

# The Impact of COVID on Productivity and Potential Output

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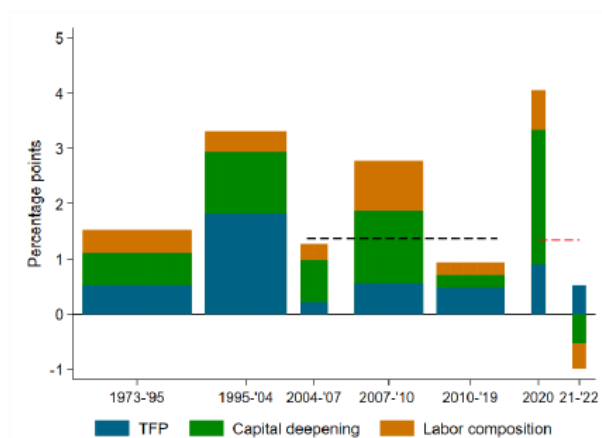
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## Main findings:

- Slow growth path likely to persist
- Hard to detect a persistent effect on productivity
- Possibility of hysteresis effects - of either sign
- Intriguing effects in teleworking (work from home) industries relative to goods industries and contact-dependent services

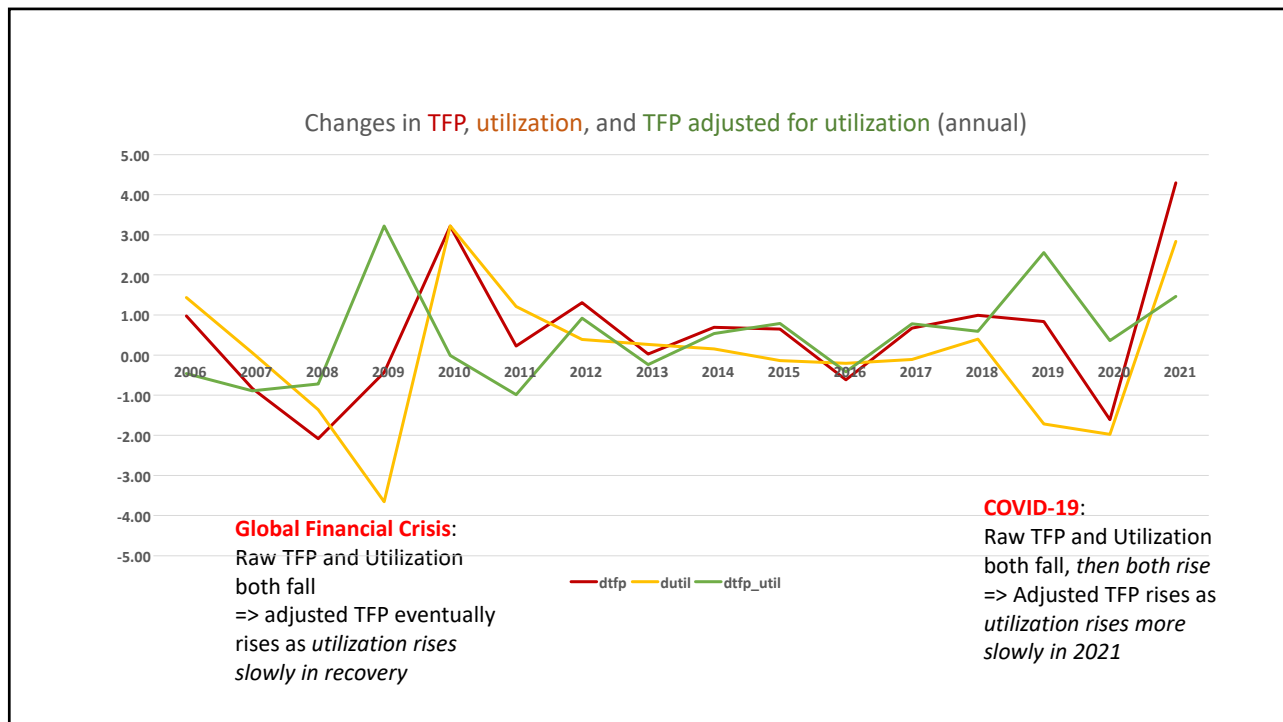
Labor Productivity decomposition

Figure 3: Growth accounting

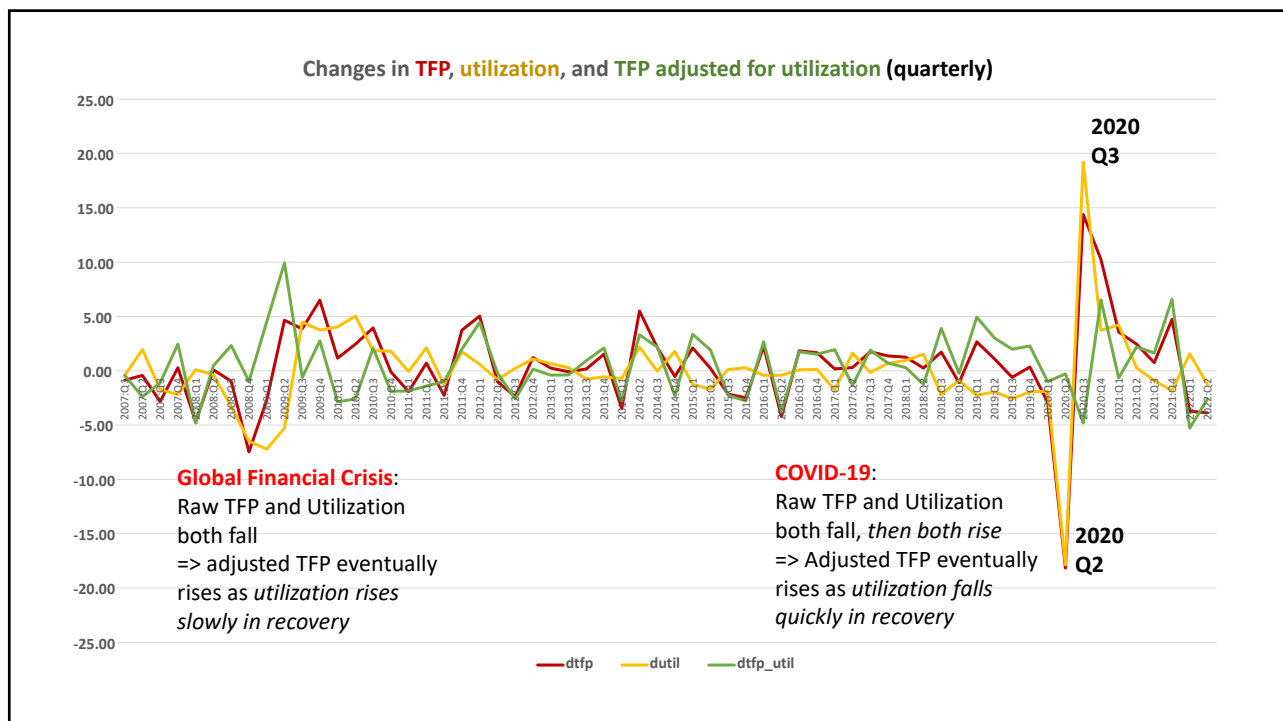


Labor Productivity rises during downturns – due to factor composition benefits.  
But declines during recoveries as those benefits reverse – TFP is little-changed.

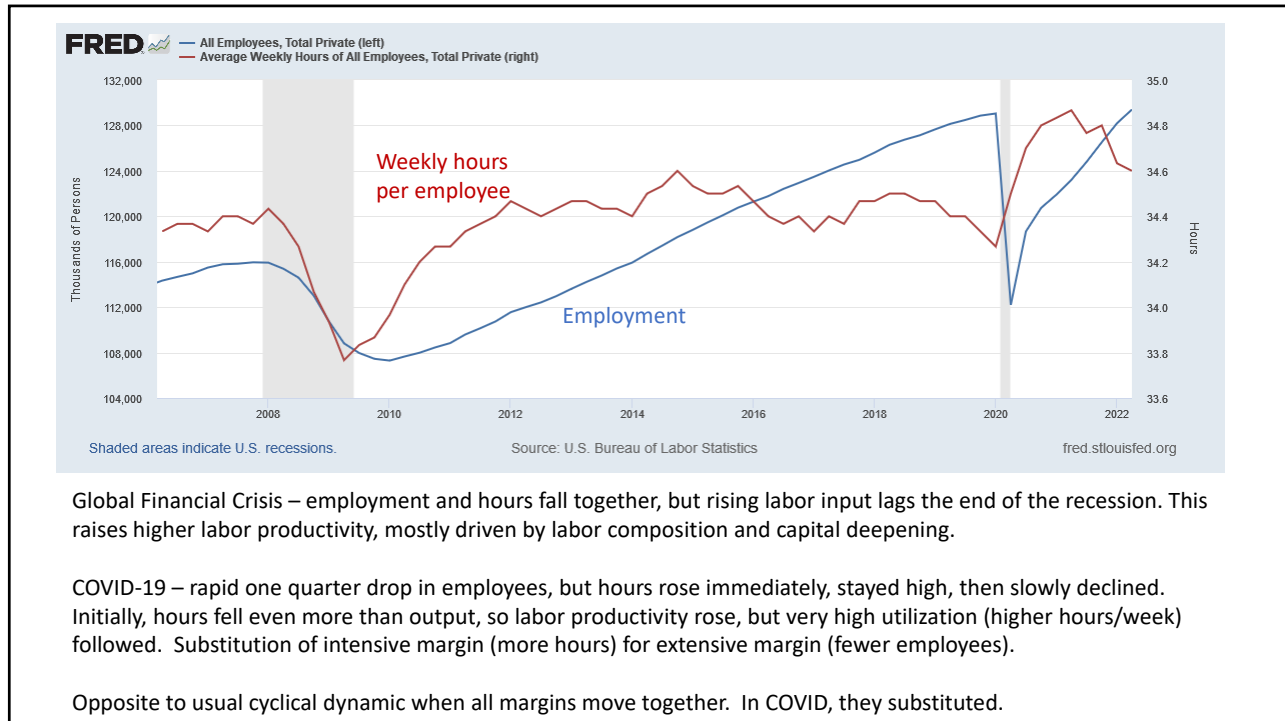
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### COVID-era sectoral results:

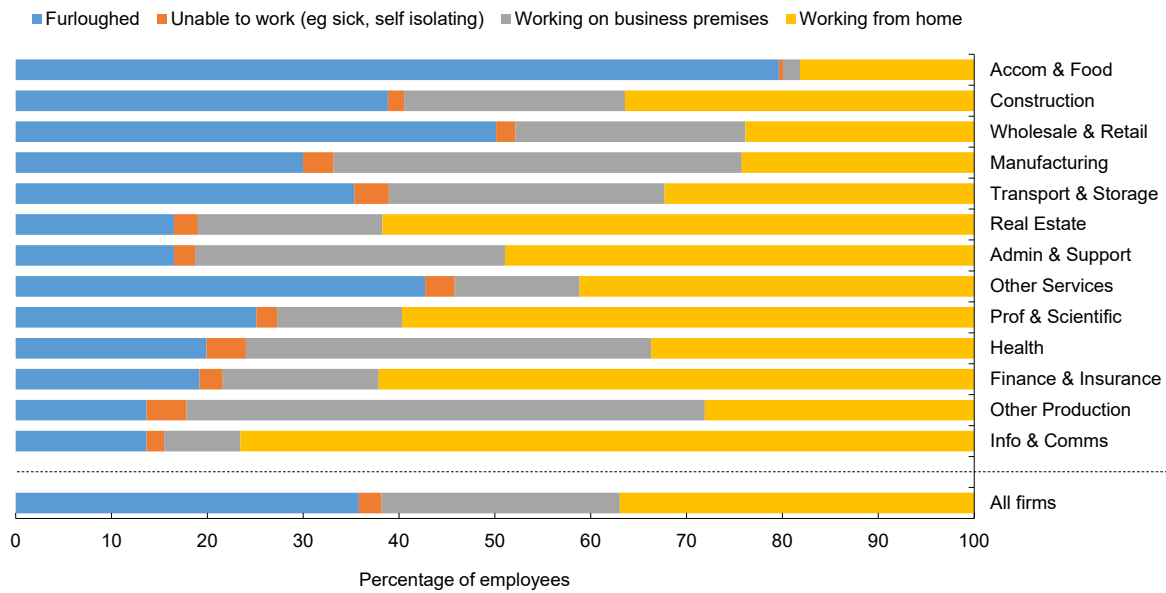
- WFH industries** had higher output/hour
  - than previously
  - than other sectors
- In sharp contrast to **Contact industries**
  - Lower than previously
  - Lower than other sectors
- Goods sectors** are mixed
  - Higher in 2020
  - Much lower in 2021-22
  - Lower overall

**Table 3: GDP per hour growth for industry groups**

	(1) WFH	(2) Contact	(3) Goods
1. 2006 – 2019	1.77	0.01	1.36
2. 2020 – 2022	4.06	-1.69	0.31
3. 2020	4.31	-1.60	4.15
4. 2021 – 2022	3.87	-1.76	-2.76
5. Excess pandemic growth (row 2 minus 1)	2.29	-1.70	-1.05
6. Excess growth accounted for:	1.63	0.63	-0.01
7. Changing factor utilization	0.93	0.40	-0.25
8. Off-the-clock hours mismeasurement	0.70	0.23	0.24
9. Unexplained pandemic growth (5 minus 6)	0.66	-2.33	-1.04
10. Memo: 2007 – 2010	3.14	0.53	3.85
11. Dingel-Neiman teleworkable share	0.61	0.20	0.21

6

## Labor: Impact of Covid-19 on employees, May 2020

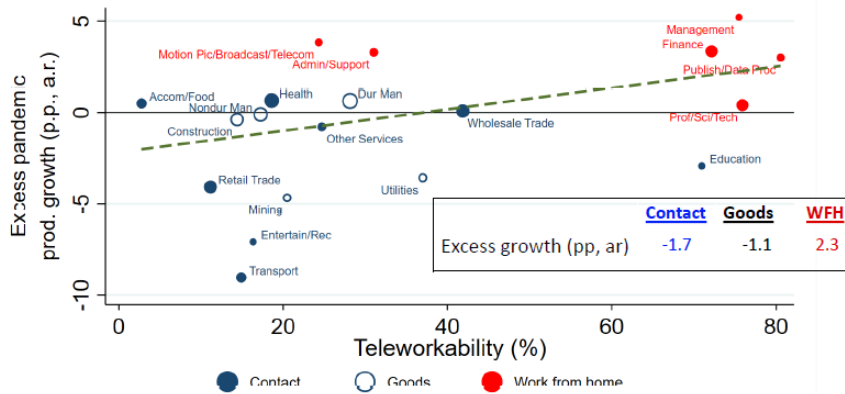


Source: Economics Observatory, <https://www.coronavirusandtheeconomy.com/question/which-firms-and-industries-have-been-most-affected-covid-19>

7

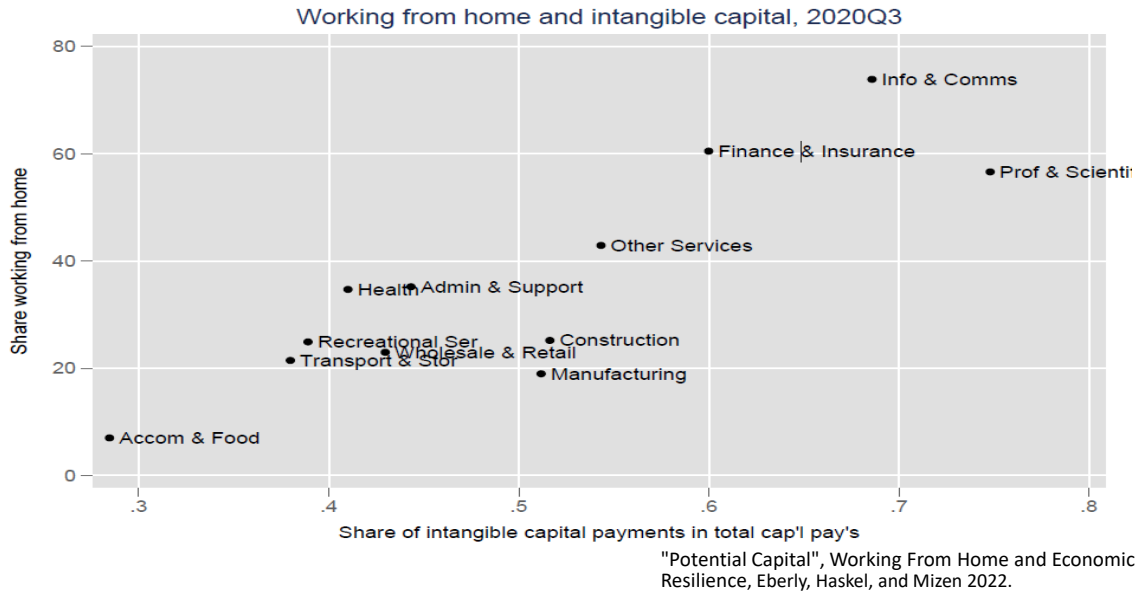
## Work-from-home industries surged, while contact and goods industries did poorly

Excess labor productivity growth, 2019-22 relative to 2006-19

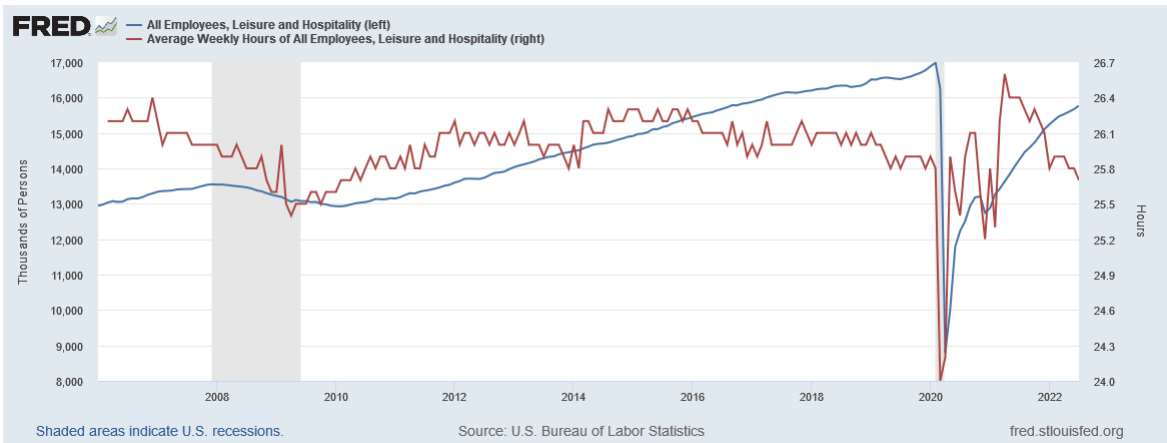


8

Greater working from home is positively associated with firms' intangible capital (ICT, Software, etc.)



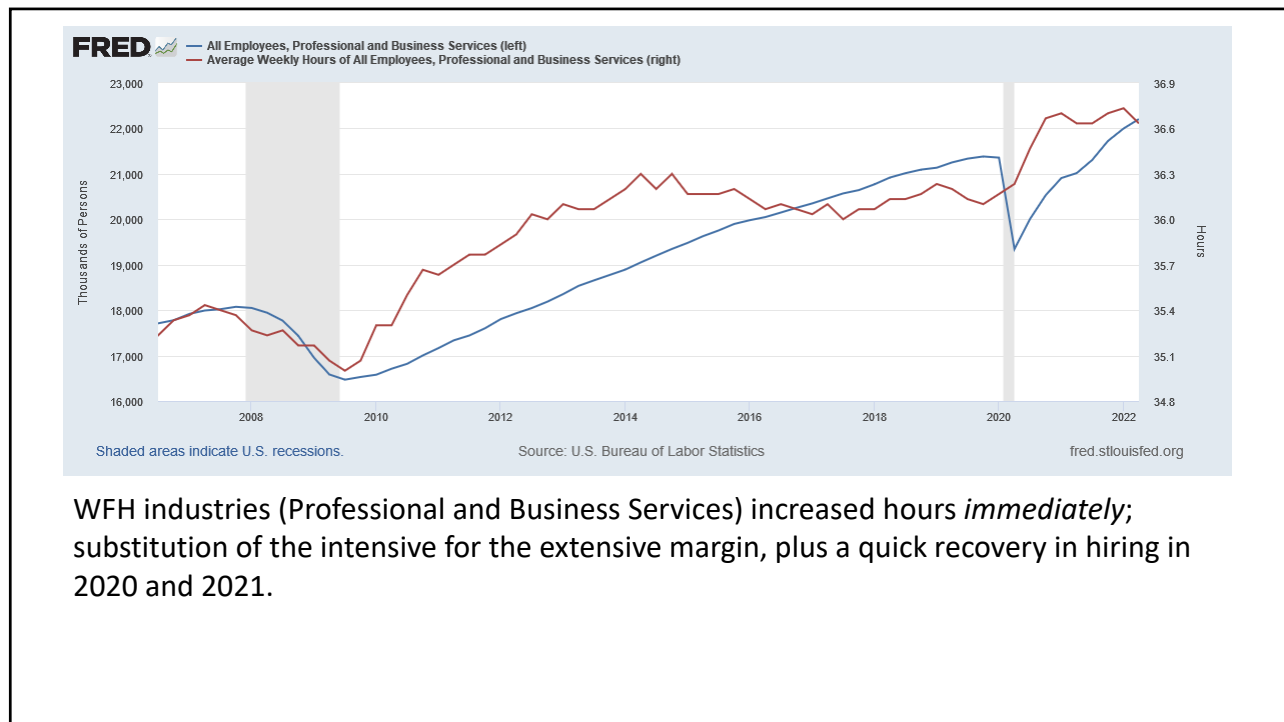
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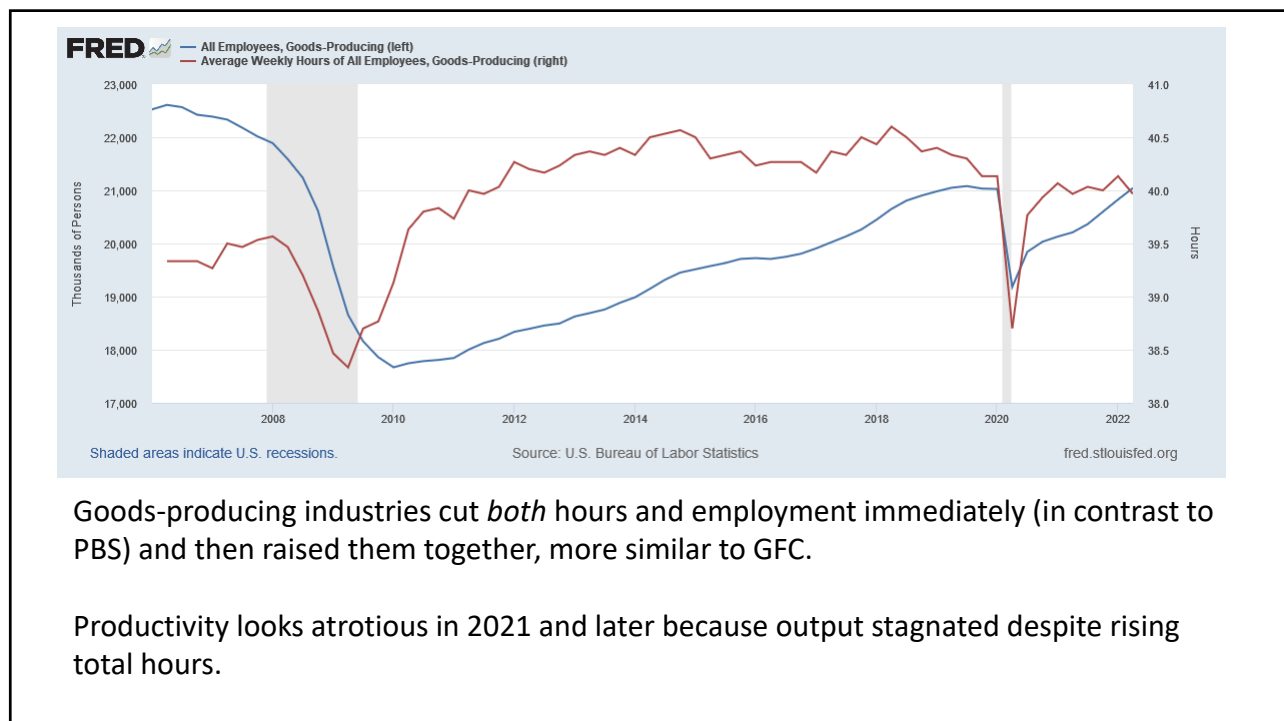
Contact industries (Leisure and hospitality) show contraction in both hours and employment, employment especially slow to recover.

And devastating relative to 2008-09 and the subsequent years.

10



11



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13

### Back to COVID

Industries/ Contacts	WFH	Contact	Goods- producing
Contact customers (demand)	<b>No</b>	<b>Yes</b>	<b>No</b>
Contact fellow workers (supply)	<b>No</b>	<b>Yes</b>	<b>Some</b>
Output drop compared to 2008-09	1.5x output decline, 1Q rapid to recover, then growth	10x+ output decline, slow to recover	2x output decline, 1Q rapid to recover, then stagnate

14

## Future Potential Output

- Evidence of a change in productivity so far is not strong
- Potential output includes both TFP and factor inputs
  - Declining labor supply
  - WFH may increase L productivity, or may reflect characteristics of these workers and the industry
  - Need to better understand and measure services
- WFH capability increases the stock of business capital
  - New technologies that expand capacity change utilization (Uber, Fracking) and prices
- Will WFH further erode match capital – is everyone a gig employee?
- How do we measure “slack” in this world?