

Intermediated Credit and Local Resilience

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Abstract

- We test whether bank capitalization affects local resilience during crises.
- Exploit shocks to real economy by COVID-19 pandemic.
- We find that counties with poorly capitalized local banking sectors exhibit more business closures, more unemployment, more decline in income and hours worked during the pandemic.

Motivation

- Previous literature shows lack of bank lending to consumers worsened financial crisis (Ramcharan et al 2016) and shocks to banking sector can hurt labor markets (Chodorow-Reich 2014).
- Raises the question of whether bank capital can serve as hedging for local economy against real economic shocks like COVID-19 pandemic and associated social distancing.

Research Question

1. Were areas with well capitalized banking sectors more resilient to the COVID-19 shock?
2. Quantitatively, how much can a better capitalized banking sector reduce socially costly business closures and displacement of labor during real economic downturns?

Data

- Individual-worker daily hours and wage from Homebase
- County-level unemployment from BLS
- Bank Call Reports and FDIC SOD
- Small Business Administration loans and stimulus data
- John Hopkins CSSE COVID data

COVID-19 Shock

- March 16: Social distancing guidelines by the White House.

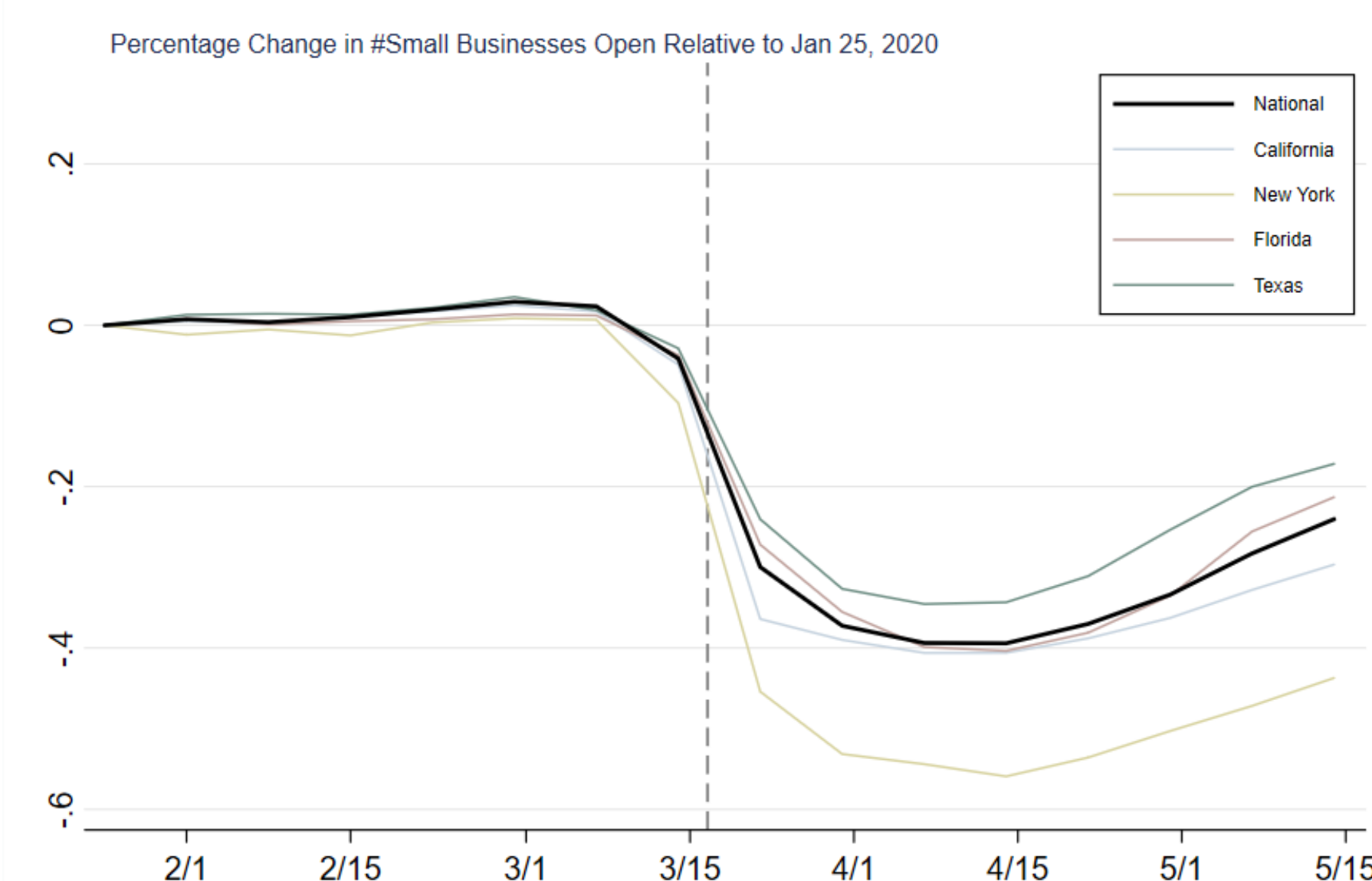


Figure 1: Business Openings by state

Empirical Analysis

Table 1: Changes in Businesses Open by Tier 1 Ratio

$$Outcome_{it} = \beta i.BottomQuartTier1_i \times Post_t + \Gamma X_i \times Post_t + \mu_i + \nu_t + \epsilon_{it}$$

| | Business Open | | | | |
|-----------------|-----------------------|----------------------|----------------------|---------------------|----------------------|
| | (1) All | (2) Entertainment | (3) Food | (4) Professional | (5) Other |
| Bottom Quartile | | | | | |
| Tier 1 × Post | -10.444*** (2.765) | -1.572** (0.631) | -4.357*** (1.506) | -0.897* (0.459) | -3.269*** (0.974) |
| R ² | 0.912 | 0.959 | 0.918 | 0.923 | 0.941 |
| Obs | 27,920 | 27,920 | 27,920 | 12,544 | 19,552 |

Table 2: Changes in individual Wages and hours by Tier 1 Ratio

$$Outcome_{it} = \beta i.BottomQuartTier1_i \times Post_t + \Gamma X_i \times Post_t + \mu_i + \nu_t + \epsilon_{it}$$

| | Weekly Wages | | | Weekly Hours Worked | | |
|-----------------|----------------------|----------------------|--------------------|----------------------|---------------------|---------------------|
| | (1) All | (2) Non-Manager | (3) Manager | (4) All | (5) Non-Manager | (6) Manager |
| Bottom Quartile | | | | | | |
| Tier 1 × Post | -0.012*** (0.003) | -0.012*** (0.003) | -0.018* (0.009) | -0.005*** (0.002) | -0.004** (0.002) | -0.016** (0.007) |
| R ² | 0.762 | 0.760 | 0.747 | 0.644 | 0.644 | 0.614 |
| Obs | 1,811,150 | 1,638,575 | 154,656 | 3,141,761 | 2,832,619 | 275,157 |

- Controls include the number of COVID cases per 100,000 in county i , percent of employees employed by vulnerable industries in county i , and demographic variables; all regressions include individual and time fixed effects.
- Observations for Table 1 are at county-by-week level; observations for Table 2 are at individual worker-by-week level.

Dynamic Difference-in-Differences Coefficient Plots

- Treated: county-level tier-1 capital in the bottom quartile among all counties in the same state.
- Shaded area represents 95% confidence interval.

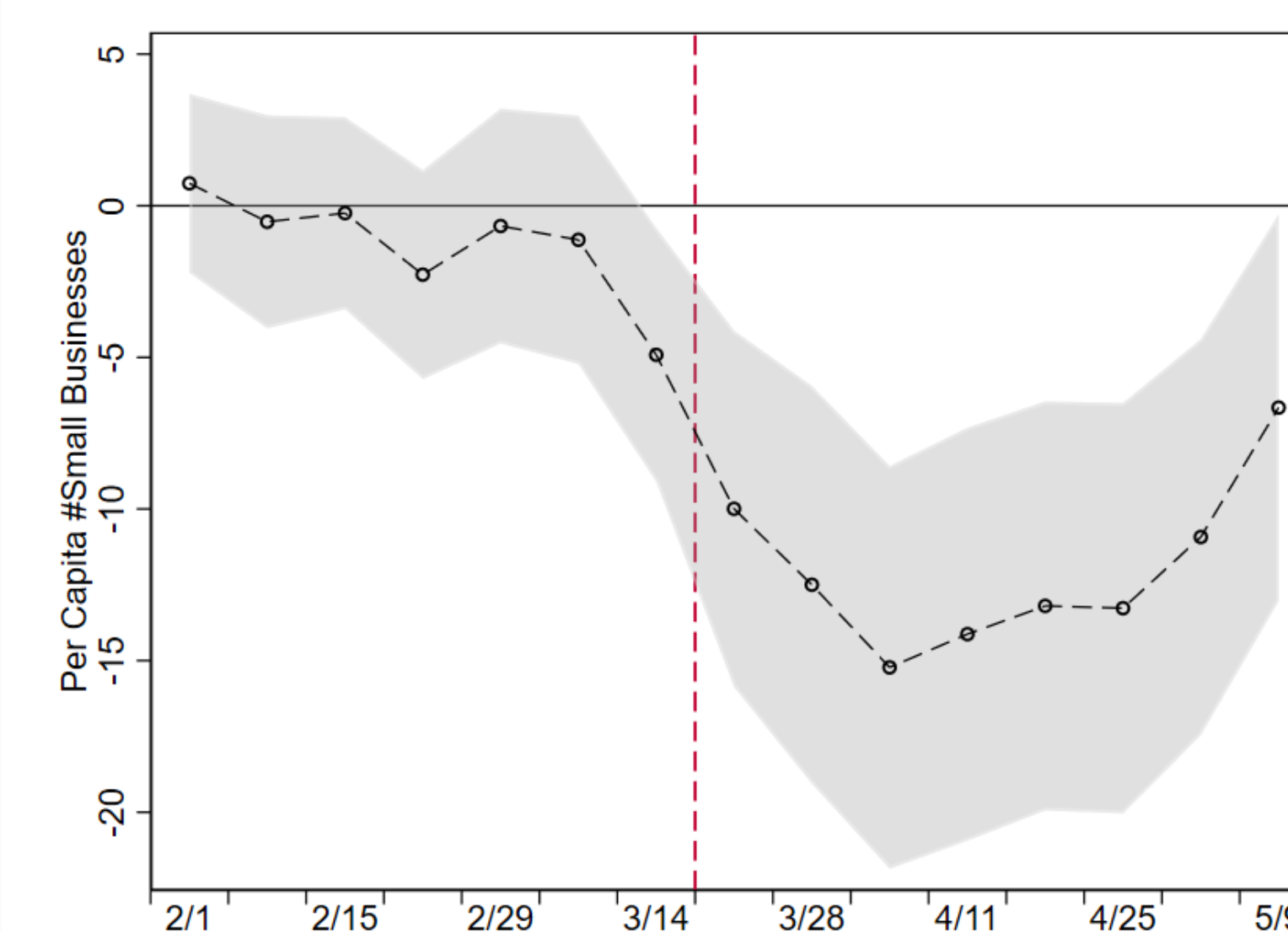


Figure 2: Change in county-level businesses open

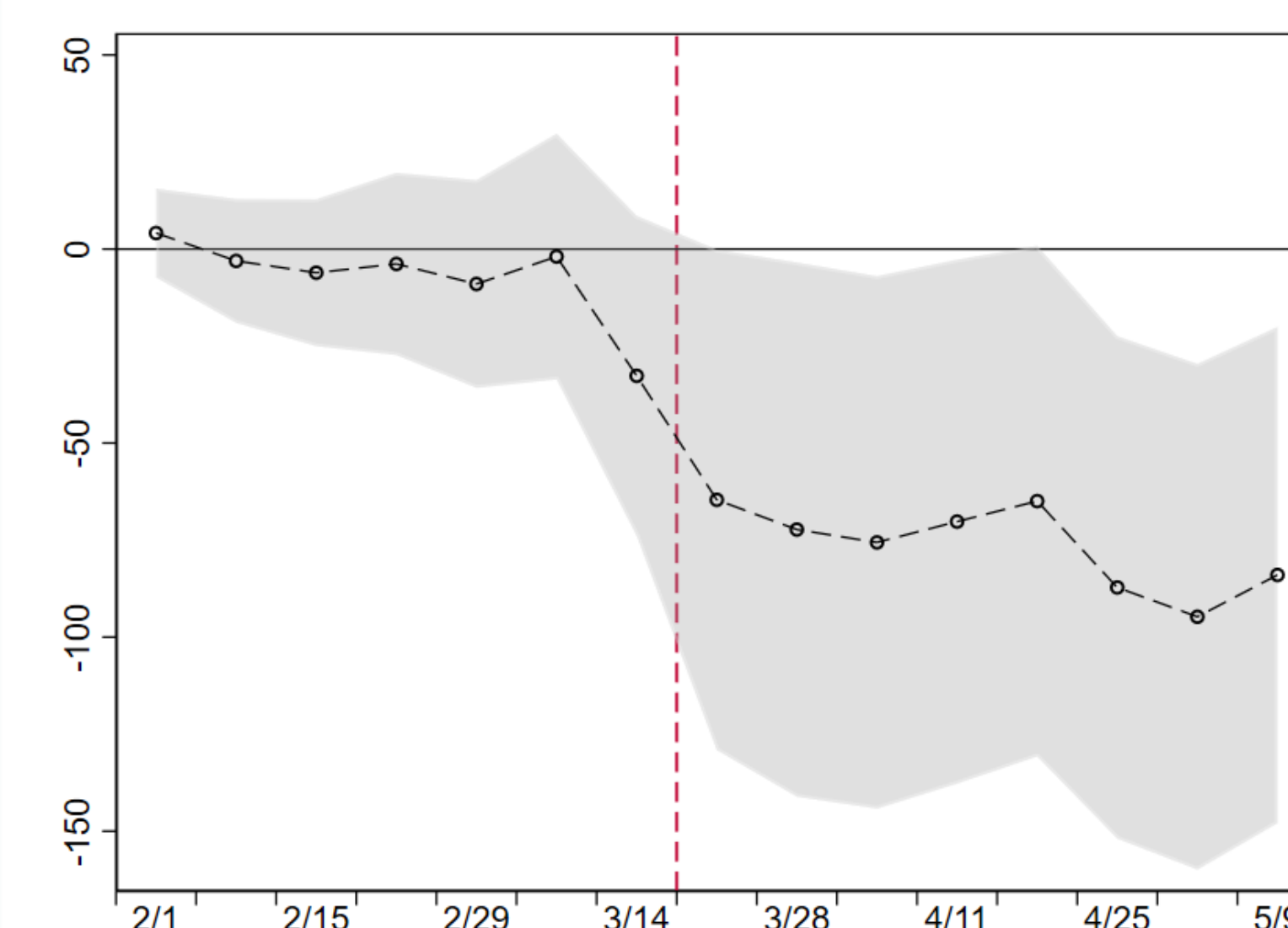


Figure 3: Change in county-level employment

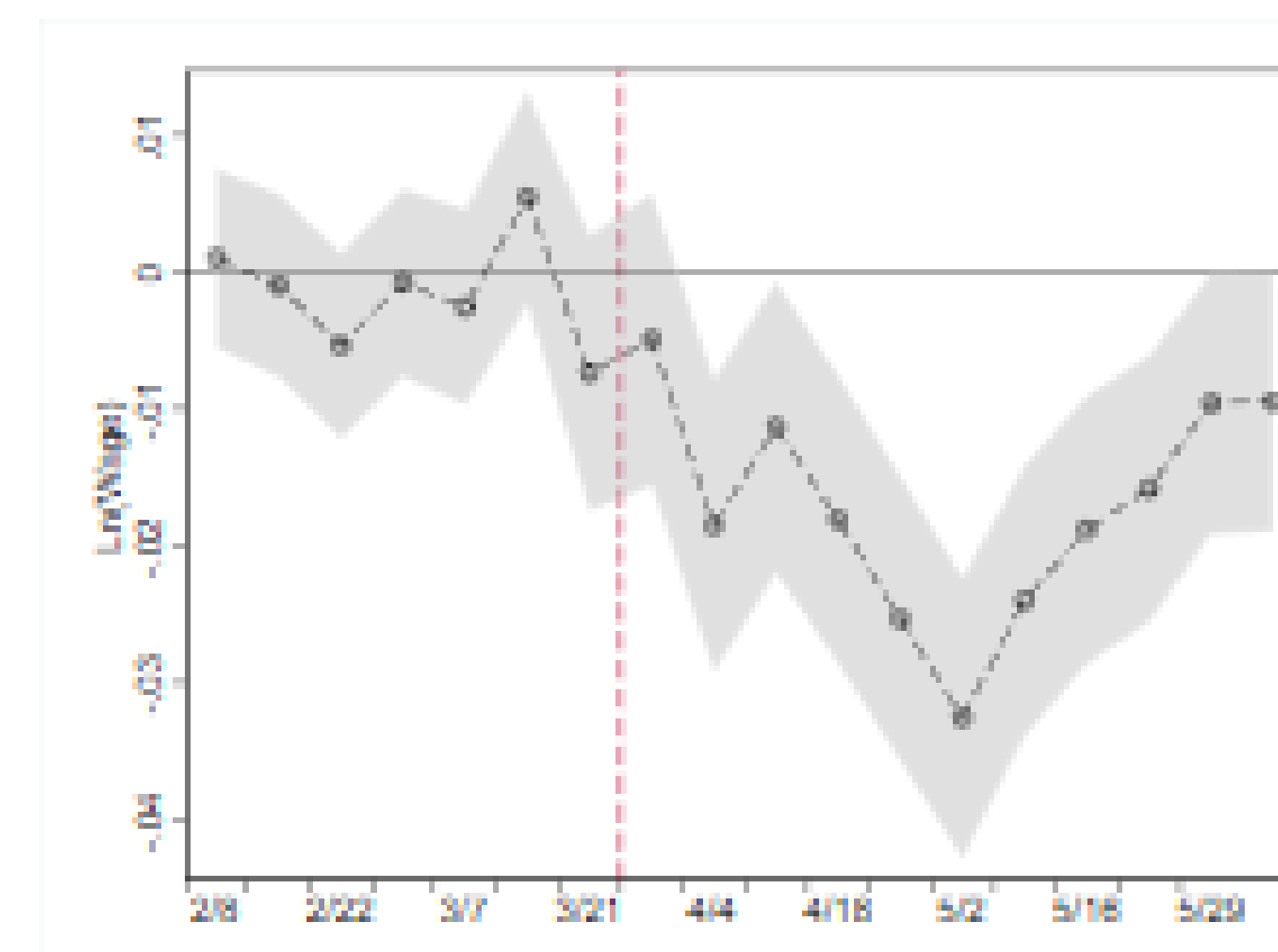


Figure 4: Change in weekly wages earned by individual workers

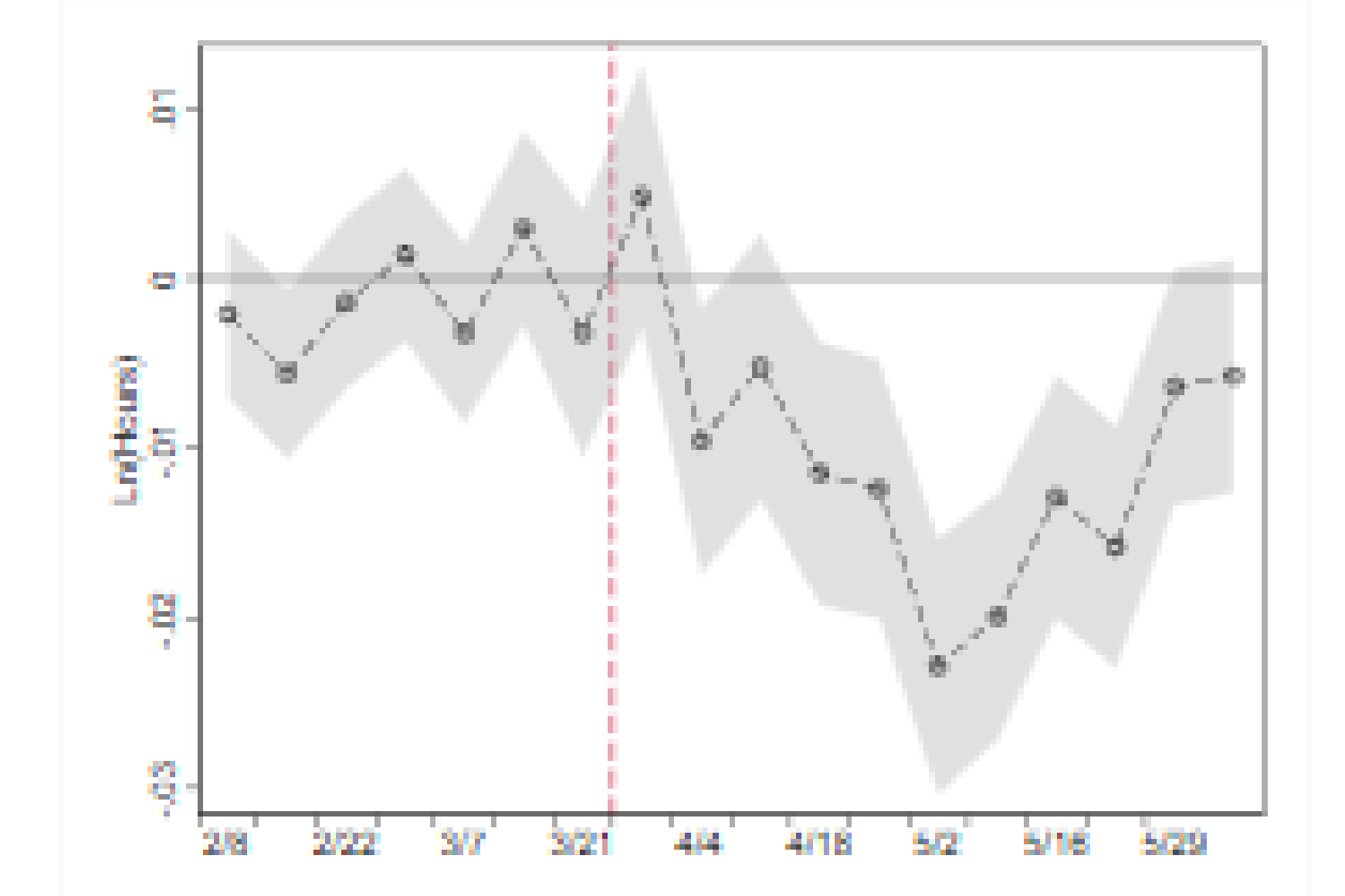


Figure 5: Change in weekly hours worked by individual workers

Other Findings

- Using individual worker data, we find more job termination in bottom quartile Tier 1 counties.
- Results hold when using BLS county unemployment rate as the outcome.
- Results generally hold when using reliance on SBA lending as the treatment instead of Tier 1 capital.

Current Work in Progress

- Empirical analysis about how bank capitalization influences the effectiveness of government stimulus.
- Model to quantify the effect of bank capitalization on local resilience.

References

- Chodorow-Reich, Gabriel. "The employment effects of credit market disruptions: Firm-level evidence from the 2008–9 financial crisis." *The Quarterly Journal of Economics* 129.1 (2014): 1-59.
- Ramcharan, Rodney, Stephane Verani, and Skander J. Van den Heuvel. "From Wall Street to main street: the impact of the financial crisis on consumer credit supply." *The Journal of Finance* 71.3 (2016): 1323-1356.