

# **Monetary Policy and the Online Labor Market**

Suyu Liu

December 4, 2025

# Research Question & Project Positioning

---

## Research Question

- How do U.S. monetary policy shocks affect online labor **demand** and **supply**?

## Why monetary policy shocks?

- High-frequency monetary policy “surprises” around FOMC meetings (e.g. BRW) are plausibly exogenous.
- Direct, fast transmission to firms’ costs and hiring decisions.

## Why the Online Labor?

- Captures **digital, flexible, short-term** work (gig-style contracts).
- We know much about monetary policy → unemployment/employment, but little about monetary policy → digital/gig hiring.
- Online labor market may reveal how “flexible work” participates in macro adjustment.

# Methodology: Data & Models

---

## Data

- **Online Labor Index (OLI), monthly U.S. aggregation (2016m8-2024m5)**
  - Demand: posted vacancies; Supply: active workers. (Remove outliers)
- **Monetary policy shocks: BRW series (Bu–Rogers–Wu, 2021)**
  - Intraday changes around FOMC announcements; positive = contractionary.
  - Filters out central-bank information effects, usable in conventional and unconventional policy periods.

## Baseline panel regression

$$\log(y_{o,t}) = \beta BRW_t + \rho \log(y_{o,t-1}) + \alpha_o + \gamma_{month(t)} + \varepsilon_{o,t}$$

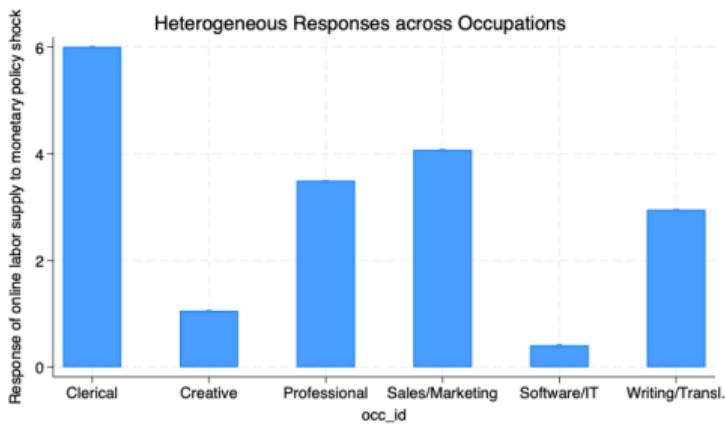
- Newey–West standard errors to address serial correlation.

## Local Projections (Jordà, 2005)

$$\log(y_{o,t+h}) = \beta_h BRW_t + \text{Controls}_{o,t} + \alpha_o + \epsilon_{o,t+h}$$

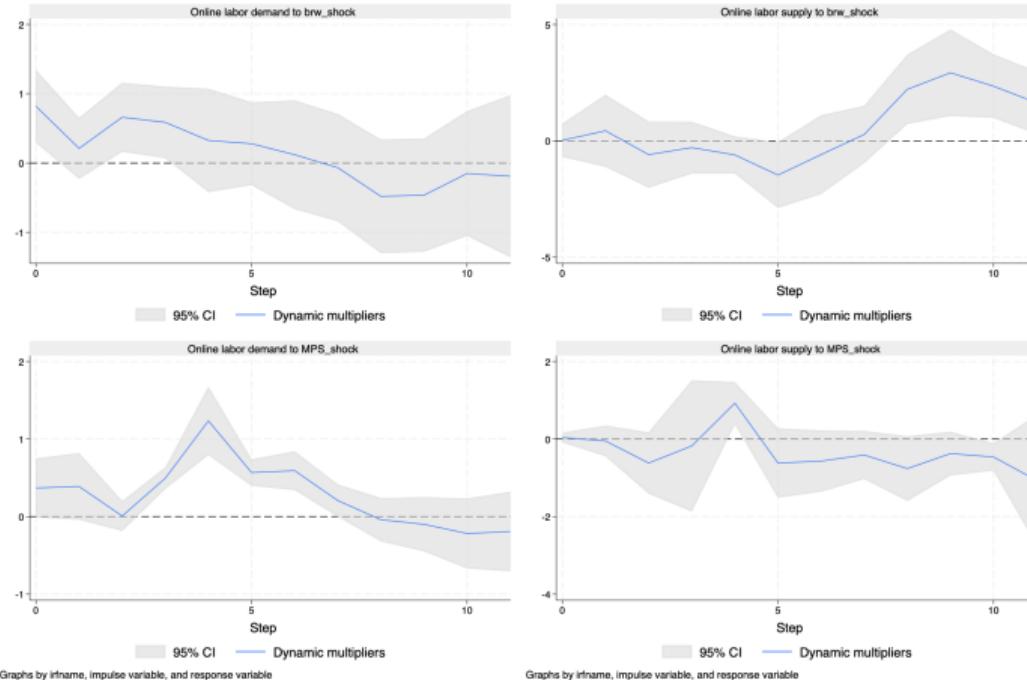
# Results I: Baseline Regressions

	demand		supply	
	total	panel	total	panel
brw_shock	1.022** (0.438)	1.161* (0.376)	2.013* (1.042)	2.999** (0.836)
_cons	2.449*** (0.093)	11.402*** (0.001)	13.001*** (0.000)	10.951*** (0.003)
L.log(y)	✓		✓	
Season FE	✓		✓	
Occupation FE		✓		✓
N	94	594	87	522



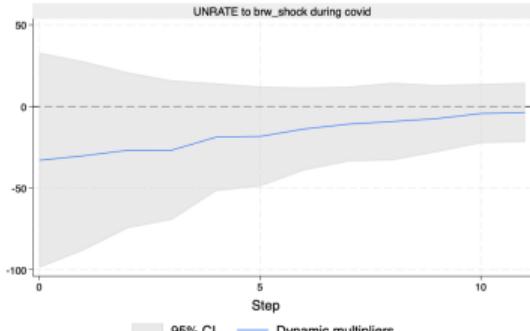
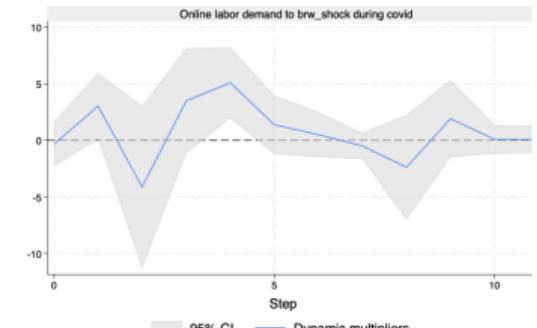
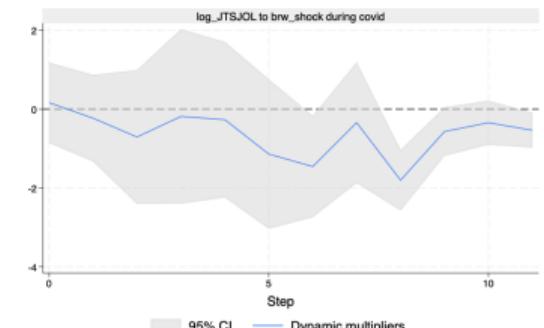
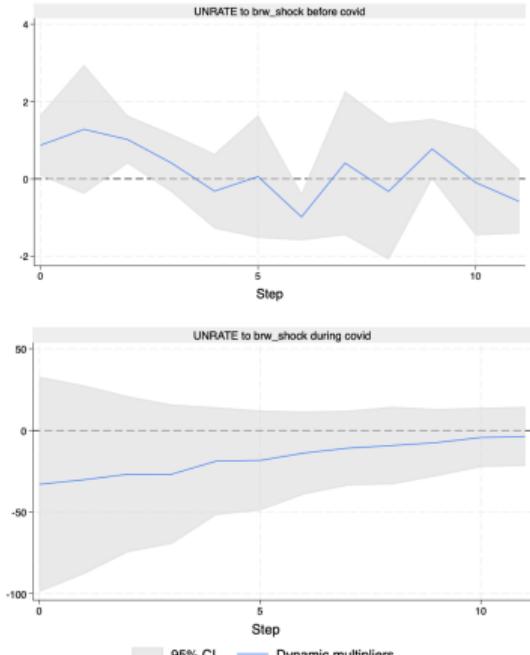
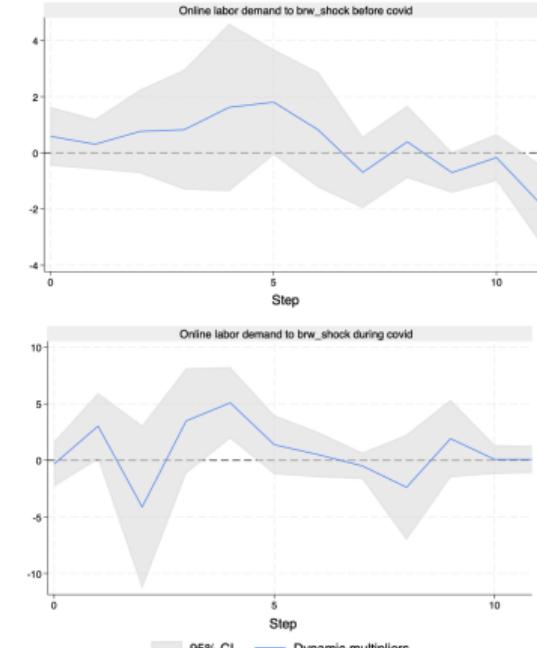
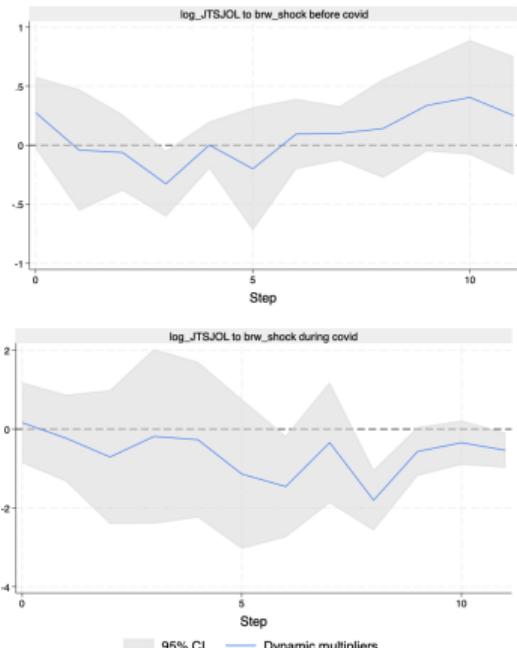
- Firms may substitute from formal, long-term hiring toward flexible online labor when monetary conditions tighten.
- Workers, especially in routine jobs, use online platforms as a buffer margin when job prospects weaken.

## Results II: Dynamic Responses



MPS: monetary policy surprise measure from Bauer and Swanson (2023).

# Results III: Contrast – Demand side

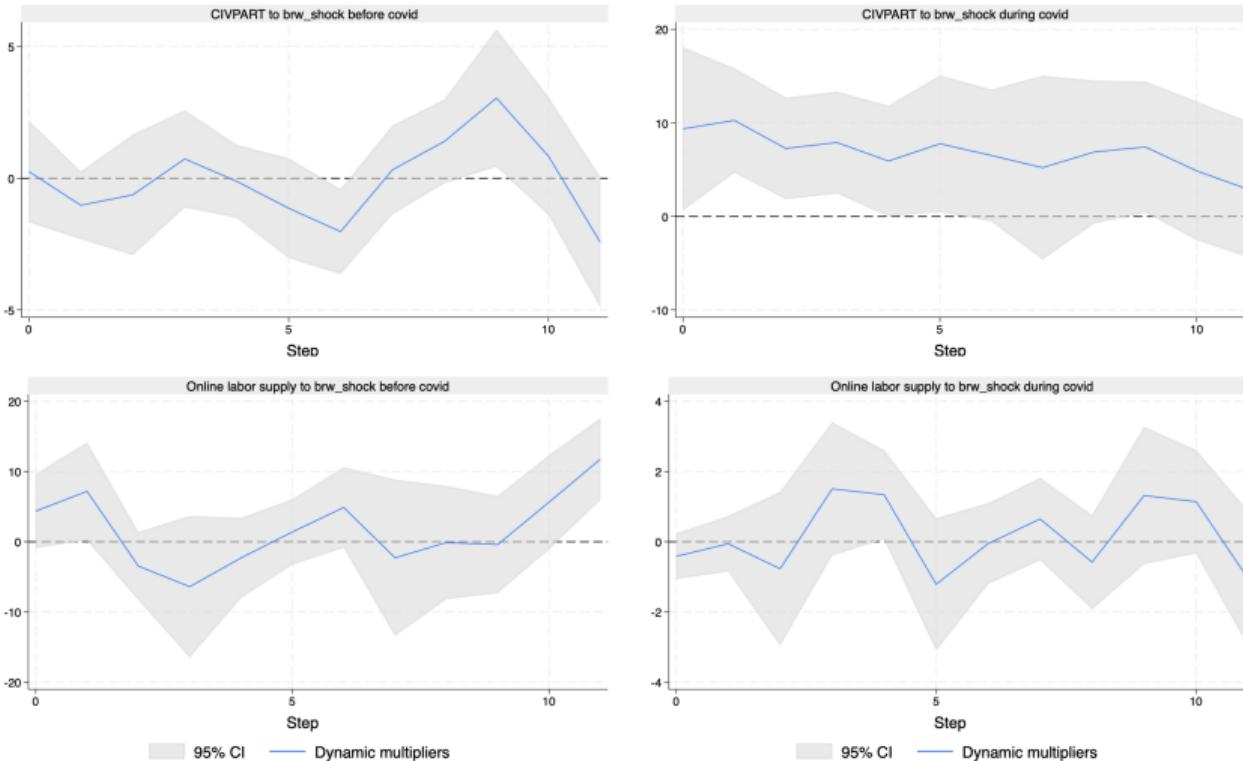


Graphs by irfname, impulse variable, and response variable

Graphs by irfname, impulse variable, and response variable

Graphs by irfname, impulse variable, and response variable

# Results III: Contrast – Supply side



Graphs by irfname, impulse variable, and response variable

Graphs by irfname, impulse variable, and response variable

# Implications & Limitations

---

## Implications

- Online labor markets act as a flexible adjustment margin in response to monetary tightening.
- Monetary policy affects not only unemployment and formal vacancies but also the composition of work between traditional and digital sectors.
- Such indicators of online/gig labor can complement JOLTS and unemployment data in monitoring labor-market slack.

## Limitations

- Limited time span and small number of monthly observations.
- OLI represents a relatively small share of total employment.