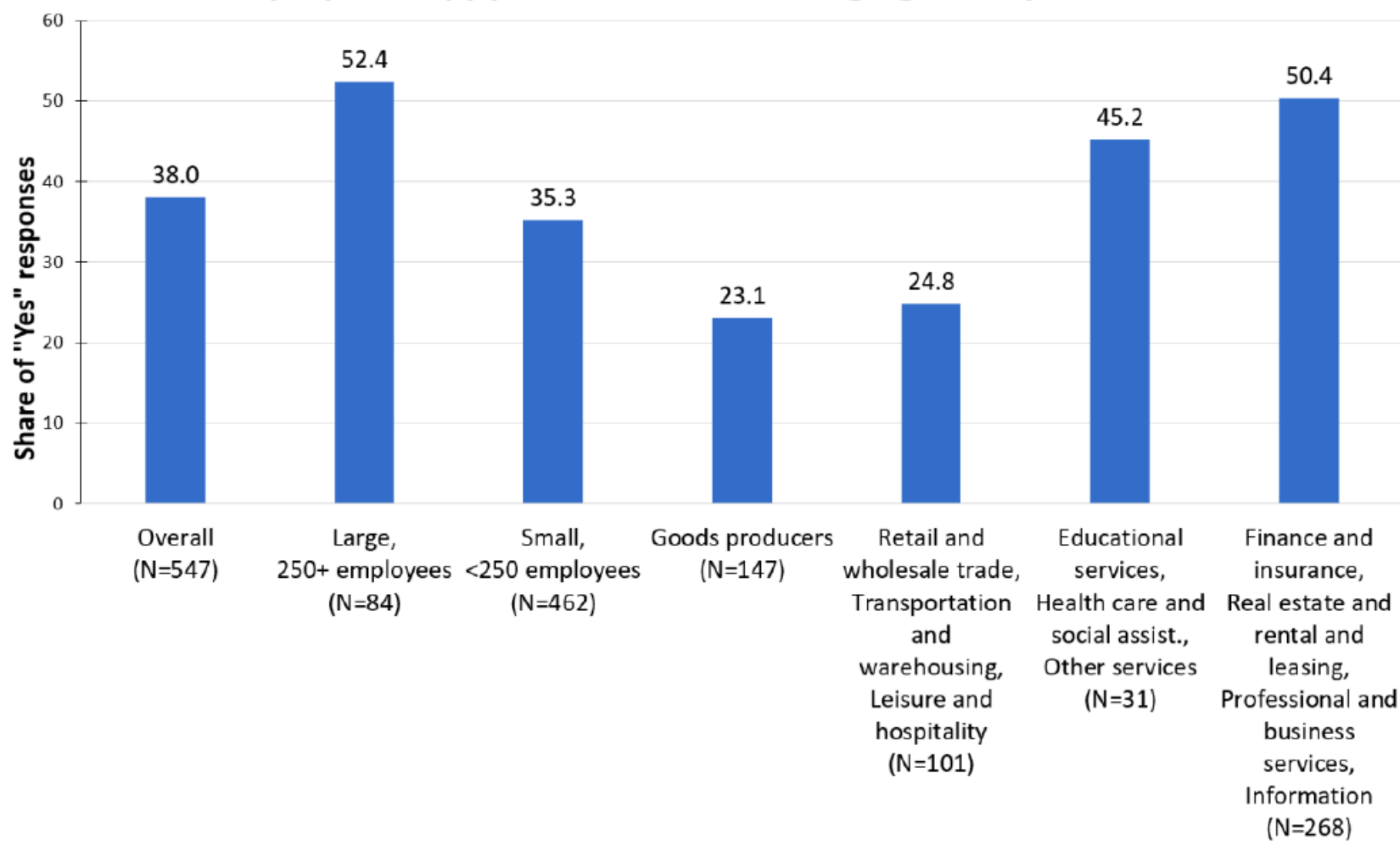
Question: “After COVID-19, in 2022 and later, how would you feel about working from home 2 or 3 days a week?” and “How much of a pay raise [cut] (as a percent of your current pay) would you value as much as the option to work from home 2 or 3 days a week?”

The bar chart shows the histogram of responses. The kernel density is fit to residuals from a regression that controls for gender, age groups, education groups, 18 industry sectors, survey wave and country fixed effects. We recenter the residuals by adding back the raw mean amenity value.

The standard deviation (SD) of the amenity value is 10.97 and the SD of the residuals is 10.51.

Reproduced from “[Working from Home Around the World](#)” by Aksoy, Barrero, Bloom, Davis, Dolls and Zarate, *Brookings Papers on Economic Activity*, Fall 2022. The sample covers workers, 20-64, in 27 countries in the July/August 2021 and January/February 2022 waves of the Global Survey of Working Arrangements.

Over the past 12 months, has your firm expanded the opportunities to work from home (or other remote location) as a way to keep employees happy and to moderate wage-growth pressures?



Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business. Using data from the April and May 2022 survey waves.

From [“The Shift to Remote Work Lessens Wage-Growth Pressures”](#) by Barrero, Bloom, Davis, Meyer and Mihaylov, NBER WP 30197. Revision in progress.

When a business executive responds “yes” to the previous question, we follow up with:

“What is your best estimate for how much expanded remote-work opportunities have moderated wage-growth pressures at your firm in the past 12 months?”

Response options are 0, 1, 2, ..., 19, 20 % and more than 20%.

We also ask a parallel pair of questions about remote work and wage-growth pressures over the next 12 months.

Nominal Wage-Growth Moderation Due to the Rise of Remote Work Over a Two-Year Period Centered in April/May 2022 Percentage Points

We assign a zero value to wage-growth restraint (in the look-back or look-ahead direction) if (a) the executive says “No” to the first question, and if (b) the executive says “Yes” to the first question and responds with 0 to the follow-up question.

64% of sampled firms have a cumulative wage-growth moderation value of 0.

	Mean Cumulative Wage-Growth Moderation Over Two Years	
	Unweighted	Weighted by Firm Size
Overall	2.2	2.0
Small Firms (fewer than 250 employees)	2.2	2.0
Large Firms (250 or more employees)	2.1	2.0
Goods Producers	1.3	1.3
Retail and Wholesale Trade, Transportation and Warehousing, Leisure and Hospitality	1.4	1.8
Education, Healthcare, Social Assistance, Other services	2.7	3.8
FIRE, Professional and Business Services, Information	3.0	2.3

From “[The Shift to Remote Work Lessens Wage-Growth Pressures](#)” by Barrero, Bloom, Davis, Meyer and Mihaylov, NBER WP 30197. Revision in progress.

U.S. Employer Cost Index By Industry, Deflated by the CPI, 2019 Q1 through to 2023 Q3

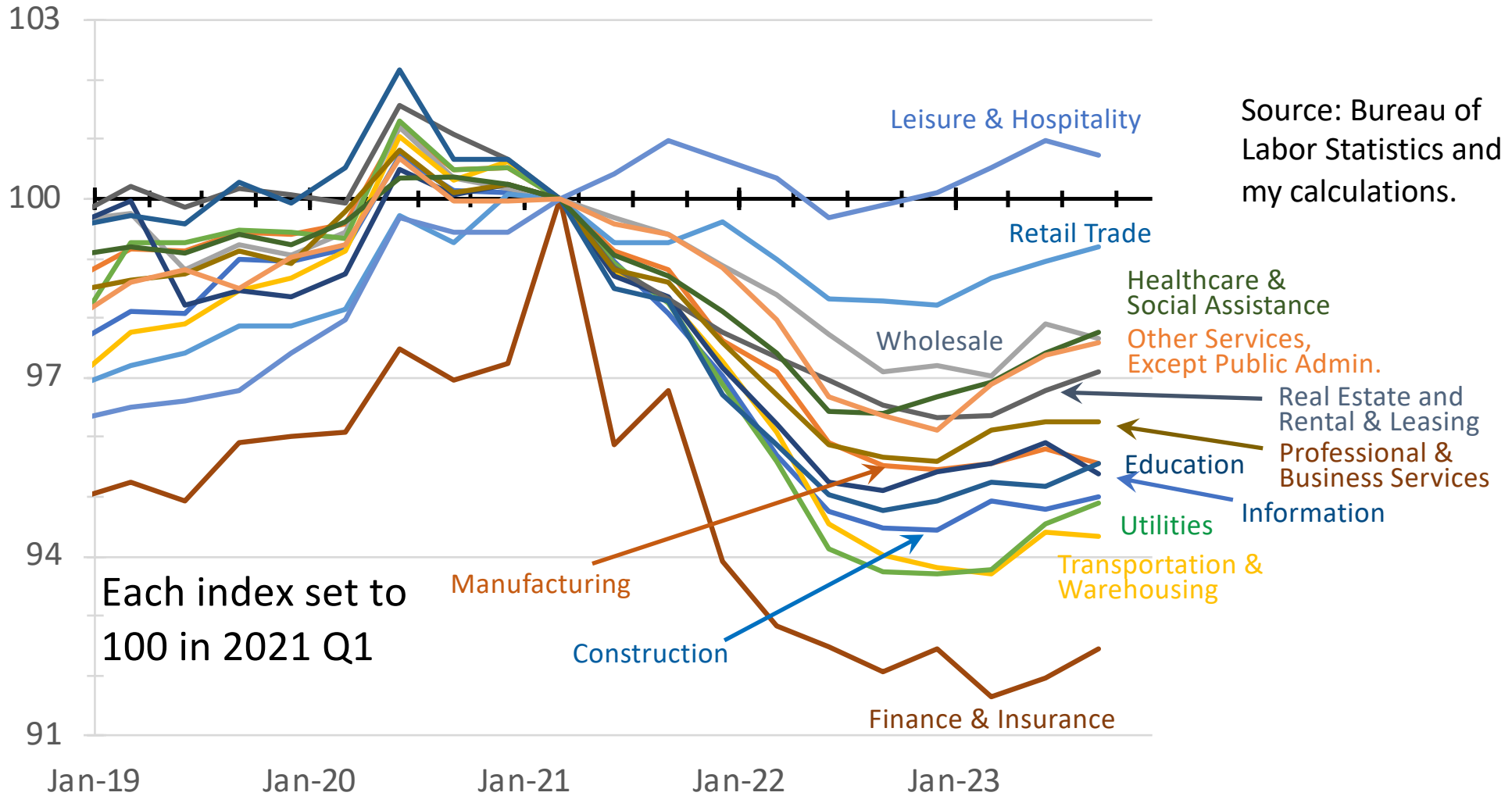
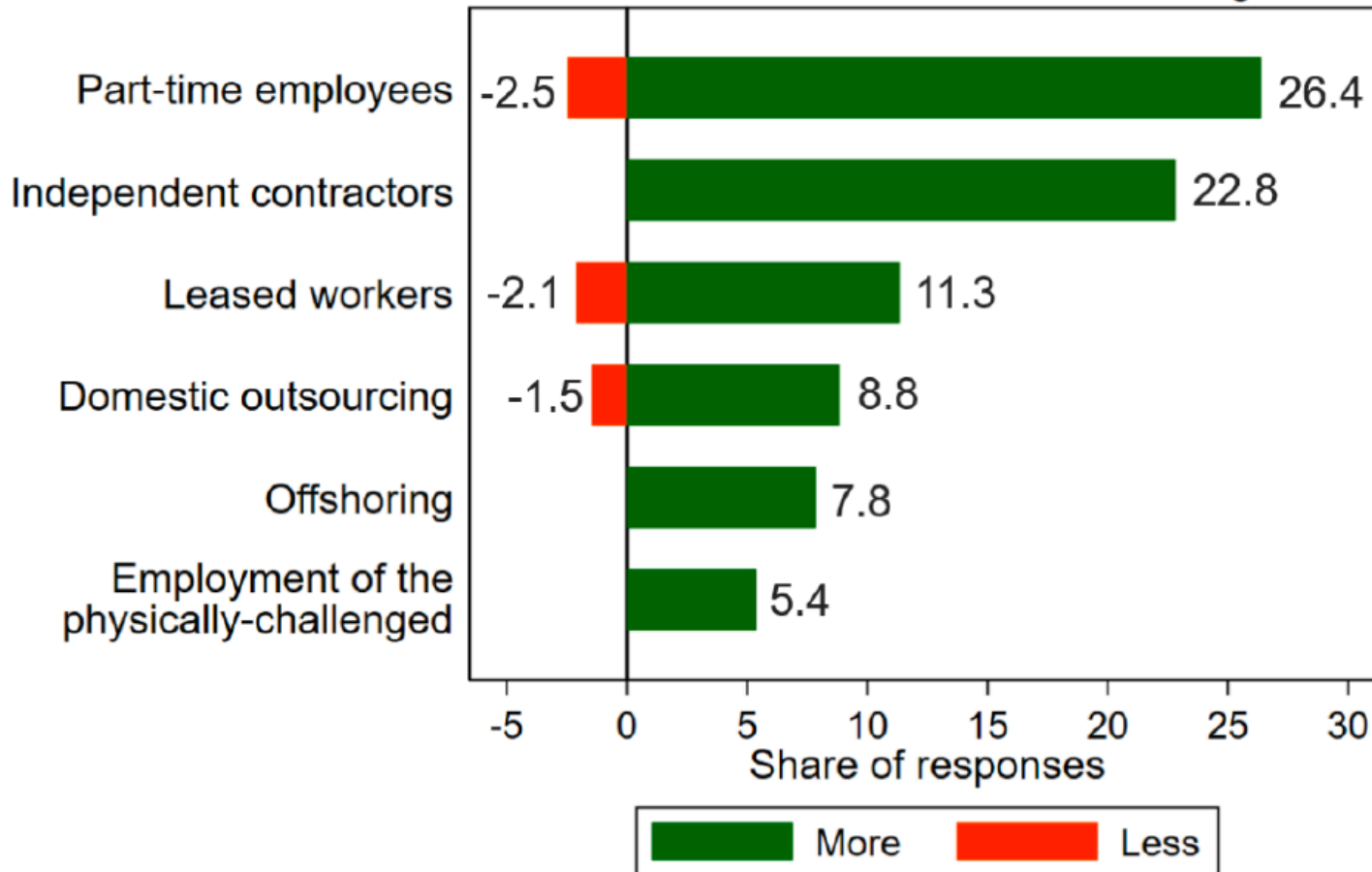


Figure 3: Other Workforce Changes Associated with the Shift to Remote Work

Has this increase in remote work brought other changes at your firm?
Please answer for each of the following:



Source: Survey of Business Uncertainty and authors' calculations.

Other studies find evidence that offering remote-work options lowers employee quit rates, reducing turnover costs. See Barrero, Bloom and Davis (2021a) and Bloom, Han and Liang (2022).

Some Consequences of the Big Shift to WFH

1. Large direct benefits, on average, for workers and families:
 - Savings in time and money costs of commuting and grooming
 - More flexibility in managing time and the household
 - Greater personal autonomy
 - Expanded work opportunities for those with physical impairments, those living in remote locations, people with joint location constraints, ...
2. Direct benefits flow mainly to the college-educated, who are a larger share in richer countries.
3. Not everyone benefits: Persons who highly value daily in-person encounters with colleagues, or who lose out on learning and networking may be worse off. Others (e.g., immobile urban poor) may be hurt by equilibrium effects on jobs and local public goods.
4. Pace of innovation: Countervailing effects. Hard to draw firm conclusions, but we are optimistic for reasons set forth in “[The Evolution of Work from Home.](#)”