

Comments on “Working from Home
Around the World”
by Aksoy, Barrero, Bloom,
Davis, Dolls and Zarate

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Major Themes

- This is an important and interesting paper that adds material to our understanding of remote work globally. I am going to ask three questions:
 - What does this data actually mean?
 - Mostly this is a question about representativeness.
 - Is this a good or bad thing for firm productivity?
 - WFH is largely a productivity enhancing technology, but there are slight nuances.
 - What are the larger implications of WFH, especially for cities?
 - Successful wealthy cities are likely to change significantly, but the actual nature of the change is difficult to divine— smaller, high HC cities are likely to do well.
 - Less successful cities in wealthy countries are in more trouble.
 - Most of what happens in poor world cities will stay the same.

But before getting to the data: why weren't we working from home more before COVID?

- Actually most of us were taking work home – but not zooming.
- Their model: COVID “compelled a mass social experiment in WFH.”
- “Experimentation generated a tremendous flow of new information about WFH and greatly shifted perceptions about its practicality and effectiveness ... experimentation across suppliers, producers, customers and commercial networks yielded experience and information that was hard to acquire before the pandemic.”
- “Individuals and organizations re-optimized over working arrangements and moved to a much greater reliance on WFH.”
- A coordination model where it only works if we all do it.
- Wanting to work remotely pre-pandemic was a signal of low productivity (Emmanuel and Harrington, 2021), so signaling means going live.

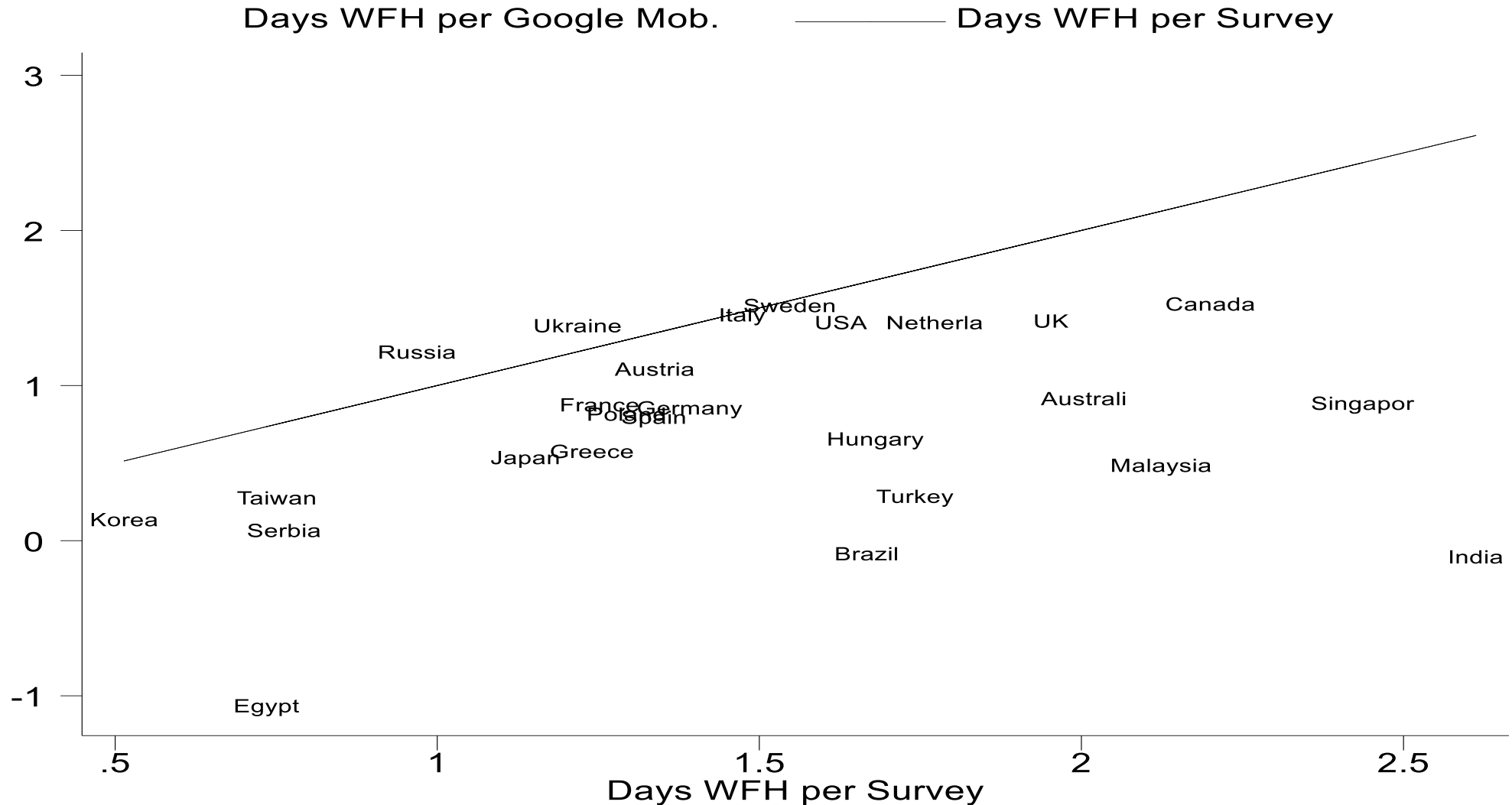
Technological innovation and adoption under a crisis is a theme of human history

- WWII innovations and widespread adoptions (according to history.com): penicillin (invented in 1928– but far more widespread during the war), flu vaccines, blood plasma transfusions, jet engines, radar and computers.
- The Cold War gave us NASA, DARPA and all of the other technologies that followed those and other public investments.
- These represent technological breakthroughs and they are similar in character to technological investments made during the pandemic.
- Changing the WFH home equilibrium is more akin to women or African-Americans working in factories during WWI or WWII. m

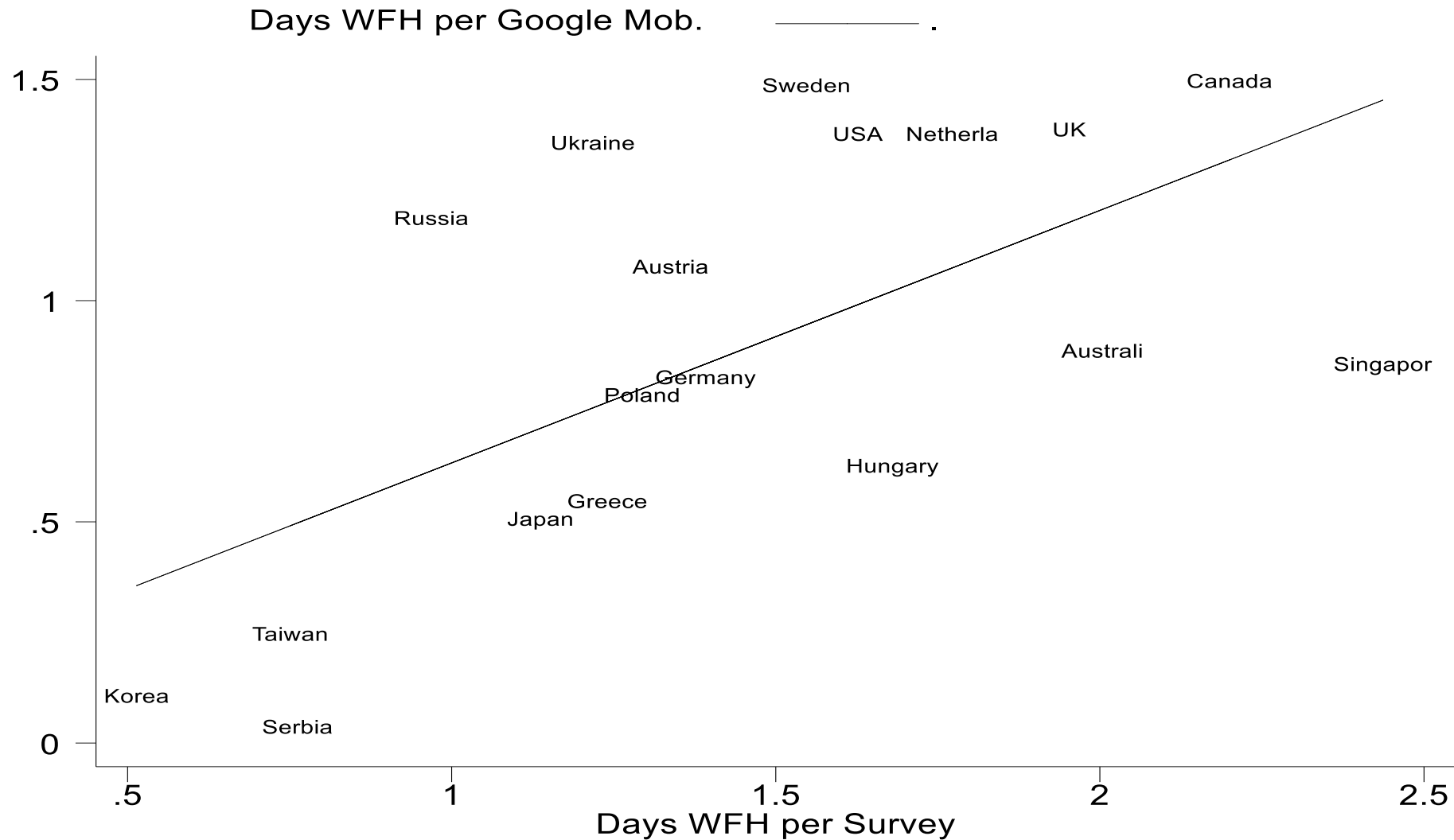
What do we learn from this data?

- Certainly, I believe that the data tells us that WFH is a real phenomenon companies that do it now don't seem likely to do it much less in the future.
- The data also supports the view of learning that WFH was better than expected. That could also reflect coordination effects.
- There is substantial demand of workers for WFH and in many cases, this demand is higher than any economic losses that the companies' associate with working from home.
- Demand for working from home is stronger for people with children (of either gender) and stronger for women.
- The demand for WFH rises with commute length.
- I accept all of these points, but I am unsure what this tells about how widespread WFH is, either now or in the future, especially in poorer countries.

Google Mobility Work From Home= -1*Percent Change in Workplace Visits*5



The fit is better among their most educated countries (WFH complements Human Capital)

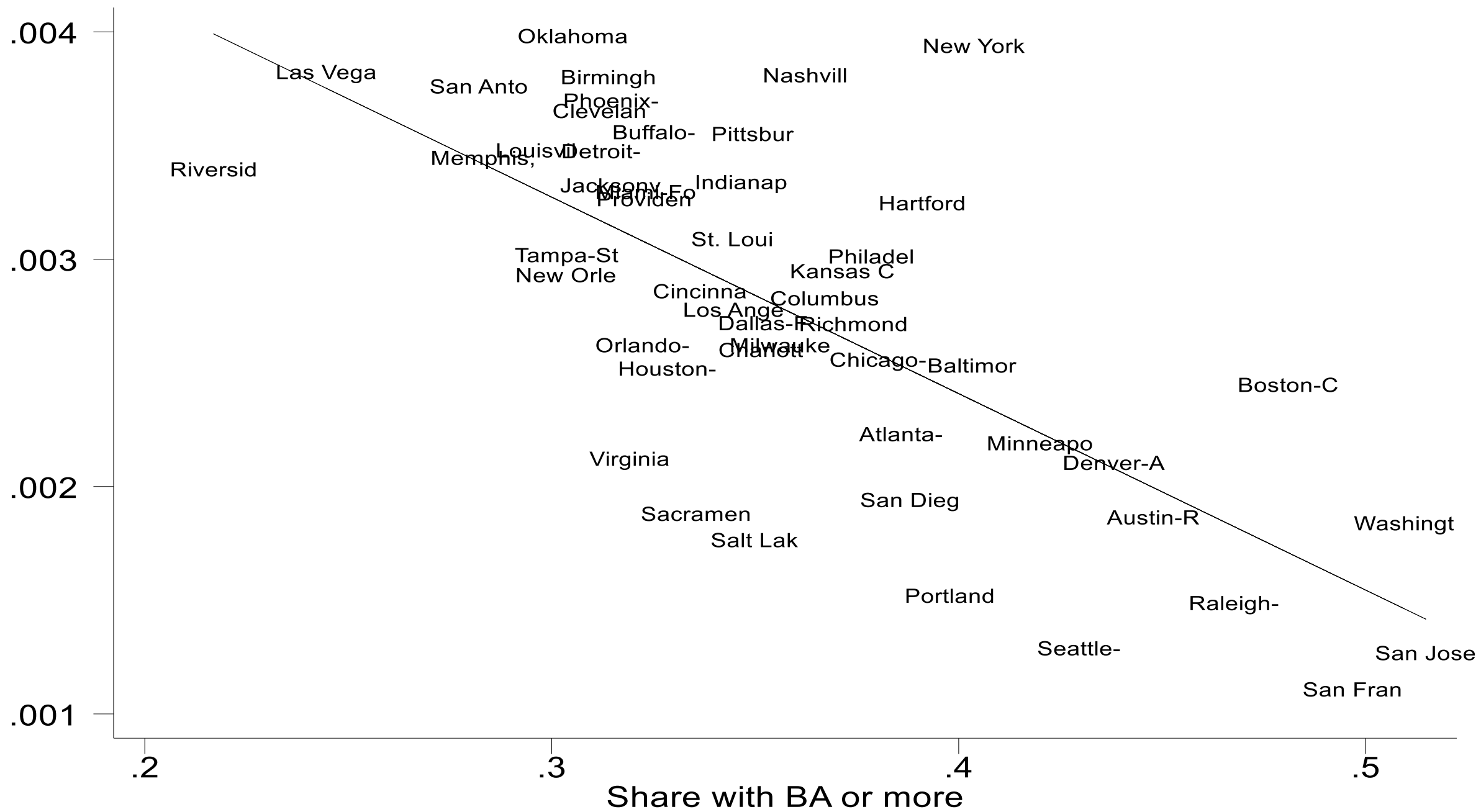


The Inequality of the Remote Workplace

May 2020	Total Civilian Population	Unable to Work Due to Pandemic (Closure or Lost Business)		Total Employed Population	Teleworking Due to Pandemic	
		Number	Percent		Number	Percent
Total, 25 years and over	222,559	41,616	18.7	123,109	45,989	37.4
Less than a high school diploma	19,607	3,941	20.1	6,887	355	5.2
High school graduates, no college ³	61,403	12,025	19.6	28,708	4,379	15.3
Some college or associate degree	57,510	12,235	21.3	31,581	7,928	25.1
Bachelor's degree and higher ⁴	84,038	13,416	16.0	55,933	33,327	59.6
Bachelor's degree only	51,890	9,011	17.4	33,778	18,069	53.5
Advanced Degree	32,148	4,405	13.7	22,155	15,258	68.9

Total Death Rate COVID-19

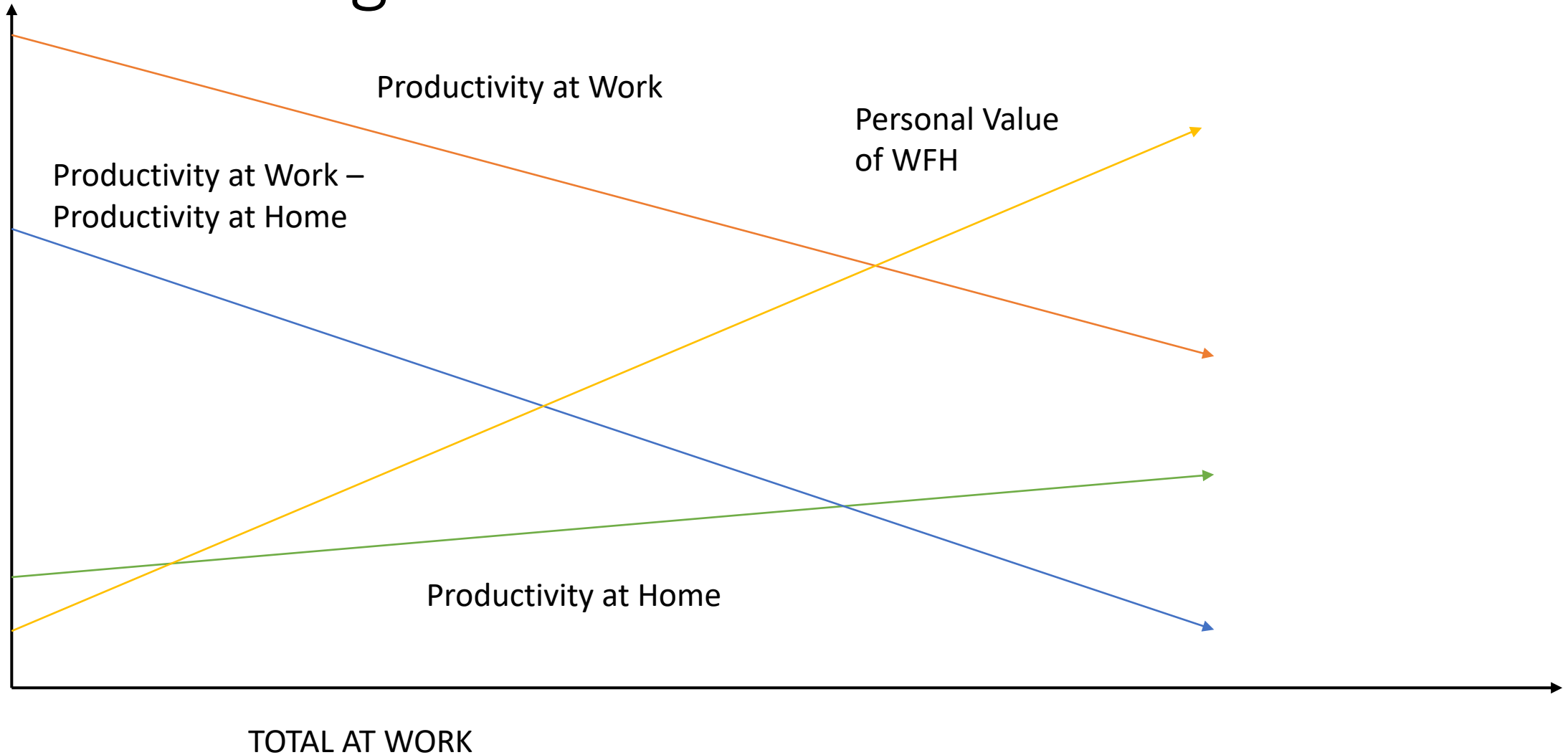
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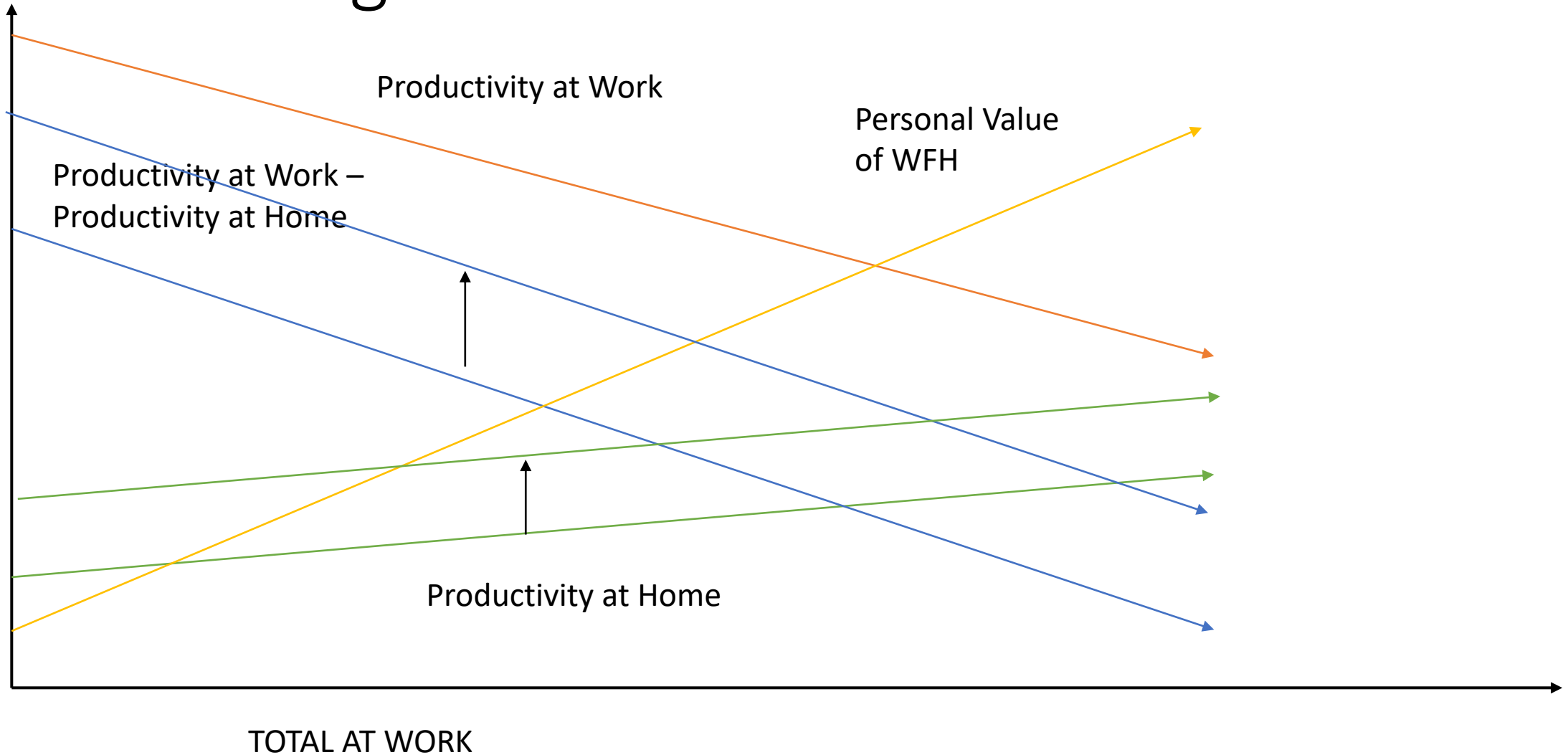
The education mismatch between their survey and country-level averages

- An astounding 78 percent of their Indian respondents have graduate degrees.
- The Barro-Lee data reports that only 7.3 percent of Indians in 2015 between 25 and 64 have completed tertiary education.
- In Egypt, 86 percent of their population has tertiary or graduate education in the survey.
- Barro and Lee report that 11 percent of Egyptians have completed tertiary schooling.
- The mismatch is far less severe in the wealthy world.
- They are quite upfront about this – but those of us who work in the developing world

What does WFH mean for productivity and well-being within the firm?



What does WFH mean for productivity and well-being within the firm?



The traditional view

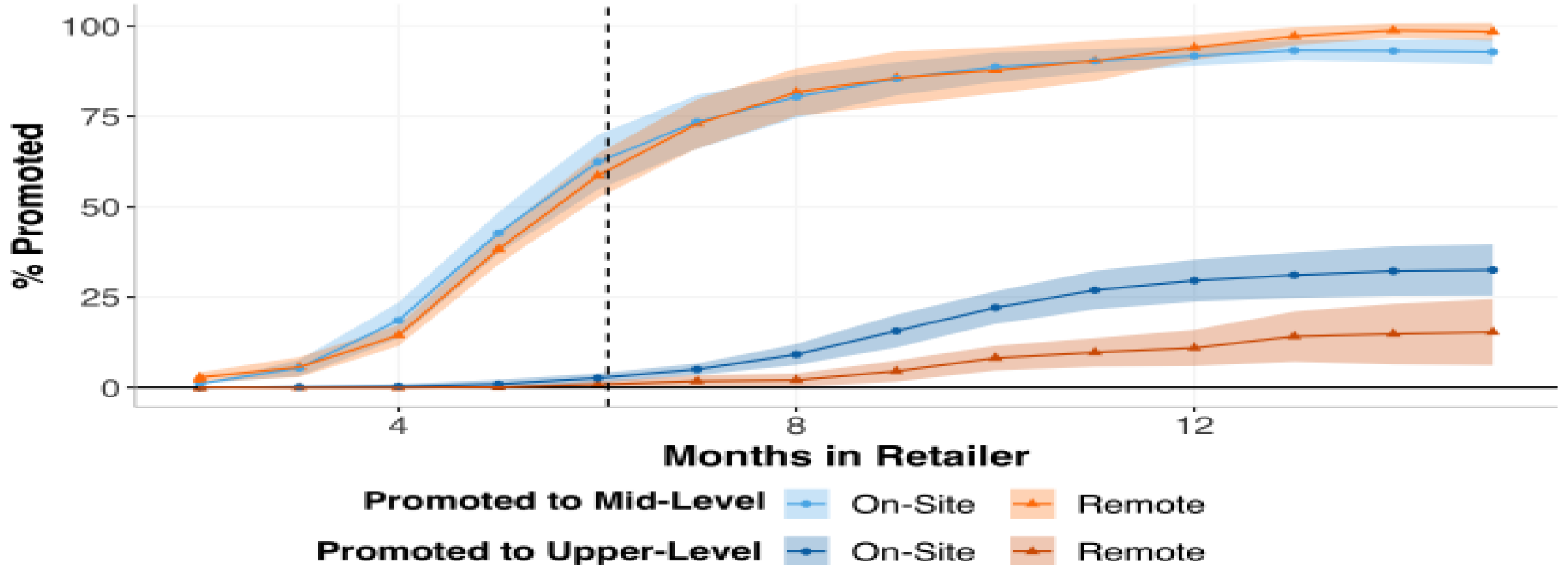
- Total output can either go up or down.
- Effect #1: WFH time becomes more productive (that's good).
- Effect # 2: Workers switch from more productive time at work to less productive time at home (which is good for welfare but bad for productivity). Consequently, total impact on output is ambiguous.
- But total impact on welfare (and firm profits) is unambiguous (since firms get to pay workers less).
- Presumably the firms internalize all the externalities from workers being around each other (except those related to learning).

Variations on the Theme

- The Nick Bloom et al. (2015) Hypothesis: For some jobs and some people, working from home is more productive than being at work.
 - Distractions, work layout for people who have home space.
 - The psychic pain of the commute.
 - This paper argues that the net productivity benefit of being at work relative to home is actually also humped-shaped.
 - You don't need that to like hybrid– as long as workers will pay for the privilege of being at home sometimes.
- The Learning by Seeing Hypothesis: For some jobs and some people, the dynamic costs of working from home in lost productivity growth are high.
 - Both the original Bloom et al. paper and Emanuel and Harrington find consider reductions in the probability of being promoted if you go remote.
 - It could be workers learning skills or managers identifying productive workers.
 - This is related to the urban literature on faster wage growth in cities (Glaeser and Mare, 2001, DeLaRoca and Puga, 2015).

Emmanuel and Harrington: Going Remote








Figure A.2: Promotion Shares By Tenure for Remote and On-Site Workers



This paper finds something similar, but has a far more negative spin on remote work.



The effects of remote work on collaboration among information workers

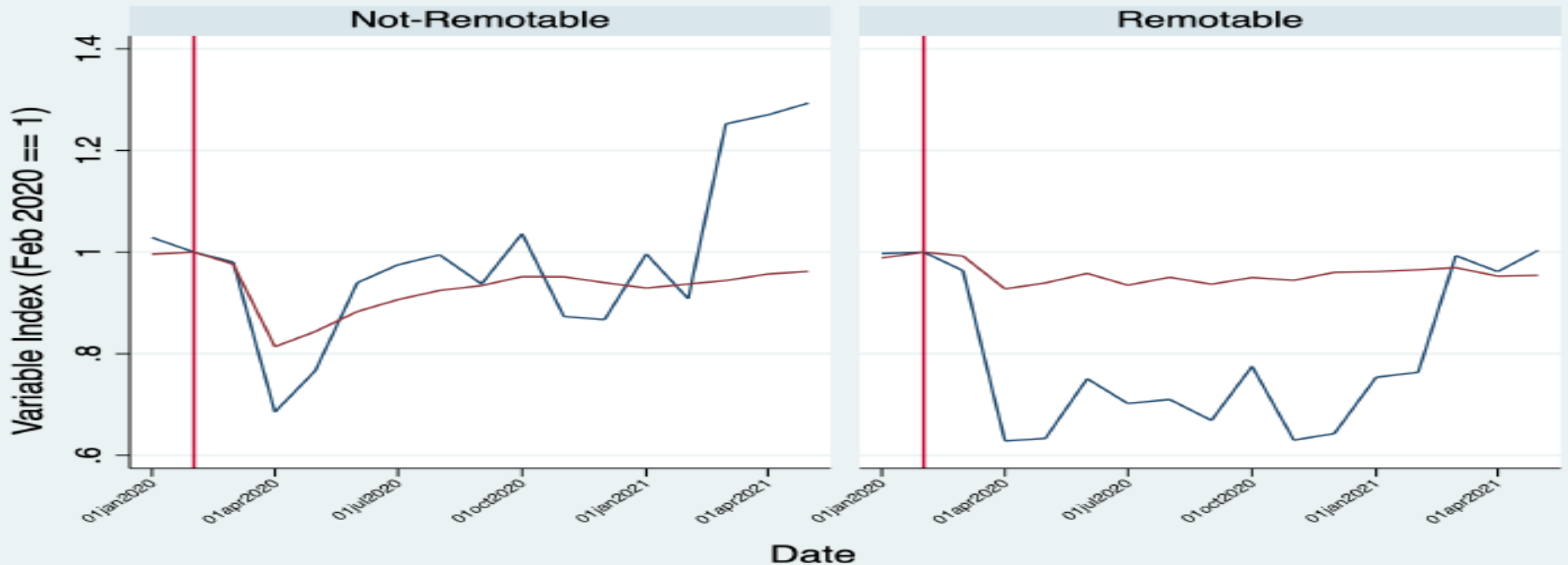
Longqi Yang ¹✉, David Holtz ^{2,3}, Sonia Jaffe ¹, Siddharth Suri ¹, Shilpi Sinha¹, Jeffrey Weston¹, Connor Joyce¹, Neha Shah¹, Kevin Sherman ¹, Brent Hecht ¹ and Jaime Teevan ¹

The coronavirus disease 2019 (COVID-19) pandemic caused a rapid shift to full-time remote work for many information workers. Viewing this shift as a natural experiment in which some workers were already working remotely before the pandemic enables us to separate the effects of firm-wide remote work from other pandemic-related confounding factors. Here, we use rich data on the emails, calendars, instant messages, video/audio calls and workweek hours of 61,182 US Microsoft employees over the first six months of 2020 to estimate the causal effects of firm-wide remote work on collaboration and communication. Our results show that firm-wide remote work caused the collaboration network of workers to become more static and siloed, with fewer bridges between disparate parts. Furthermore, there was a decrease in synchronous communication and an increase in asynchronous communication. Together, these effects may make it harder for employees to acquire and share new information across the network.

Companies Don't Hire Remote Workers (Work is by Morales-Arilla and Daboin)

Postings and Employment Remotability

Blue = Postings, Red = Employment



Learning, Innovation and WFH

- If WFH is associated with less innovation, and some innovations bring benefits outside the home, then this could lower long-run welfare.
- (Channeling my inner Becker): If (1) there is more learning live, and (2) much learning is general rather than specific human capital, and (3) young workers are either too impecunious or too foolish to understand that they should be willing to pay for this learning through lower wages → WFH can be welfare reducing.
- I think all of these are theoretical possibilities, but my own views are similar to the authors:
 - (1) generally WFH is good for firms that use WFH and for their workers (especially mothers).
 - (2) where there are externalities, these are way too hard for us to empirically assess in ways that would justify policy action.
- My larger concerns relate to other firms, especially ones that don't WFH.

Hybrid Work and the Future of Cities

- In the wealthy world, this will impact prices in rich society and vacancies in poor cities.
 - But even if offices remain “rented” they may still be less occupied, which will mean less demand for related services.
- Poor cities in rich countries could well spiral downward.
- In the poor world, most workers will remain tethered to their physical environment – but knowledge workers may increasingly detach.
- Less work for local workers → possibly bad for urban poor.
- But I can't figure out what will happen to manufacturing in these places and whether new factories will employ poor workers.

Data from JLL

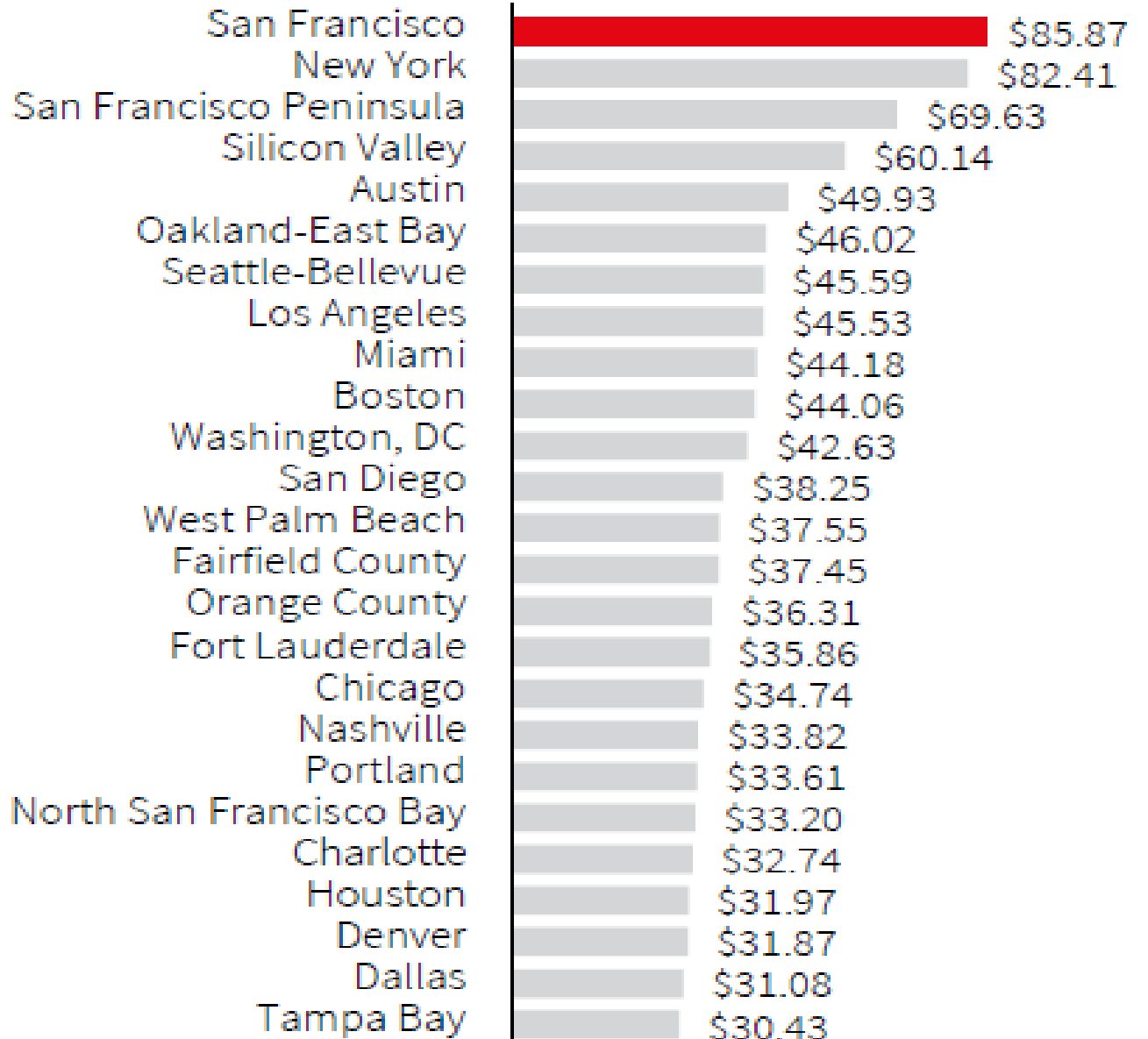
These high end markets are unlikely to see large scale vacancies, even with substantial price falls

The margin of error between current price and operating cost is too large.

Some Class C may convert to residential

Marketed rents

\$ per square foot



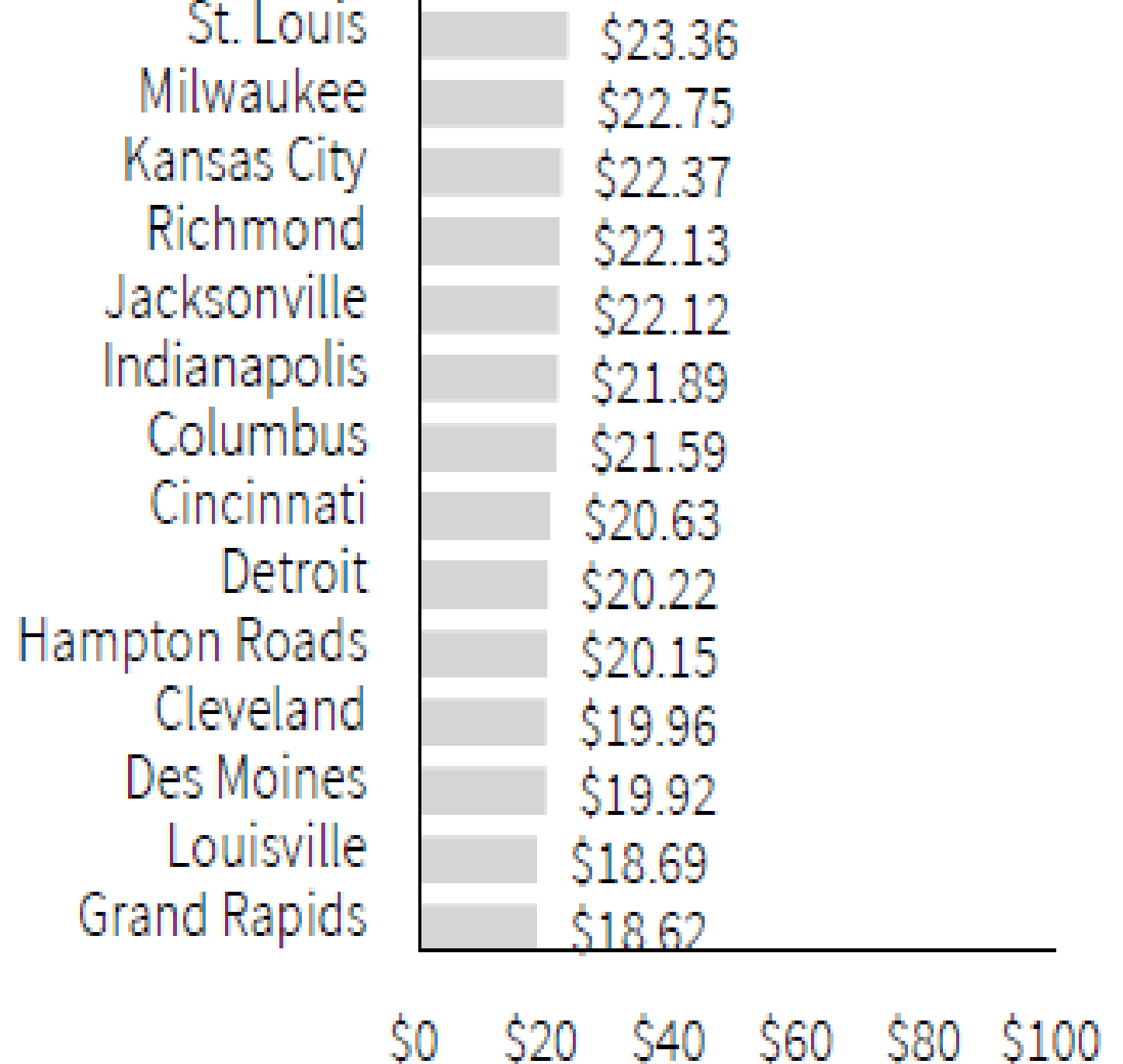
Data from JLL

These lower end markets have a much smaller margin of error.

And less demand for residential conversion.

This should mean that vacancies are far more plausible.

That will create negative local spillovers.




The Political Risks for Cities



NASSAU SUFFOLK FINAL **DAILY NEWS** **15¢**
NEW YORK'S PICTURE NEWSPAPER ©
Vol. 57, No. 189 New York, N.Y. 10017, Thursday, October 30, 1975* News, cont., 47-58 Details p. 176

FORD TO CITY: DROP DEAD

Vows He'll Veto Any Bail-Out



Abe, Carey Rip Stand

Stocks Skid, Dow Down 12

Three pages of stories begin on page 3; full text of Ford's speech on page 36

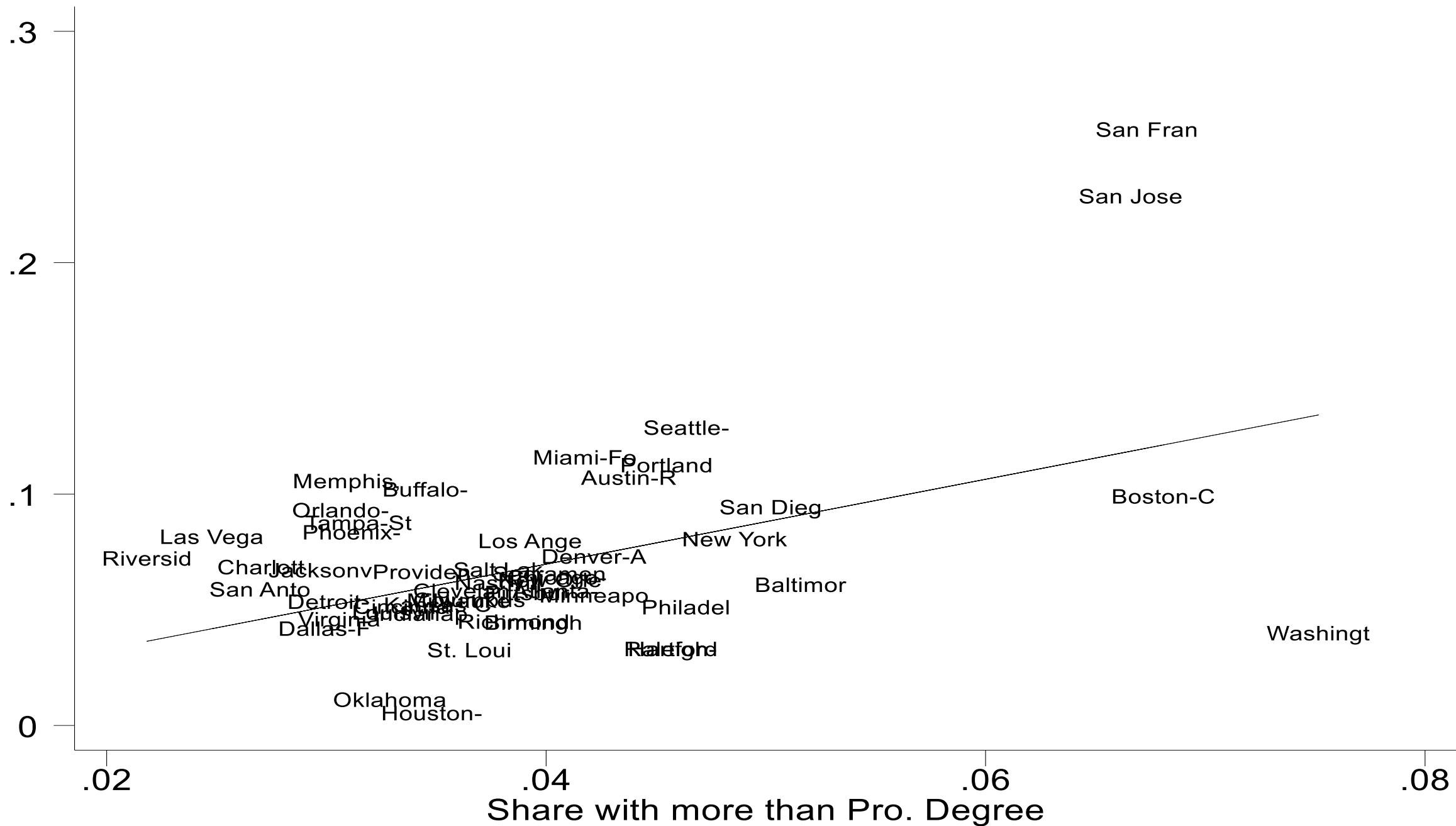
President Ford gives his message at Washington's National Press Club yesterday.

Measuring Urban Winners and Losers

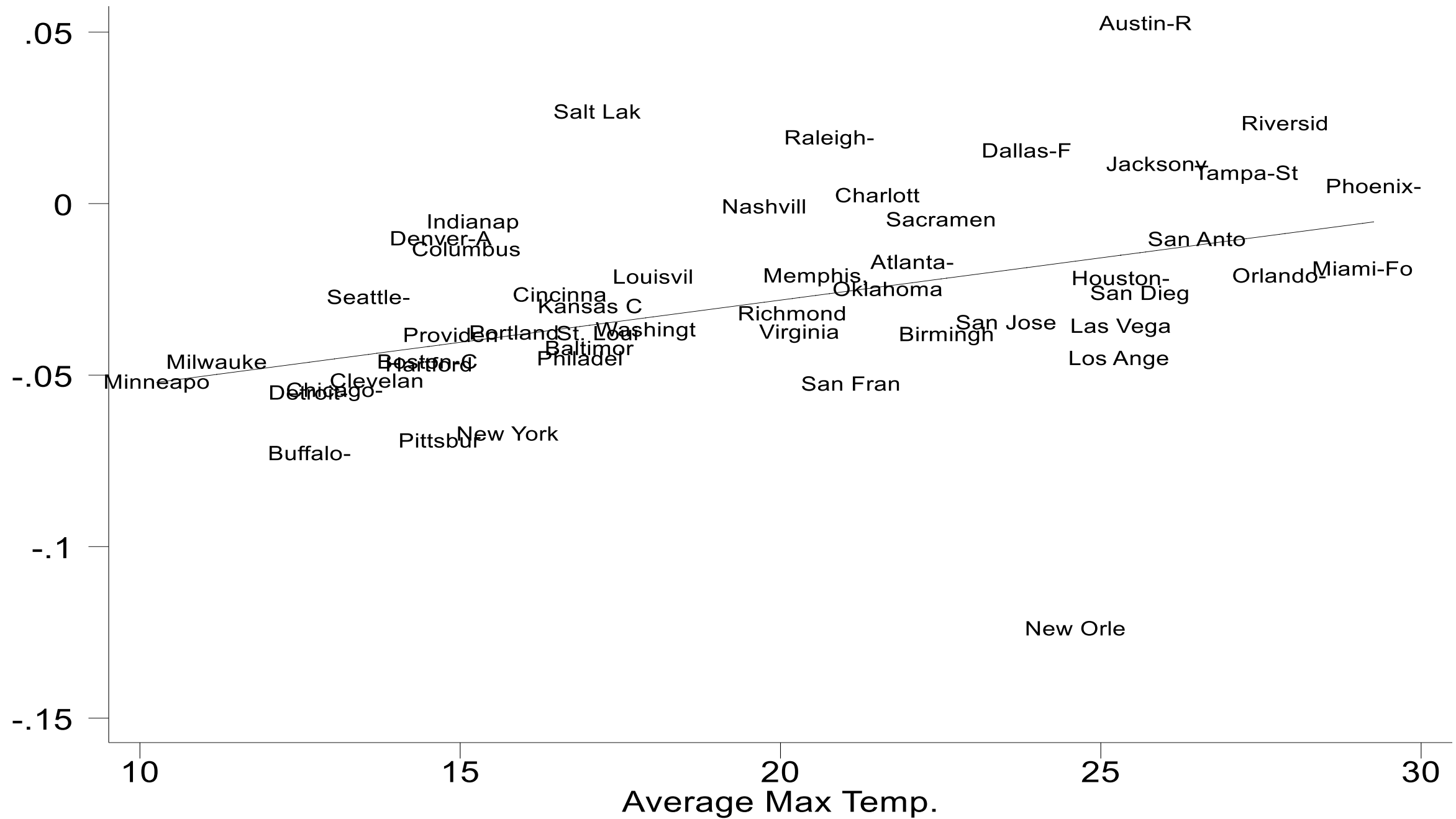
- Earnings and employment data from the Quarterly Census of Employment and Wages goes to Third Quarter 2021
- Repeat home sales data from the Federal Housing Finance Agency (FHFA) from December 2021.
- Permit data from the Census of Construction covers the entire year 2021.
- Strategy is always to take percent changes over two year period.
- For the nominal variables (prices and earnings) we correct for inflation (CPI)– 7% from Q3 2019 to Q3 2021.
- The data are interesting on their own, but we also produce an index.

Change in Wage 2019-2021

— Fitted values



Change in Employment 2019-2021 — Fitted values



The Non-Effect of COVID-19 on Urban Trends

- Before COVID-19, I would have highlighted the flight to the sunbelt and the rise of the skilled city as two central facts about urban change in the US since 1970.
 - I wrote a paper explaining the rise of the sunbelt in 2007: this is not a consumer city fact, it is rising productivity (probably because of pro-business policies and better infrastructure) and easy housing supply.
- To my eyes, these two effects continue to dominate changes in urban labor markets.
- Skills show up in higher wages. Temperature shows up in higher levels of employment.
- These variables may have also shifted labor supply, which seems to have shifted substantially over the period.
- Final labor market task: $\text{Change in Emp} - .2 * \text{Change in Temp} = \text{Great Resignation}$ (labor supply elasticities of .1-.3) – strongly correlated with temperature.

<i>Metropolitan Area</i>	<i>Percent Home Price Growth</i>	<i>Percent Weekly Wage Growth</i>	<i>Percent Employment Growth</i>	<i>Percent Change in Housing Permits</i>
Austin-Round Rock-Georgetown, TX	38.3%	10.4%	5.0%	58.5%
Phoenix-Mesa-Chandler, AZ	38.5	8.0	0.3	46.7
Jacksonville, FL	29.7	6.4	0.9	52.8
Salt Lake City, UT	35.4	6.4	2.5	8.2
Riverside-San Bernardino-Ontario, CA	33.1	6.9	2.1	9
Tampa-St. Petersburg-Clearwater, FL	33.7	8.4	0.7	5.4
Raleigh-Cary, NC	28.7	3.0	1.7	44.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	12.6	4.8	-4.7	142.8
Nashville-Davidson--Murfreesboro--Franklin, TN	29.7	5.8	-0.3	39.5
Miami-Fort Lauderdale-Pompano Beach, FL	28.1	11.3	-2.1	20.8
Charlotte-Concord-Gastonia, NC-SC	29.0	6.5	0.0	21.5
Denver-Aurora-Lakewood, CO	21.3	7.0	-1.2	55.6
Memphis, TN-MS-AR	20.9	10.2	-2.3	42.3
Seattle-Tacoma-Bellevue, WA	25.7	12.5	-2.9	16.5
Sacramento-Roseville-Folsom, CA	25.7	6.2	-0.7	29.1
San Diego-Chula Vista-Carlsbad, CA	29.6	9.1	-2.8	15.8
San Antonio-New Braunfels, TX	24.7	5.5	-1.3	39.6
San Jose-Sunnyvale-Santa Clara, CA	20.8	22.5	-3.7	-25.1
San Francisco-Oakland-Berkeley, CA	12.6	25.4	-5.5	-4.3
Dallas-Fort Worth-Arlington, TX	22.9	3.9	1.3	22.9
Las Vegas-Henderson-Paradise, NV	27.0	7.8	-3.8	28.3
Orlando-Kissimmee-Sanford, FL	23.0	9.0	-2.3	23.2
Indianapolis-Carmel-Anderson, IN	20.4	4.5	-0.7	41.4
Columbus, OH	21.1	5.1	-1.5	42.0
Atlanta-Sandy Springs-Alpharetta, GA	25.8	5.5	-1.9	20.1

Observations on the Top Half of the List

- Price and Employment Growth are the strongest correlates of this aggregate measure (.8) – mainly because they correlate so strongly with each other.
- Permit growth is a .58 correlation and wages are .32.
- The top half is dominated by the sunbelt (19/25).
- The other six include Philadelphia, which doesn't belong there.
- Salt Lake City, Seattle and Denver. Not sunbelt, but consumer cities.
- Columbus OH and Indianapolis, IN → pro-business mid-western cities.
- And Austin dominates along almost every dimension.

<i>Metropolitan Area</i>	<i>Percent Home Price Growth</i>	<i>Percent Weekly Wage Growth</i>	<i>Percent Employment Growth</i>	<i>Percent Change in Housing Permits</i>
Cincinnati, OH-KY-IN	19.2	4.8	-2.9	39.4
Providence-Warwick, RI-MA	22.6	6.3	-4.0	13.3
Boston-Cambridge-Newton, MA-NH	19.0	9.6	-4.8	11.3
Portland-Vancouver-Hillsboro, OR-WA	20.2	10.9	-4.0	-10.7
Los Angeles-Long Beach-Anaheim, CA	23.1	7.6	-4.7	3.0
Birmingham-Hoover, AL	18.2	4.1	-4.0	31.4
Kansas City, MO-KS	17.4	4.9	-3.2	20.8
Virginia Beach-Norfolk-Newport News, VA-NC	18.2	4.3	-4.0	26.2
Oklahoma City, OK	18.5	0.8	-2.7	26.6
Richmond, VA	17.3	4.2	-3.4	15.1
Milwaukee-Waukesha, WI	15.2	5.1	-4.8	28.4
Cleveland-Elyria, OH	20.0	5.5	-5.4	11.1
Pittsburgh, PA	16.1	5.4	-7.1	35.6
Louisville/Jefferson County, KY-IN	17.1	4.5	-2.4	-3.6
Buffalo-Cheektowaga, NY	21.6	9.9	-7.5	-9.9
Detroit-Warren-Dearborn, MI	17.8	5.0	-5.7	16.4
Baltimore-Columbia-Towson, MD	13.6	5.7	-4.4	15.0
St. Louis, MO-IL	13.4	2.9	-4.0	26.6
Hartford-East Hartford-Middletown, CT	19.4	3.0	-4.9	8.0
Minneapolis-St. Paul-Bloomington, MN-WI	14.3	5.3	-5.4	14.6
Houston-The Woodlands-Sugar Land, TX	12.8	0.2	-2.4	11.8
Chicago-Naperville-Elgin, IL-IN-WI	13.1	6.1	-5.7	2.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	12.0	3.7	-3.9	3.0
New York-Newark-Jersey City, NY-NJ-PA	11.9	7.7	-6.9	-4.5
New Orleans-Metairie, LA	9.6	6.0	-12.6	32.6

A Few Observations on the Bottom Half

- LA is drawn down by its low housing permits growth; Portland is down because it permitted fewer units than in 2019.
- Houston doesn't deserve to be at the bottom. It didn't have massive permitting growth, because it was already permitting 60,000 units per year and people don't expect to pay much more than housing costs for a unit.
- New Orleans is pretty much at the bottom by any measure.
- NYC's wage growth is good, but pretty much everything is a next to New Orleans.
- Ranks 37-47 is filled with the former industrial heavyweights.