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Proximity & Unemployment During COVID-19

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Research question: The Impact of Proximity at work on the probability of unemployment during Covid-19 pandemic in the Finance Industry

Review of the literature:

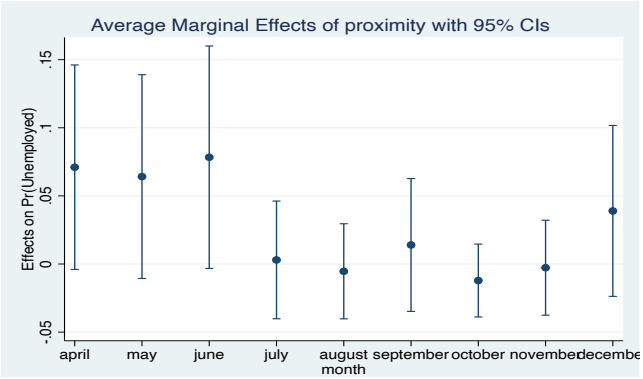
- Dingel and Neiman (2020): Constructs a "work-from-home" occupational measure using O*NET surveys and combines it with BLS data on the prevalence of each occupation in the US as well as in specific metropolitan areas and industries. Then merges the information with occupational employment data for other countries using the ILO and finds a positive relationship between the share of jobs that could be performed from home and the level of economic development for a country.

- Mongey and Weinberg (2020): Combines Dingel and Neiman's work with a measure of low physical proximity in the workplace and compares characteristics of workers in high- and low-proximity occupations. Results show that workers that score low in terms of the work-from-home metric or a high score in the measure of physical proximity are more likely to be impacted by social distancing policies are workers that are considered more economically vulnerable.

- Dey, Frazis, Loewestein, and Sun, (2020): Looks at the relationship between the ability to work at home (O*NET) and the actual incidence of working at home (ATUS & NLSY79). Builds off Dingel and Neiman's and Mongey and Weinberg's work to analyze take-up rates.

$$Pr(Y=1) = \Phi\ (\alpha_t\ Month_t + \beta_1\ Proximity + \gamma_t\ Proximity*Month_t + \delta\ X + \varepsilon)$$

In the model, Y is unemployed (1) or employed (0) during the months of April through December of 2020. X is a set of explanatory variables such as age, gender, race, marital status, etc. α is the estimate for month at time t, β is the estimate for proximity at time t, and γ is the estimate for the interaction of proximity and month at time t. Φ is the standard normal cumulative distribution and ε is the error term.



Marginal effects of proximity, April through December 2020

Notable Results:

- From the probit model results, there is a positive relationship between proximity and unemployment for April, May, and June. There is no relationship between the other months and proximity.
- From the marginal effects results shown, we can see that if a worker is moved from an occupation where they do not have proximity to an occupation where they do have proximity, the probability of that worker being unemployed for the months of April, May, and June increases by 7, 6, and 8 percentage points, respectively.

Proximity at month	dy/dx	P > |z|
1 (April)	0.0711	0.063*
2 (May)	0.0642	0.093*
3 (June)	0.0784	0.060*
4 (July)	0.003	0.891
5 (August)	-0.0053	0.764
6 (September)	0.0139	0.574
7 (October)	-0.0121	0.374
8 (November)	-0.0027	0.879
9 (December)	0.0389	0.223

*** p < 0.01, ** p < 0.05, * p < 0.1

CONCLUSSIONS AND POLICY IMPLICATIONS

- We can see that proximity and unemployment had a positive relationship during the first beginning months of the Covid-19 pandemic in the Finance Industry.
- There was no relationship between proximity and unemployment in the remaining months studied.
- Unemployment is shown to have increased by 7, 6, and 8 percentage points during April, May, and June as a worker moves from an occupation without proximity to other clients or coworker to an occupation with proximity to others.
- An explanation for this finding is that quarantine restrictions were slowly being lifted by mid-summer and people were not as panicked about the virus as they had been earlier in the pandemic.