



COVID-19 and Extraordinary Changes in the Labor Market

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Question 1: Just how different is this shock than past shocks in the labor market?

Table 1: One Month Change in Employed Part Time for Economic Reasons

(Numbers in thousands data are from March of each year)

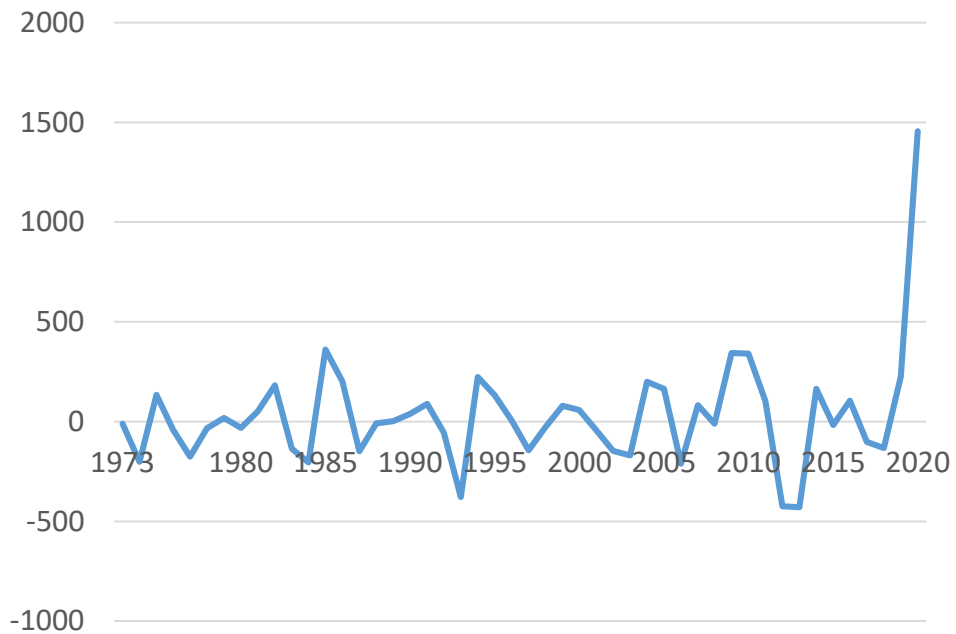


Table 2: Job Losers on Temporary Layoff as a Percent of Total Unemployed

(Just showing data from March of each year)

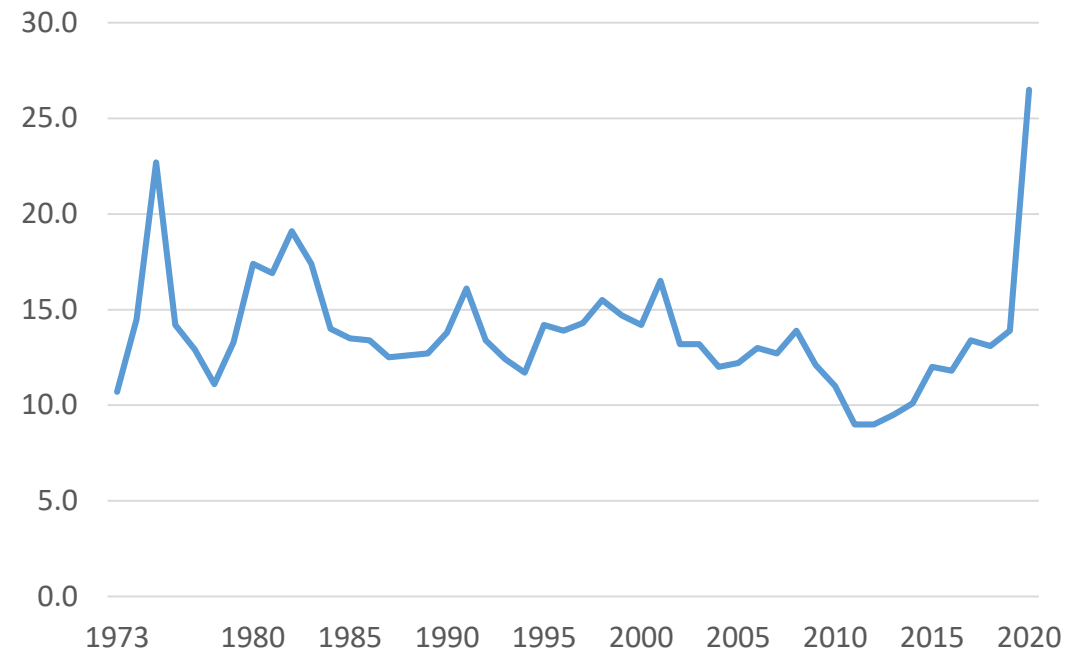
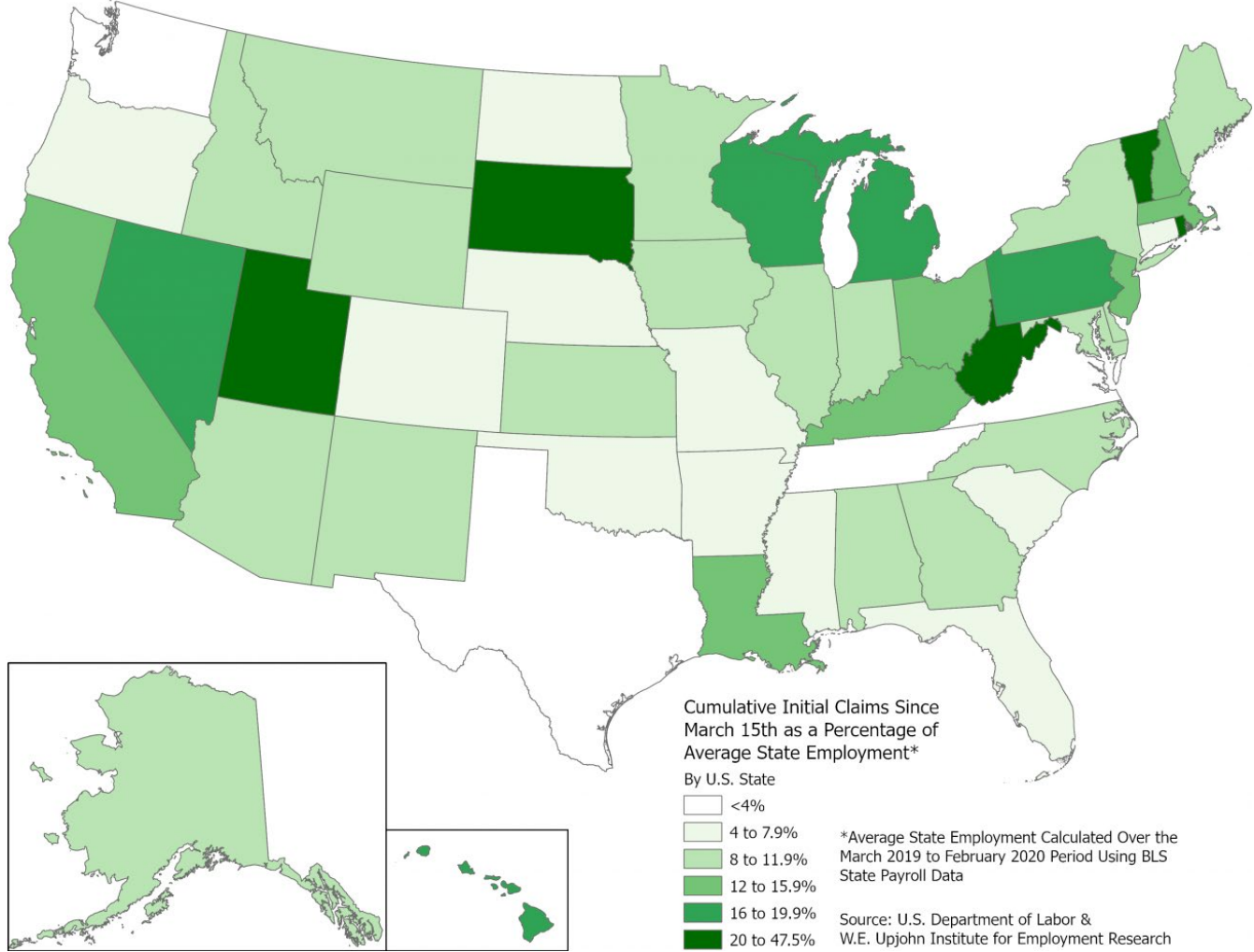


Chart 1: Cumulative Initial UI Claims Since March 15th as a Percentage of Average State Employment



Source: W.E. Upjohn Institute for Employment Research and BLS

Table 3: A Tale of Two States

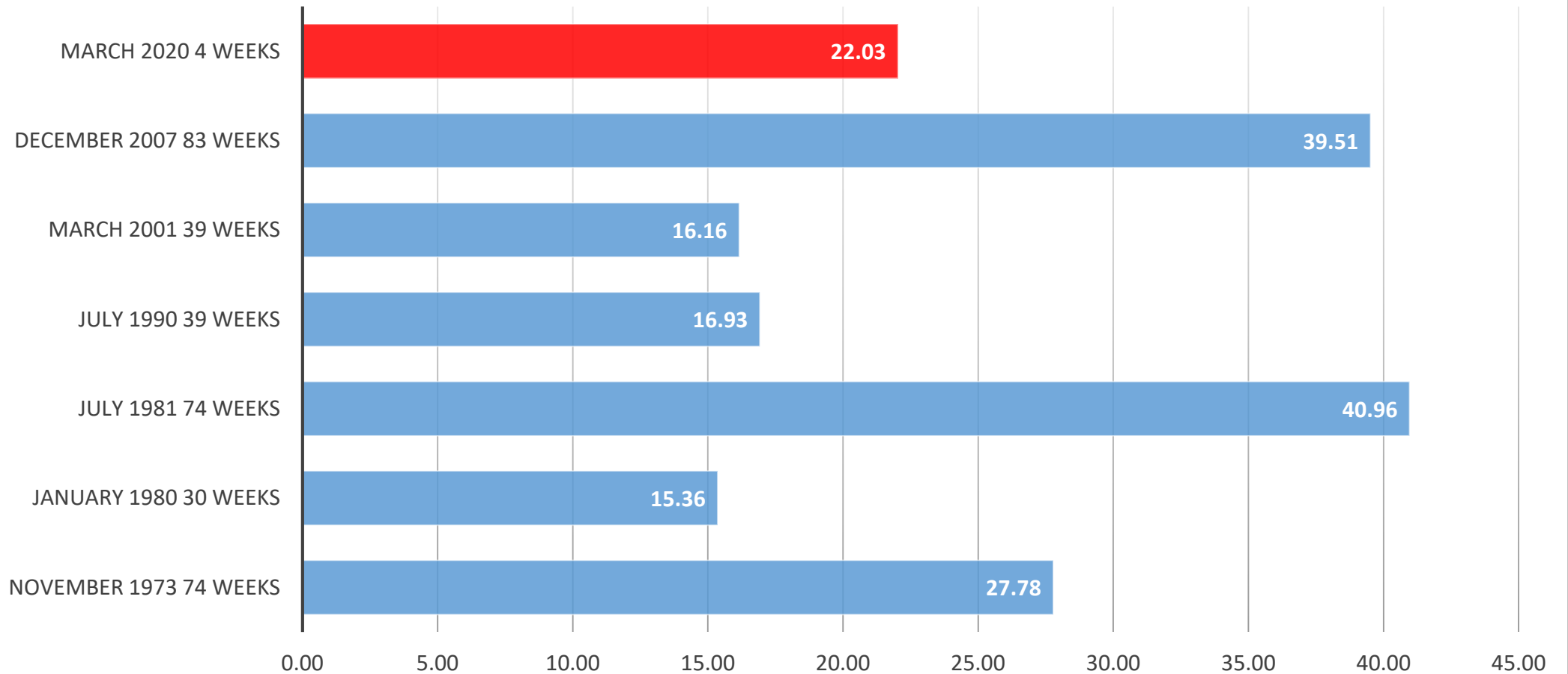
March 15 – April 4 initial claims for unemployment insurance by sector:

	Percent of All Claims Filed	
	<u>Michigan</u>	<u>Massachusetts</u>
Manufacturing	18.4%	4.5%
Transport equipment	7%	
Accommodation and Food Services	14.2%	18.7%
Retail Trade	9.9%	11.8%
Administrative and Support Services (MI)	6.2%	9%
Professional, Technical, Administrative (MA)		
Ambulatory Health Care Services (MI)	5.9%	11.8%
Health Care & Social Assistance (MA)		

Total new UI claims as % of Labor Force (March 15 – April 11)	21.0%	14.9%

Chart 2: Total Weekly New Unemployment Insurance Claims Over Recessions

(in millions with recession start date*)



Source: US Department of Labor, Employment and Training Administration, Office of Unemployment Insurance*March 2020 not officially declared start of recession by NBER

Question 2: How have new federal policies changed the historical linkages between unemployment insurance (UI) claims and the unemployment rate?

- CARES \$600 Federal Pandemic Unemployment Compensation (FPUC) and the distortions and incentives it creates for employers to move workers into part time or furlough through July
- Short-time compensation (STC) or shared-work program
- Expansion of who is eligible to receive UI

Question 3: How does the Nature of this Pandemic Shock Impact the Measurement of BLS survey items of interest?

- Underestimate the Urate because of lower response rates due to suspension of in-person interviews and telephone call centers. The March response rate of 73% is about 10 percentage points lower than preceding months.
- Underestimate the job loss numbers because of lower response rates in the establishment survey – Twenty percent of data is collected from data centers and they are still closed. The response rate was 66%, about 9 percentage points lower than average.

Table 4: Measurement Issue: Employed people with a job but not at work

March 2016-2020, not seasonally adjusted (Numbers in thousands)

March	Total not at work	Vacation	Own illness, injury, or medical problems	Childcare problems	Other family or personal obligations	Labor dispute	Bad weather	Maternity or paternity leave	School or training	Civic or military duty	Other reasons
2016	4,496	1,845	1,020	27	278	8	224	280	90	11	714
2017	5,573	2,827	1,065	41	273	1	195	324	134	13	701
2018	5,612	2,776	1,098	47	321	4	190	338	114	3	721
2019	5,108	2,505	978	32	303	-	163	333	142	2	650
2020	6,439	2,074	1,340	48	257	6	156	325	94	12	2,126

Note: Dash indicates no data.

Question 3: How does the Nature of this Pandemic Shock Impact the Measurement of BLS survey items of interest?

- BLS says they may have under-estimated the unemployment rate by .9 percentage point in March (5.4 versus 4.5 not seasonally adjusted) because of marked increase in the number of people employed but not at work for “other” reason
- But since BLS does not measure telework – will BLS actually over-estimate unemployment? How many people could work remotely for an extended period? New NBER study speculates as much as 32 percent of all U.S. jobs, accounting for 42 percent of overall wages could be done from home. See Ellen’s data on this too.

Question 3: How does the Nature of this Pandemic Shock Impact the Measurement of BLS survey items of interest?

- The treatment of outliers e.g. – in the March report BLS did an outlier correction to the seasonal adjustment for the temporary layoff series that had a substantive effect on March 2020 estimates. This is something we should know more about.
- Low response rates in CPI, PPI and U.S. Import and Export Price Indexes see data <https://www.bls.gov/bls/effects-of-covid-19-pandemic-on-bls-price-indexes.htm>

In Sum: Labor market transformation in Phase 1 of COVID19 pandemic

Unprecedented halting of work including massive layoffs along with increased short-time

- Occupations initially impacted – those with high face-to-face interactions
- Sectors initially impacted – food and accommodation and tourism

Stay in place orders and rising concern results in rapid negative demand shock with job loss extending more broadly across the economy

Ameliorating factor -- Telework increased dramatically, but how long can this last?

Digital Divide only magnified during this crisis

Disparities in health result in further disparities in labor market outcomes

SPECULATION: Labor Market Summer –Fall

We re-open but de-densify

Sectors that will continue to be negatively impacted:

K-12 Schools – gaps in resources, disruptions generating a permanent loss of human capital?

Residential Colleges and Universities, worse for those with large % of international students

Performing Arts/Entertainment

Hotels

Sports arenas and convention venues

Airlines, cruise ships, trains, buses, subway

Tourism

Restaurants

Personal Care

Self-employed

Sectors that were impacted initially but with more PPE, testing, and de-densifying might recover faster depending on the consumer:

Retail – big players win, small stores struggle

Food processing

Health Sector - especially Ambulatory care

Manufacturing

Construction

Government

What does this mean for economic recovery? Epidemiological Models and Clinical Trials Hold the Key

- 1.) to get back to “normal” we need testing and efficacious treatment – if antivirals are shown to work (reduce morbidity by 20% or more) then we can open up more; if not we will experience waves of opening and closing for the next 18 months
- 2.) problems with current COVID-19 testing – likely high false negative when virus has moved to lungs (nasal swabs no longer as likely to work at identifying presence of virus) – therefore need rapid and massive early testing
- 3.) testing for antibodies – Europe is looking at using such test for certificates for work – problems include quality standards of testing , disparities in access to such testing, and incentives for abuse and fraud

Additional Background Material

Current approaches and timelines to identifying COVID-19 treatments

- **Antivirals**- prevent replication of the virus genome. Examples include but not limited to:
 - **Remdesivir**- clinical trial conducted by Gilead concluding in **May**.
 - **Favipiravir**- Approved for treatment in China, clinical trials beginning at Harvard and UMass affiliated hospitals likely concluding in **July**.
 - **Chloroquine/Hydroxychloroquine**- Anti-malarial drug with antiviral effects. Emergency use authorization in the US but trial results so far are conflicting, efficacy is unclear. Multi-center trials underway in the US set to conclude in **July**.
- **Blocking viral entry**- prevent the virus from entering and infecting cells
 - **ACE inhibitors**- Retrospective studies show some evidence of this, randomized trials concluding in **March-December**.
 - **TMPRSS2 inhibitors**- Clinical trials currently recruiting and expected to conclude in **December**.
- **Activating the immune system against an infection**- use the immune response from recovered patients to help infected patients' immune systems recognize and destroy the virus
 - **Convalescent plasma**- This treatment is not scalable unless we begin widely testing the population for coronavirus antibodies in order to identify donors. Large scale trials concluding in **May-December**.
 - **Monoclonal antibodies**- This approach is more scalable once safety assessed. Trials are still **4-5 months away** from starting.
 - **Vaccine**- **12 to 18 months** away

Antivirals: prevent replication of the virus genome

Remdesivir: early signs of potential efficacy in article published in the New England Journal of Medicine (<https://www.nejm.org/doi/full/10.1056/NEJMoa2007016>), clinical trial conducted by Gilead concluding in May (<https://clinicaltrials.gov/ct2/show/results/NCT04292730>).

Favipiravir: Approved for treatment in China (<https://clinicaltrials.gov/ct2/show/NCT04310228>), unpublished trials from China and Japan found efficacy if used earlier in the course of the disease. Clinical trials beginning in Massachusetts at Harvard and UMass affiliated hospitals likely concluding in June/July. <https://www.wbur.org/commonhealth/2020/04/09/coronavirus-antiviral-treatment-trial-fujifilm-avigan> and <https://www.uptodate.com/contents/favipiravir-united-states-not-commercially-available-refer-to-prescribing-and-access-restrictions-drug-information>

Chloroquine/Hydroxychloroquine: anti-malarial drug with antiviral effects. Emergency Use Authorization in the US but clinical trial results so far are conflicting (Here are two studies that conflict with one another: <https://www.medrxiv.org/content/10.1101/2020.03.19.20038984v1> and <https://www.medrxiv.org/content/10.1101/2020.03.22.20040758v2>) and efficacy is unclear. Multi-center trials underway in the US set to conclude in July. <https://clinicaltrials.gov/ct2/show/results/NCT04332991>

Blocking viral entry- prevent the virus from entering and infecting cells

ACE inhibitors- SARS-CoV-2 enters cells by binding ACE2 and treatment with medications such as ACE inhibitors may affect the severity of infection. Retrospective studies show some evidence of this (<https://www.ncbi.nlm.nih.gov/pubmed/32228222>), randomized trials concluding in March-December (<https://clinicaltrials.gov/ct2/show/study/NCT04330300>, <https://clinicaltrials.gov/ct2/show/NCT04338009>). A good summary of the controversy: <https://jamanetwork.com/journals/jama/fullarticle/2763803>

TMPRSS2 inhibitors- TMPRSS2 activates SARS-CoV-2 and a clinically approved inhibitor already exists. (Paper on the molecular rationale of these drugs: [https://www.cell.com/cell/fulltext/S0092-8674\(20\)30229-4?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0092867420302294%3Fshowall%3Dtrue](https://www.cell.com/cell/fulltext/S0092-8674(20)30229-4?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0092867420302294%3Fshowall%3Dtrue) An article on the more clinical side: <https://www.sciencemag.org/news/2020/04/these-drugs-don-t-target-coronavirus-they-target-us>) Clinical trials currently recruiting and expected to conclude in December. <https://clinicaltrials.gov/ct2/show/results/NCT04321096> and <https://www.clinicaltrials.gov/ct2/show/results/NCT04338906> (Denmark and Germany)

Activating the immune system against an infection- use the immune response from recovered patients to help infected patients' immune systems recognize and destroy the virus

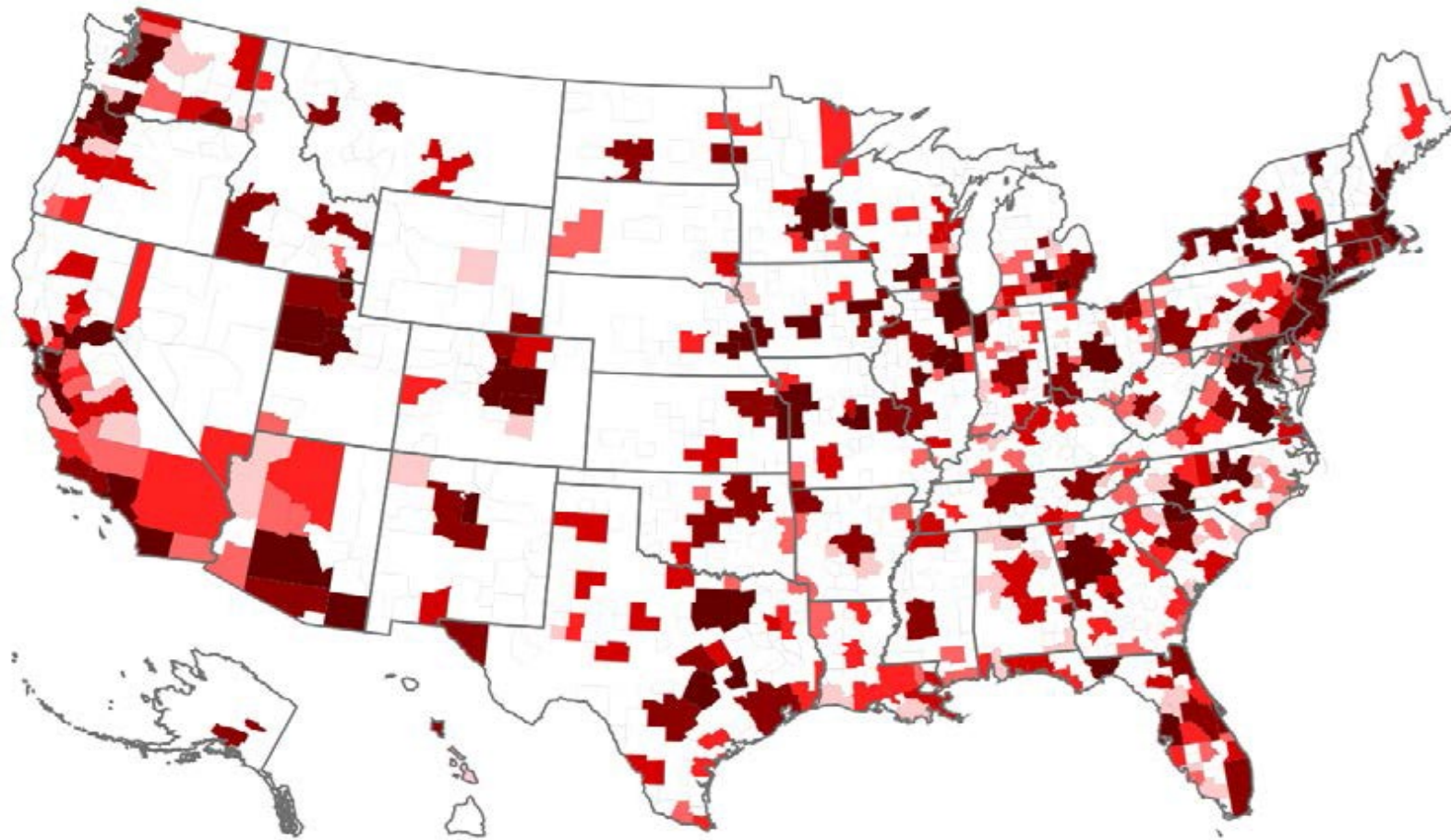
Convalescent plasma- infuse donated plasma from recovered patients into sick patients. This approach has been used in many other viral infections and early trials have been very promising. However this treatment is not scalable unless we begin widely testing the population for coronavirus antibodies in order to identify donors. <https://www.pnas.org/content/early/2020/04/02/2004168117> and <https://jamanetwork.com/journals/jama/fullarticle/2763983> and [https://www.thelancet.com/article/S1473-3099\(20\)30141-9/fulltext](https://www.thelancet.com/article/S1473-3099(20)30141-9/fulltext) Large scale trials concluding in May-December. <https://clinicaltrials.gov/ct2/show/results/NCT04340050> and <https://clinicaltrials.gov/ct2/show/study/NCT04321421>

Monoclonal antibodies- Essentially mass produce the most specific antibodies found in convalescent plasma and infuse patients with them. This approach is more scalable once safety assessed. Trials are still 4-5 months away from starting.

Here's a good article on drug repurposing in response to COVID <https://www.nature.com/articles/d41587-020-00003-1>

Share of Jobs That Can be Done From Home

Dingel & Neiman, NBER wp, April 2020



Share of jobs that can be done from home, by industry

	Unweighted	Weighted by wage	Share of LF
<i>Top five</i>			
Educational Services	0.83	0.71	3%
Professional, Scientific, and Technical Services	0.80	0.86	6%
Management of Companies and Enterprises	0.79	0.86	1.6%
Finance and Insurance	0.76	0.85	4%
Information	0.72	0.80	2%
<i>Bottom five</i>			
Transportation and Warehousing	0.19	0.25	4%
Construction	0.19	0.22	5%
Retail Trade	0.14	0.22	10.2%
Agriculture, Forestry, Fishing and Hunting	0.08	0.13	1.5%
Accommodation and Food Services	0.04	0.07	9%

Reference: HOW MANY JOBS CAN BE DONE AT HOME? By Jonathan I. Dingel and Brent Neiman, NBER Working Paper 26948, <http://www.nber.org/papers/w26948>, April 2020 plus BLS data on employment shares (my rough calculation)

INTERNATIONAL STUDENTS BY INSTITUTIONAL TYPE 2018/19

<u>Institutional Type</u>	<u>2018/19</u>
Doctoral Universities	791,777
Master's Colleges & Universities	147,090
Baccalaureate Colleges	35,614
Associate's Colleges	86,351
Special Focus Institutions (e.g Arts, Music, Design, Medical)	34,467
ALL INSTITUTIONS	1,095,299

*Based on the 2018 Carnegie Classification of Institutions of Higher Education.