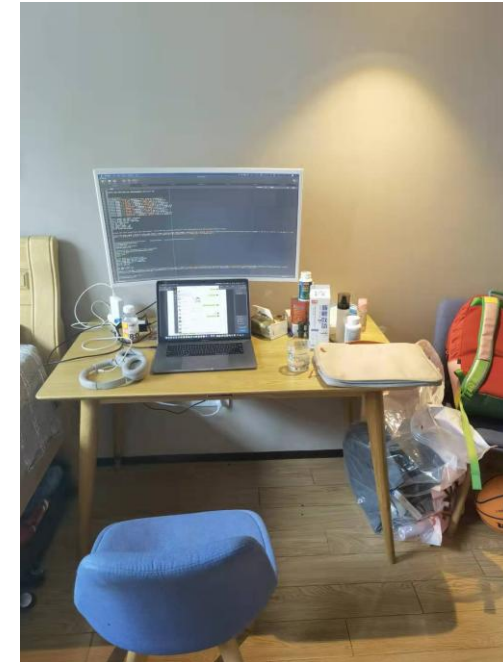


# Working from Home and Transport

Nick Bloom (Stanford), MIT Mobility Forum, March 14<sup>th</sup> 2025



# Going to cover three sections

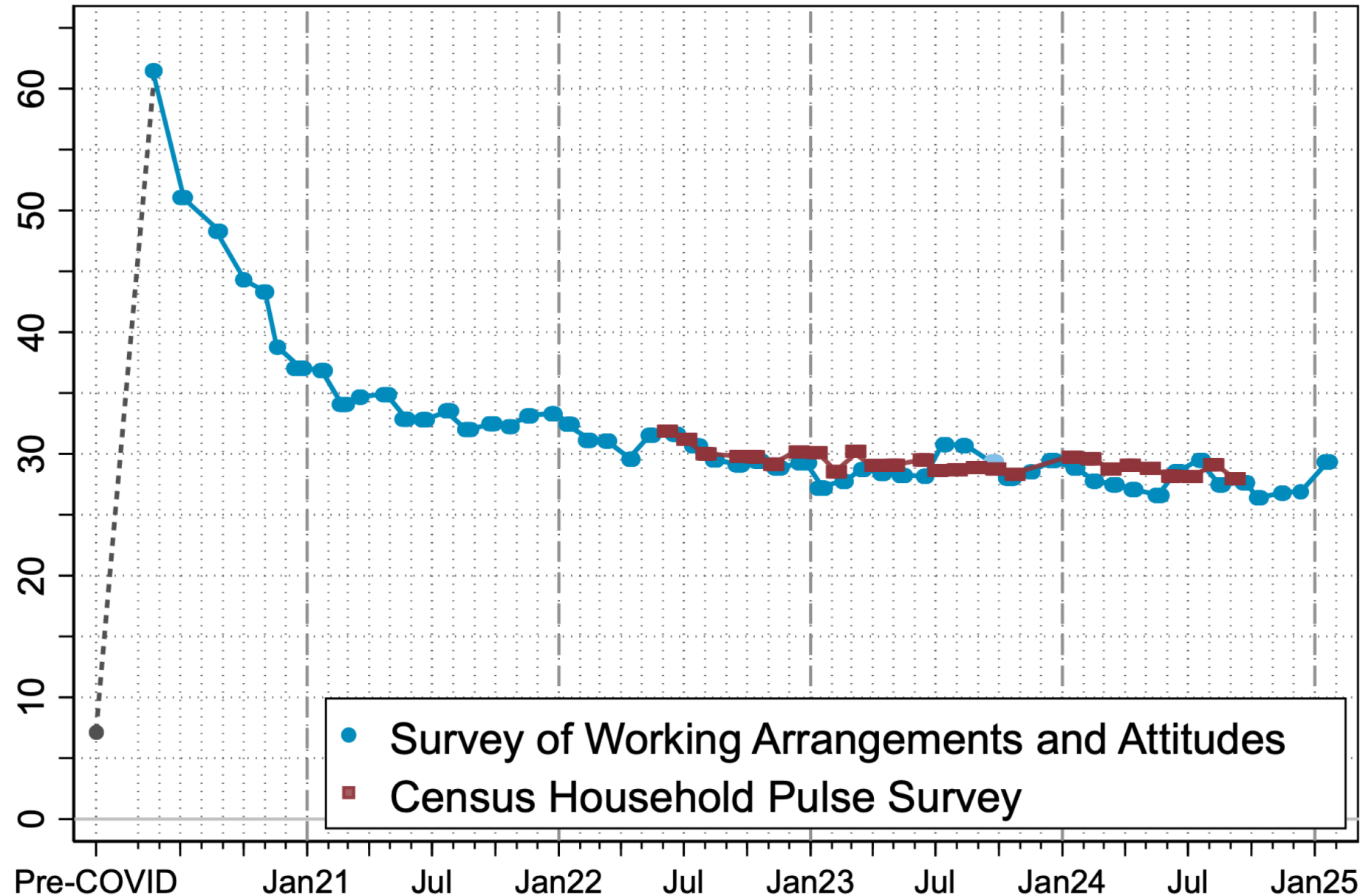
**>>>> Current state of working from home**

**>>>> Thoughts on managing hybrid and remote**

**>>>> Four impacts on the economy**

# WFH stabilizing at about 25% of days from 2023 onwards

US full days worked from home, %



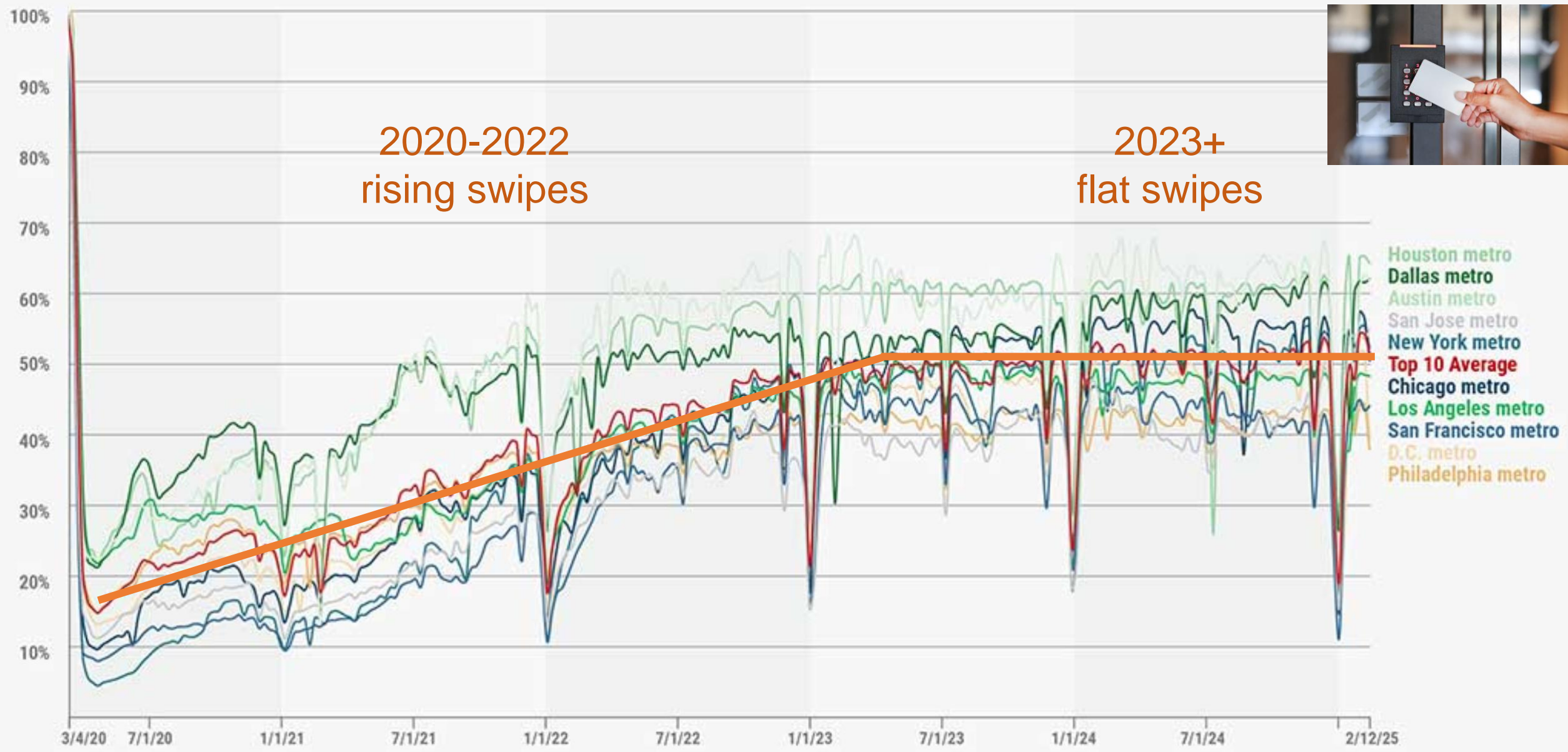
**Source: 221,587 (SWAA) N = 923,587 (HHP).** SWAA data from survey responses weighted to match the US population. Pre-covid data from the American Time Use Survey. CHPS respondents weighted to match the US population aged 20 to 64 in households with incomes above \$25,000.

Survey of Workplace Attitudes and Arrangements (Barrero, Bloom and Davis 2021)

<https://wfhresearch.com/>

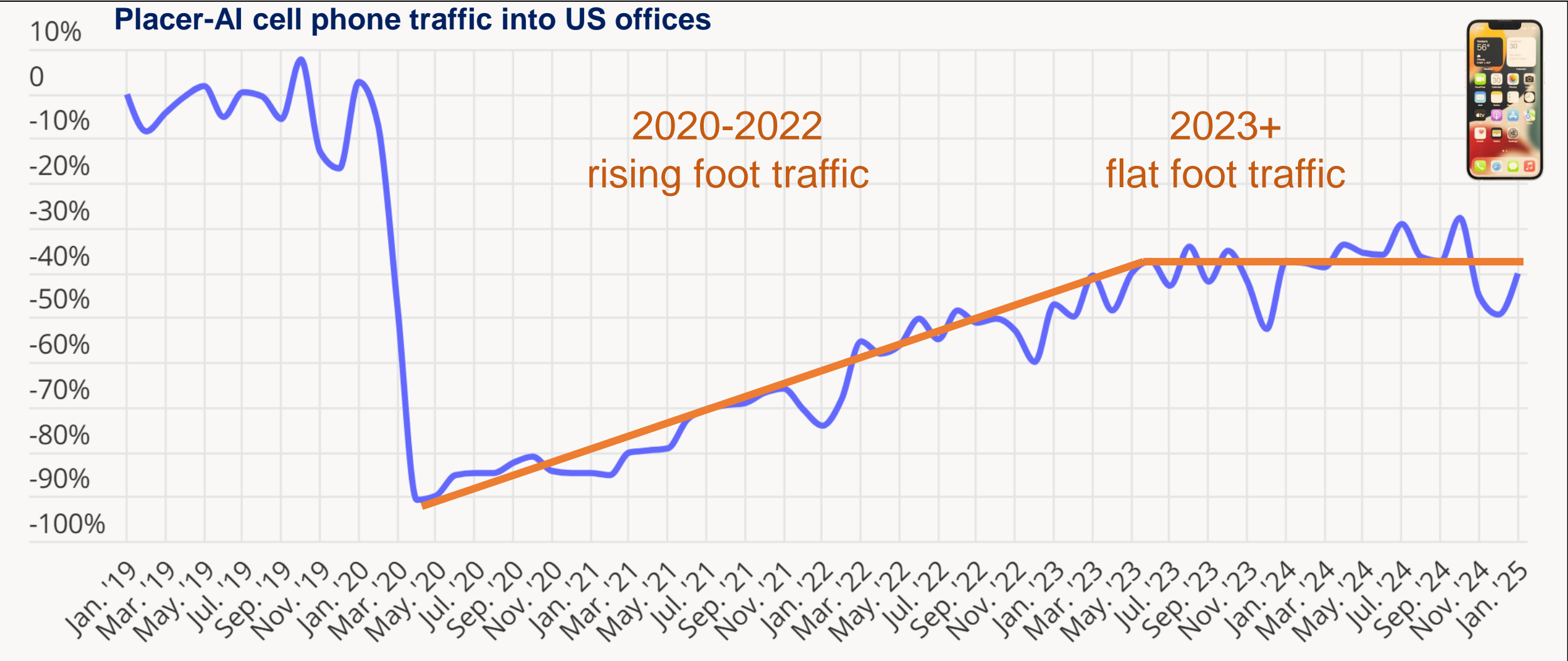
# Same story in office *swipe card data* - stabilizing from 2023 onwards

## Kastle office occupancy data



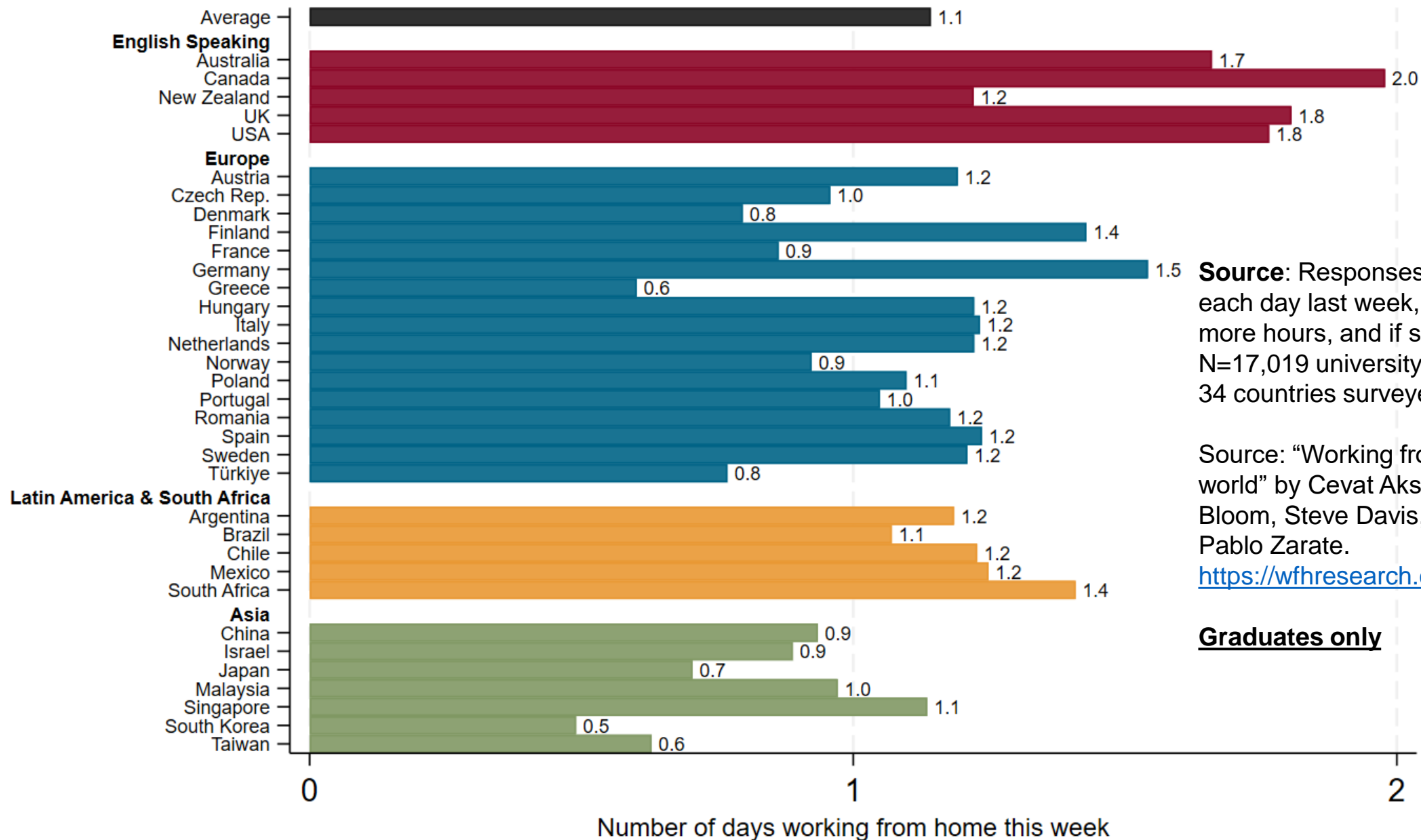


# Same story in cell-phone location *data* - stabilizing from 2023 onwards



**Source:** Placer.ai Nationwide Office Building Index: The office building index analyzes foot traffic data from over 700 office buildings across the country. It only includes commercial office buildings, and commercial office buildings with retail offerings on the first floor (like an office building that might include a national coffee chain on the ground floor). It does NOT include mixed-use buildings that are both residential and commercial. <https://www.placer.ai/blog/placer-ai-office-index-january-2025-recap>

# WFH varies by country - highest in North America lowest in Asia



**Source:** Responses to the question “For each day last week, did you work 6 or more hours, and if so where?”. Sample of N=17,019 university graduate workers in 34 countries surveyed in April-June 2023.

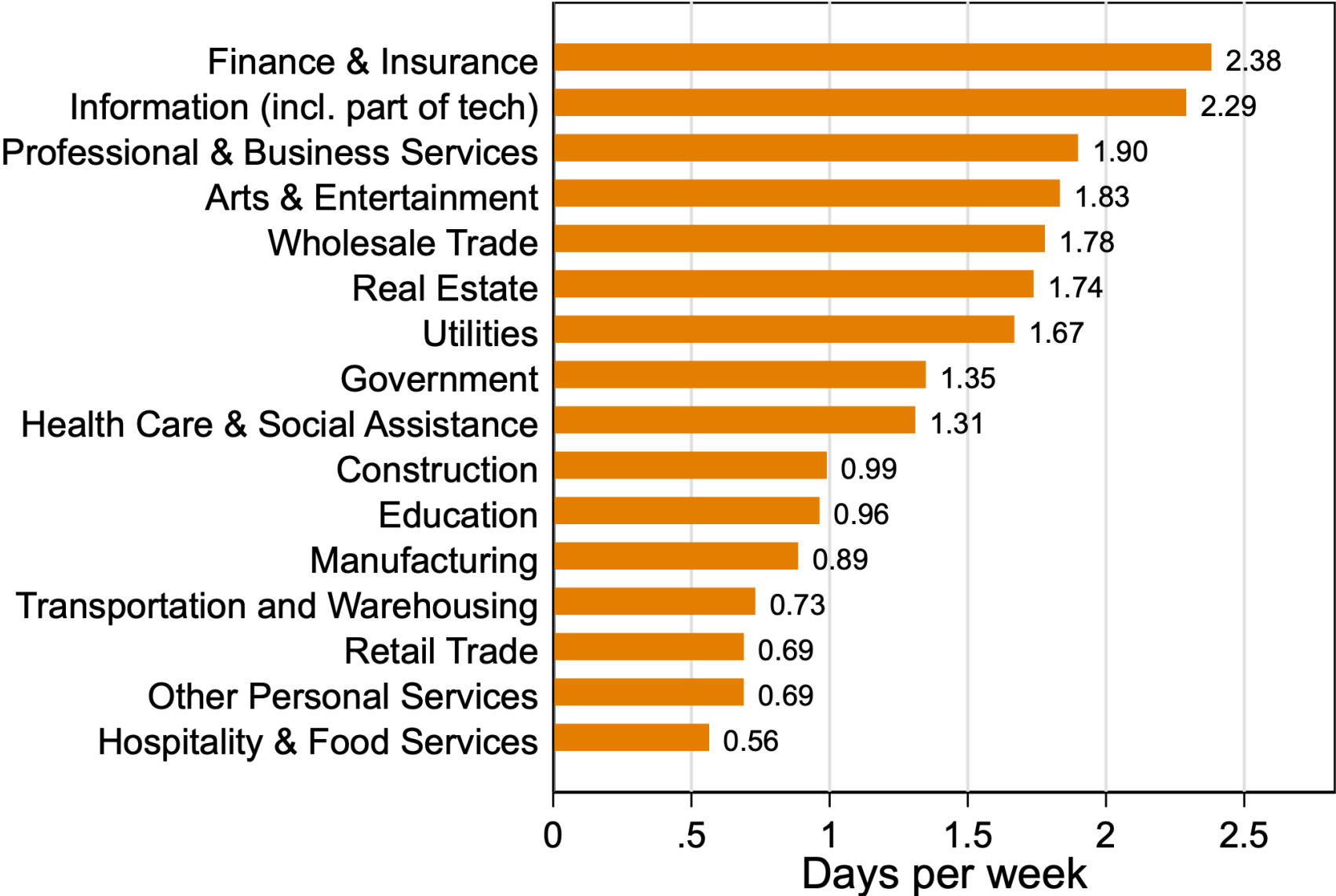
Source: “Working from home around the world” by Cevat Aksoy, Jose Barrero, Nick Bloom, Steve Davis, Mathias Dolls and Pablo Zarate.

<https://wfhresearch.com/gswadata/>

**Graduates only**

# WFH varies by industry – highest in Finance and Tech

Current WFH: all wage and salary employees by industry



**Notes:** Survey of Workplace Attitudes and Arrangements  
[www.wfhresearch.com](http://www.wfhresearch.com) Sample from June 2024 to November 2024

# RCT on 1612 engineers, marketing and finance professionals found hybrid WFH reduced quit rates 35% (and no performance impact)

## Hybrid working from home improves retention without damaging performance

nature

<https://doi.org/10.1038/s41586-024-07500-2>

Received: 15 August 2023

Accepted: 30 April 2024

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Open access

 Check for updates

Nicholas Bloom<sup>1,2,3</sup>, Ruobing Han<sup>2,3,4</sup> & James Liang<sup>3,4,5</sup>

Working from home has become standard for employees with a university degree. The most common scheme, which has been adopted by around 100 million employees in Europe and North America, is a hybrid schedule, in which individuals spend a mix of days at home and at work each week<sup>1,2</sup>. However, the effects of hybrid working on employees and firms have been debated, and some executives argue that it damages productivity, innovation and career development<sup>3–5</sup>. Here we ran a six-month randomized control trial investigating the effects of hybrid working from home on 1,612 employees in a Chinese technology company in 2021–2022. We found that hybrid working improved job satisfaction and reduced quit rates by one-third. The reduction in quit rates was significant for non-managers, female employees and those with long commutes. Null equivalence tests showed that hybrid working did not affect performance grades over the next two years of reviews. We found no evidence for a difference in promotions over the next two years overall, or for any major employee subgroup. Finally, null equivalence tests showed that hybrid working had no effect on the lines of code written by computer-engineer employees. We also found that the 395 managers in the experiment revised their surveyed views about the effect of hybrid working on productivity, from a perceived negative effect (–2.6% on average) before the experiment to a perceived positive one (+1.0%) after the experiment. These results indicate that a hybrid schedule with two days a week working from home does not damage performance.

Working from home (WFH) surged after the COVID-19 pandemic, with university-graduate employees typically WFH for one to two days a week during 2023 (refs. 2,6). Previous causal research on WFH has focused on employees who are fully remote, usually working on independent tasks in call-centre, data-entry and helpdesk roles. This literature has found that the effects of fully remote working on productivity are often negative, which has resulted in calls to curtail WFH<sup>7–10</sup>. However, there are two challenges when it comes to interpreting this literature. First, more than 70% of employees WFH globally are on a hybrid schedule. This group comprises more than 100 million individuals, with the most common working pattern being three days a week in the office and two days a week at home<sup>2,6,9</sup>. Second, most employees who are regularly WFH are university graduates in creative team jobs that are important in science, law, finance, information technology (IT) and other industries, rather than performing repetitive data-entry or call processing tasks<sup>10,11</sup>.

This paper addresses the gap in previous studies in two key ways. First, it uses a randomized control trial to examine the causal effect of a hybrid schedule in which employees are allowed to WFH two days per week. Second, it focuses on university-graduate employees in software engineering, marketing, accounting and finance, whose activities are mainly creative team tasks.

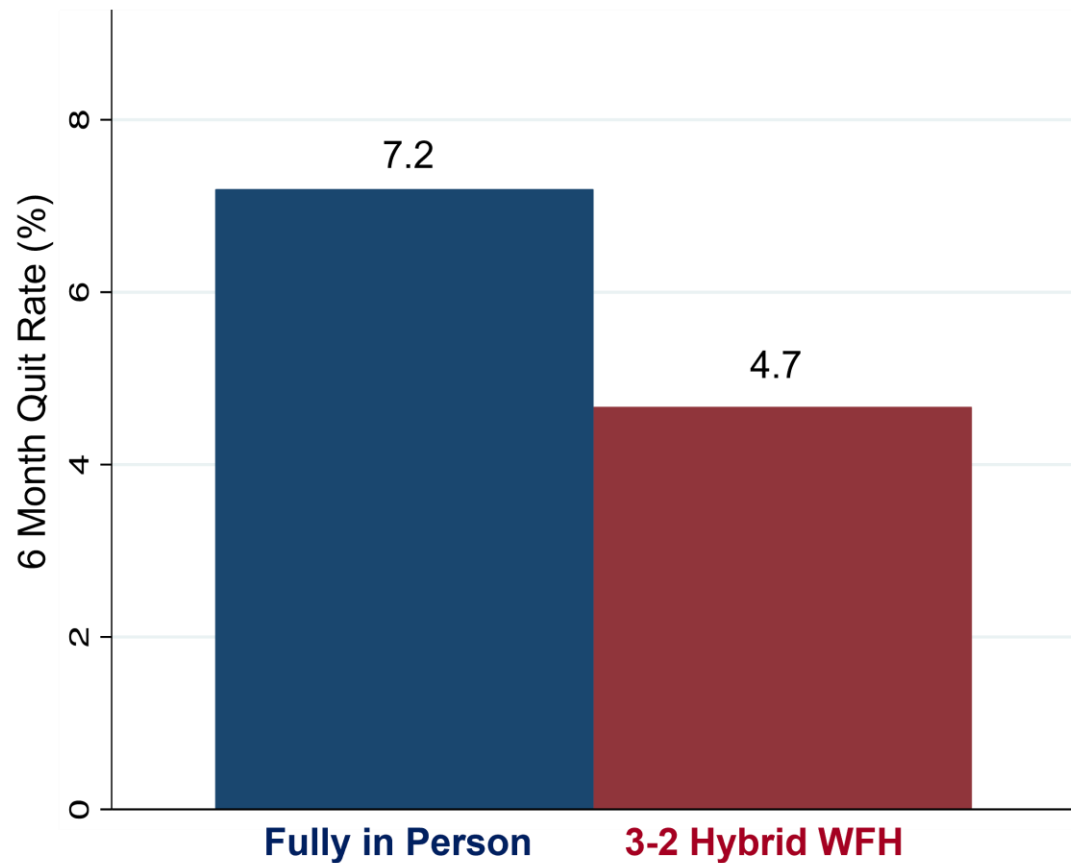
Our study describes a randomized control trial from August 2021 to January 2022, which involved 1,612 graduate employees in the Airfare

and IT divisions of a large Chinese travel technology multinational called Trip.com. Employees were randomized by even or odd birthdays into the option to WFH on Wednesday and Friday and come into the office on the other three days, or to come into the office on all five days.

We found that in the hybrid WFH (‘treatment’) group, attrition rates dropped by one-third (mean<sub>control</sub> = 7.20, mean<sub>treat</sub> = 4.80,  $t(1610) = 2.02$ ,  $P = 0.043$ ) and work satisfaction scores improved (mean<sub>control</sub> = 7.84, mean<sub>treat</sub> = 8.19,  $t(1343) = 4.17$ ,  $P < 0.001$ ). Employees reported that WFH saved on commuting time and costs and afforded them the flexibility to attend to occasional personal tasks during the day (and catch up in the evenings or weekends). These effects on reduced attrition were significant for non-managerial employees (mean<sub>control</sub> = 8.59, mean<sub>treat</sub> = 5.33,  $t(1215) = 2.23$ ,  $P = 0.026$ ), female employees (mean<sub>control</sub> = 9.19, mean<sub>treat</sub> = 4.18,  $t(568) = 2.40$ ,  $P = 0.017$ ) and those with long (above-median) commutes (mean<sub>control</sub> = 6.00, mean<sub>treat</sub> = 2.89,  $t(609) = 1.87$ ,  $P = 0.062$ ).

At the same time, we found no evidence of a significant effect on employees’ performance reviews, on the basis of null equivalence tests, and no evidence of a difference in promotion rates over periods of up to two years (‘Null results’ section of the Methods). We did find significant differences in pre-experiment beliefs about the effects of WFH on productivity between non-managers and managers. Before

## Hybrid WFH lowered employee quit rates by 35%



**Source:** Attrition rates for 1612 engineers, marketing and finance professionals of Trip.com who were randomized between September 2021 and February 2022 by even and odd birthdays into control (5-days a week in the office) and treatment (Mon, Tue and Thur in the office; Weds and Fri working from home). Difference statistically significant at the 5% level. Details in Bloom, Han and Liang (2022) “How Hybrid Work from Home Works Out”.

<sup>1</sup>Department of Economics, Stanford University, Stanford, CA, USA. <sup>2</sup>Shenzhen Finance Institute, School of Management and Economics, The Chinese University of Hong Kong, Shenzhen, China. <sup>3</sup>National School of Development, Peking University, Beijing, China. <sup>4</sup>Trip.com, Shanghai, China. <sup>5</sup>These authors contributed equally: Nicholas Bloom, Ruobing Han. ✉email: nbloom@stanford.edu; hanruobing@outlook.com; liangj@trip.com



# Going to cover three sections

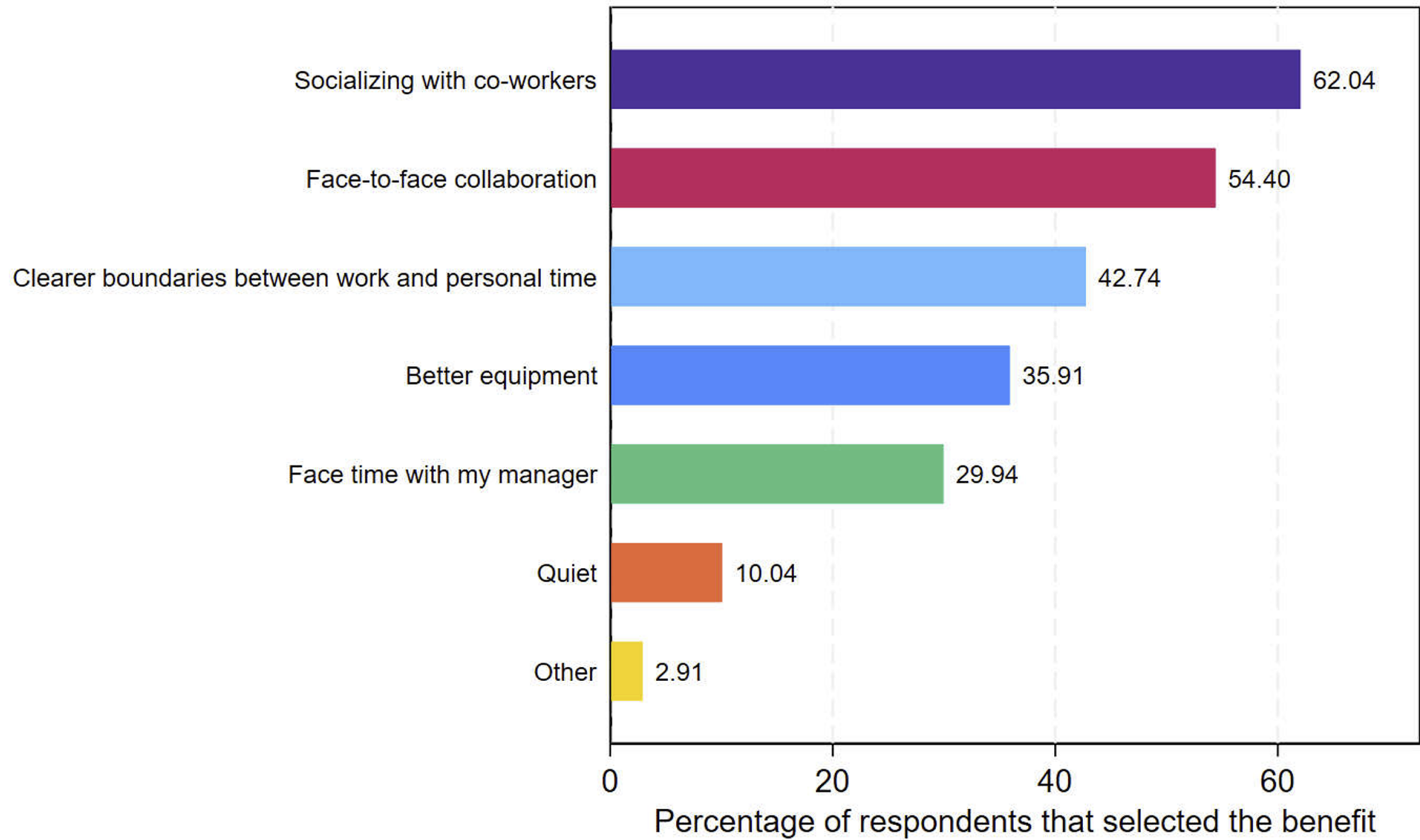
>>>> Current state of working from home

>>>> Thoughts on managing hybrid and remote

>>>> Four impacts on the economy

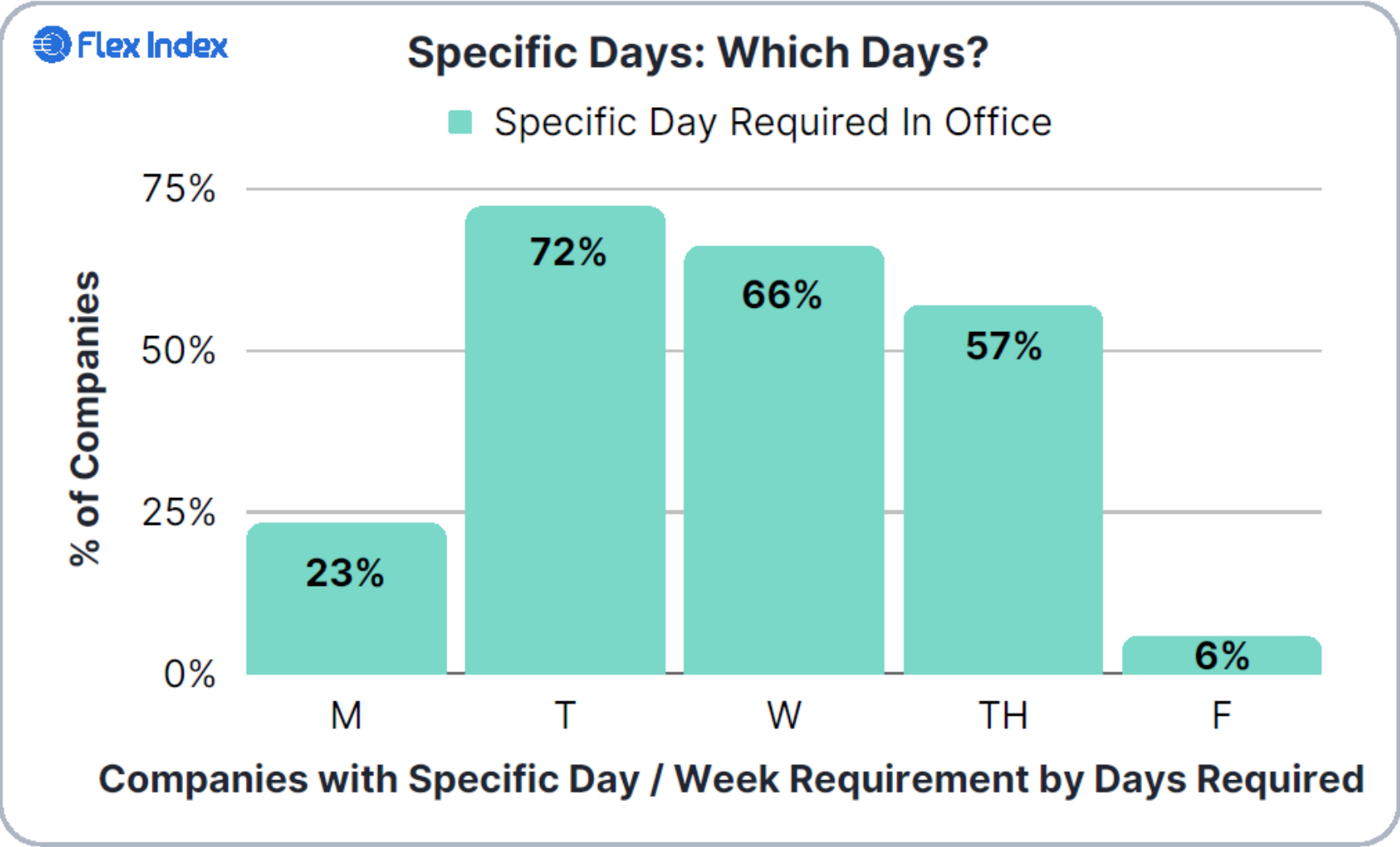
# 1) Coordination – office benefits are being with co-workers

Qu: “What are the top three benefits of working on your employer’s business premises?”



**Notes:** Among workers that have work-from home experience during the COVID-19 pandemic. Responses to the question “What are the top benefits of working on your employer’s business premises? Please choose up to three”. Sample of N=20,732 workers in 34 countries surveyed in April-May 2023. All values are available at <https://bit.ly/Figures-GSWA-2023>

# Coordination generates the hybrid squeeze into Tuesday to Thursday



Source: [Flex Index](https://flex.scoopforwork.com) (flex.scoopforwork.com) employee surveys and publicly available data on companies with a specific day / week office requirement. N = 229 companies. The Flex Index is presented by [Scoop](https://scoopforwork.com) (scoopforwork.com).

## A modern office interior with large windows, wooden accents, and several employees working at desks with computers. A man in a pink shirt is in the foreground, and others are visible in the background.

- |                 | Out   | Nov   | Dez   | 4Tri  | Jan   | Fev  | Mar  | 1Tri  |
|-----------------|-------|-------|-------|-------|-------|------|------|-------|
| Total Segmentos | 61,53 | 83,64 | 79,17 | 73,25 | 52,27 | 0,00 | 0,00 | 34,37 |
| Total PF        | 70,15 | 76,99 | 75,13 | 68,82 | 42,11 | 0,00 | 0,00 | 26,86 |
| Preferencial    | 58,09 | 86,85 | 86,87 | 76,92 | 15,16 | 0,00 | 0,00 | 13,43 |
|                 |       |       |       |       | 18,78 | 0,00 | 0,00 | 18,12 |
|                 |       |       |       |       | 37,11 | 0,00 | 0,00 | 25,07 |
|                 |       |       |       |       | 75,99 | 0,00 | 0,00 | 51,89 |
|                 |       |       |       |       | 47,40 | 0,00 | 0,00 | 41,84 |
|                 |       |       |       |       | 26,08 | 0,00 | 0,00 | 23,13 |

	PESO	META	REAL	%	PONTOS	OPORT.
Cientes					0,00	0,00
Incr. Base Ativa	0	28	146	150,0	0,00	0,00
Incr. Clientes c/ Ofer...	0	153	0	0,0	0,00	0,00
Abertura Contas PF	0	120	24	11,3	0,00	0,00
Abertura Contas Busine...	0	6	0	0,0	0,00	0,00
Aquisição Com Of. Bási...	0	136	0	0,0	0,00	0,00
Conversão Of. Básica	0	313	1	0,0	0,00	0,00
Vendas					0,00	0,00
Super Auto	0	5	2	40,0	0,00	0,00
Seguro Vida	0	47	26	55,3	0,00	0,00
Seguro Residencial	0	25	8	32,0	0,00	0,00
Seguro Auto	0	6	1	16,7	0,00	0,00
Seguro Vida Master	0	2	0	0,0	0,00	0,00
Cartões	0	140	75	53,6	0,00	0,00
CP Protegido	0	295	70	23,7	0,00	0,00
Capitalização	0	58	6	10,3	0,00	0,00
Novas Cobranças Ativas	0	4	2	50,0	0,00	0,00
Títulos Liquidados	0	5.301	1.815	34,2	0,00	0,00
Captações - Captação Líquida					0,00	0,00
Captação Alvo	0	1.371	1.072	78,2	0,00	0,00
Previdência Foco PF	0	184	599	325,6	0,00	0,00
Captação Demais	0	766	-3.001	-391,8	0,00	0,00
Depósito à Vista / Float					0,00	0,00
DÁV / Float	0	100	1.708	999,0	0,00	0,00
Empréstimos - Incr. Saldo Médio					0,00	0,00
Empréstimos Alvo PF	0	543	-118	-21,7	0,00	0,00



# Going to cover three sections

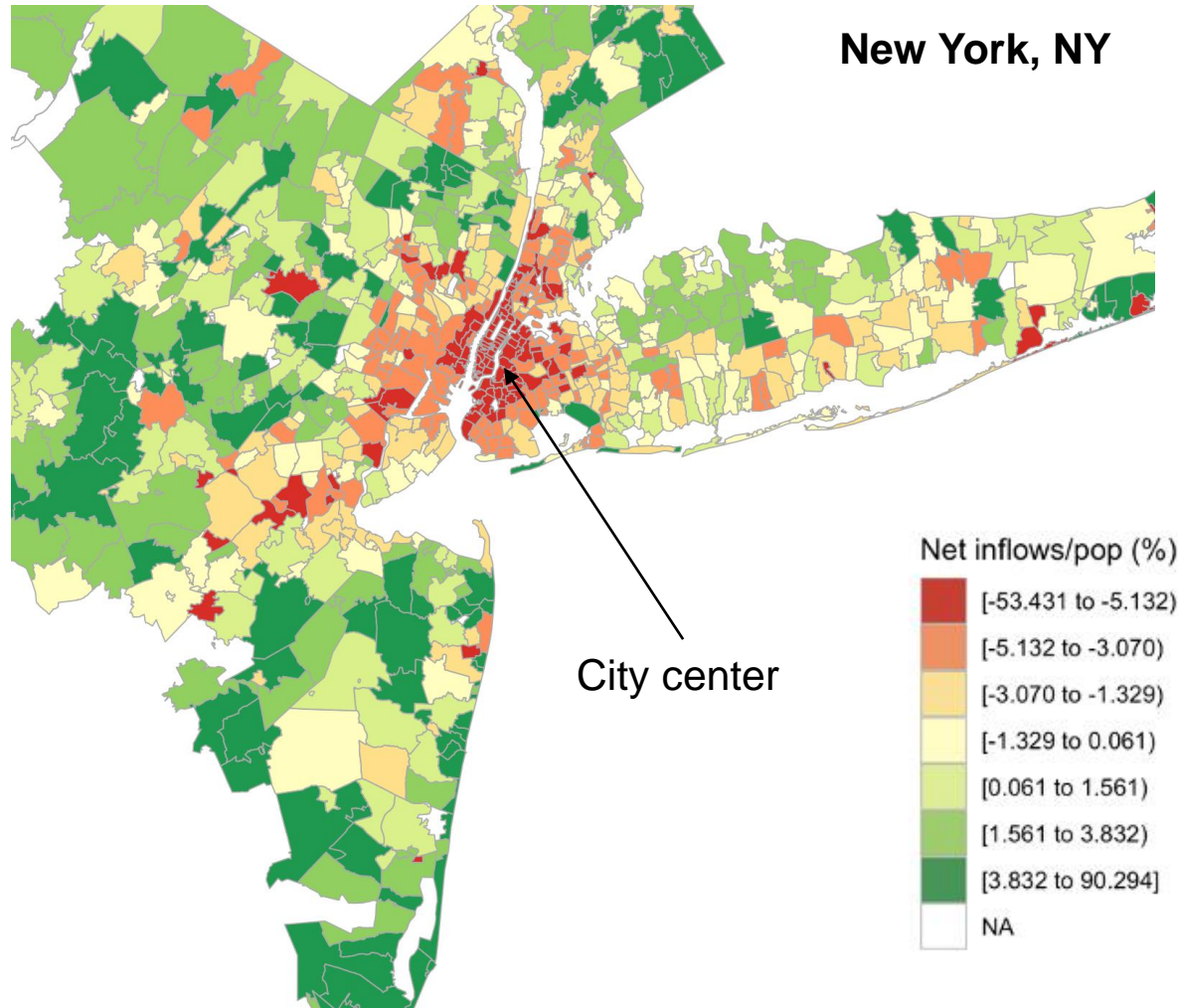
>>>> **Current state of working from home**

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>>>> **Four impacts on the economy**

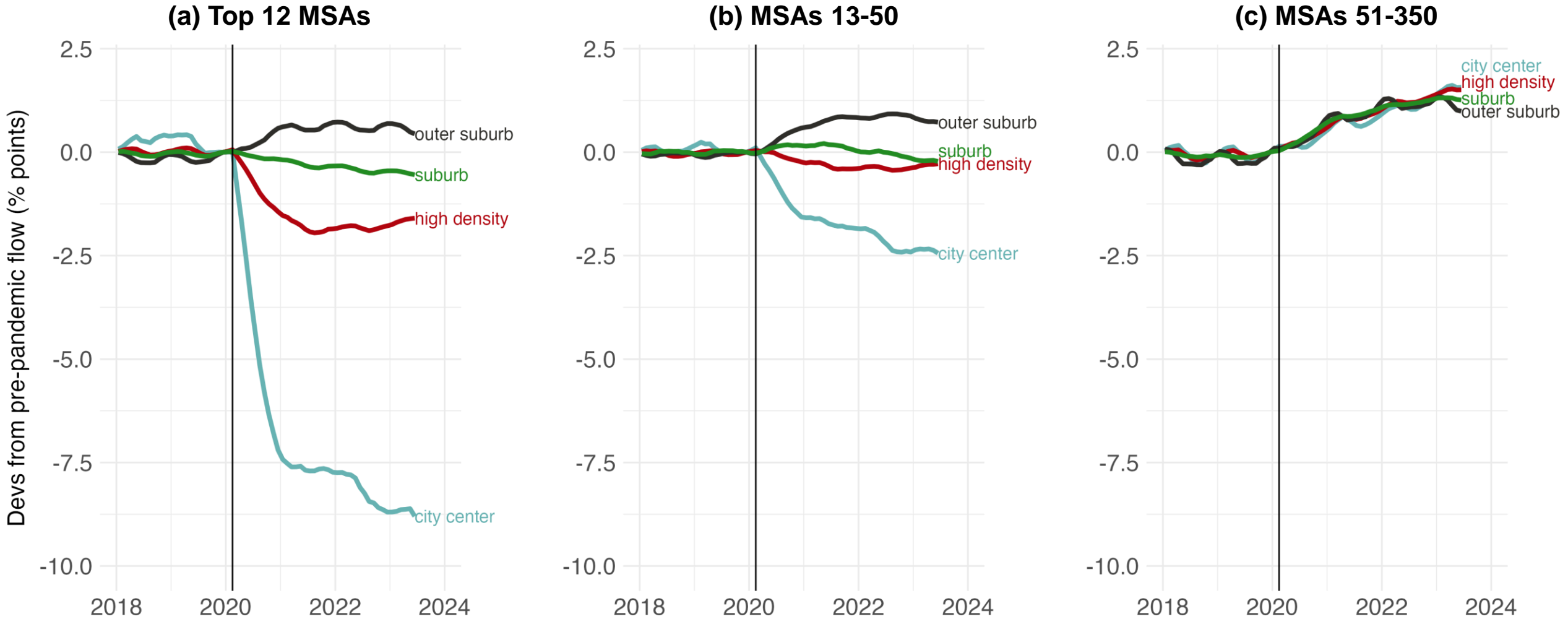
# 1) The Donut Effect: almost 1m people have left US big city centers

Cumulative net flows Feb 2020 - June 2023 as % of population



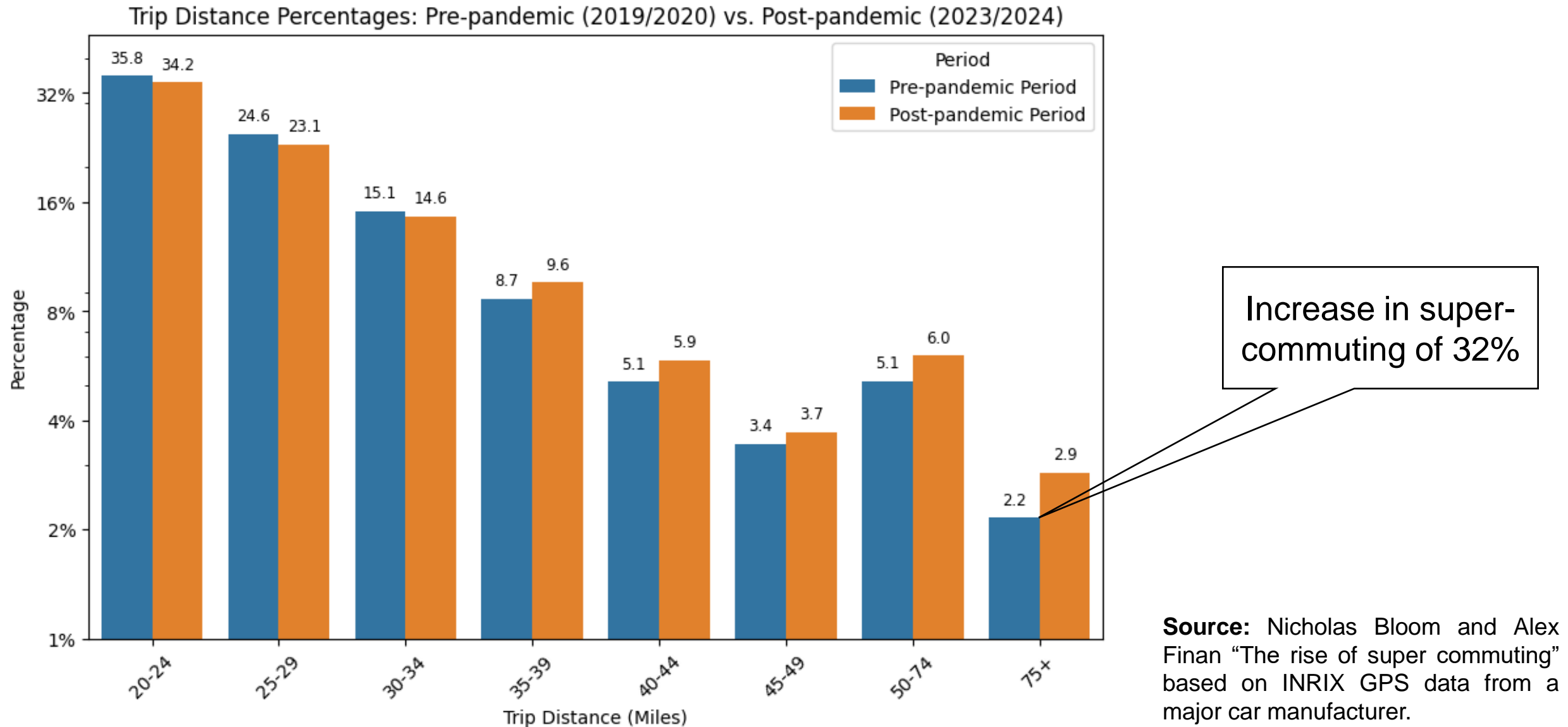
**Source:** Arjun Ramani, Nicholas Bloom and Joel Alcedo “How working from home reshapes cities”, Proceedings National Academy of Sciences, October 2024, using US Postal Service zip-code Change of Address Data <https://www.pnas.org/doi/10.1073/pnas.2408930121>

# Smaller cities have seen no outflows



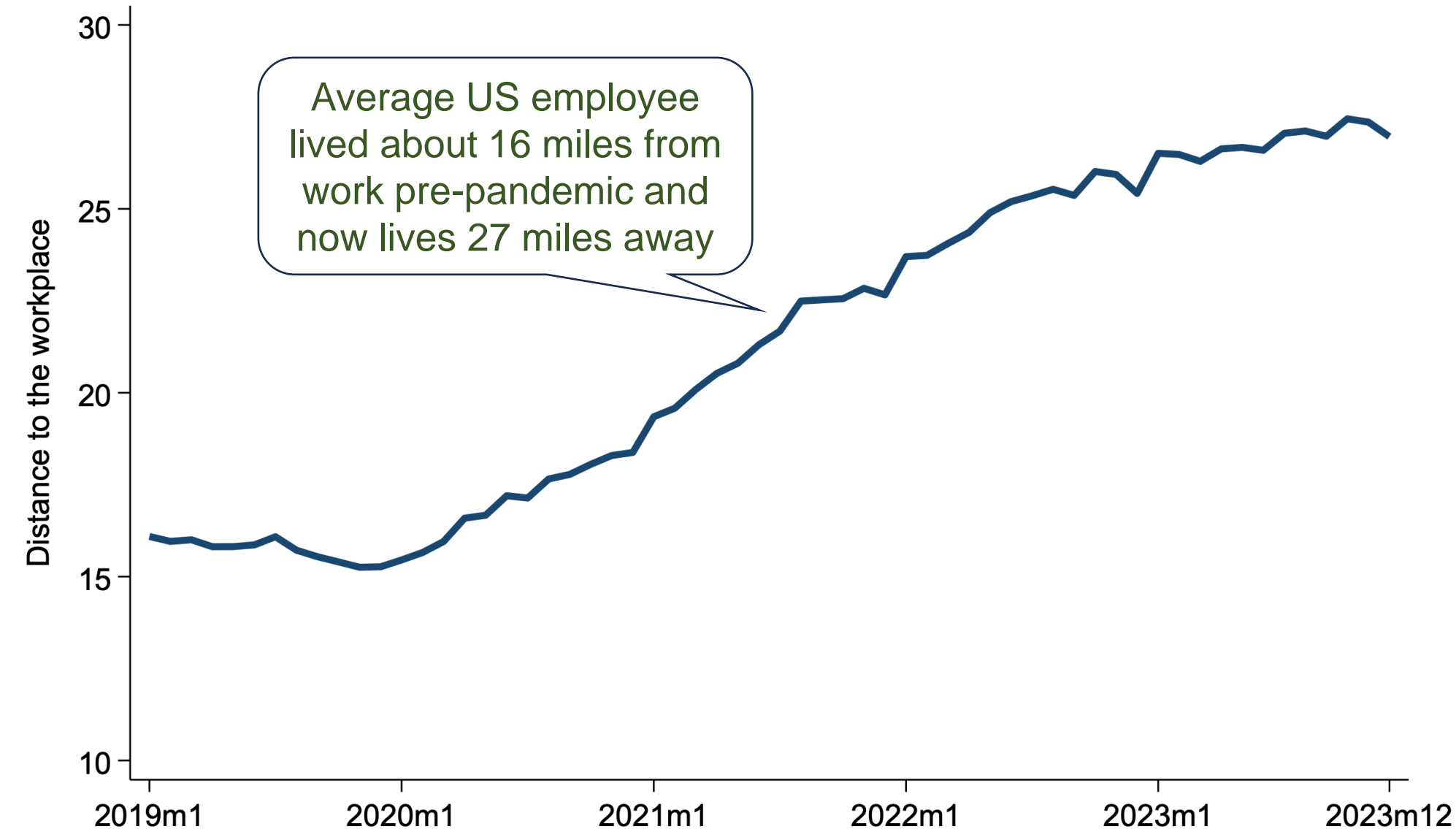
**Source:** Arjun Ramani, Nicholas Bloom and Joel Alcedo “How working from home reshapes cities”, Proceedings National Academy of Sciences, October 2024, using US Postal Service zip-code Change of Address Data <https://www.pnas.org/doi/10.1073/pnas.2408930121>

# We see increasing long distance commutes, with those about 75 miles (super commutes) up 32%





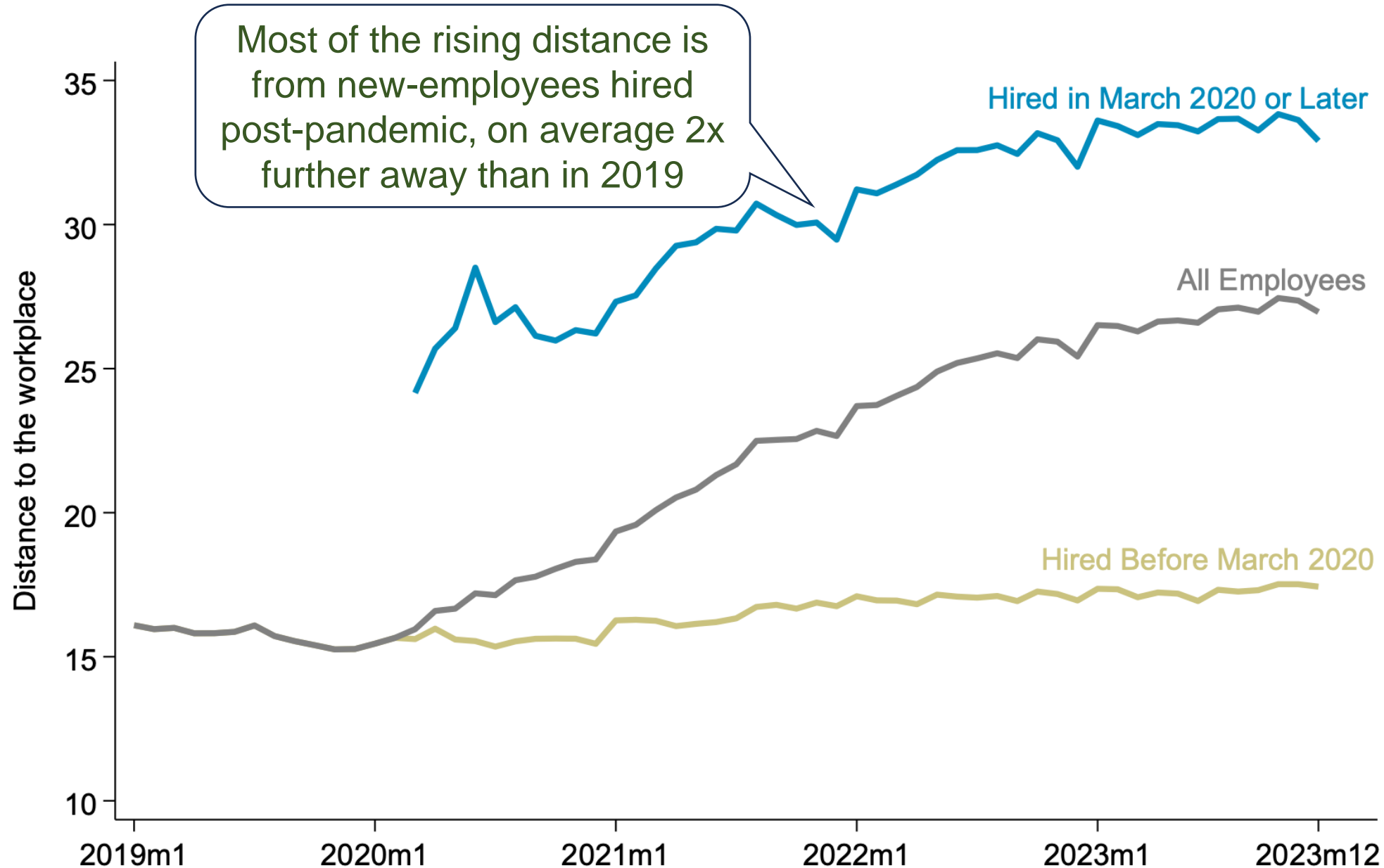
## 2) Employees are about 2x further from work ( $\approx 4x$ labor market area)



**Notes:** The sample contains employees of 5,793 firms in a balanced panel of 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.

Source: Mert Akan, Jose Barrero, Nick Bloom, Shelby Buckman, Steve Davis, Hyoseul Kim and Liz Wilkie, 2024, "Americans now live further from their employers"

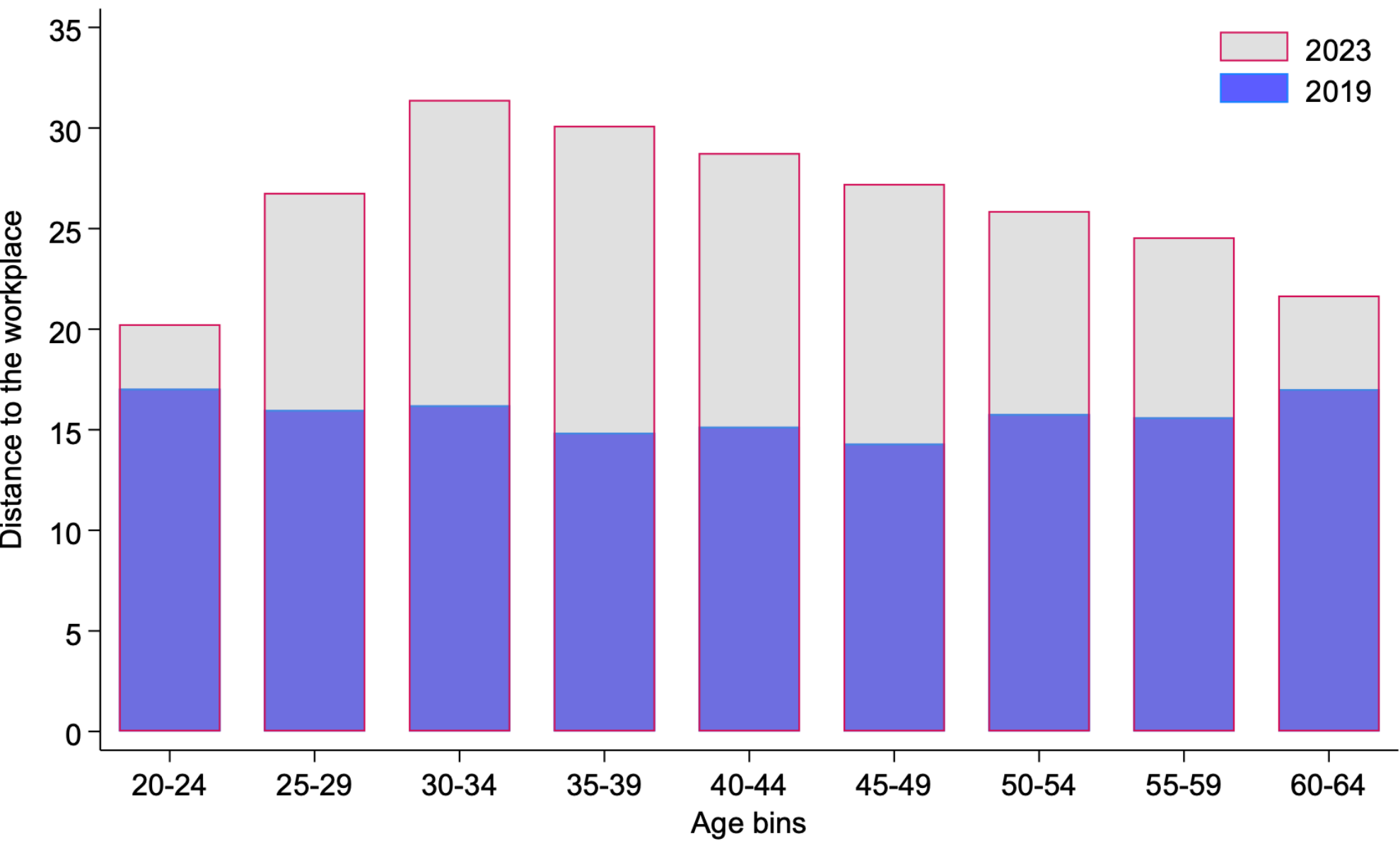
# Most of this is new hires - WFH has expanded firm's hiring circle



**Notes:** The sample contains employees of 5,793 firms in a balanced panel of 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.

Source: Mert Akan, Jose Barrero, Nick Bloom, Shelby Buckman, Steve Davis, Hyoseul Kim and Liz Wilkie, 2024, "Americans now live further from their employers"

# Employees in their 30s are particularly living further from work



**Notes:** The sample contains employees of 5,793 firms in a balanced panel of 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.

Source: Mert Akan, Jose Barrero, Nick Bloom, Shelby Buckman, Steve Davis, Hyoseul Kim and Liz Wilkie, 2024, "Americans now live further from their employers"

# 3) Post-pandemic disability employment has soared – WFH related?

☆ Employed - With a Disability, 16 Years and over (LNU02074597)

DOWNLOAD

Observation:  
Oct 2024: **7,718**  
(+ more)  
Updated: Nov 1, 2024 7:46 AM CDT

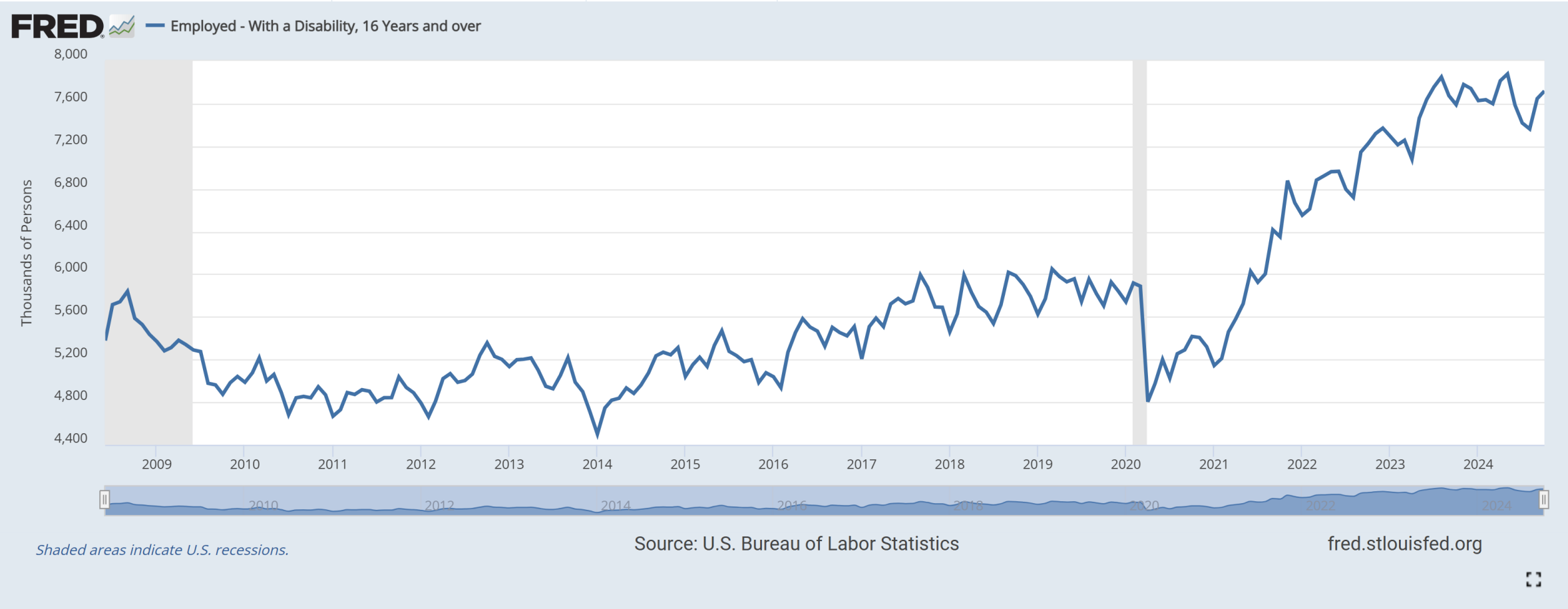
Units:  
Thousands of Persons,  
Not Seasonally Adjusted

Frequency:  
Monthly

1Y | 5Y | 10Y | Max

2008-06-01 to 2024-10-01

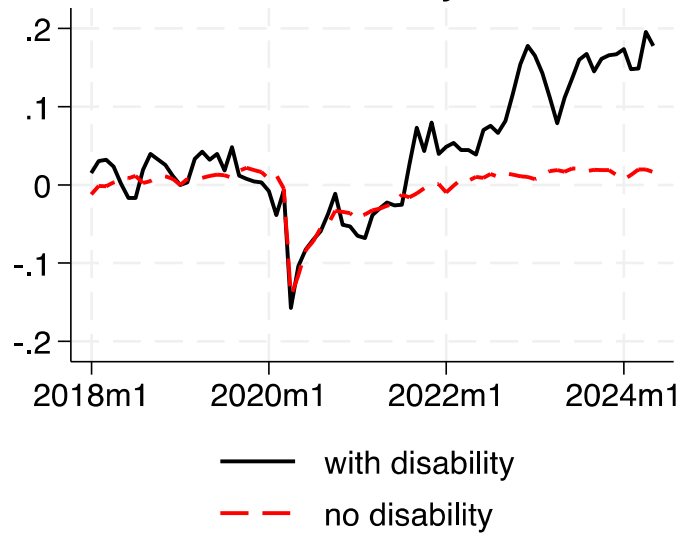
EDIT GRAPH



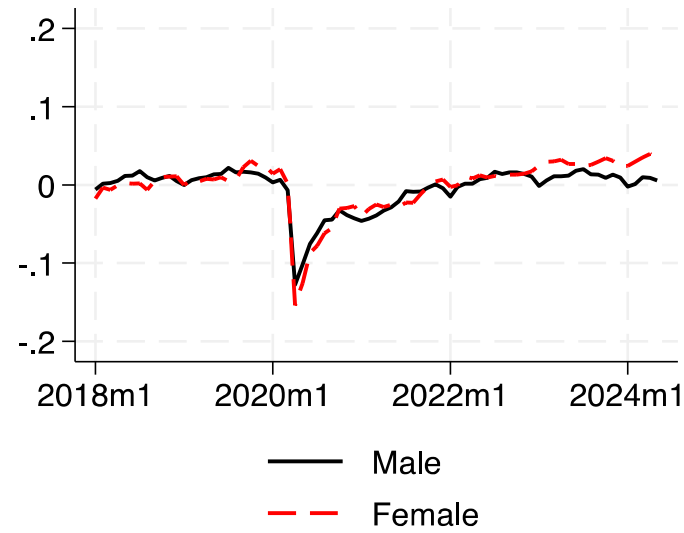


# This rise in disability employment is large vs other demographics

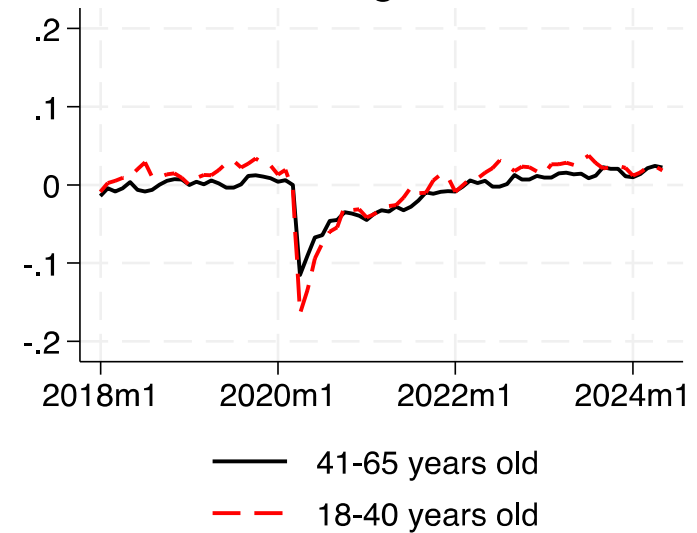
## Disability



## Gender

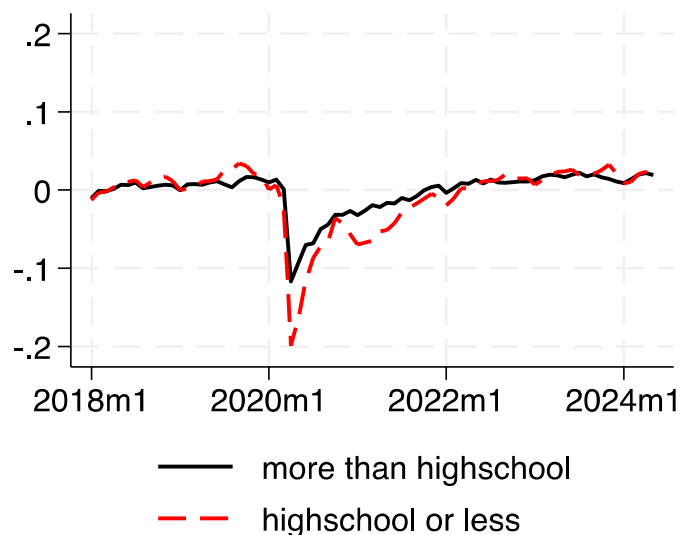


## Age

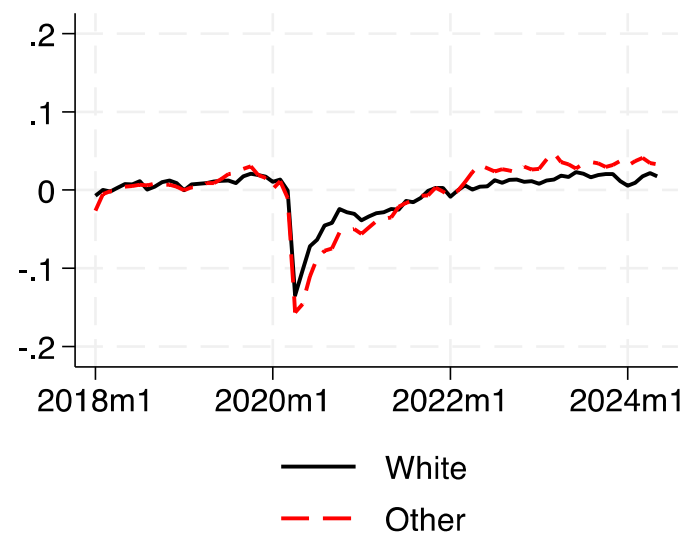


**Note:** Graphs of the percent change in the employment rate relative to January 2019 by disability, gender, age, race, education and native/foreign born (18-64 years old). Data from the US Current Population Survey. Disability includes only physical disabilities.

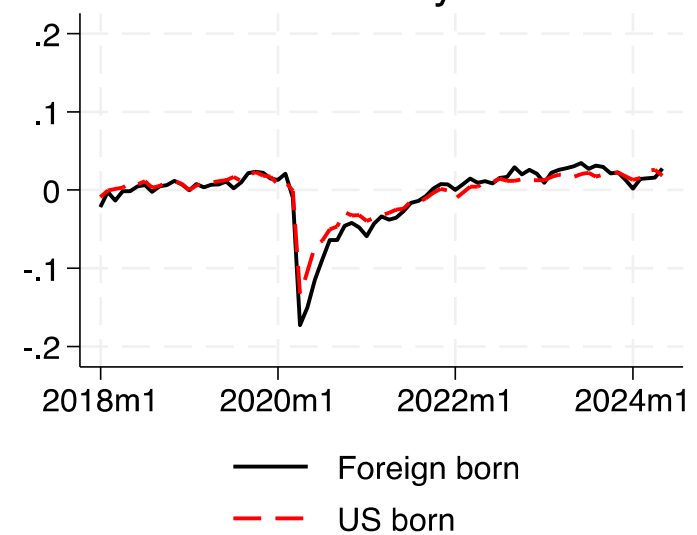
## Education



## Race

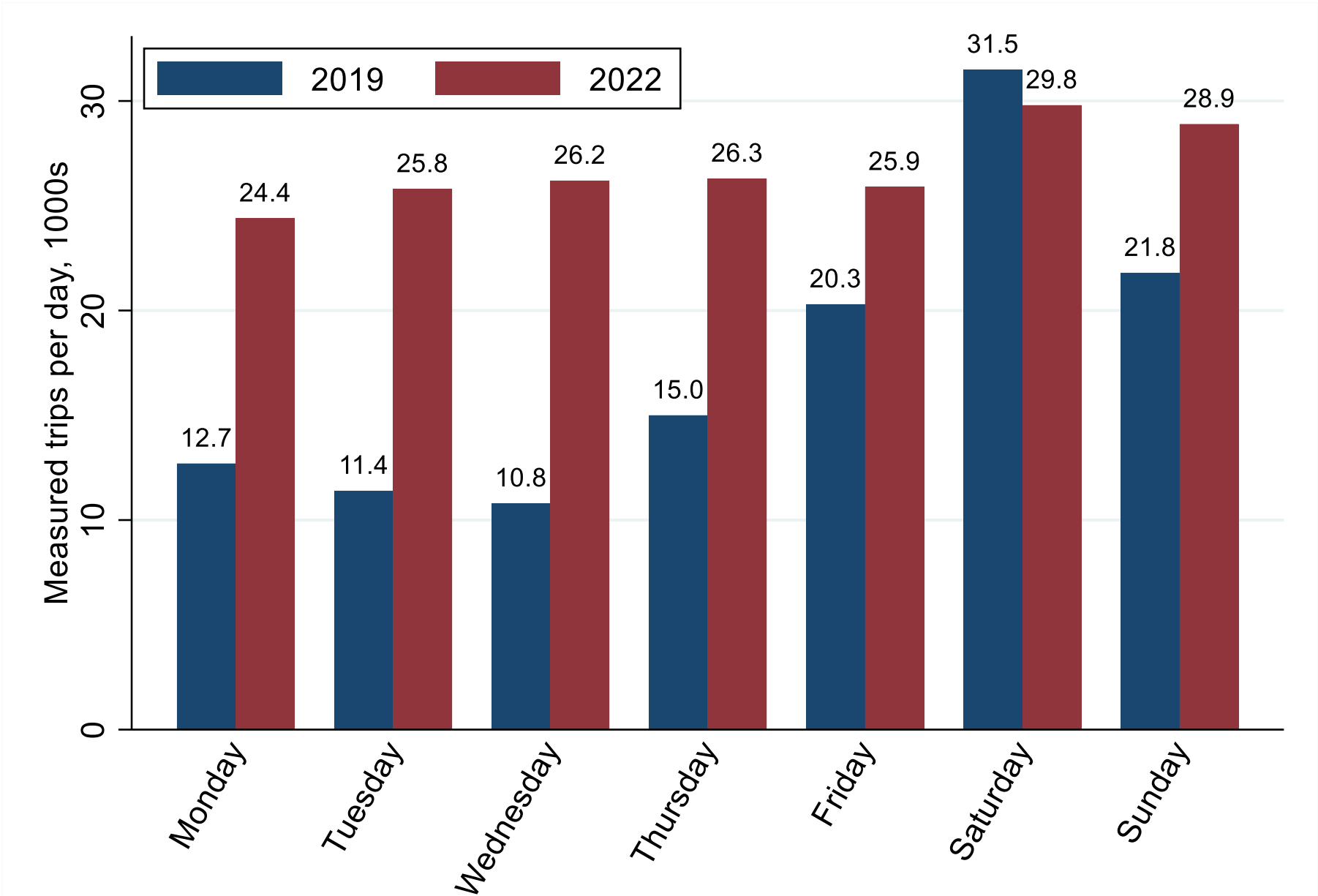


## Nativity



Source: "Working from home and disability employment" by Nicholas Bloom, Gordon Dahl and Dan-Olof Rooth, NBER Working Paper 32943

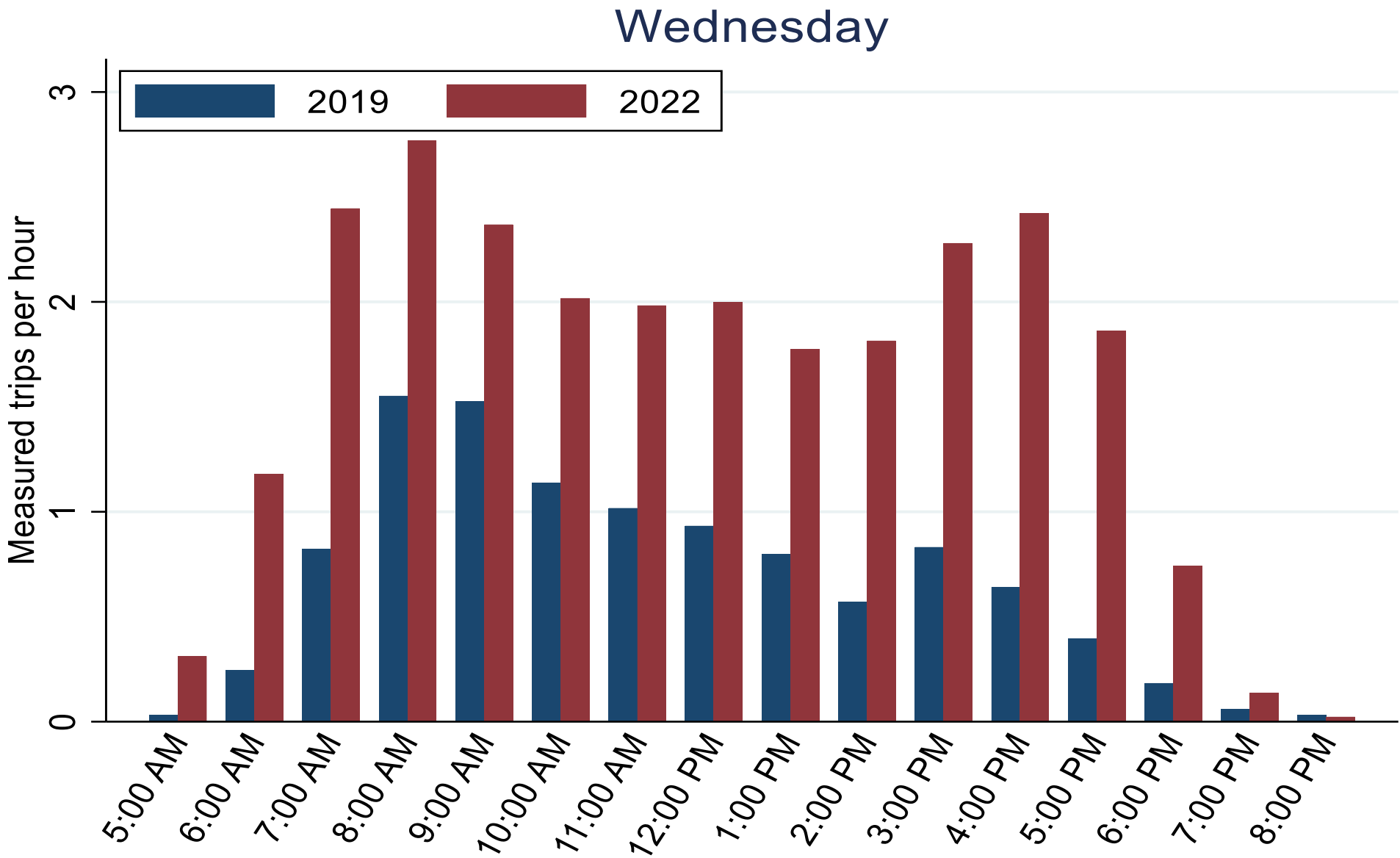
# 4) “Golf effect” - weekday leisure boom



**Note:** Data for August 2019 and August 2022 for a sample of trips. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phones with location tracking turned-on. The trip needs to be to one of the 3,400 satellite identified golf courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.



# ...the weekday increase happened throughout the day - for example a 178% increase at 3pm on Wednesday



**Note:** Data for August 2019 and August 2022 for a sample of trips. Those included are trips in the INRIX database, which includes trips in vehicles with GPS and phones with location tracking turned-on. The trip needs to be to one of the 3,400 satellite identified golf courses and to have lasted more than two hours. We estimate we sample about 5% of total golf trips.





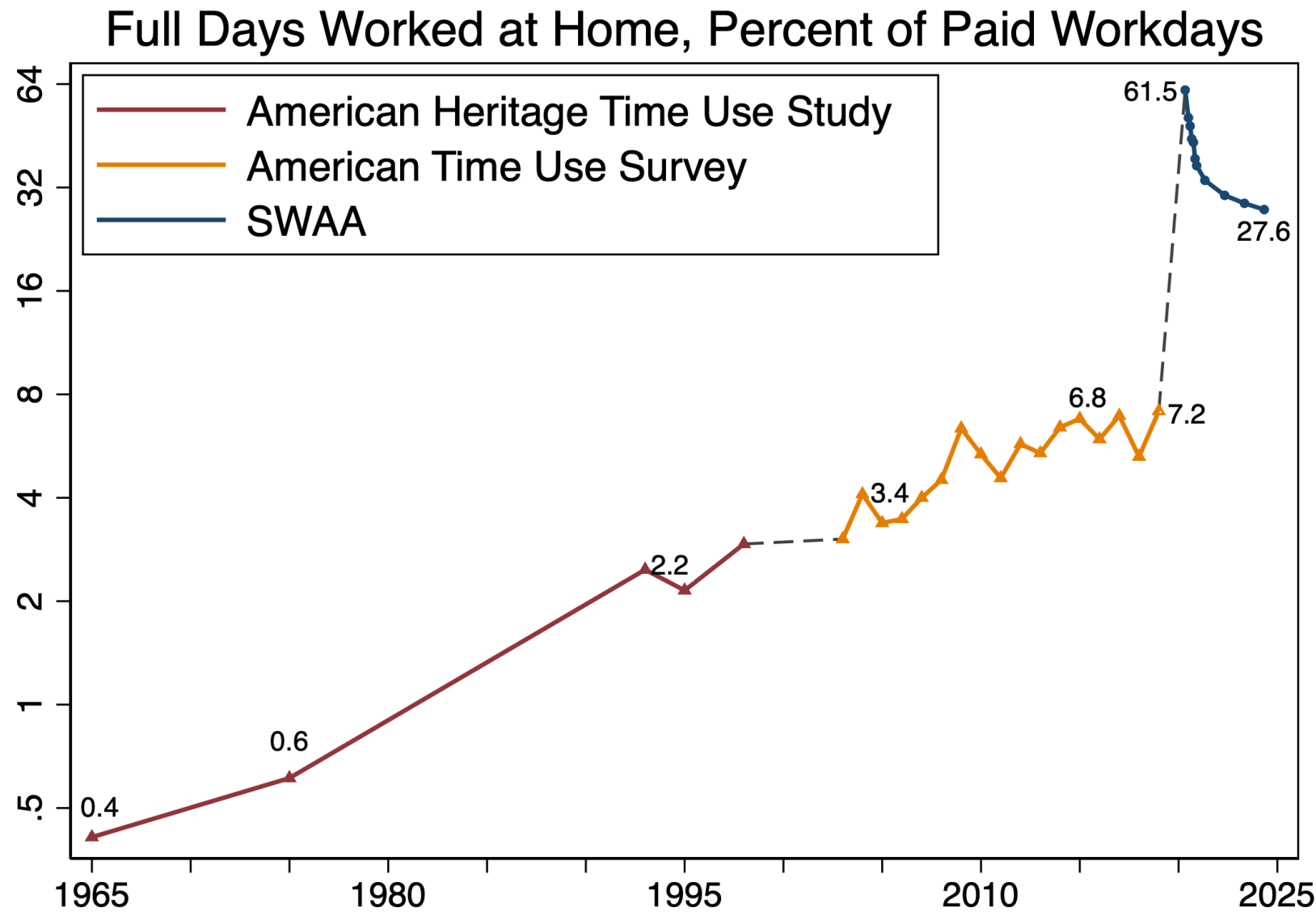
# The “Golf-effect” will boost weekdays for many ‘leisure’ activities





# What about the future – will WFH eventually drop back down?

## To answer this look at historical WFH data



**Notes:** For each dataset, we compute the percent of working individuals who worked full days at home during the survey's reference period. For the AHTUS and ACS, if an individual reports usually working from home, we mark them as working from home 100% of the time. In SWAA we compute the percent of full paid days at home to account for a hybrid work schedule, and calculate monthly averages. We report those monthly values in 2020 and combine them into yearly averages from 2021 onwards. Then we plot each percentage on the vertical axis. We re-weight the sample of US residents aged 20 to 64 earning \$20,000 or more in 2019 dollars to overall population shares. We impute the September 2023 data value as the average of August and October due to data quality issues.

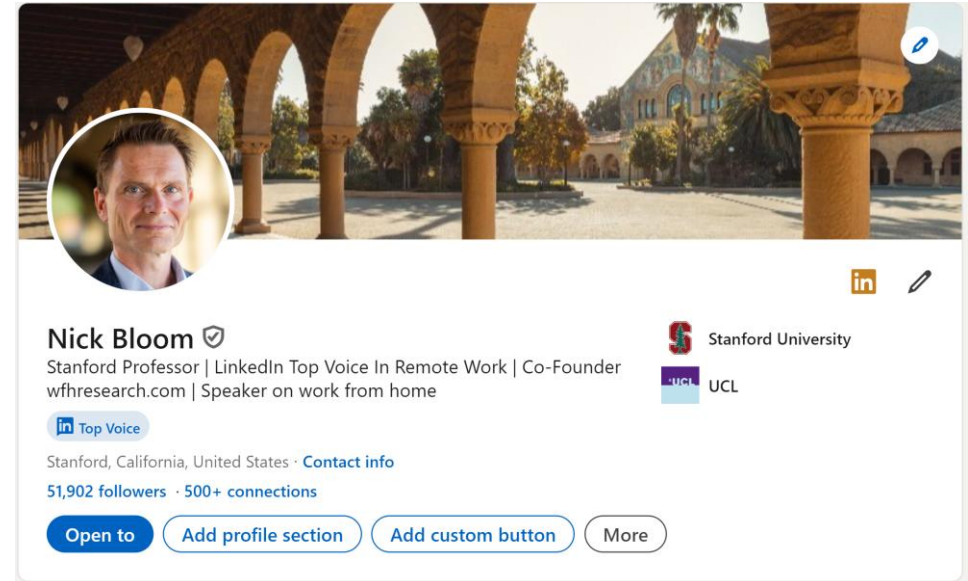
Work with Shelby Buckman, Jose Barrero and Steve Davis

# Conclusions

**WFH is here to stay, typically 2 or 3 days a week for managers and professionals**

**Managing it is hard – needs coordination and a performance review focus**

**Very broad impacts on cities, labor markets, and even golf**



## **Cities, Transit and the Future of Working from Home**

March 14, 2025

Nick Bloom | Professor of Economics, Stanford University

### **Part I. Literature for Further Reading**

Akan, Mert, et al. *The New Geography of Labor Markets*. No. w33582. National Bureau of Economic Research, 2025.

Bloom, Nicholas, et al. "The impact of COVID-19 on productivity." *Review of Economics and Statistics* 107.1 (2025): 28-41.

Bloom, Nicholas, Gordon B. Dahl, and Dan-Olof Rooth. *Work from home and disability employment*. No. w32943. National Bureau of Economic Research, 2024.

Bloom, Nicholas. "How working from home works out." *Stanford Institute for economic policy research* 8 (2020).

Garrote Sanchez, Daniel, et al. "Who on earth can work from home?." *The World Bank Research Observer* 36.1 (2021): 67-100.

Hackney, Amy, et al. "Working in the digital economy: A systematic review of the impact of work from home arrangements on personal and organizational performance and productivity." *Plos one* 17.10 (2022): e0274728.

Hensher, David A., et al. "The impact of working from home on modal commuting choice response during COVID-19: Implications for two metropolitan areas in Australia." *Transportation Research Part A: Policy and Practice* 155 (2022): 179-201.

Jain, Taru, Graham Currie, and Laura Aston. "COVID and working from home: Long-term impacts and psycho-social determinants." *Transportation Research Part A: Policy and Practice* 156 (2022): 52-68.

Ramani, Arjun, and Nicholas Bloom. *The Donut effect of COVID-19 on cities*. No. w28876. National Bureau of Economic Research, 2021.

### **Part II. Recent News**

Badger, Emily, et al. "The Places Most Affected by Remote Workers' Moves around the Country." *The New York Times*, 17 June 2023,  
[www.nytimes.com/interactive/2023/06/17/upshot/17migration-patterns-movers.html](https://www.nytimes.com/interactive/2023/06/17/upshot/17migration-patterns-movers.html).

- Castrillon, Caroline. "The Real Impact of Return-To-Office Mandates on Productivity at Work." *Forbes*, 7 Oct. 2024, [www.forbes.com/sites/carolinecastrillon/2024/10/06/impact-of-return-to-office-mandates-on-productivity/](http://www.forbes.com/sites/carolinecastrillon/2024/10/06/impact-of-return-to-office-mandates-on-productivity/).
- Gonzalez, Alicia. "How Remote Work Supports Disability Inclusion." *Forbes*, 19 July 2024, [www.forbes.com/sites/aliciagonzalez/2024/07/18/how-remote-work-supports-disability-inclusion/](http://www.forbes.com/sites/aliciagonzalez/2024/07/18/how-remote-work-supports-disability-inclusion/).
- Herzlich, Taylor. "Staffers Unload on Amazon "Leadership" after Return-To-Office for Lack of Parking, Desk Shortage: Report." *New York Post*, 17 Jan. 2025, [nypost.com/2025/01/17/business/staffers-say-amazon-botched-its-return-to-office-strategy-report/](http://nypost.com/2025/01/17/business/staffers-say-amazon-botched-its-return-to-office-strategy-report/).
- MacLeod, Kara E., et al. "Commuting to Work Post-Pandemic: Opportunities for Health?" *Journal of Transport & Health*, vol. 25, June 2022, p. 101381, <https://doi.org/10.1016/j.jth.2022.101381>.
- Pabilonia, Sabrina Wulff, and Jill Janocha Redmond. "The Rise in Remote Work since the Pandemic and Its Impact on Productivity." *Bureau of Labor Statistics*, Oct. 2024, [www.bls.gov/opub/btn/volume-13/remote-work-productivity.htm](http://www.bls.gov/opub/btn/volume-13/remote-work-productivity.htm).
- Ramani, Arjun, et al. "How Working from Home Reshapes Cities." *Proceedings of the National Academy of Sciences*, vol. 121, no. 45, 29 Oct. 2024, [pmc.ncbi.nlm.nih.gov/articles/PMC11551397/](http://pmc.ncbi.nlm.nih.gov/articles/PMC11551397/), <https://doi.org/10.1073/pnas.2408930121>.
- Villamor, Isabel. "Why Remote Work Can Be a Double-Edged Sword for Women." *World Economic Forum*, 24 Nov. 2023, [www.weforum.org/stories/2023/11/remote-work-workplace-women-careers/](http://www.weforum.org/stories/2023/11/remote-work-workplace-women-careers/).
- Watkins, Hannah. "The Problem Isn't the Office – It's the Commute." *HubbleHQ*, 8 Feb. 2024, <https://hubblehq.com/blog/impact-of-commute-time-on-work-preferences>.

### Part III. Questions and Answers

**Q (Jinhua Zhao):** Great. Thank you so much. This is, yeah. So let's start with the experiment you did in Trip.com. First of all, it seems having a student being the CEO of the company is important when you do economic research, right? But it seems you have the luxury to do that. One question I have is, you're saying the benefit of working in the office, mentoring culture kind of saturated after maybe 3 days a week or so, right? So, it seems there's a certain sense of the optimal. Do you think American society has reached the equivalent of such optimal, or do you think there's something we can still nudge it towards?

**A (Nick Bloom):** You know, it's interesting. If you look at the data for graduate—I mean, 60% of Americans can't work from home at all, just to be clear. There's a huge group, the food service, you know, dentists, airline pilots, security transport, they can't work from home. So we're really only looking at the remaining 40%. 10% of them are fully remote, a kind of weird group. There's a lot of people in call centers, data entry, back-office payroll. If you set them aside, they're the group that I worry is at risk from AI. But for now, they're fully remote. The 30% is the group I want to talk about—this kind of world, Stanford, MIT students, MBAs, execs. That group, I think, will stabilize at something like 3 days in the office and 2 at home. There's no exact magic number. I don't have serious research showing that 3-2 is better than 2-3, or 4-1, or 1-4, but roughly, it looks like some mix. There are diminishing returns to days in the office, and diminishing returns for days at home. So, some interior solution is where you want. For instance, one day a week at home is quite valuable because it's quiet, which is extremely useful for reading, writing, deep work. There's a famous study in PNAS on "bursting," where teams do problem-solving and are randomized on whether they're all in-person for 6 hours, all individual, or have 1 hour together, then 1 hour individual, and then meet again. The 3rd group did the best, showing that you need a combination of thinking and meeting up. So, I think hybrid is roughly where we're at now. The area I think has the biggest upside on policy is actually Asia. They have very low levels of work-from-home, high levels of congestion, and very small apartments, which makes remote work more beneficial. Plus, they have incredibly low fertility rates. And if you look at the data, if both individuals and their spouses work from home, fertility is significantly higher. So, I think North America, the UK, has it about right. Where I see change is in Japan, China, South Korea, and it wouldn't surprise me if it's government-pushed change because of demographics.

**Q (Jinhua Zhao):** I see. So, on the cultural differences there, across the globe. First of all, it seems it cannot be explained by the industry mixture here, right? Even given the industry mixture, there are still certain differences. And also, you said Asia often has high density and congestion, which makes sense for some people to work from home. But the reality is they actually go back to the office much more than the western side. So, do you notice any tendencies there? Also, I want to add another thing: e-commerce in Asia is doing a lot more than in America, but from a working point of view, they actually go back to the office. Any theory or hypothesis on this?

**A (Nick Bloom):** I quite often talk to James, and so James Liang is the chairman, and James' son is the CEO of Trip. They had a fascinating comment. I don't know if any American managers are listening here, but it's amazing. They said, for the American parts of the operation, for American managers, typically, you're fighting to get people back in. So, the media here is full of stories about companies pushing for in-office work. I was talking to a company a couple of weeks ago, called Worklytics, that tracks how many days people come into the office. They said that typically, if a company mandates 3 days, on average, people are only coming in 1.5 to 2 days. Return-to-office mandates are almost never met. They tend to come in a lot when the new mandate comes out, but after 6



months, it drops. In contrast, James and Jane said that in Trip.com, in Shanghai and in Asia, people are actually coming in more than mandated. Employees are very nervous about the labor market, and they think if they come in extra days, they're safer. So the Asian tendency is that if you're asked to come in 3 days, they'll come in 3.5, while in America, if you're asked to come in 3, people come in 2.

**Q (Jinhua Zhao):** It's more of a labor market competition drive then?

**A (Nick Bloom):** I think, as you said, there are some cultural issues. It's interesting. They have the same mandates, but the actual realizations are very different.

**Q (Jinhua Zhao):** Wow, that's so fascinating. Yeah, another question is about the coordination, right? You mentioned that if you want people to come back home, you better coordinate them to come back at the same time. But then you give an example of Zoom where they ask people to come in on Monday and Wednesday, while sales people come on Tuesday and Thursday. So, that means you need coordination within the team, across teams, and different departments. What type of people should be coordinating?

**A (Nick Bloom):** Exactly right. It's quite a complicated problem. Just as a backdrop, I've talked to a lot of C-suites, and often, the person in charge of real estate is feeling stressed because the CEO notices that you're only coming in 60% of the time, but the office space hasn't changed. Often, what happens is a battle. There's model A, where everyone comes in on the same days. So, everyone comes in on Tuesday, Wednesday, Thursday. You can't cut office space at all. All that happens now is you have empty offices on Monday and Friday, which is a total waste. But the critical thing for the business is that people come in on the same day, they coordinate, there's random meetings, mentoring, etc. That's the most common view in most organizations. Then, there's version B. I talked to Eric at Zoom, and he said they've grown a lot and no longer have office space. It's not possible to get everyone in, so engineering comes in on Monday, Wednesday, and sales comes in on Tuesday, Thursday. The downside is, you can't have all-hands meetings with everyone in one room. But it's more efficient with office space. It depends critically on the organization. For instance, in universities, we don't overlap much with other departments, so we don't share space, but we can share teaching rooms. But most companies think it's better to have everyone come in on the same day, which requires coordination, but they're not efficiently using office space.

**Q (Jinhua Zhao):** But there's also a difference between designing coordinated interaction versus spontaneous ones, right? It seems that in order for this "half coordination" to happen, you lose some of the spontaneity. So, some things get lost in the process.

**A (Nick Bloom):** The spontaneity means you've got to be in the office on the same days. The critical thing is to highlight which days people should come in. It's a kind of public good or a negative effect. If one person stays home, it impacts the whole team. For example, if there are 8 people in a team and I stay at home, but the others come in on Wednesday,

we'll have a team meeting, and everyone will have to go to Zoom. It's annoying. The best way to do this is to pick a reasonable number of days, say 3, and probably enforce it. There's an old Roman saying, "A good law is an enforceable law." If you say 3 days in the office, enforce it. If you pick 5 days but don't enforce it, it's a mess. Some people come on Monday, some on Tuesday, and only half the people are there. But organizations that enforce a policy, like the IMF with their 2-day mandate, create a more lively and coordinated environment.

**Q (Jinhua Zhao):** Yeah, so it seems setting a moderate, realistic goal and being serious about it is key.

**A (Nick Bloom):** Exactly, like parents getting their kids to bed— consistency matters!

**Q (Jinhua Zhao):** Yeah. And then also, the golf effect is so interesting. It seems this is really beneficial for small businesses. Businesses that have peak-hour issues here, right? Spreading things out is much better to organize resources. Do you see this leading to productivity gains or affecting performance in those businesses?

**A (Nick Bloom):** Great question. Some industries are helped, while others are hindered. For example, transit, transport, and offices are negatively affected by the peak effect. Offices are used fewer days, and transport is less utilized. If you measure productivity in those industries, they'd look worse because the capital is the same, but throughput is lower. On the other hand, some industries like leisure and services, such as gyms and golf, have become more productive. For example, Equinox almost went bankrupt in the summer of 2020, but now, five years later, they're booming. They can sell more memberships because people who work from home can go during the day rather than in the evening. Golf courses are also now significantly more profitable than before the pandemic. So yes, the economy has been twisted, with some things affected positively and others negatively.

**Q (Jinhua Zhao):** Right, maybe 2 questions from me, and then I'll give it to John for the audience. The first is a clarification: the commuting distance increased, right? But then the distance between home and office doubled. Right? The two are different things, right? We're not talking about actual commuting distance doubling. We're saying the distance between home and work, whether you commute or not, doubled, right? Is that clear?

**A (Nick Bloom):** Yeah, you know, it's a good question about what's happened to total miles driven. In the short run, it's almost certainly down, because people didn't immediately move locations. But in the long run, if we're looking at 5, 10, 15 years, it could easily be up. It depends on the elasticity. So people now drive less, but they drive further. So I don't have the data, but maybe someone else does. We just noticed that the share — the thing I showed you on commuting distance — was based on shares of journeys rather than total counts. But the distribution of journeys has gotten longer. By the way, the other thing is that commutes are less compressed. One of the reasons you hear is, even if it's my office day, my boss is more relaxed about me coming in 2 hours late, saying I'm working from home in

the morning to take a call with the London office, because they know that I work from home on Monday and Friday. So they're like, fine, on a Thursday, speak to the London office at 7 AM Pacific time, and come in later. And so we see commute times are more spread out, which is good. I mean, it reduces congestion.

**Q (Jinhua Zhao):** Yeah. Right? So last question, it's more about the whole learning process. Right? You've done a lot of research even before Covid, right? On working from home. But Covid itself was the largest-scale mandatory social experiment. Right? So what did you learn? You only learned it because of the Covid experiment that you didn't know before Covid. And also, during those 3 years, you made some predictions 3 years out. Now, which parts of your predictions do you think you got right, and what surprises did you not get right?

**A (Nick Bloom):** I think, compared to the typical person, I was more optimistic that working from home would stick. But on the surprise, I didn't think it would stick as much as it has. Actually, I've been amazed at how much and how permanent it is. So what happened, really, we were collecting data each month that you've been involved in as well, this "sway survey" we've been running each month. We're asking businesses: How much do you think this will last? If you look back to 2020, most of them said, it's not going to last. They said it's just temporary. Once the pandemic's over, you're going to have to come back. And then 2 things happened. One is the pandemic lasted a lot longer than anyone thought. The lockdowns rolled into 2021 and some into 2022. And then, secondly, there was an enormous boom in the labor market in 2021 and 2022, and it became really hard to hire people, and working from home was seen as a critical perk. So those 2 things extended it until 2023-2024, and by that point, it just kind of stuck as a new equilibrium. So I think what I've learned is, you know, there's kind of a multiple equilibrium. But we're now in a new equilibrium whereby working from home and hybrid work has become the norm. When you talk to a lot of firms, like law firms, consulting firms, they'll often say things like, well, our clients are working from home, so I've had this with a lot of people in sales industries. I was talking to a firm that does outsourced HR, and they said a lot of people they're trying to talk to are working from home, too. So it makes sense for their sales agents to be at home on Monday and Friday. So the whole thing shifted across. And I think it's now permanent. It looks like it hasn't changed, and now we're 5 years on. I don't see it ever going back. In fact, in the next 5-10 years, I see it being even higher because of better technology.

**Q (Jinhua Zhao):** Great. Thank you so much. Now, I'll give it to John for the audience.

**Q (John Moavenzadeh):** Nick, as you could expect, for something that affects all of us so directly and personally, for the 300+ people that joined this session of the Mobility Forum, there are lots of great questions and comments. So I'm going to try to go quickly. If you could try to limit your responses, there are really good questions here. Alright, so question number one from Sally Chen, very early on. She asked: "If I heard correctly, the travel time saved by not commuting is then spent on working. Does that mean people are willing to work more?"

**A (Nick Bloom):** It's hard to be totally sure, but on surveys, we ask people what they do with the roughly 20 minutes they save. Mostly, it's travel. There's actually about 10 minutes saved on less grooming. So, scary details: people brush their teeth less, use deodorant less, and shower less when they work from home. Whether you think that's good or bad, they save about 1 hour and 20 minutes. They report that they spend 40% of that time working more on their primary or secondary job, and 60% on chores, childcare, and leisure. So, not surprisingly, every margin improves. But if you're suddenly given an extra hour and 20 minutes each day, you reallocate some of it, and some of that goes to work. So for employers, I'm like, your employee can work more. I mean, you know, and the leisure bit includes rest and sleep, so they're also getting more rest.

**Q (John Moavenzadeh):** Right. Okay. Melissa Galgan had a question: "How do you deal with the fact that many employers do not have enough desks for everyone to come in on the same day? For example, my employer has 300 employees and 100 desks. It's been explicitly listed as a cost-saving measure, but it undercuts the idea that we are coming into the office to build culture and see people. I'm sure you've seen this pop up a lot. How are employers managing through this office space vs. people issue?"

**A (Nick Bloom):** It's a great question. I mean, it's hard to deal with that. Generally, if I were the CEO or CHRO, I'd try to figure out which groups are most valuable to come in together. A (Nick Bloom): Then, like Zoom, maybe you could split the groups up. If there are three groups, I might have one group come in Monday-Tuesday, another Tuesday-Wednesday. You know, you try and split it up. People generally don't like coming in on Fridays, but if you have three times as many employees as desks, you'll probably have to use Fridays too. There are definitely trade-offs. So that's the downside. You know, at this point, I don't know if you've all seen the news, but Amazon's having this problem too. They don't have enough parking either, so people are being asked to come in... I was actually talking to two people yesterday who work with Amazon folks, and they said it's a real mess. They're trying to have meetings, but there are no meeting rooms, so I don't know if this is bad planning, or this was the intention, but yes, it is an issue with people coming in.

**Q (John Moavenzadeh):** Right, right. And, as you pointed out, this concentrated peak of Tuesday, Wednesday, Thursday hurts transit and hurts office capacity.

**A (Nick Bloom):** You need to plan deliberately. It won't work if you just say, "Let people come in two days and choose their days," because everyone will choose the same days. You have to say, "Team A, you guys are all coming in Monday-Tuesday," or "People in engineering are coming in Wednesday-Thursday," for example.

**Q (John Moavenzadeh):** Okay, Anthony Townsend had a question about whether you've seen any differences between privately held companies and other types of companies. Have you explored the typology of companies?

**A (Nick Bloom):** A little bit, in the sense that there's a big study looking at the Russell 3,000 largest public companies and why they make return-to-office announcements. One of the stylized facts is that if your CEO is older, male, and powerful, defined as holding a lot of equity or being highly paid, they're more likely to call for a return to office. So, in private companies, that outcome, I suspect, is more likely. If you think of a 600-person company that Mr. or Ms. X has founded, they're likely to think, "I did well; I made it big by being in the office 5 days a week, so you guys better come in." It turns out that these return-to-office announcements don't have any net effect on performance. They're not better, they're not worse, and they don't affect stock prices in public companies. But I think smaller private companies, particularly run by an older, male, powerful CEO, are more likely to have 4 or 5-day return-to-office policies.

**Q (John Moavenzadeh):** Interesting. A question from Brian Taylor: "Have you analyzed hybrid workdays? We've done research showing that the afternoon peak traffic has shifted from 5 to 6 PM to 3 to 4 PM. With primary and secondary school proximity significantly associated with this shift, it would appear that many parents are working 6-hour days to match the school day. They're driving their kids to or from school and presumably working from home in the late afternoon." Any thoughts on that?

**A (Nick Bloom):** Great. I'd love to see the study. Yeah, I totally get it. My youngest is in 4th grade, so I completely can see that. In fact, Microsoft put something out yesterday about the triple peak. If you look at activity data, like logins or network access, what you'll see is it starts rising at 8 AM, peaks at about 11, drops for lunch, then has another afternoon peak, and drops off. During the pandemic and post-pandemic, you saw a third peak from about 7 or 8 PM. So people are clearly working in the morning and afternoon, but then re-logging in in the evening. So I'm fine with that. I also think it's not necessarily bad. It was positioned as this is terrible — people having to work in the evenings. But if you have kids and want to pick them up from school and then make up for it in the evening, I think that's fine. I think as long as it's a choice, it's okay. It's problematic if your boss is forcing you to log in at 8, 9, 10 PM. But if you're doing it out of choice, I think it's fine.

**Q (John Moavenzadeh):** Kara Kochelman at UT Austin, also one of our senior fellows, asked if someone can point her to articles where it says universities do better with faculty and students at home. I don't think it works for us, but allowing those who really benefit from working from home to do that several days a week makes sense. Let's bring this to a broader question about education. Do you now, reflecting, think that there's a realization that some of the school programs were extended for students to stay at home longer than they should have? Or do you have any thoughts or reflections on the world of education? Recognizing it's very different if we're talking about primary school versus university education. Any thoughts?

**A (Nick Bloom):** Yeah, I mean, my views on this are more anecdotal and personal experience as a parent with kids in school, and also as a teacher. My experience, and what I've seen with my own kids, is that in-person is a lot more effective. So, look, there's a



debate about whether the lockdowns went on too long or not, but at least for Stanford and my own kids, they're all fully back. The one change I've seen that I think is net positive is that many lectures at Stanford are now recorded, so students who miss them can watch later. That has emptied lecture halls a bit, and I'm not sure if it's good or bad. It's a bit like the personal trainer effect. There's some benefit to getting students into the lecture hall for an hour and a half because they're kind of forced to pay attention. It's not obvious, you know. I know this because my 2 oldest kids are undergrads, and they mean to watch the lectures later on Zoom, but it's less obvious whether they actually do. But personally, I've moved entirely to teaching in person. All our research — I was at Berkeley yesterday for a research talk, and that was completely in person. So I'm in hybrid. I'm at home right now, and like things like this, when I read and write papers and deal with data, it's much better at home because it's quieter. But for teaching, I think it's probably best in person. At least that's my experience. I don't have hard data on it, but that's my strong prior, based on what I've seen and what I've heard from colleagues and my kids.

## **Part IV. Summary of Memos**

### *Themes from other Memos*

- 1. Stability of Hybrid Work:** Hybrid work has evolved from a temporary pandemic measure to a long-term, stable practice. Many companies have found that maintaining a blend of in-office and remote work maximizes employee satisfaction and retention without harming productivity. As it becomes ingrained in the work culture, hybrid work is now seen as the new norm, particularly in knowledge-based industries. The steady adoption of hybrid work reflects a broader shift in how we approach work-life balance.
- 2. Economic Incentives:** The primary driver for adopting hybrid work models is the economic benefit they provide. Companies have found that hybrid work reduces employee turnover, leading to cost savings, without sacrificing productivity. With fewer employees quitting, companies save on recruitment and training costs. This shift also allows organizations to tap into a broader talent pool, further enhancing the financial viability of remote and hybrid work arrangements for many businesses.
- 3. Impact on Commuting:** Hybrid work has fundamentally altered commuting patterns, leading to fewer, but longer, commutes. With employees working from home several days a week, those who do commute tend to travel greater distances, often from suburban areas to city centers. This change has disrupted traditional rush-hour traffic patterns and posed challenges for urban transit systems. It also necessitates a reevaluation of transportation infrastructure to accommodate the shift in commuting behavior.
- 4. Urban and Suburban Migration:** As hybrid work has become more widespread, people are increasingly relocating from urban centers to suburban areas. This migration is made possible by the flexibility of commuting only a few days a week. The trend has shifted the demographic makeup of both urban and suburban regions, affecting local

economies, housing markets, and transportation patterns. This migration is expected to continue, requiring urban planners to adapt to new residential and commuting trends.

- 5. Flexibility of Remote Work:** Remote work offers employees significant flexibility, allowing them to better manage their work-life balance. This flexibility has made jobs that offer hybrid or remote options more attractive, particularly for those with caregiving responsibilities, disabilities, or long commutes. It also opens up job opportunities for people who may not have been able to participate in the workforce otherwise. As a result, remote work is reshaping how people think about work, location, and time management.
- 6. Effect on Essential Jobs:** The rise of hybrid and remote work has sparked concerns about the future of essential in-person jobs, such as teaching, healthcare, and retail. As the appeal of flexible work increases, some worry that these critical professions may struggle to attract workers, potentially leading to shortages. While remote work offers flexibility, these professions require physical presence, and the growing preference for flexible jobs could lead to long-term challenges for industries that rely on face-to-face interaction.
- 7. Workplace Culture:** Hybrid work has forced companies to rethink how they cultivate and maintain their workplace culture. While in-person interaction traditionally played a key role in team-building, collaboration, and fostering company values, remote work has introduced challenges in maintaining these connections. Companies must now find ways to coordinate in-office days for important face-to-face interactions while still supporting employees' desire for flexibility. Balancing these needs is essential to keeping a cohesive and positive workplace culture.
- 8. Social Equity and Inclusion:** Remote and hybrid work models have promoted social equity by breaking down barriers that previously limited access to the workforce. Individuals with disabilities, those in rural areas, or those with caregiving responsibilities now have greater opportunities to participate in the labor market. The reduction of physical barriers to employment is allowing more people to enter and thrive in various industries, making remote work a powerful tool for increasing diversity and inclusion in the workforce.
- 9. Performance Metrics:** With the rise of hybrid and remote work, companies are shifting away from traditional metrics of employee performance, such as time spent in the office or hours worked. Instead, they are focusing on output and tangible results. This shift has led to a more performance-driven work culture, where employees are measured by the quality and impact of their work rather than by their physical presence or time logged. This change is helping businesses maintain productivity while fostering a more flexible work environment.

**10. Impact on Public Health:** The shift to remote work has had mixed effects on physical and mental health. While it offers employees more time at home, it can also lead to social isolation, reduced physical activity, and blurred boundaries between work and personal life. Previously, commuting provided incidental exercise and opportunities for social interaction. As remote work continues to grow, it's important to address these potential downsides by promoting healthier work environments, fostering social connection, and encouraging movement.

### *My Reflection*

In this week's mobility forum discussion, Professor Nick Bloom discussed the transformation of the workforce post-pandemic, particularly the impact of remote and hybrid work. He highlighted key trends, noting that while 60% of jobs (such as those in teaching, healthcare, food service, and transit) still require physical presence, and around 10% of positions (like those in call centers and data entry) can be fully remote, the remaining 30% have embraced hybrid work models. Bloom discussed how these hybrid work policies have reshaped commuting patterns, with fewer office days resulting in longer commutes and shifts in the geography of work. He also explained that hybrid work has stabilized at around three in-office days per week, which has proven to be the optimal balance for fostering collaboration and innovation while allowing for employees to have work-life flexibility.

This shift raises a key question: will hybrid roles become the most desirable and competitive positions in the job market? The appeal of remote work lies primarily in its flexibility, and a hybrid work week of 3 days in-person weekly seems to be here to stay. This could lead to a scenario where office jobs, offering a mix of flexibility and in-person collaboration, become even more attractive to job seekers. This shift could impact the desirability of other essential professions. Jobs like teaching and healthcare, while critical to society, might become less appealing to students if the allure of working from home—where one can enjoy flexibility and avoid commuting—grows stronger. The idea that too many individuals might opt for jobs with more flexibility at the cost of essential public service roles is somewhat concerning. While it is undoubtedly tempting to work from home, the potential shortage of doctors, teachers, and other key professionals due to a lack of interest in such demanding and hands-on roles could have significant long-term consequences for society.

Professor Bloom also discussed how businesses must adapt the way they evaluate employee performance in this new hybrid landscape. Traditional metrics, such as time spent in the office or the number of hours worked, are no longer effective in a remote or hybrid setting. Instead, companies must shift toward measuring the quality of work and tangible outcomes, rather than focusing on visibility or physical presence. Successful hybrid work models require clear expectations from management, regular feedback, and an emphasis on results over hours worked. By embracing a performance-oriented approach, employers can ensure that hybrid work models remain productive and effective.

while maintaining employee job satisfaction. This shift in mindset will be essential to ensuring the long-term success of hybrid work environments.

**Part V. Other information**

N/A