



Pandemic Productivity

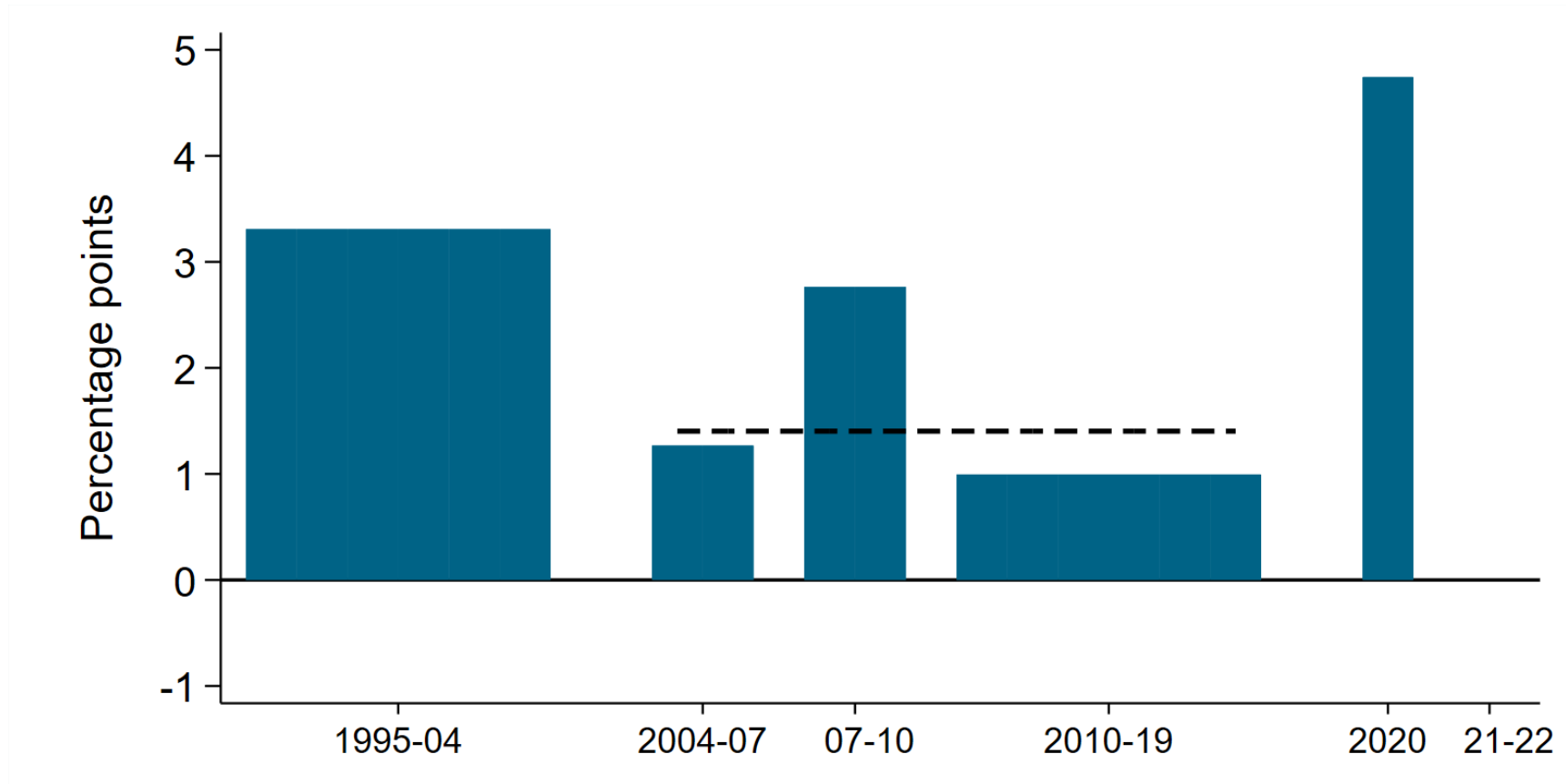
John Fernald (INSEAD/FRBSF)

October 3, 2022

This talk draws on joint work with Huiyu Li of the San Francisco Fed. The views expressed here are our own and do not necessarily reflect the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System

Pre-pandemic productivity growth was slow—but rose sharply in 2020

U.S. business-sector output per hour
Percent change, annual rate



Notes: Quarterly data through 2022:2. Output growth is average of income and expenditure measures (updated Sept 29, 2022). Black dashed line is average labor productivity growth from 2004-19.

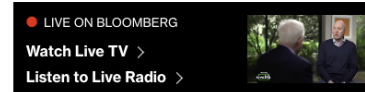
Business

Pandemic Blows Up Old Business Habits, Opening Path to a Boom

By [Craig Torres](#) [+Sign Up](#)

November 9, 2021, 10:00 AM GMT+1

- ▶ Companies find new ways to match staff, tech, customer demands
- ▶ U.S. productivity has accelerated and profits hit record highs



Are we on the cusp of the new 'Roaring '20s'?

BUSINESS

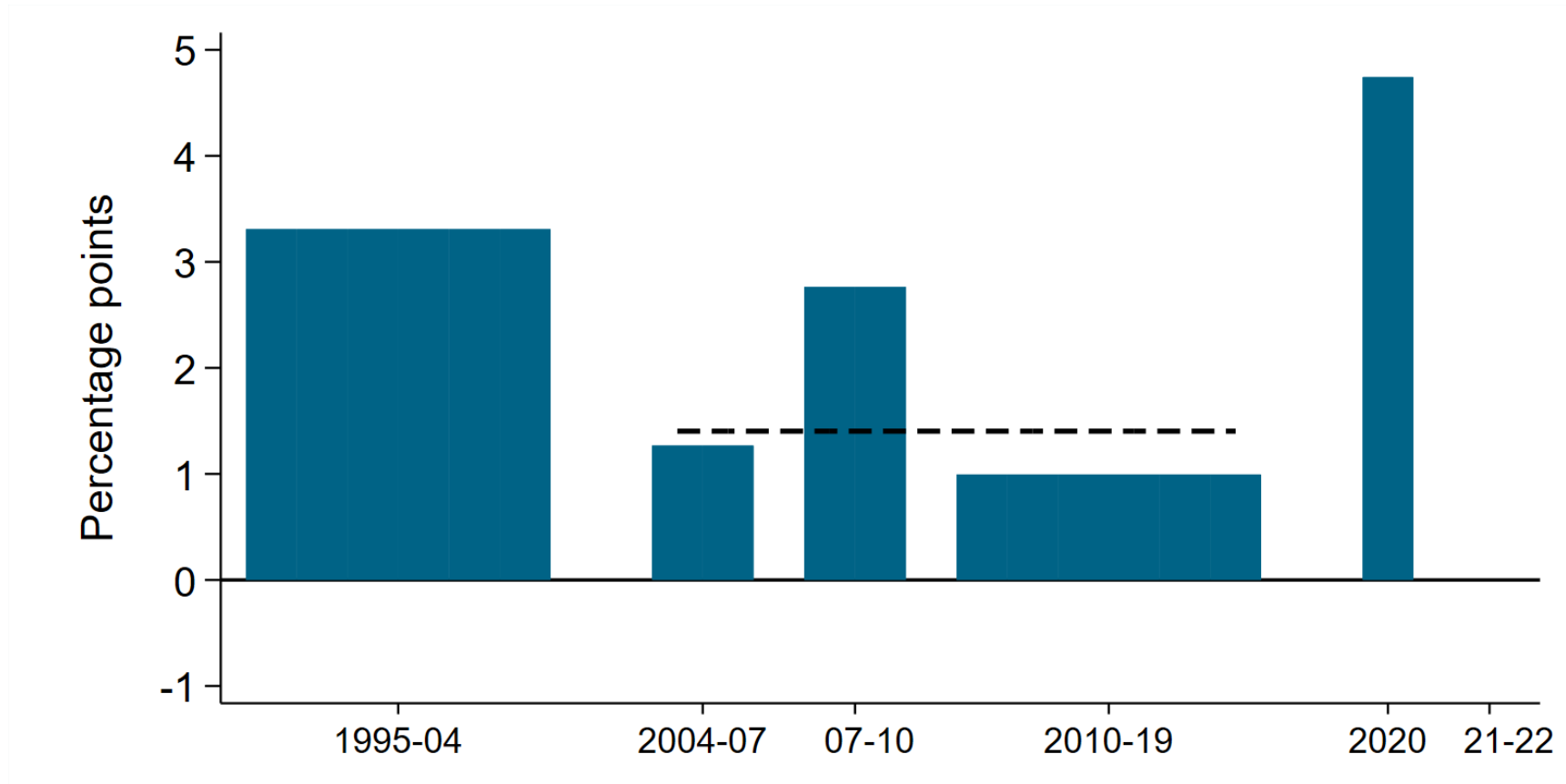
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Why the Productivity Boom Isn't Over

One disappointing quarterly reading aside, there are reasons to expect productivity, and hence the economy, to keep growing at a fast pace

Pre-pandemic productivity growth was slow—but rose sharply in 2020

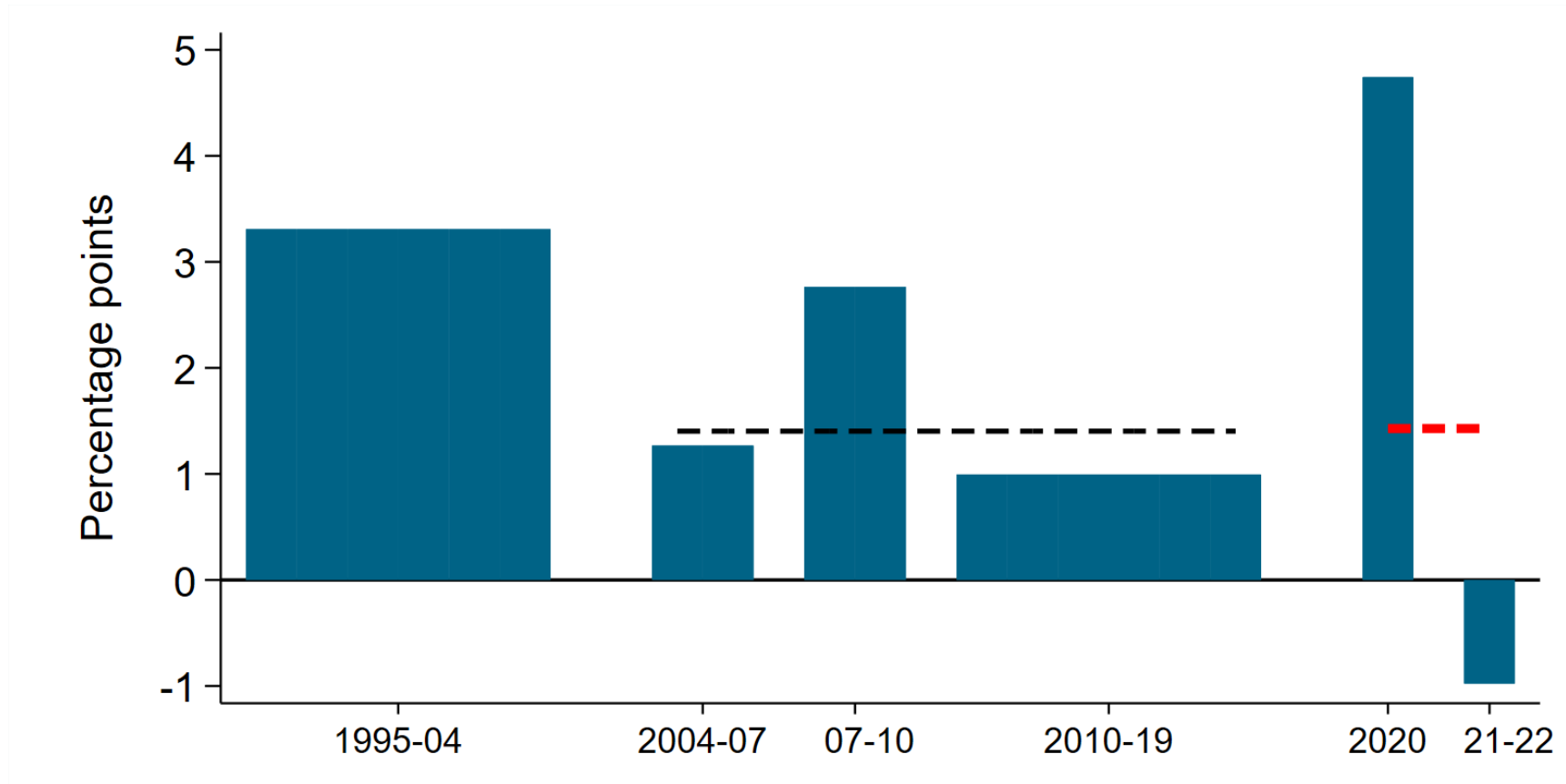
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...but productivity then retreated. Net effect is small

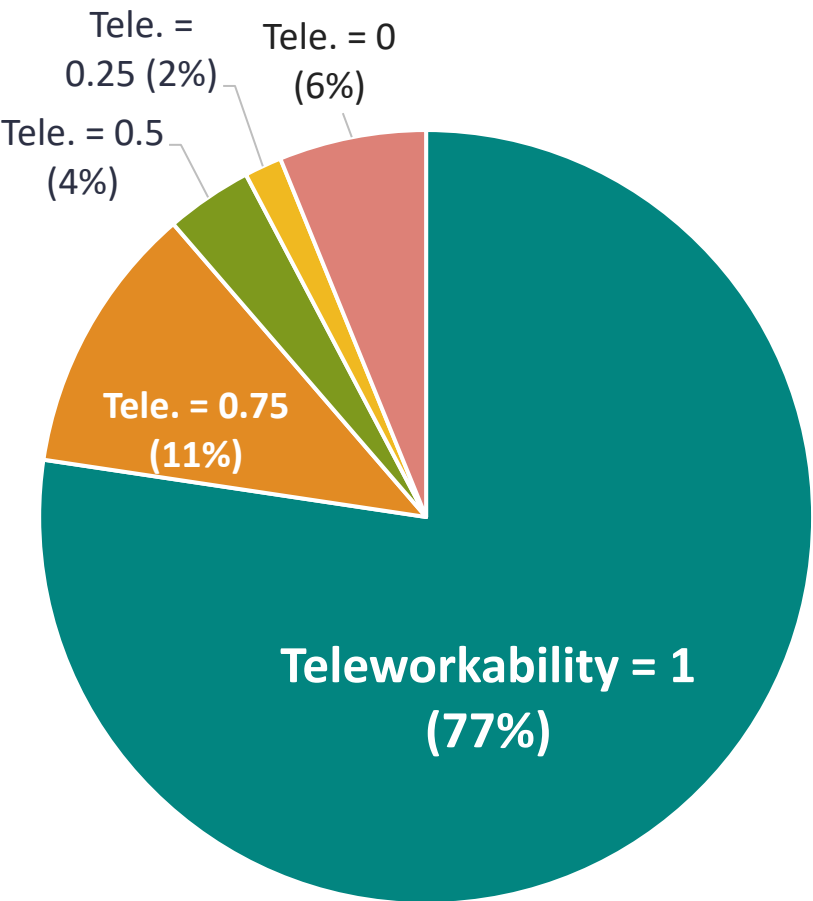
U.S. business-sector output per hour
Percent change, annual rate



Notes: Quarterly data through 2022:2. Output growth is average of income and expenditure measures (updated Sept 29, 2022). Black dashed line is average labor productivity growth from 2004-19. Red dashed line is average since the end of 2019.

“Teleworkable” industries did somewhat better

Some industries hire in teleworkable occupations



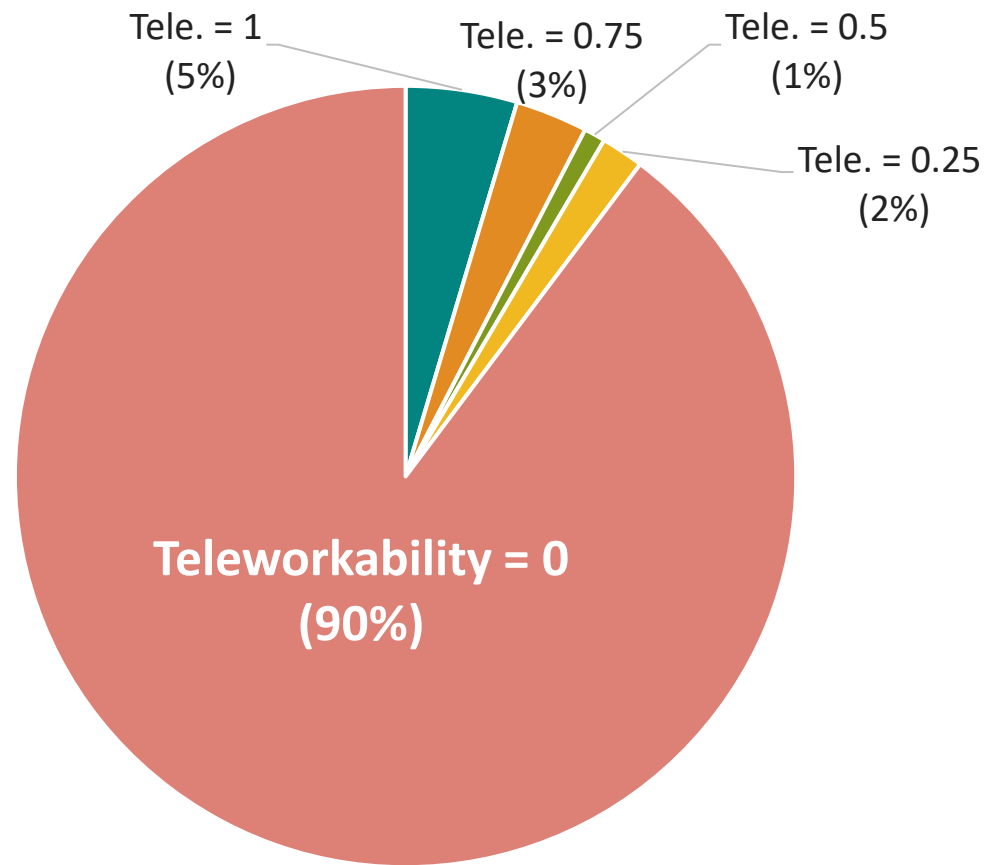
- Example: Data Processing, Hosting, and Related Services

Top 3 occupations in employment

| Occupation | % of industry employment | Tele-workability |
|-------------------------------------|--------------------------|------------------|
| Software Developers and Programmers | 18 | 1 |
| Customer service representatives | 8 | 1 |
| Computer support specialists | 8 | 1 |

Fernald and LI (2022) based on Dingel and Neiman (2020) and BLS occupation-by-industry data

Other industries hire mainly non-teleworkable occupations



- Example: Accommodation Services

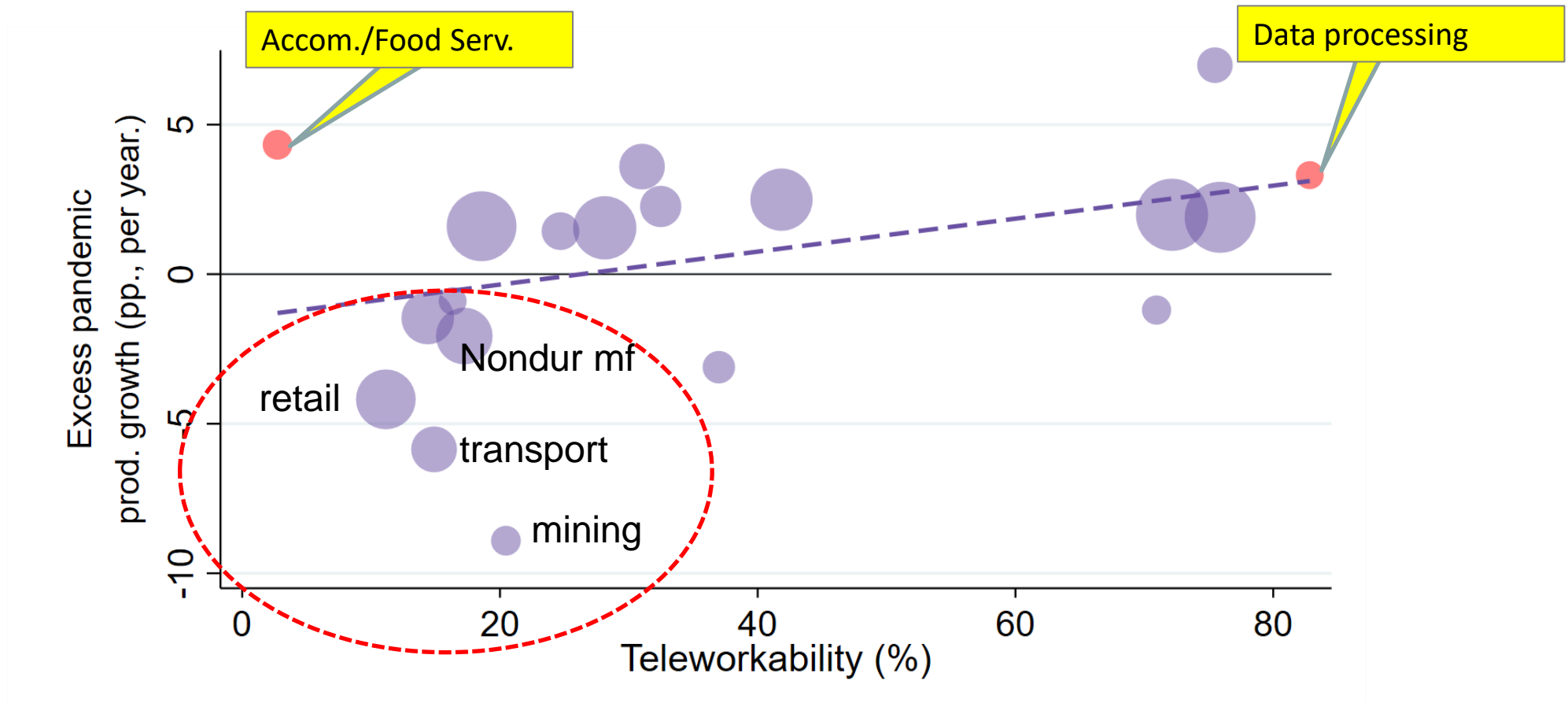
Top 3 occupations in employment

| Occupation | % of industry employment | Tele-workability |
|--------------------------------------|--------------------------|------------------|
| Building Cleaning Workers | 25 | 0 |
| Hotel, Motel, and Resort Desk Clerks | 12 | 0 |
| Wait staff | 8 | 0 |

Fernald and LI (2022) based on Dingel and Neiman (2020) and BLS occupation-by-industry data.

Low teleworkability industries typically performed poorly

Industry pandemic productivity growth (relative to pre-pandemic trend) versus teleworkability



Fernald and Li (2022). Bubble size represents industry share of GDP in 2019Q4. Fitted line weighs industries by GDP share. Vertical axis is average growth of industry output per hour from 2019Q4-2022Q2 relative to 2006-2019 average.

Takeaways: Productivity behaved in surprisingly normal ways during the pandemic

- Roller coaster ride up and down
- Productivity growth followed exaggerated/accelerated Great Recession cyclical path of boom and bust
 - Data broadly consistent with pre-pandemic slow underlying trend
 - Industry winners and losers loosely linked to teleworkability, though interpretation remains unclear