Temporary Unemployment and Labor Market Dynamics During the COVID-19 Recession

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Motivation

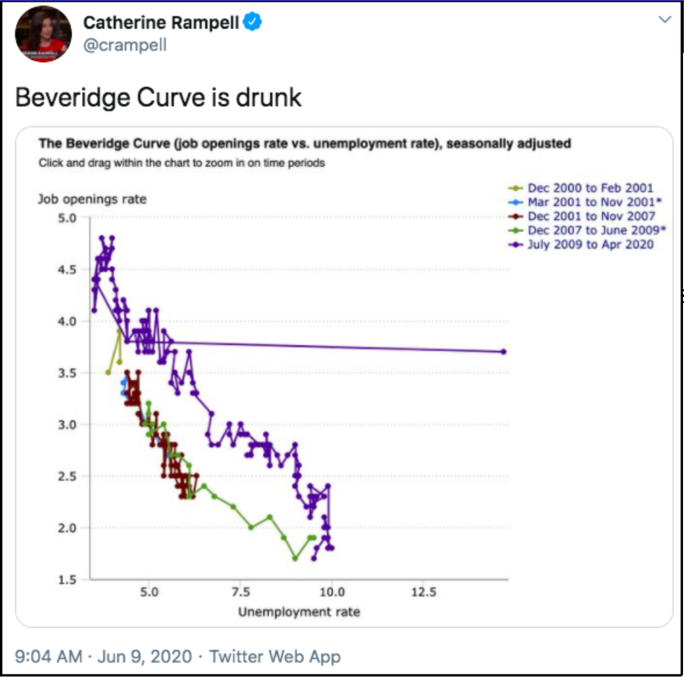
The COVID-19 recession is a **very unusual recession:**

- Record-shattering UI claims, extremely rapid increase in the unemployment rate (**u**)
- Increase in **u** much larger than corresponding drop in job vacancies - “breaking” the Beveridge curve

Motivation

The COVID-19

- Record-sha
  unemploy
- Increase in ... s -
  "breaking"



Motivation

The COVID-19 recession is a **very unusual recession:**

- Record-shattering UI claims, extremely rapid increase in the unemployment rate (**u**)
- Increase in **u** much larger than corresponding drop in job vacancies - "breaking" the Beveridge curve
- Typically, recessions begin with large increase in separations followed by low job finding rates, but job finding rates have remained relatively high during the COVID-19 recession

This paper focuses on one specific way the COVID-19 recession stands out: the **sharp increase in temporary unemployment**

Outline

- Related literature
- Data
- Motivating figures
- Search-and-matching model
- Calibration results
- Conclusion

Related literature

- BPEA papers on dynamics of recessions: **Elsby, Hobjin, Sahin (2010 BPEA)** and Elsby et al. (2011 BPEA)
- Calibrated search-and-matching models: **Kroft et al. (2016), Krueger, Cramer, Cho (2014 BPEA)**, Kroft et al. (2019)

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- Temporary unemployment: Katz (1986), Katz and Meyer (1990), Fujita and Moscarini (2017), Nekoei and Weber (2015), **Forsythe et al. (2020a,b)**, Hall and Kudlyak (2020)

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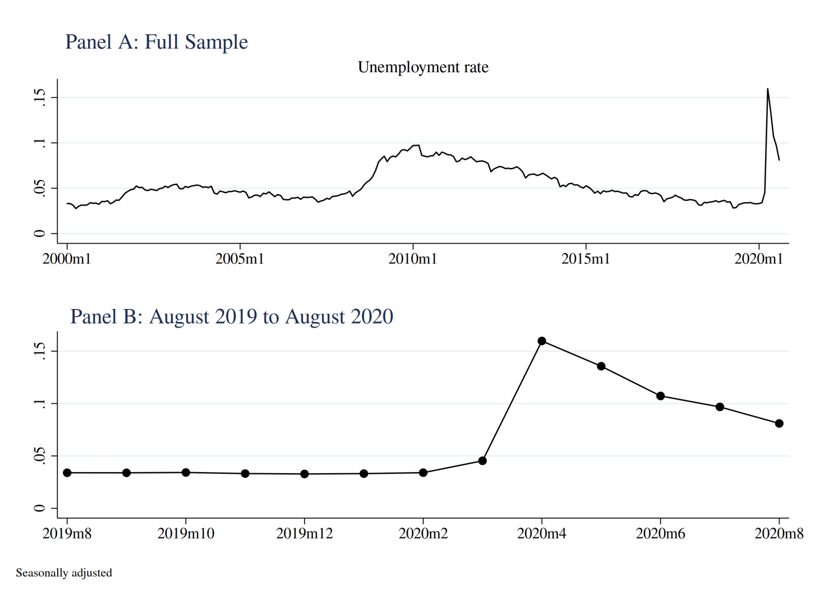
- COVID-19 labor market dynamics papers: Chodorow-Reich and Coglianese (2020), Gregory, Menzio, Wiczer (2020), Bick and Blandin (2020)
- Additional COVID-19 papers: Bartik et al. (2020a,b), Goolsbee and Syverson (2020), Barrero et al. (2020)

- Monthly Current Population Survey **(CPS)** data between January 2001 - August 2020, using both cross-sectional and matched panel
  - Measure "stocks" each month of labor market states: employed (E), temporary unemployment (T), permanent unemployed (P), and non-participation (N)
  - Temporary unemployed classified as either "waiting" (T^W) or "actively searching" (T^A)
  - Drawing on Forsythe et al. (2020a,b), BLS guidance, and our analysis, we define stock of T^W to include employed workers who are "absent for other reasons" and unpaid
  - Estimate month-to-month transition rates in a way that imposes consistency across measured stocks each month following Kroft et al. (2016)
- Job vacancies measured using **JOLTS**

Motivating figures: Unemployment rate (u)



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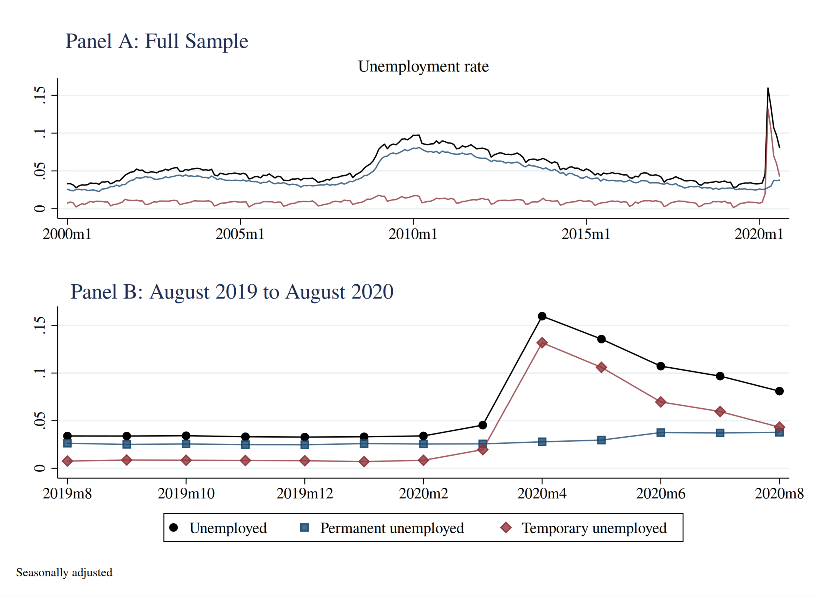
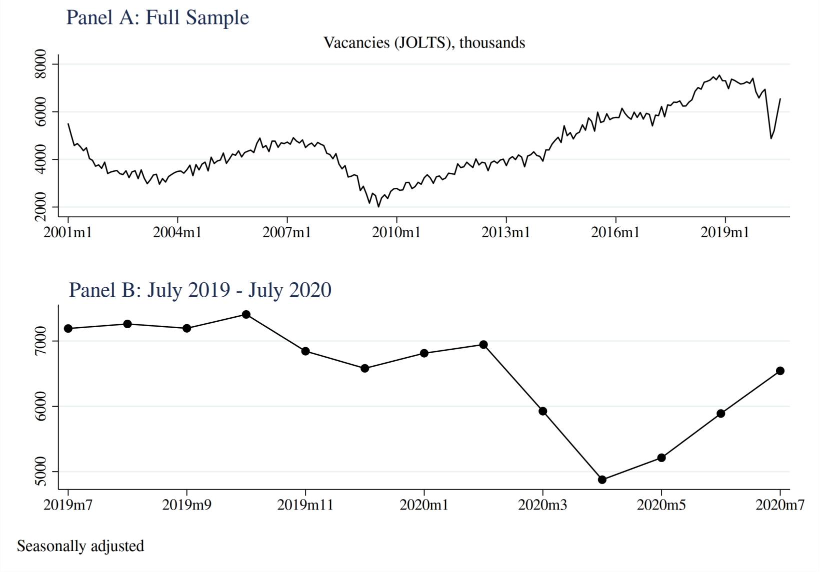


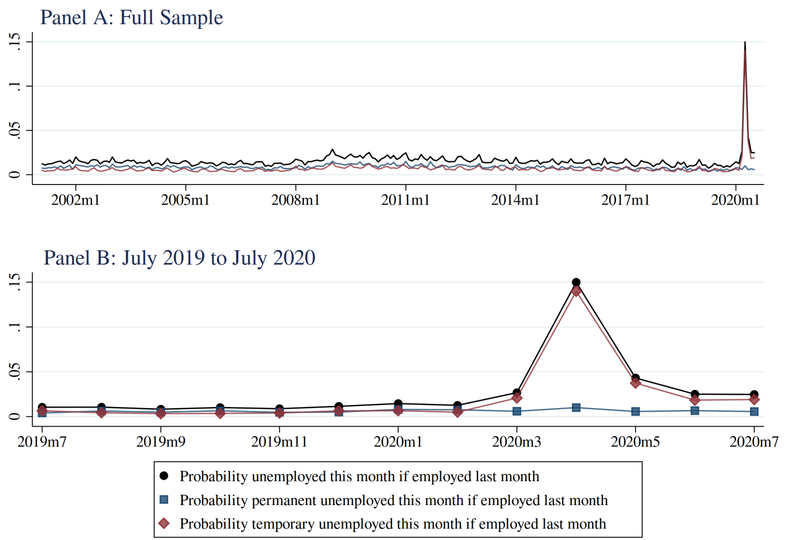
Updated

Job vacancies (V)



Updated

Job separation rates E-to-U



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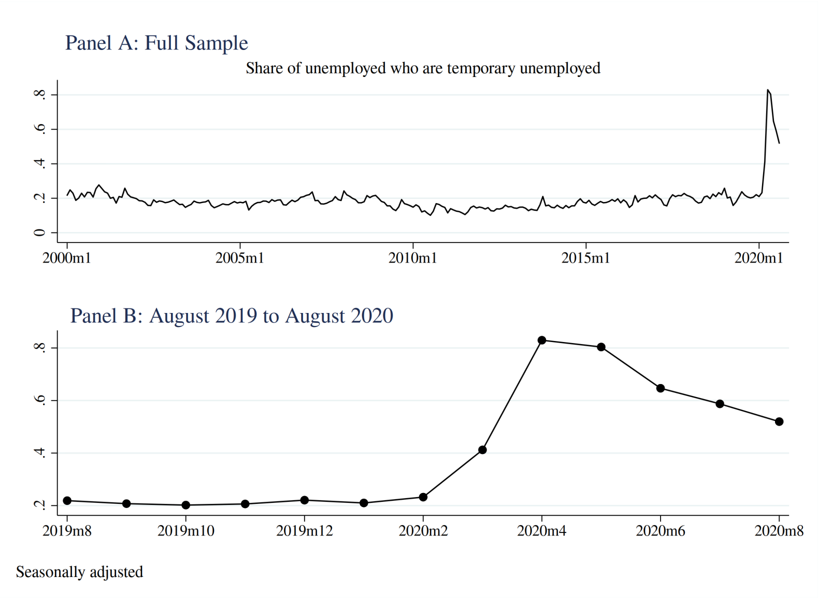
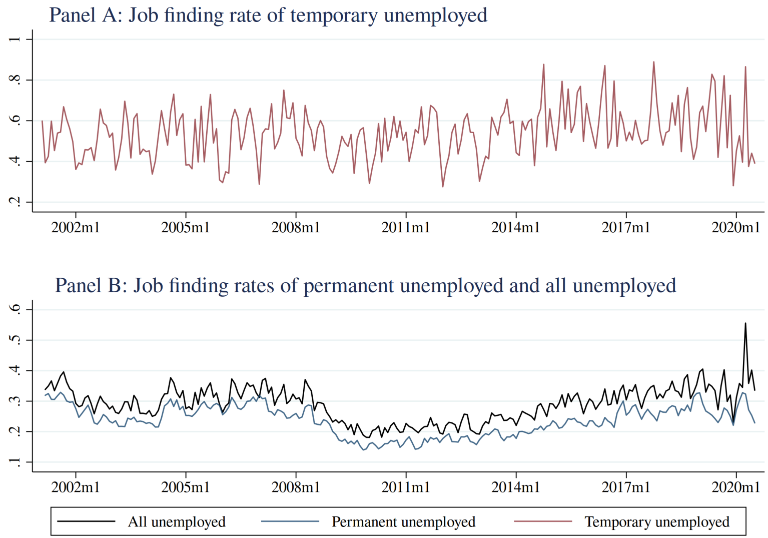
Temporary unemployed share, $T/(P+T)$



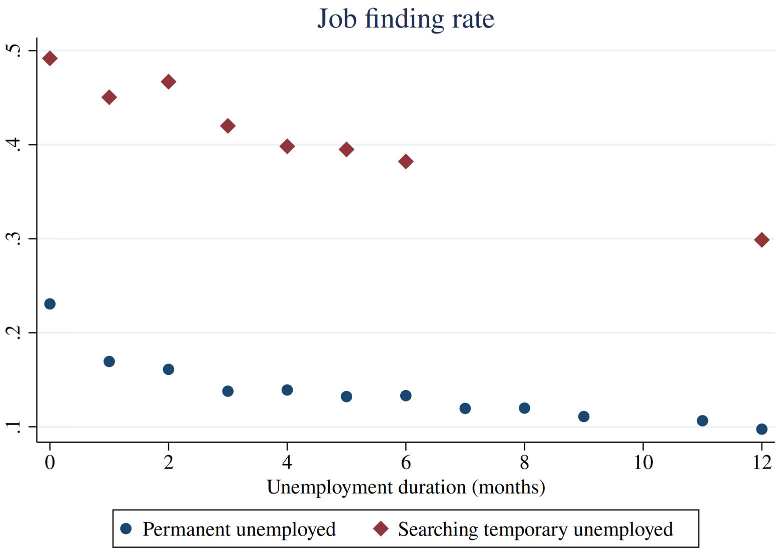
Updated

Job finding rates / re-employment rates



Updated

Negative duration dependence for T and P



Search-and-matching model

- Main endogenous objects: job finding rates for $P(d)$, $T(d)$, N
- Exogenous ("forcing") variables: job separation rates, transition rates between non-employment categories, recall rates for T^W
- Job finding rate (JFR) determined by matching model:
  $\frac{M(S_t, V_t)}{S_t} = m_0 x_t^{1-\alpha}$, where $x_t = \frac{V_t}{S_t}$
- For $P(d)$, JFR is:
  $\lambda_t^{P(d)\to E} = Prob(E_t | P_{t-1}(d)) = A(d) m_0 x_t^{1-\alpha}$
- For N, JFR is:
  $\lambda_t^{N \to E} = Prob(E_t | N_{t-1}) = s m_0 x_t^{1-\alpha}$

Job finding rates for T^W and T^A

- Job finding rate for $T^A(d)$ is:

$$\boxed{\lambda_t^{T^A(d)\to E} = \pi\lambda_t^{T^W\to E} + (1 - \pi\lambda_t^{T^W\to E})\lambda_T^{P(d)\to E}}$$

- Total search effort given by:

$$\boxed{S_t = \bar{P}_t + (1 - \pi\lambda_t^{T^W\to E})\bar{T}_t^A + sN_t}$$

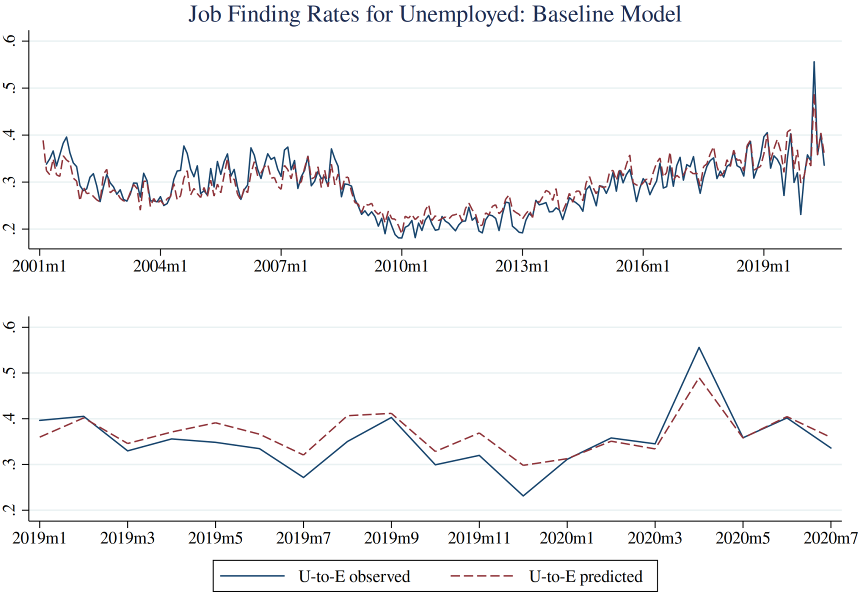
$$\bar{P}_t = \sum_{d=1}^{D} A(d)P_t(d)$$

$$\bar{T}_t^A = \sum_{d=1}^{D} A(d)T_t^A(d)$$

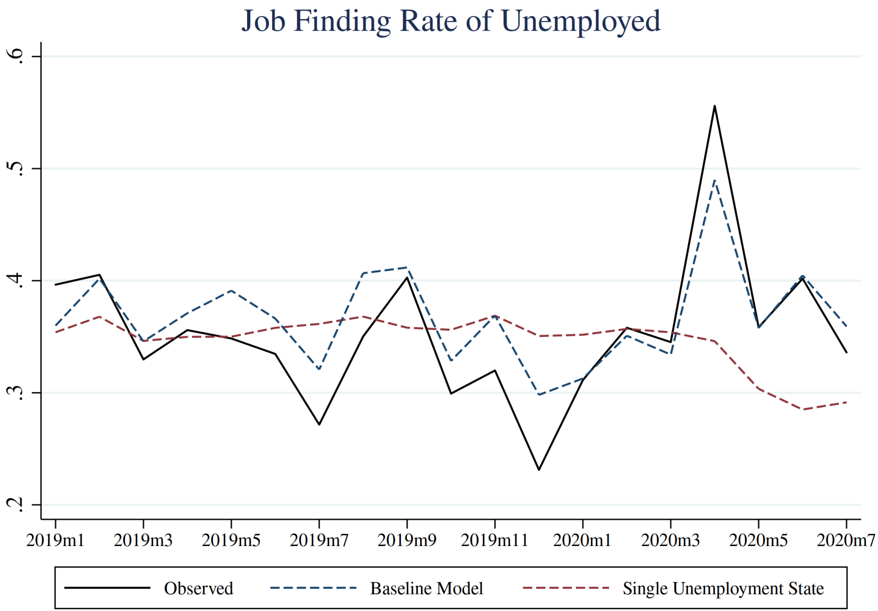
Calibration

1. Estimate stocks and transition rates using CPS data
2. Estimate duration dependence function $A(d)$ using 2001-2019 data; assumed to be stable over time and the same for $T^A(d)$ and $P(d)$
3. Estimate remaining model parameters using minimum distance on 2001-2019 data
4. In both (2) and (3) find very similar estimates to Kroft et al. (2016), which used only pre-2008 data. Suggests that the matching model parameters and duration dependence parameters are fairly stable over time

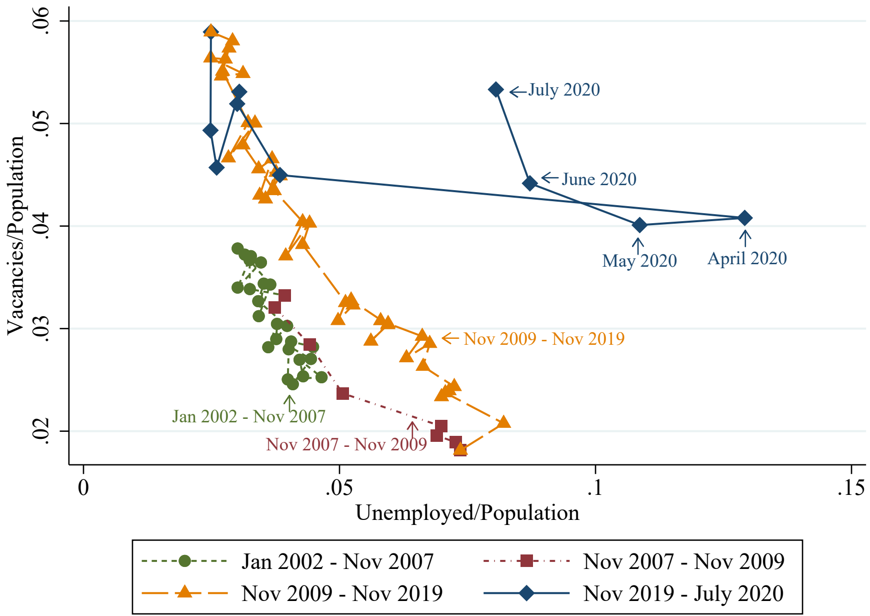
Job finding rates in-sample and out-of-sample



Comparing to model without temporary unemployment



Beveridge curve



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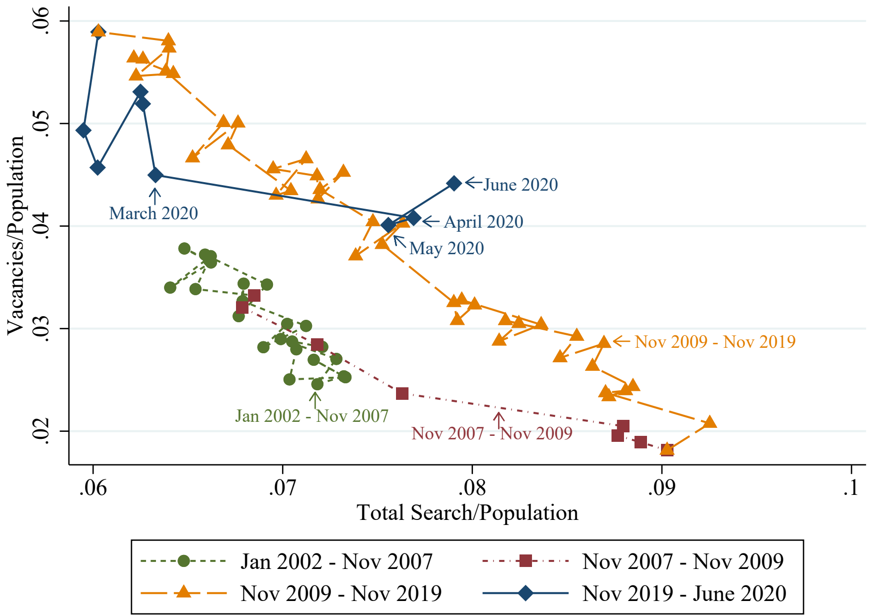
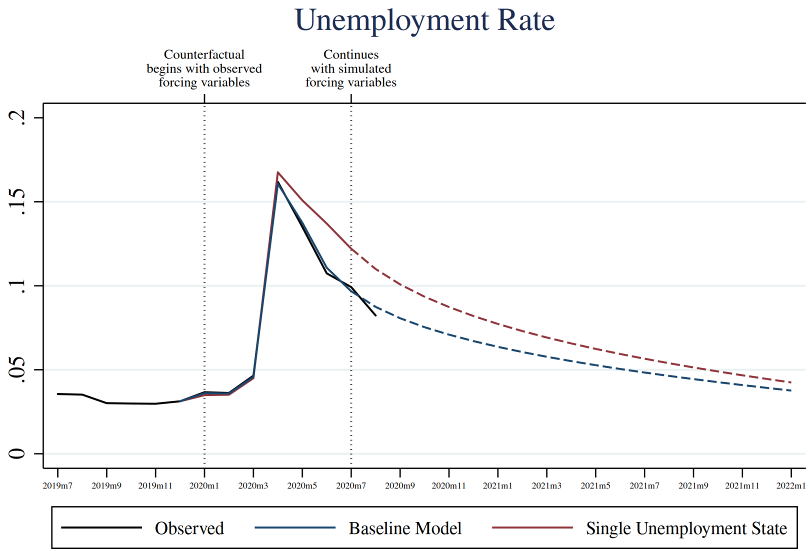


Baseline vs. model without temporary unemployment



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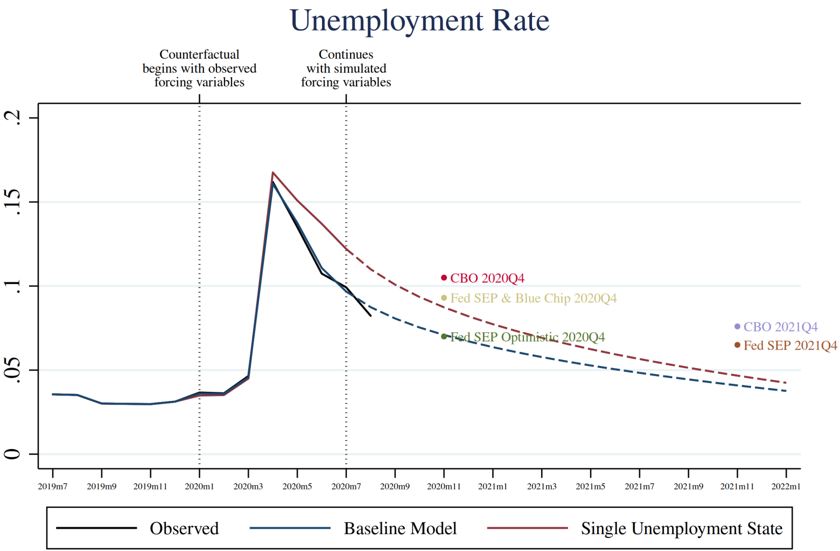


Summary of calibration results

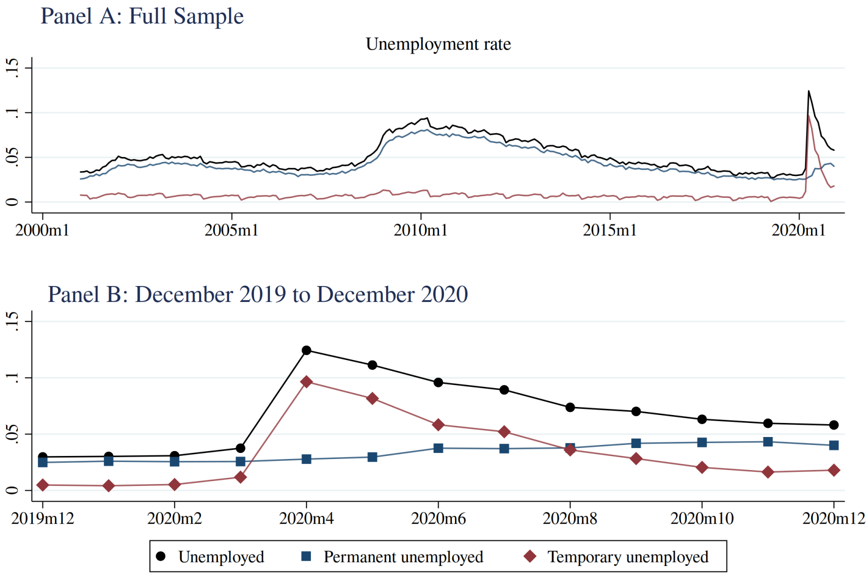
- We find that u declines more rapidly compared to a model without T/P distinction & compared to forecasts
- To match earlier professional forecasts, need a "U-turn" in trends in job separations, or substantial reductions in vacancies and the recall rate for T
- Results consistent with small share of workers reporting that "jobs are hard to get" $\implies$ jobs may not have been "scarce" for the unemployed workers actively searching for a job

Conclusions

- The COVID-19 recession is unusual: job finding rates usually fall during recessions following a rapid inflow into unemployment (Elsby et al. 2010) but job finding rates remained relatively high

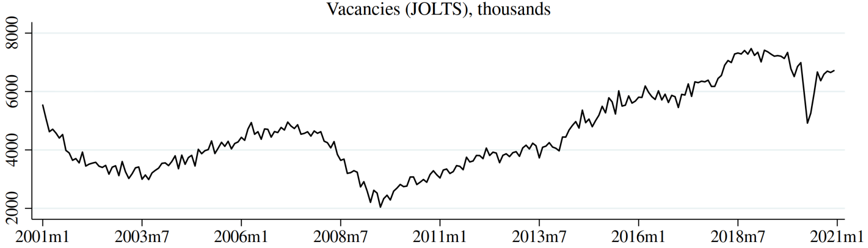
  Our model indicates temporary unemployment is an explanation

- Calibrated model suggests focusing somewhat less on the "headline" unemployment rate as a measure of labor market slack - instead, more useful to look at composition of unemployed, alongside vacancies and job separations

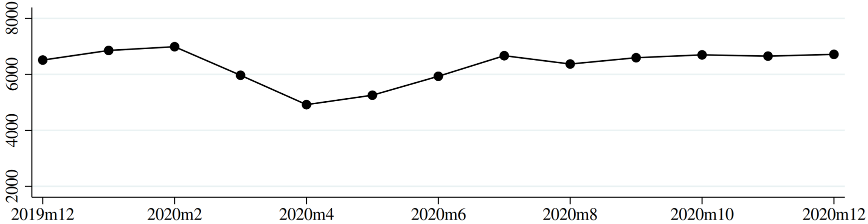


Seasonally adjusted

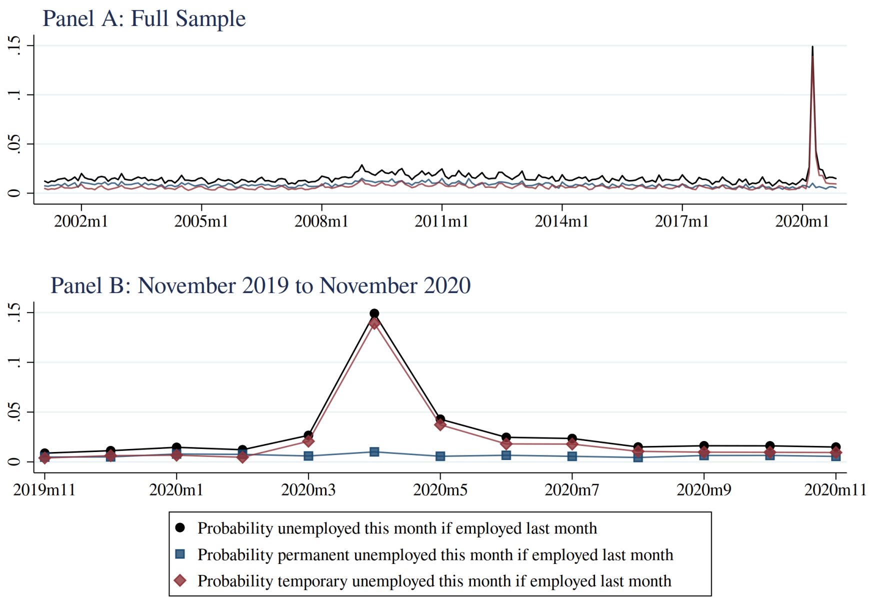
Panel A: Full Sample



Panel B: December 2019 to December 2020



Seasonally adjusted, in thousands

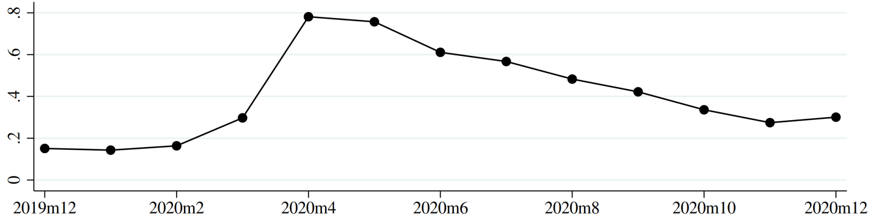


Panel A: Full Sample
0
.05
.1
.15
2002m1
2005m1
2008m1
2011m1
2014m1
2017m1
2020m1
Panel B: November 2019 to November 2020
0
.05
.1
.15
2019m11
2020m1
2020m3
2020m5
2020m7
2020m9
2020m11
Probability unemployed this month if employed last month
Probability permanent unemployed this month if employed last month
Probability temporary unemployed this month if employed last month

Back

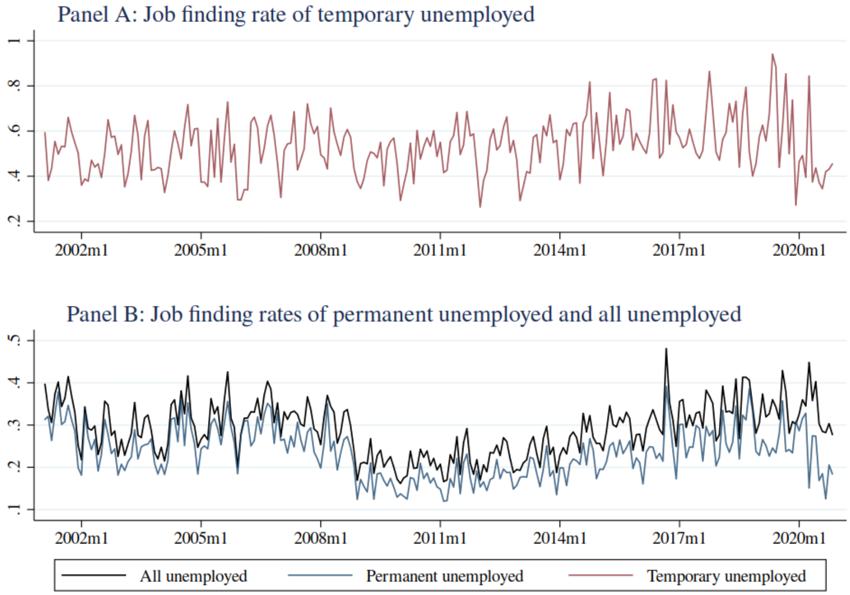
Panel A: Full Sample

Panel B: December 2019 to December 2020



Seasonally adjusted

Back



Panel A: Job finding rate of temporary unemployed
.2
.4
.6
.8
1
2002m1
2005m1
2008m1
2011m1
2014m1
2017m1
2020m1
Panel B: Job finding rates of permanent unemployed and all unemployed
.1
.2
.3
.4
.5
2002m1
2005m1
2008m1
2011m1
2014m1
2017m1
2020m1
All unemployed
Permanent unemployed
Temporary unemployed

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	Mar-19 to Feb-20 average	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20
Vacancies	7,108	5,857	5,305	5,222	5,843	7,036	6,491	6,639	7,053	6,320
E to N	0.023	0.018	0.053	0.041	0.024	0.023	0.029	0.029	0.016	0.020
E to T	0.005	0.021	0.140	0.037	0.018	0.018	0.011	0.010	0.010	0.009
E to P	0.006	0.006	0.010	0.006	0.007	0.006	0.004	0.007	0.007	0.005
T to P	0.112	0.374	0.147	0.034	0.050	0.037	0.093	0.135	0.124	0.113
T to N	0.181	0.536	0.568	0.144	0.128	0.122	0.130	0.202	0.183	0.212
P to N	0.403	0.374	0.642	0.420	0.323	0.234	0.433	0.216	0.241	0.214
P to T	0.017	0.029	0.088	0.051	0.119	0.124	0.057	0.128	0.056	0.031
N to P	0.055	0.049	0.047	0.048	0.074	0.052	0.073	0.043	0.051	0.048
N to T	0.004	0.009	0.032	0.058	0.046	0.037	0.023	0.035	0.012	0.015
Share of T searching	0.181	0.177	0.114	0.161	0.233	0.271	0.326	0.401	0.421	0.399
Job finding rate of T^W	0.642	0.457	0.800	0.373	0.448	0.397	0.367	0.448	0.444	0.551

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