Surging Business Formation in the Pandemic: Causes and Consequences

By

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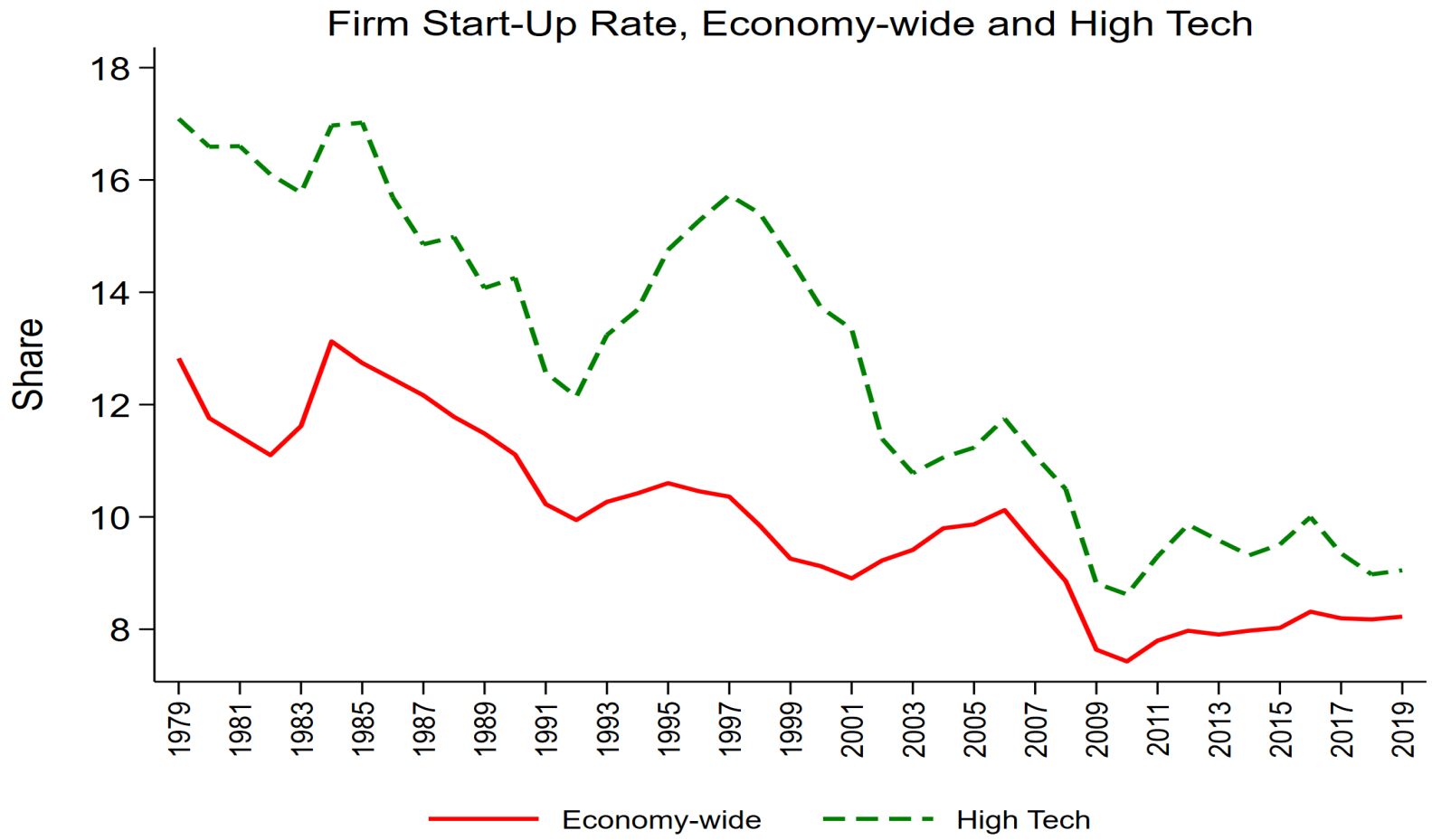
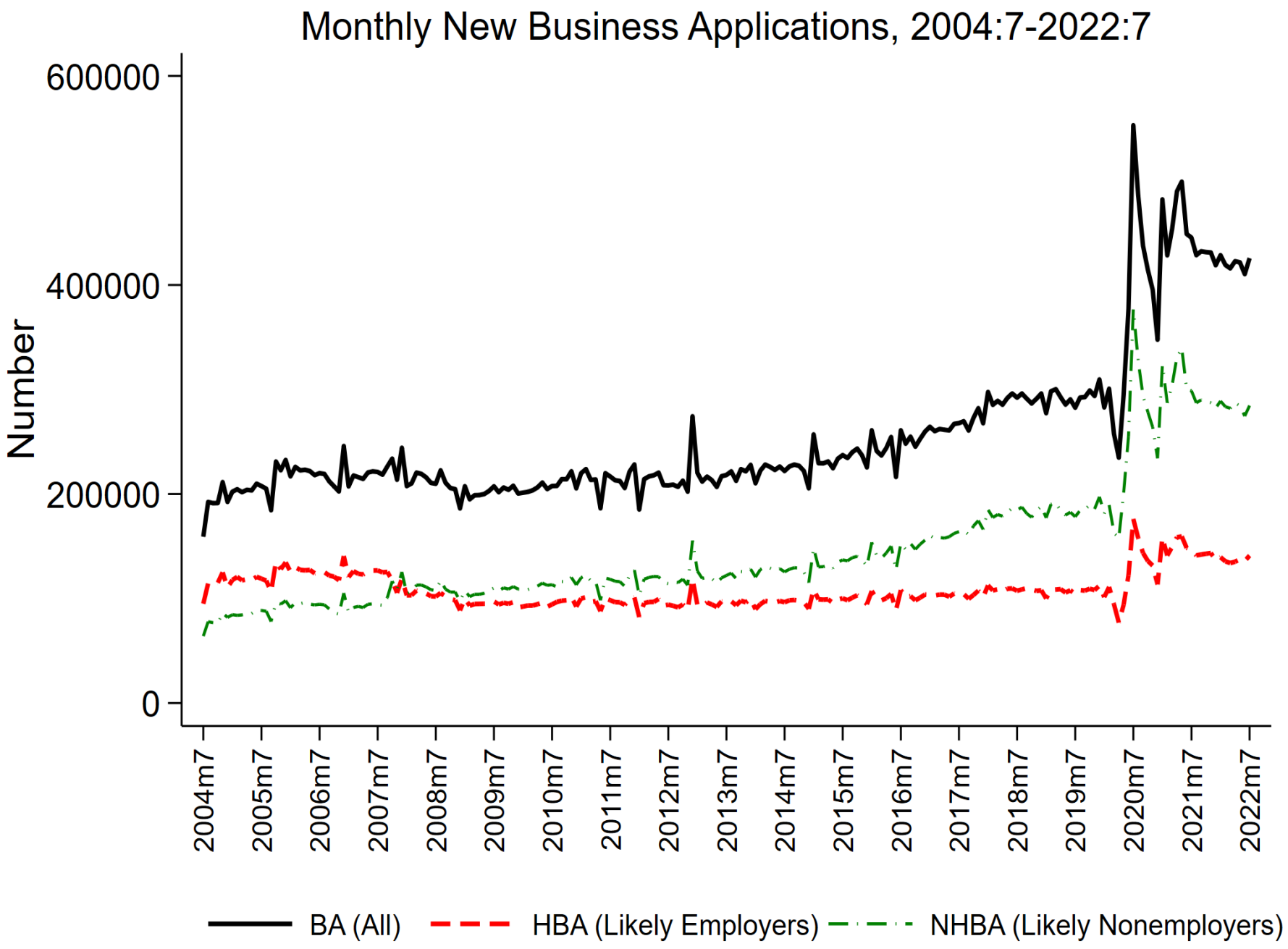
Declining Dynamism and Entrepreneurship, U.S. Private, Non-Farm Sector – Pre-Covid

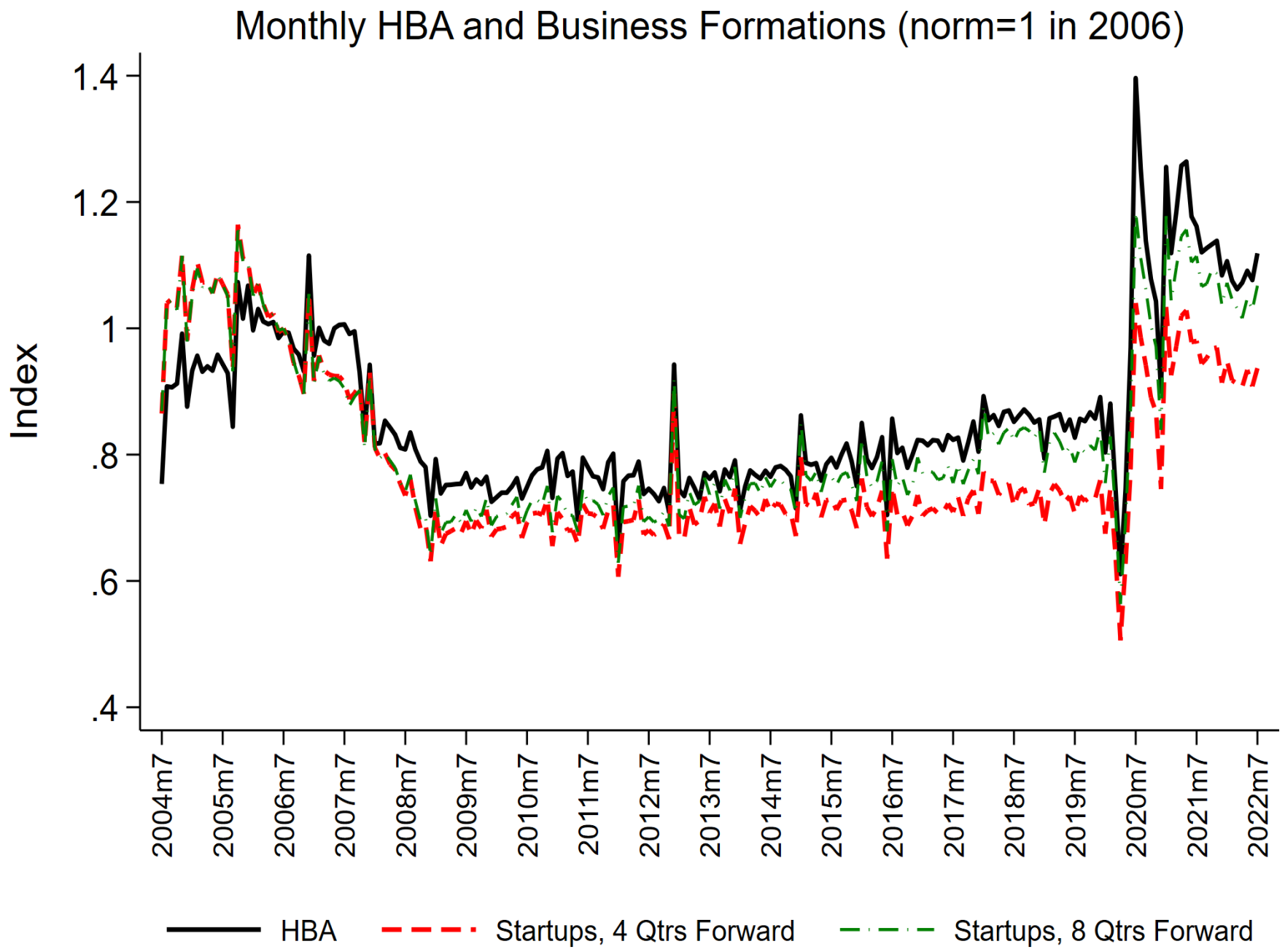


Source: Census Bureau Business Dynamics Statistics (BDS)



New Business Applications:

1. Surged in Pandemic.
2. HBA highly predictive of actual employer startups
3. NHBA predictive of new nonemployer businesses.
3. Leading indicator of Reallocation.



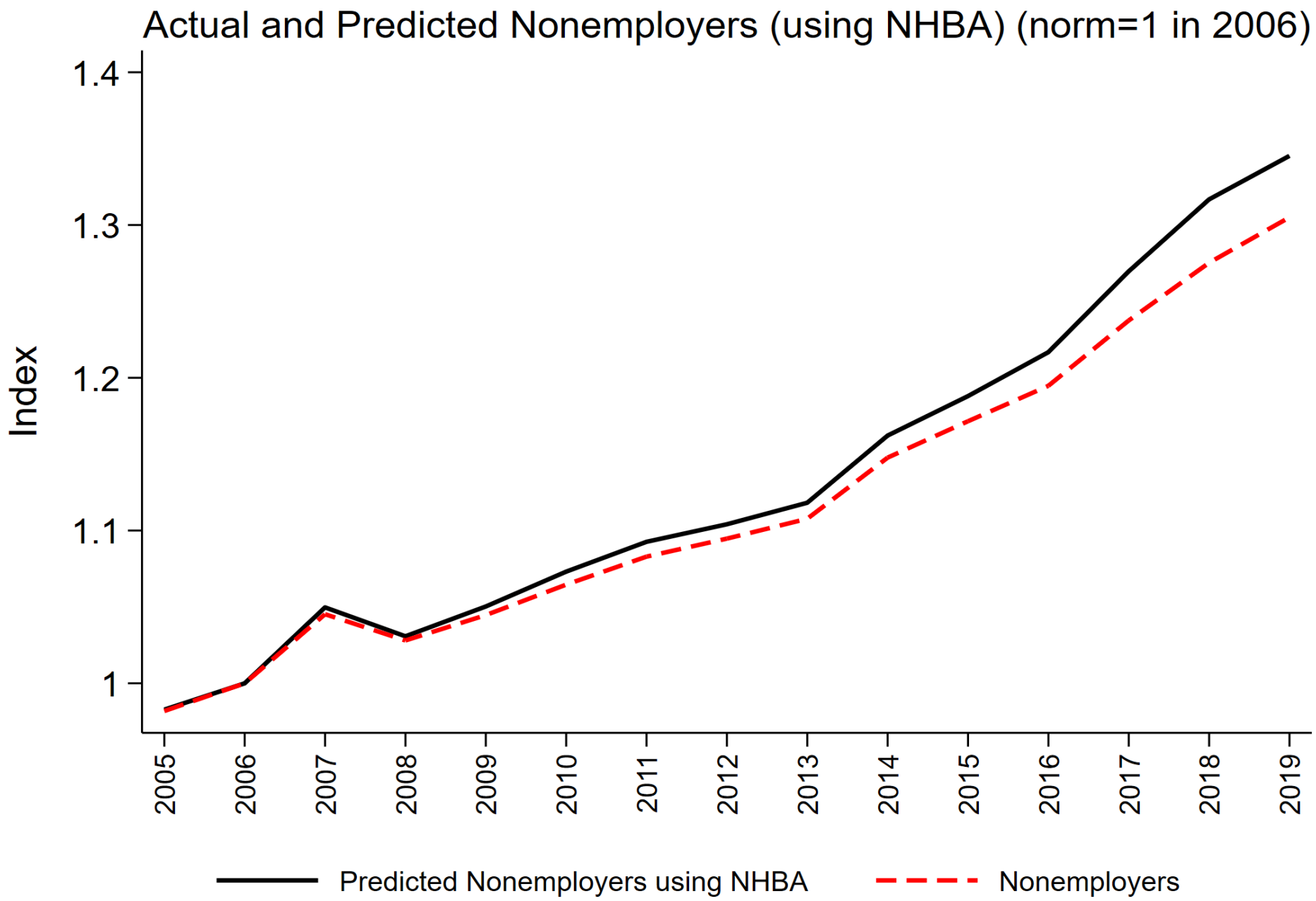
Startups, 8 qtrs. forward:

- Actual through 2017:4
- Projected, 2018:1-2022:7

Historically, tight relationship between new applications (for likely employers) and actual startups.

But it takes time. Tighter link between startups within 8 quarters than 4 quarters.

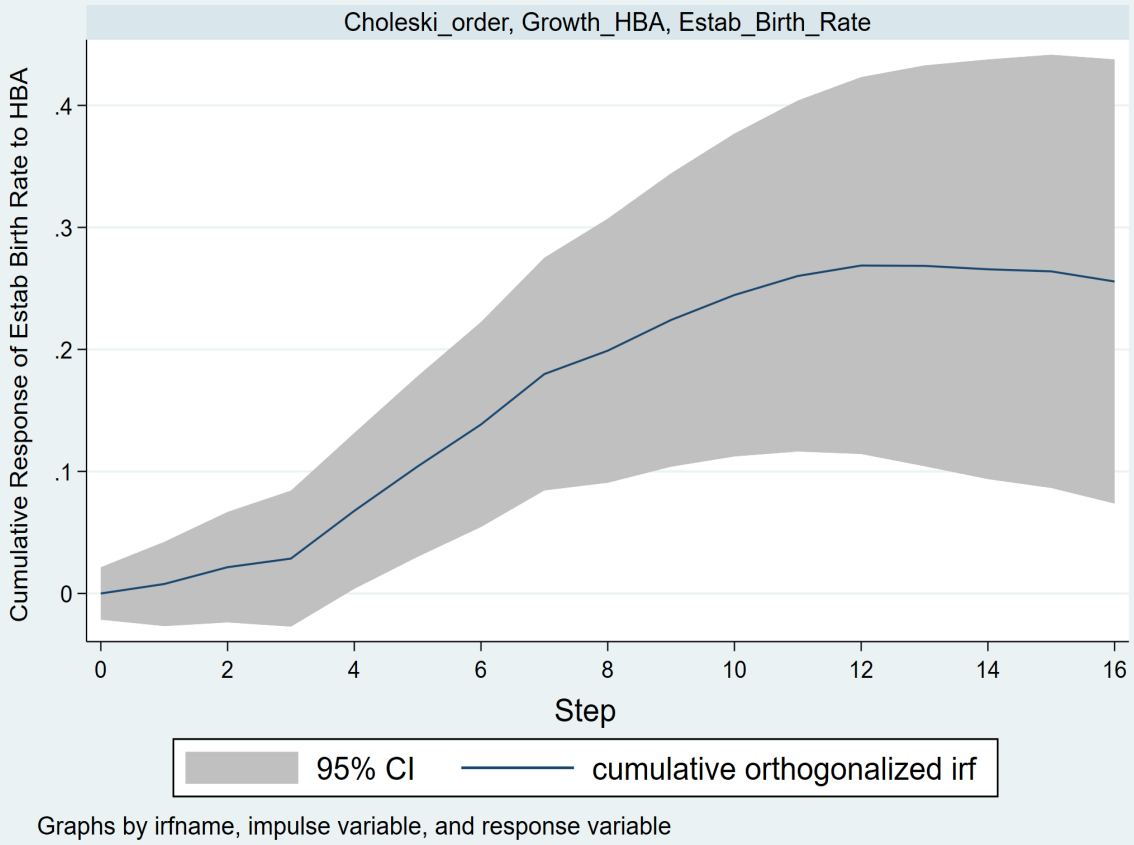
Lags increase over time.

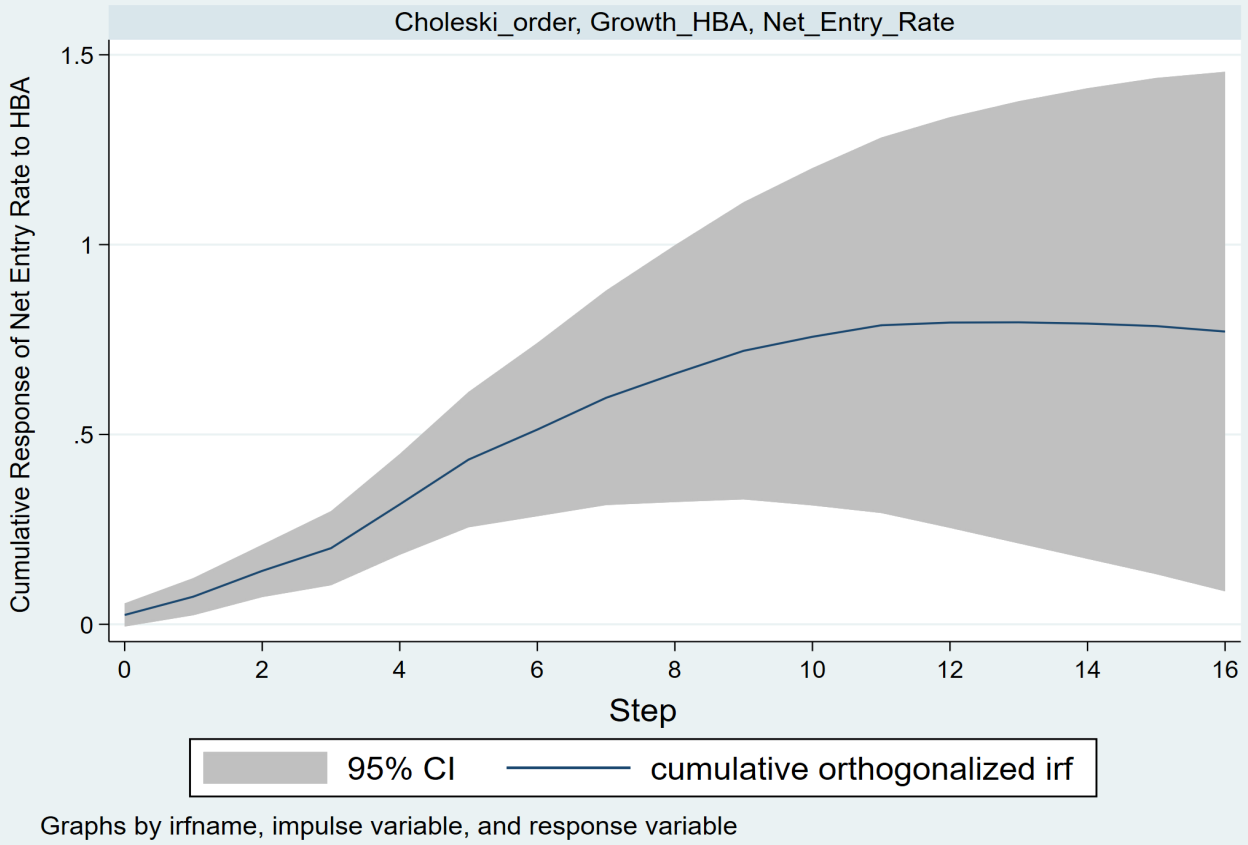


Use Davis et al. (2009) analysis to predict nonemployers along with NHBA.

Tight relationship: Correlation of 0.97.

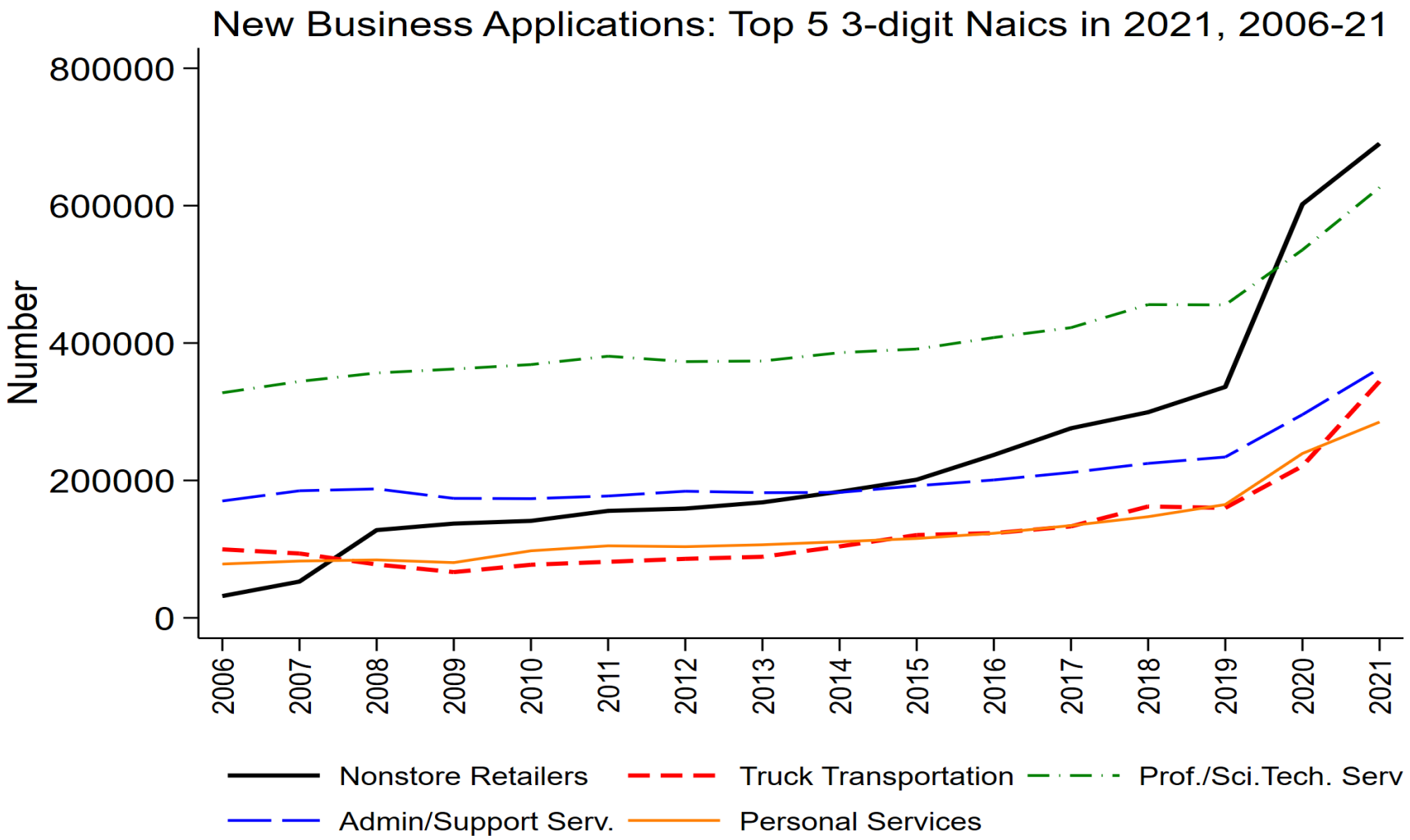
Evidence suggests Business Applications a Leading Indicator of Establishment Births and Net Entry(Pre-Pandemic)





Using quarterly data from 2004:4-2019:4, Establishment Birth and Net Entry from BED. Simple Bivariate VAR.

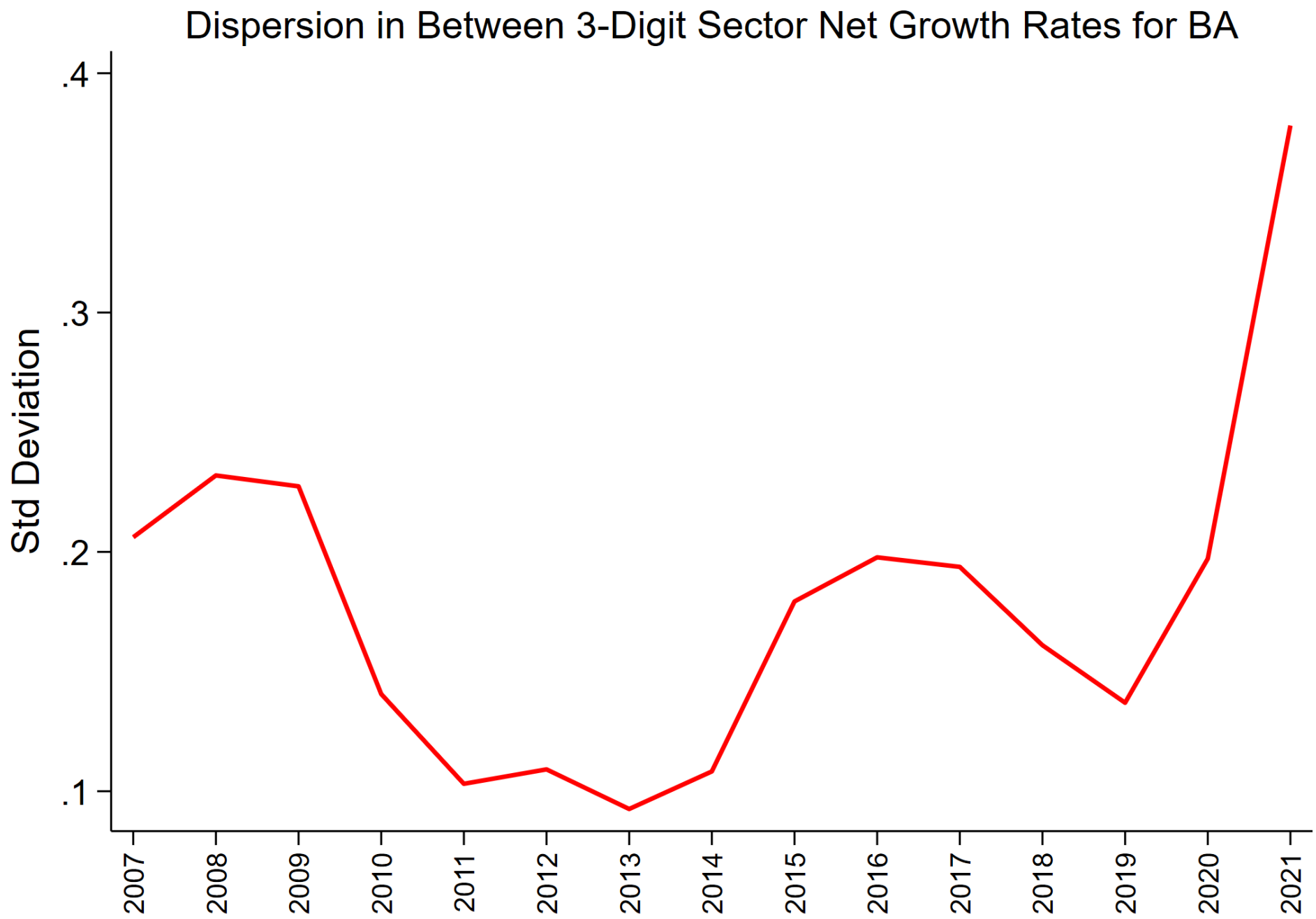
Five 3-digit (NAICS) sectors account for 50% of Surge in Overall Applications



3-digit available for all BA.

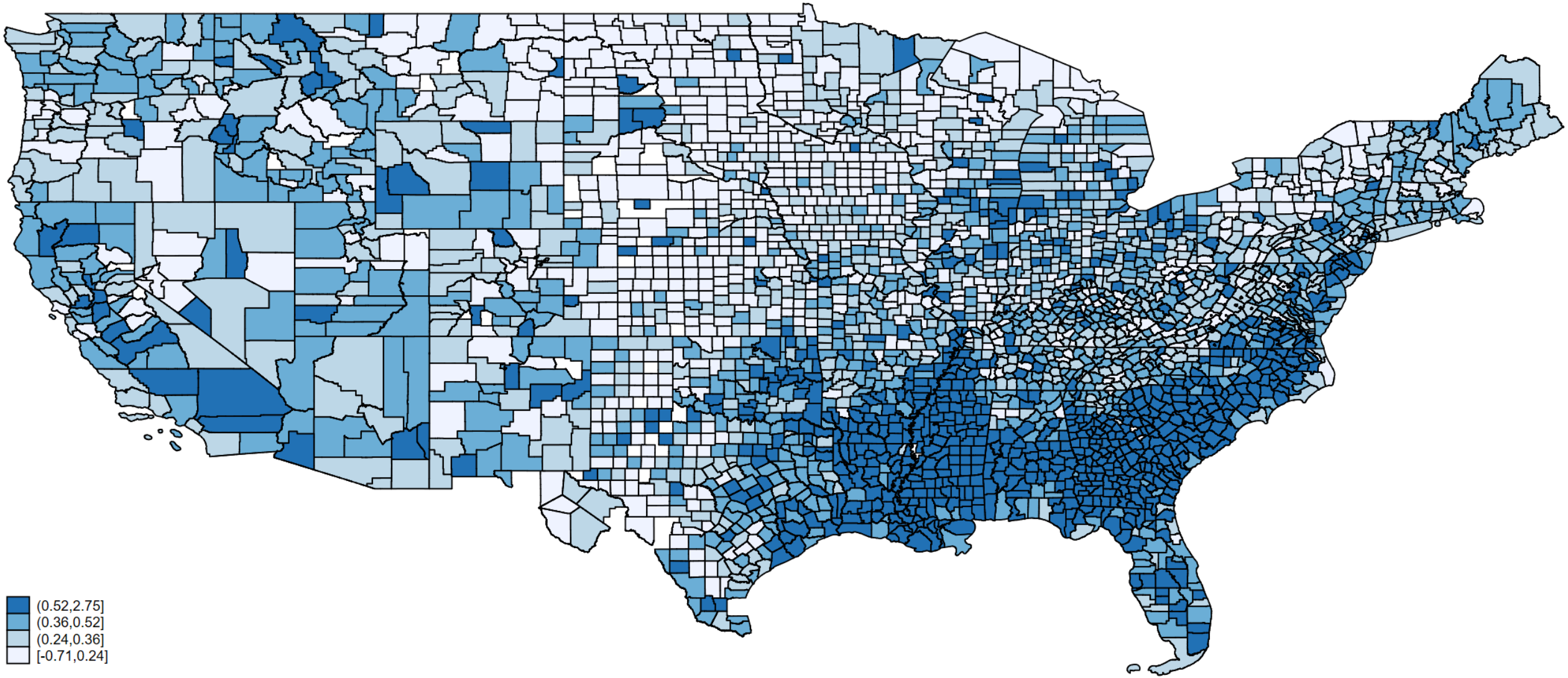
Convert to annual

Source: Tabulations from the BFS.

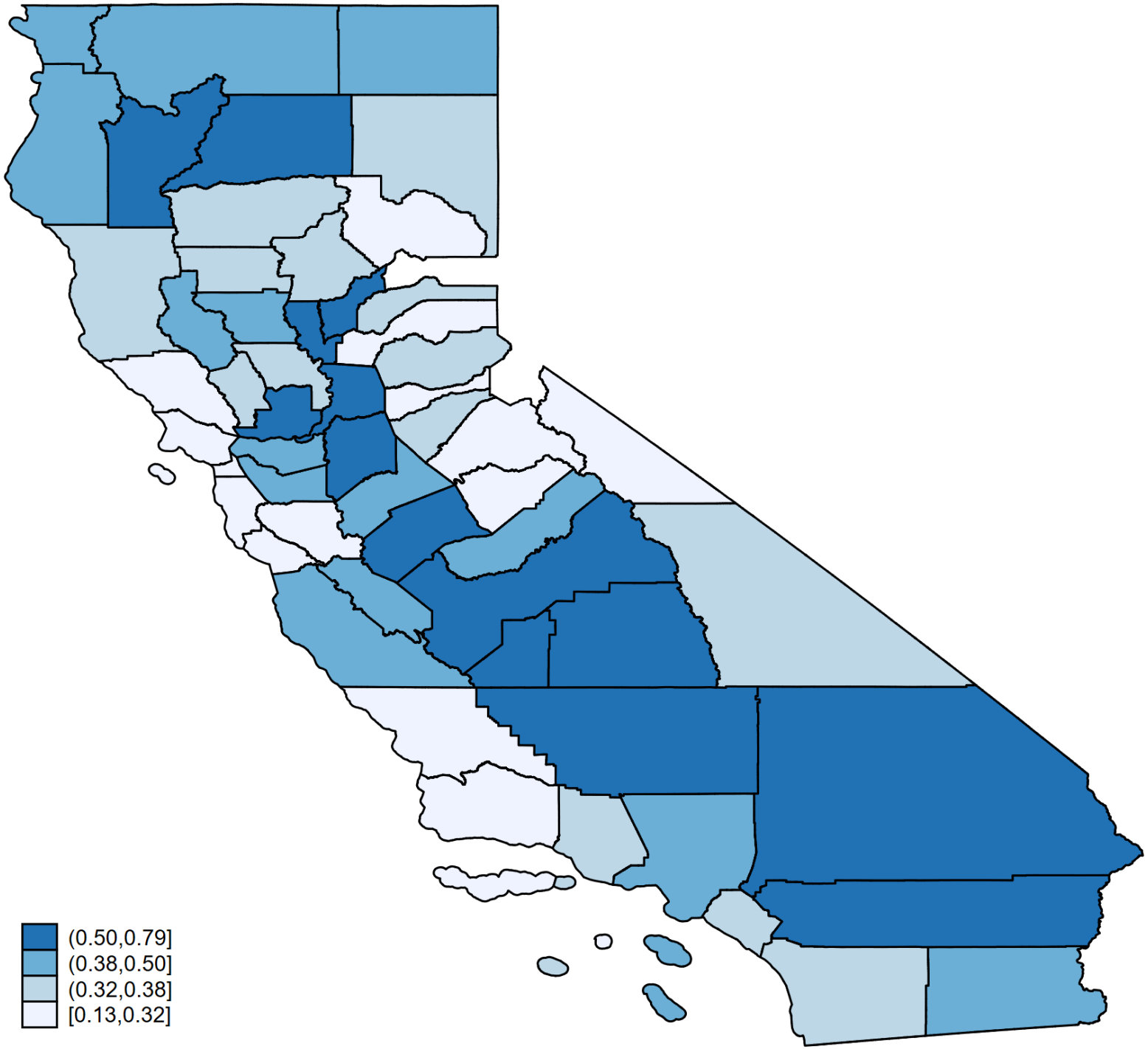


Large increase
In dispersion in
3-digit Net Growth
Rates Across Years

Log Differences in Applications Per (1000) Capita Between Pre-Pandemic (2010-19) and Pandemic (2020-21).



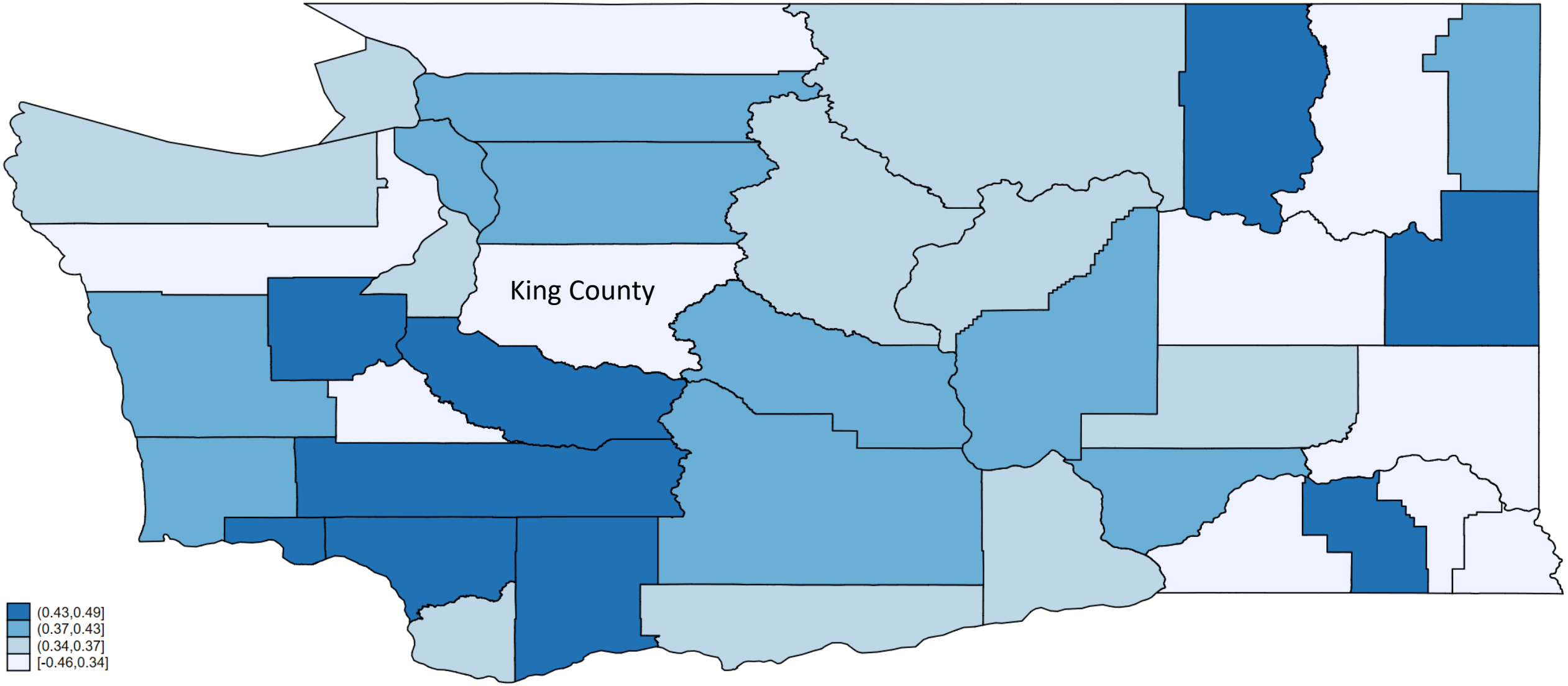
Top counties increase by 52 log points up to 275 log points. Caution: All applications not just HBA.



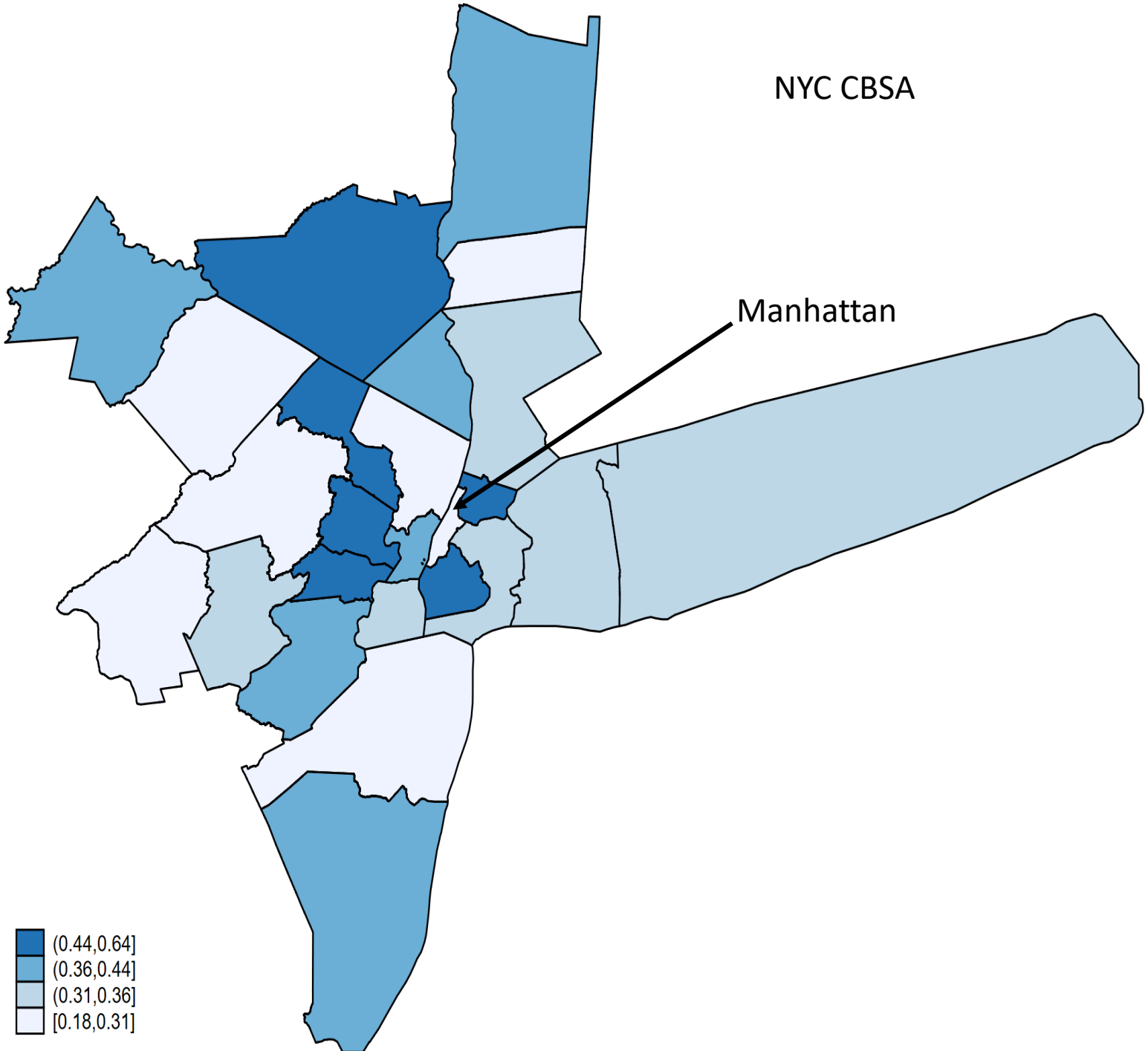
Log Difference in Pandemic and Pre-Pandemic in Applications Per Capita (California)

Similar patterns for Los Angeles And San Francisco

Log Difference between Pandemic and Pre-Pandemic in Applications Per Capita (Washington State)



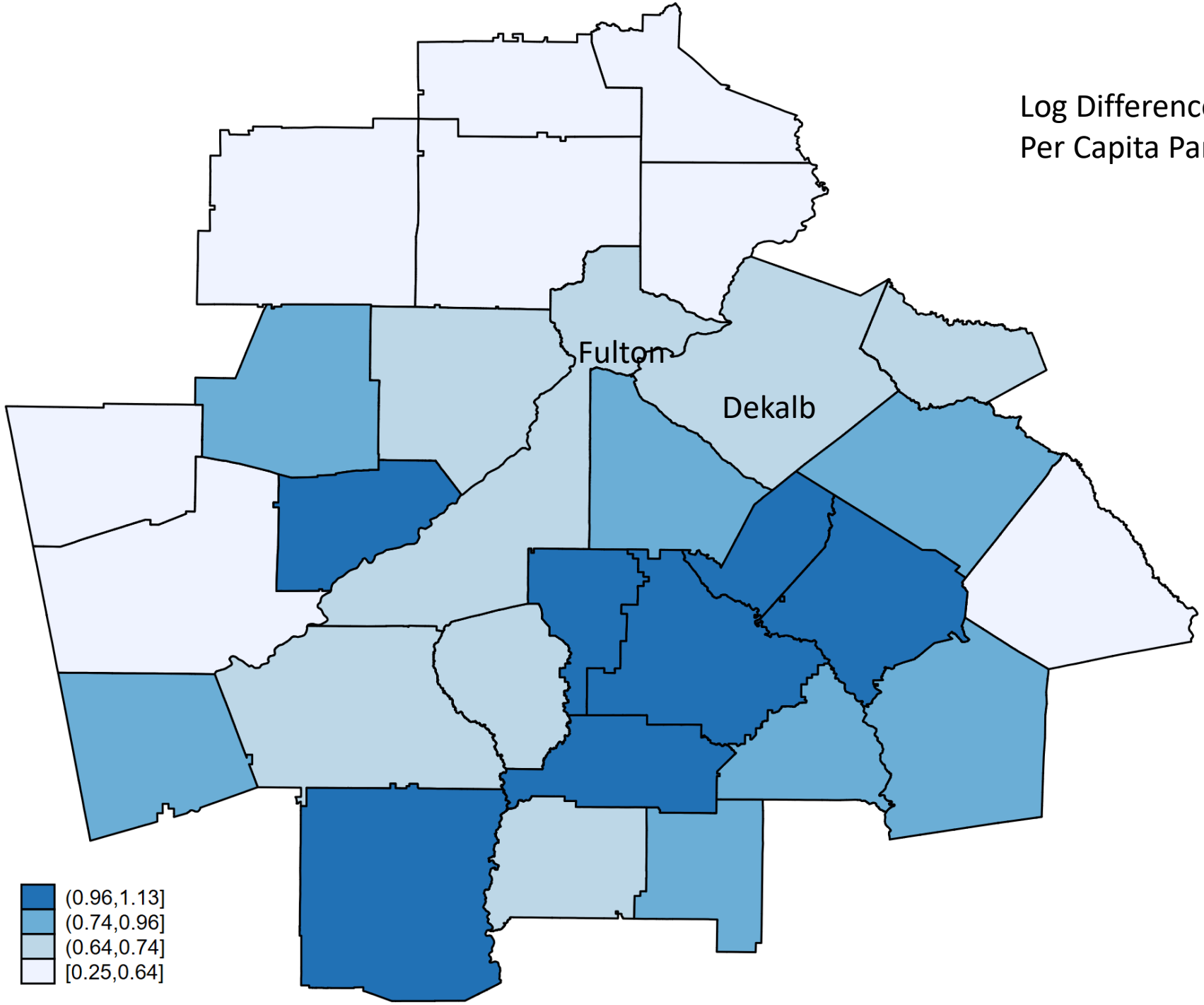
King County (Seattle) low relative to surrounding counties



Log Difference in Applications
Per Capita Pandemic and Pre-Pandemic.

Adjacent or Close by counties
From Manhattan in NY experience
Growth Compared to Manhattan

But also outlying counties



Log Difference in Applications
Per Capita Pandemic and Pre-Pandemic.

In Atlanta CBSA surrounding Counties (away from Fulton) have more pronounced growth

In large CBSAs, highly nonlinear relationship between change in applications and population density

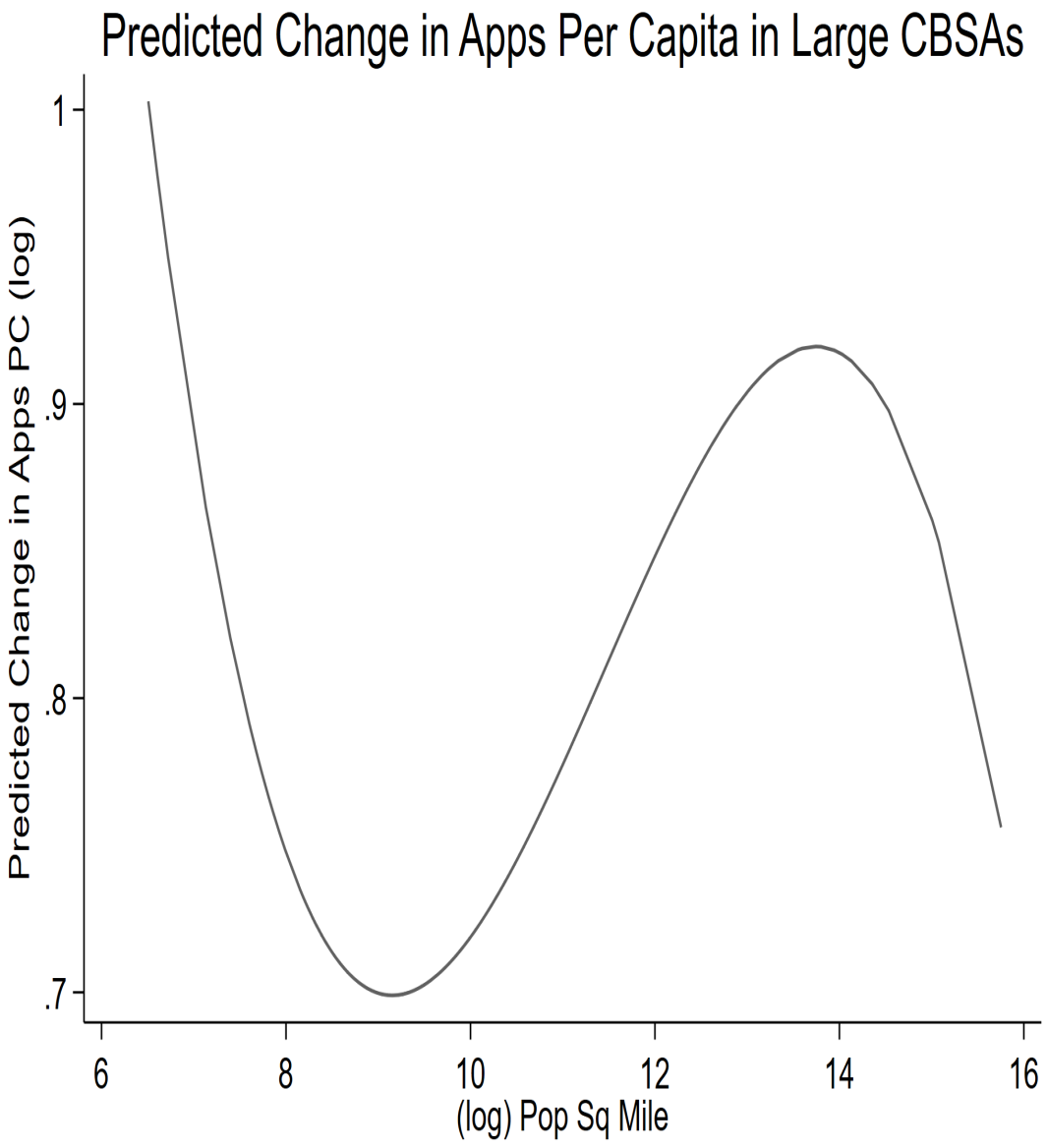
Dependent Variable: Change in (log) Applications Per Capita Pre Pandemic to Pandemic

Covariate:	
Log Pop Density	-1.719
	(0.364)
Log Pop Dens Sq	0.156
	(0.034)
Log Pop Dens Cu	-0.005
	(0.001)

Controlling for CBSA fixed effects

R-Squared 0.55 (within Rsq 0.13)

For counties in CBSAs>1M Pop. Population Density measured in 2019.

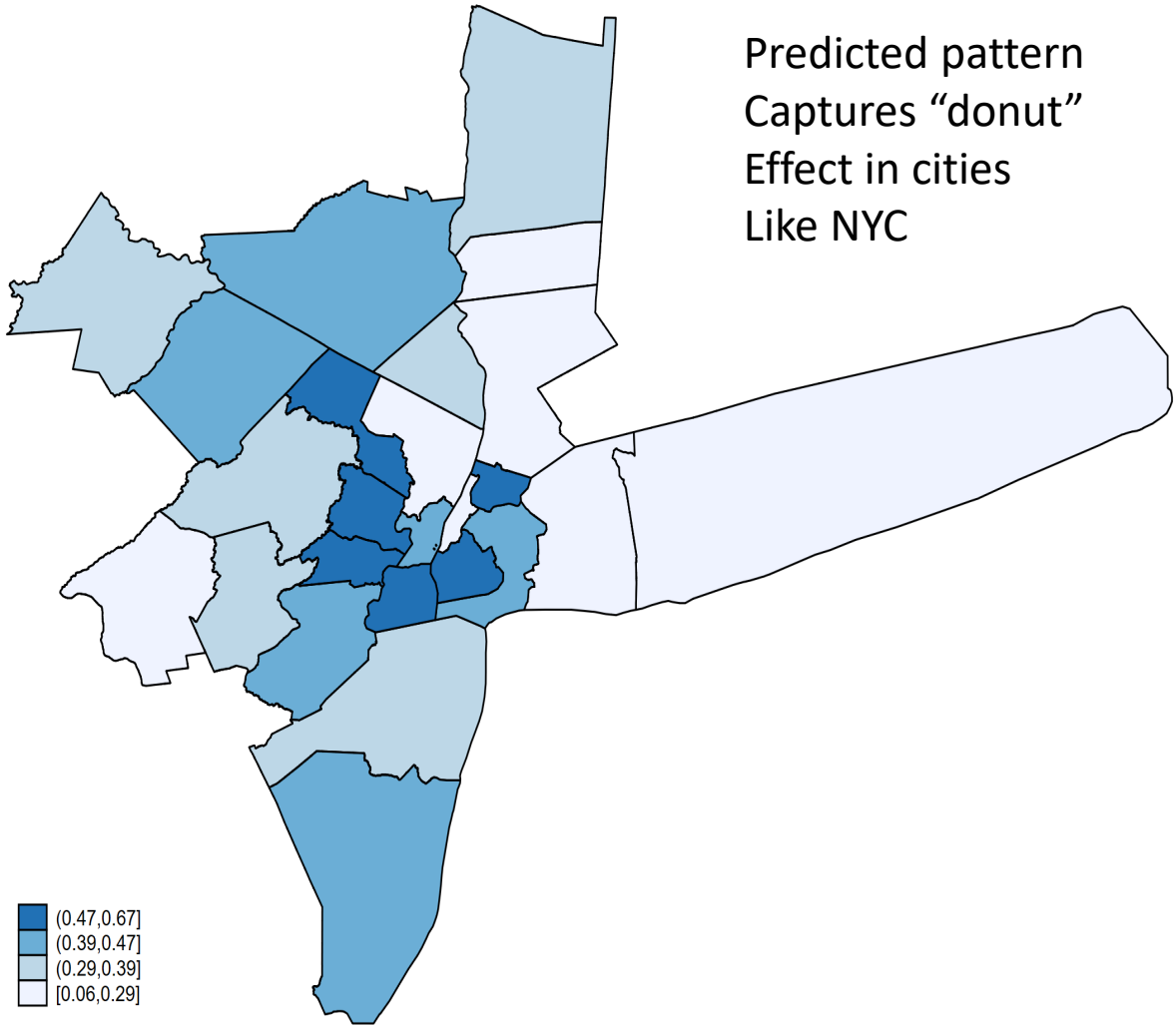


Spatial Model that incorporates characteristics of adjacent counties along with establishment density (estabs per sq mile) Does Much Better

Dependent Variable: Change in (log) Applications Per Capita Pre Pandemic to Pandemic

Covariate:	Own County	Adjacent Counties
Log Pop Density	-1.678	-1.844
	(0.668)	(0.818)
Log Pop Dens Sq	0.180	0.243
	(0.064)	(0.080)
Log Pop Dens Cu	-0.005	-0.008
	(0.002)	(0.003)
Log Estab Density	0.100	1.642
	(0.351)	(0.924)
Log Estab Dens Sq	-0.042	-0.224
	(0.038)	(0.099)
Log Estab Dens Cu	0.001	0.008
	(0.001)	(0.003)

R-squared: 0.73



Predicted pattern Captures "donut" Effect in cities Like NYC

Densities measured in 2019. Observe estab density much more important for adjacent counties. Higher Rsquared comes mostly from adjacent county effects (not own county estab density).

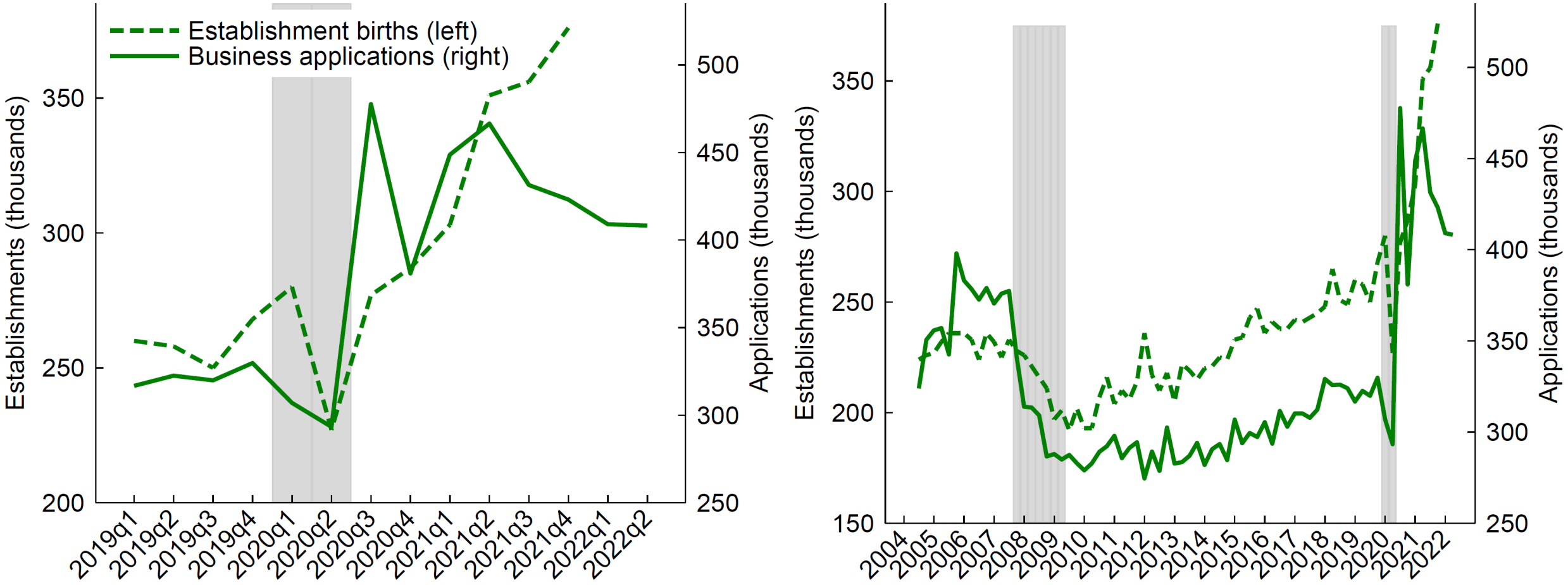
Open questions

What has been and will be the impact on firm and job turnover?

- Have we observed a surge in actual firm and establishment births?
- Has there been sectoral and spatial reallocation?

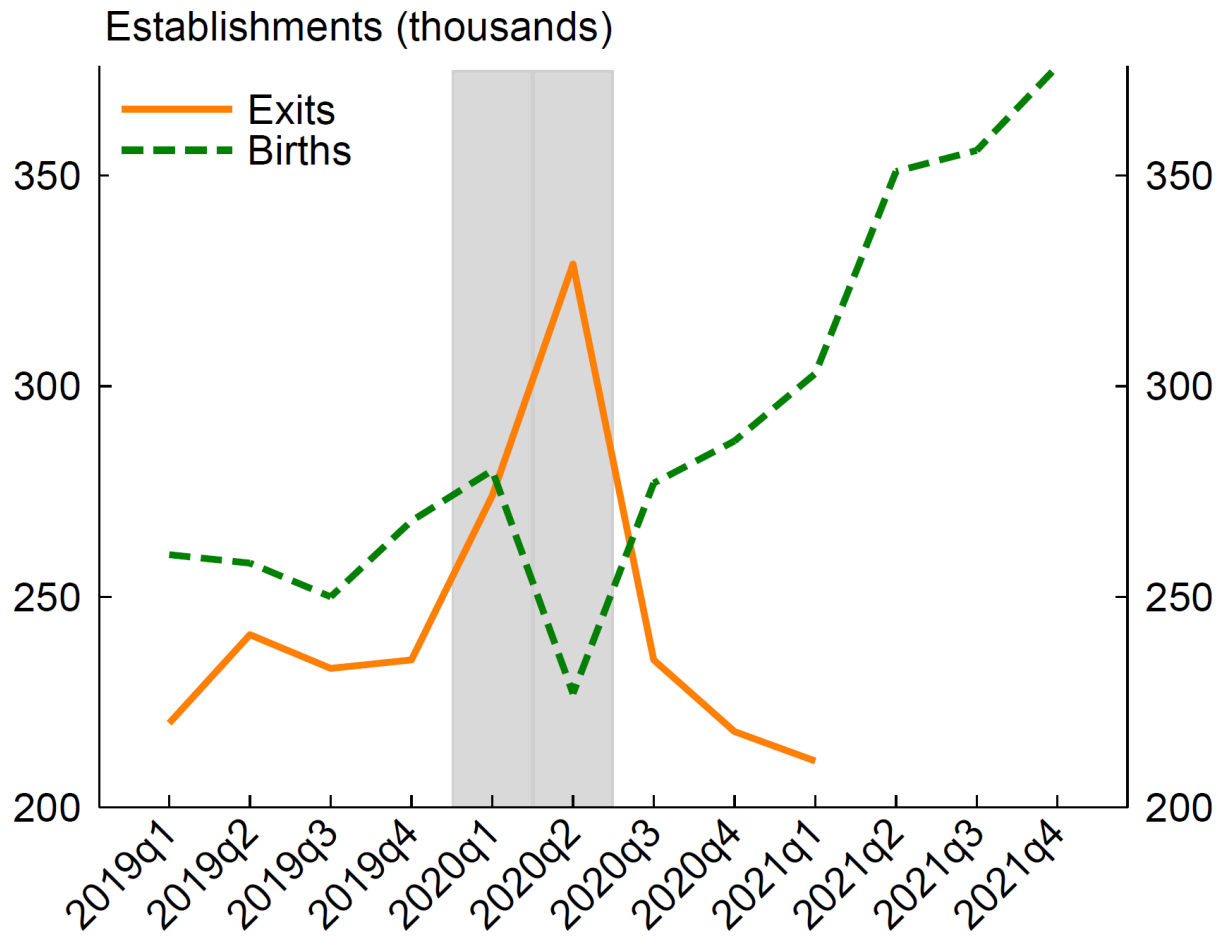
Focus here:

- Gold standard databases tracking firm and job turnover emerge with a lag. Now data through 2021:4 from some of the databases.
- Spatial variation in net establishment growth



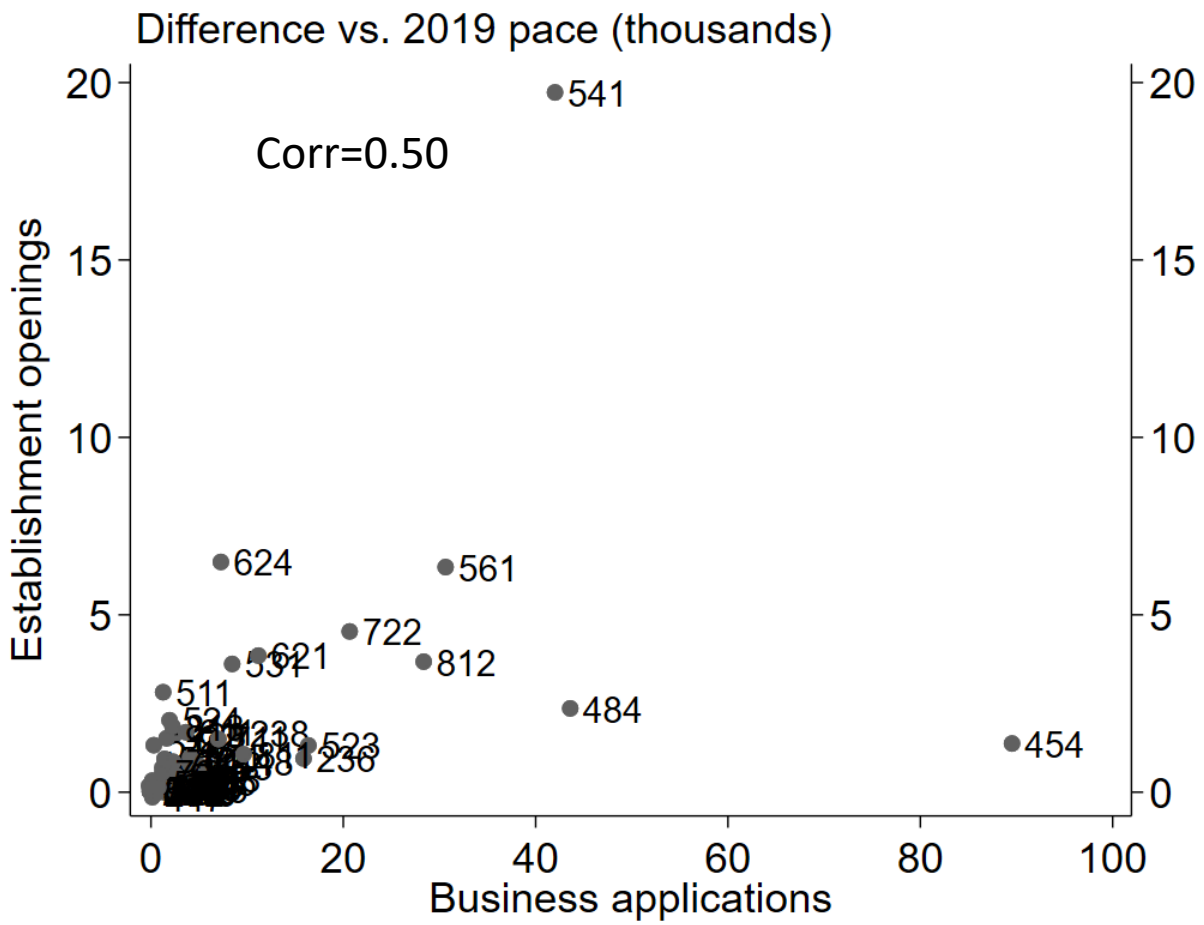
Note: High-propensity business applications. Seasonally adjusted. Y axes may not start at zero. Shaded areas indicate NBER recession dates.
Source: BLS Business Employment Dynamics (BED) and Census Bureau Business Formation Statistics (BFS).

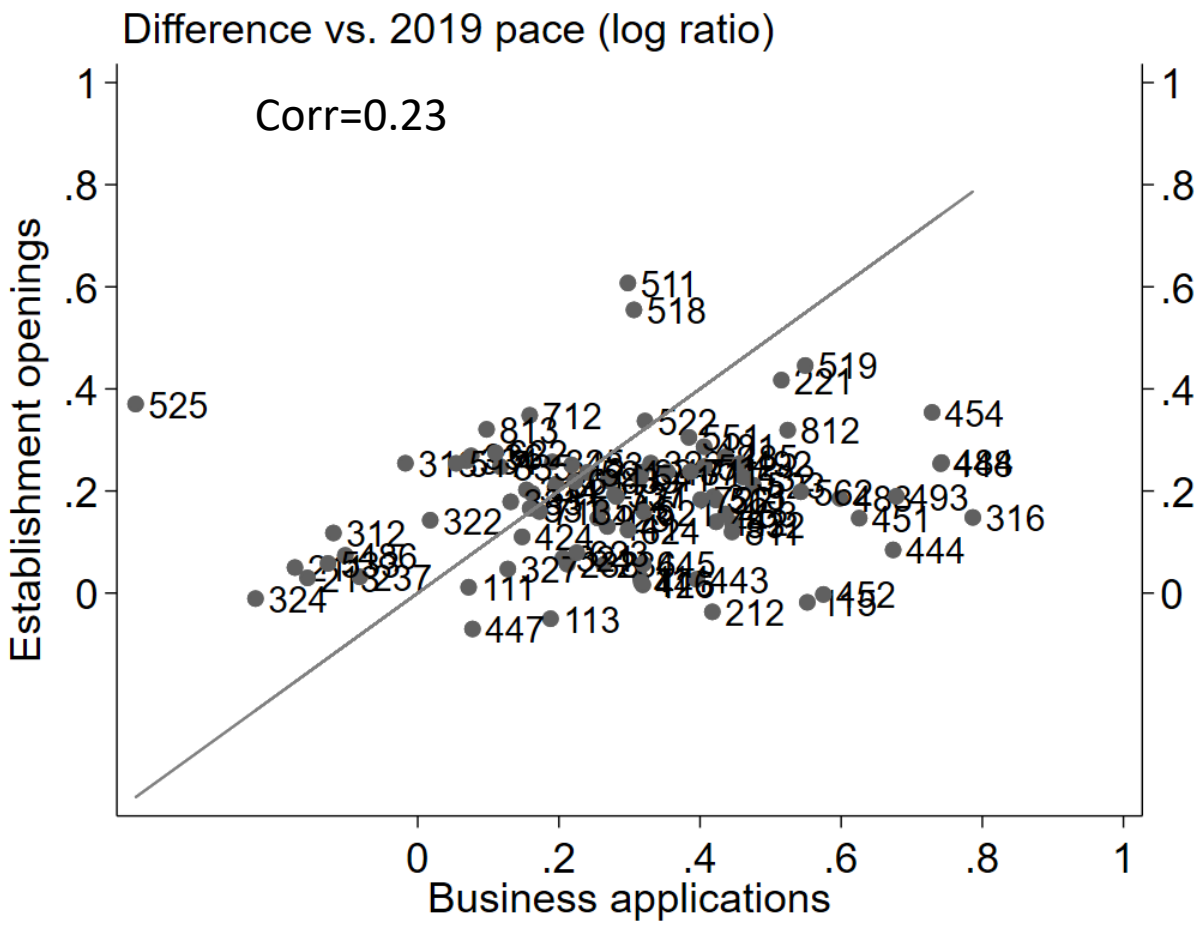
BED Establishment Entry and Exit (true entry/exit – not just reopenings and closings)



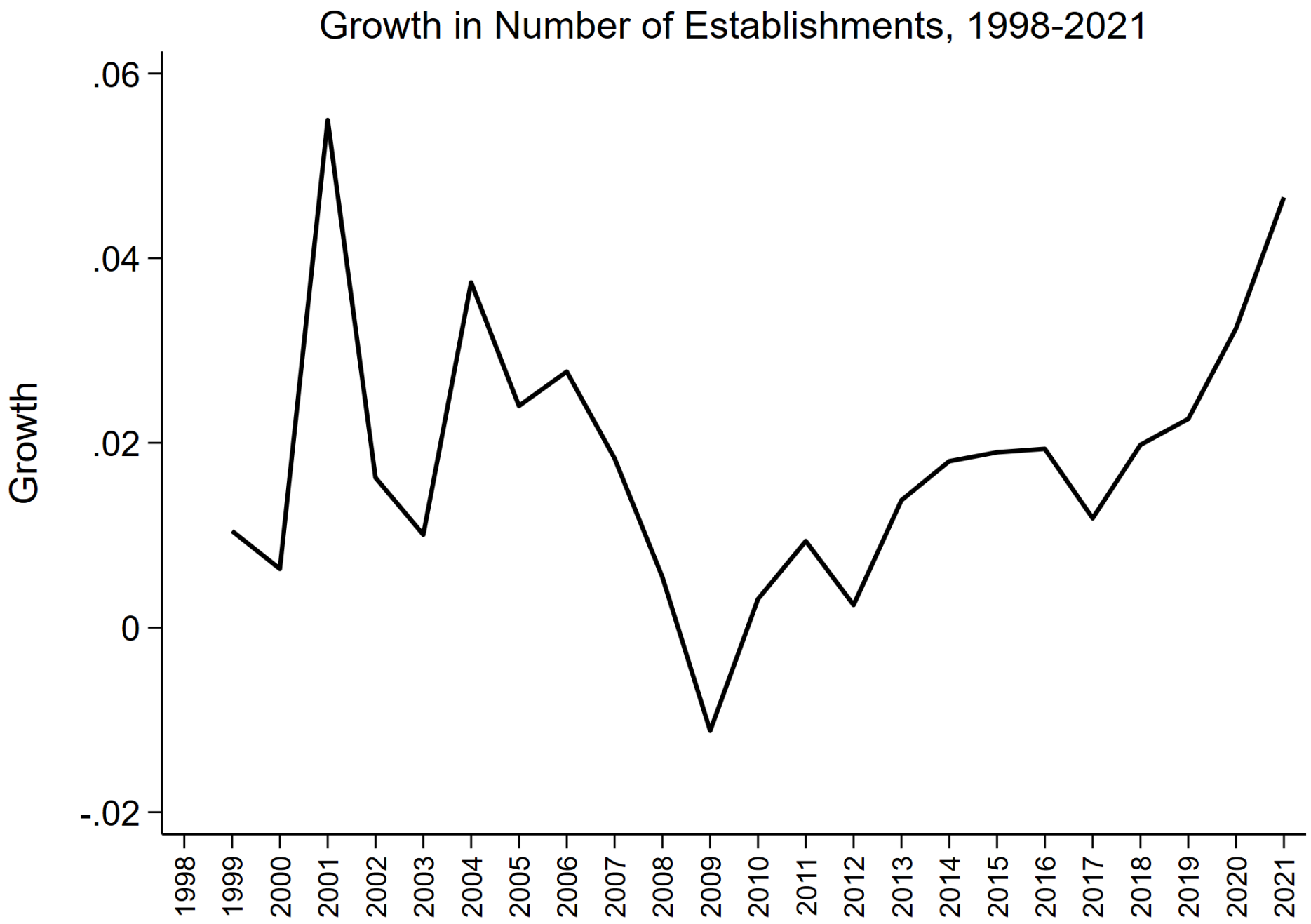
Note: Seasonally adjusted. Y axes may not start at zero. Shaded areas indicate NBER recession dates.
Source: BLS Business Employment Dynamics (BED).

Between Industry differences in Changes in Establishment Applications and Openings: Avg(2020:4-2021:4) vs. Avg(2019)
(Caution: Openings and not births. BED does not release 3-digit births)



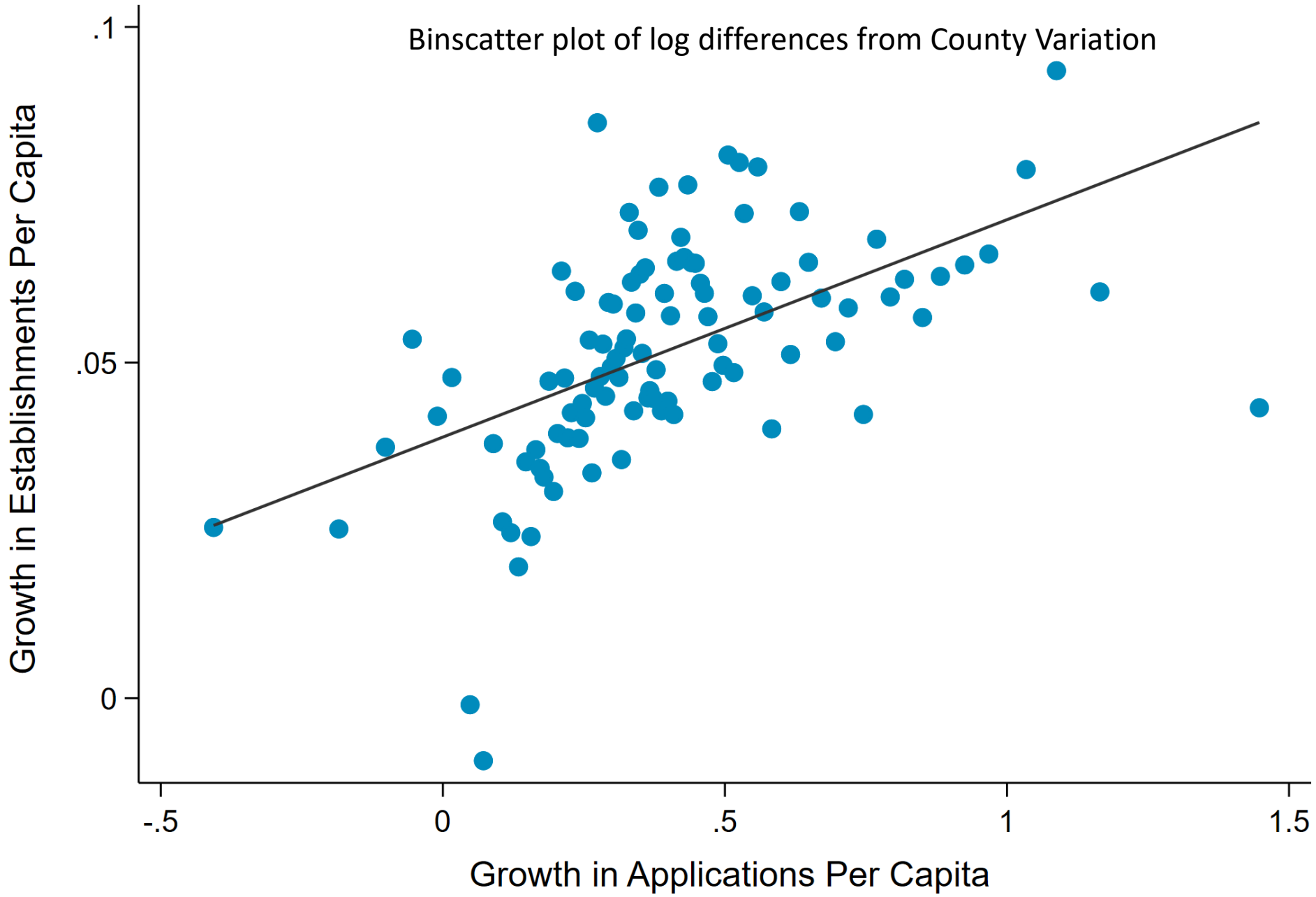


Note: Differences based on averages for 2020:Q4-2021:Q4 and 2019:1-2019:4. Left panel expressed in average seasonally adjusted quarterly pace. Solid line is 45-degree line.
Source: BLS Business Employment Dynamics (BED), Census Bureau Business Formation Statistics, and author calculations.



There has been rapid NET growth in establishments in the pandemic.

Source: BLS Quarterly Census of Employment and Wages (QCEW)



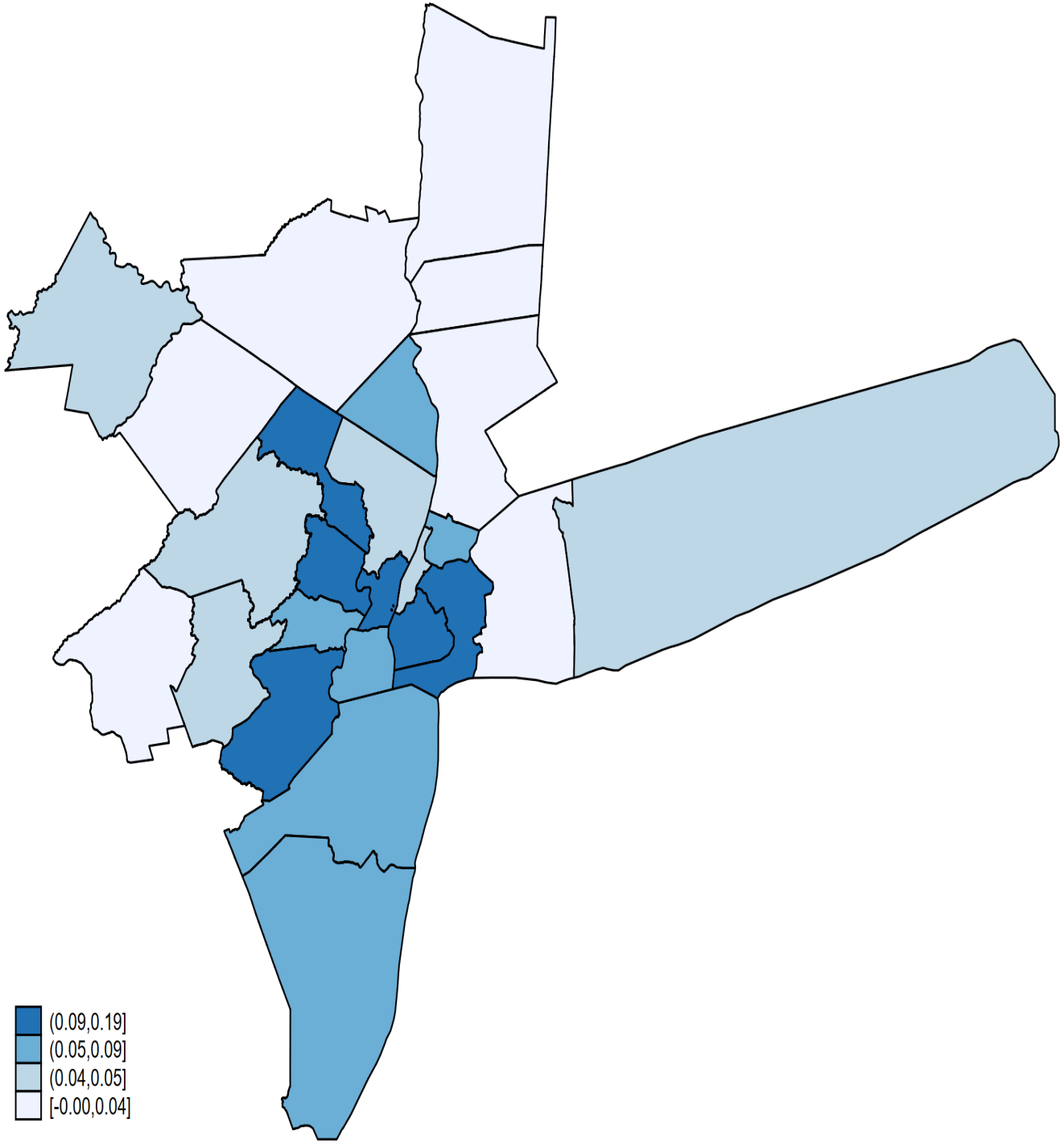
Slope = 0.0324, SE = 0.0045

Growth is measured
By log differences
Of Measures between
Pandemic (2020-21)
And Pre-Pandemic
(2010-19).

Caution:
Net establishment
Growth are for Employer
Businesses
And Applications are all.

Also recall lags from
Applications to startups.

Source: QCEW



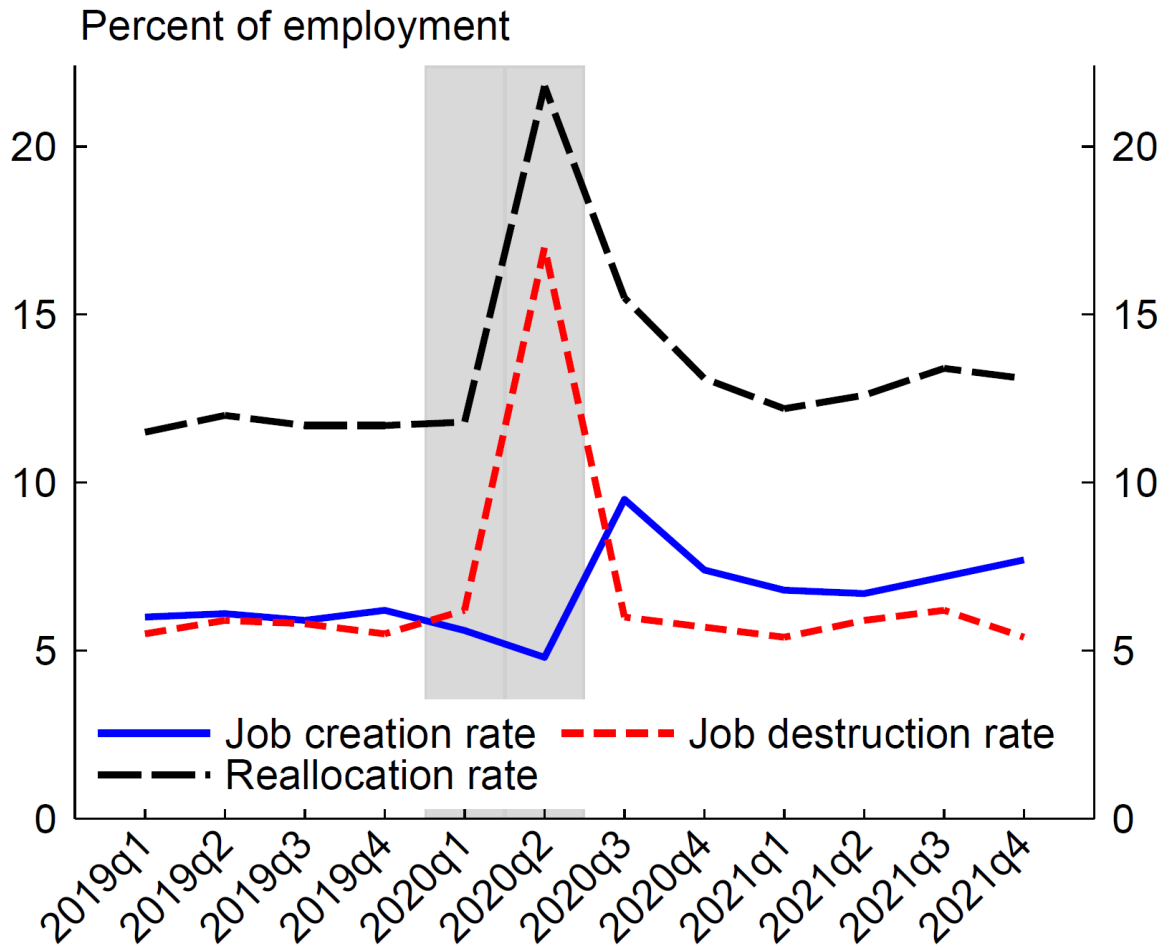
Log Differences in Establishments Per Capita Between Pre-Pandemic (2010-19) and Pandemic (2020-21).

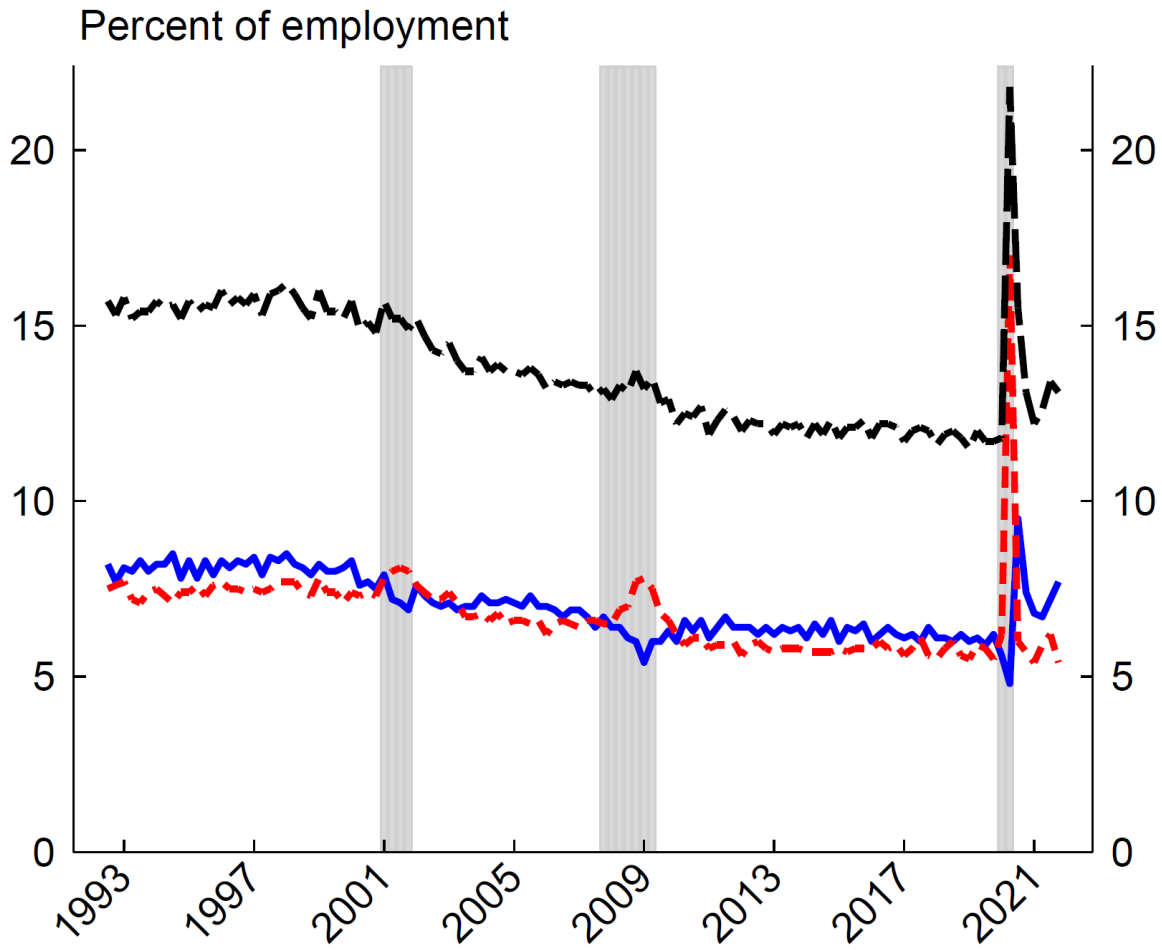
Patterns similar to Applications Per Capita around NYC

Some differences might reflect employer vs nonemployer Businesses (applications at county level are for all Applications, establishments at county level are for employer establishments)

Source: QCEW

Business formation surge part of broader increase in reallocation in pandemic. Still lower than 1990s.

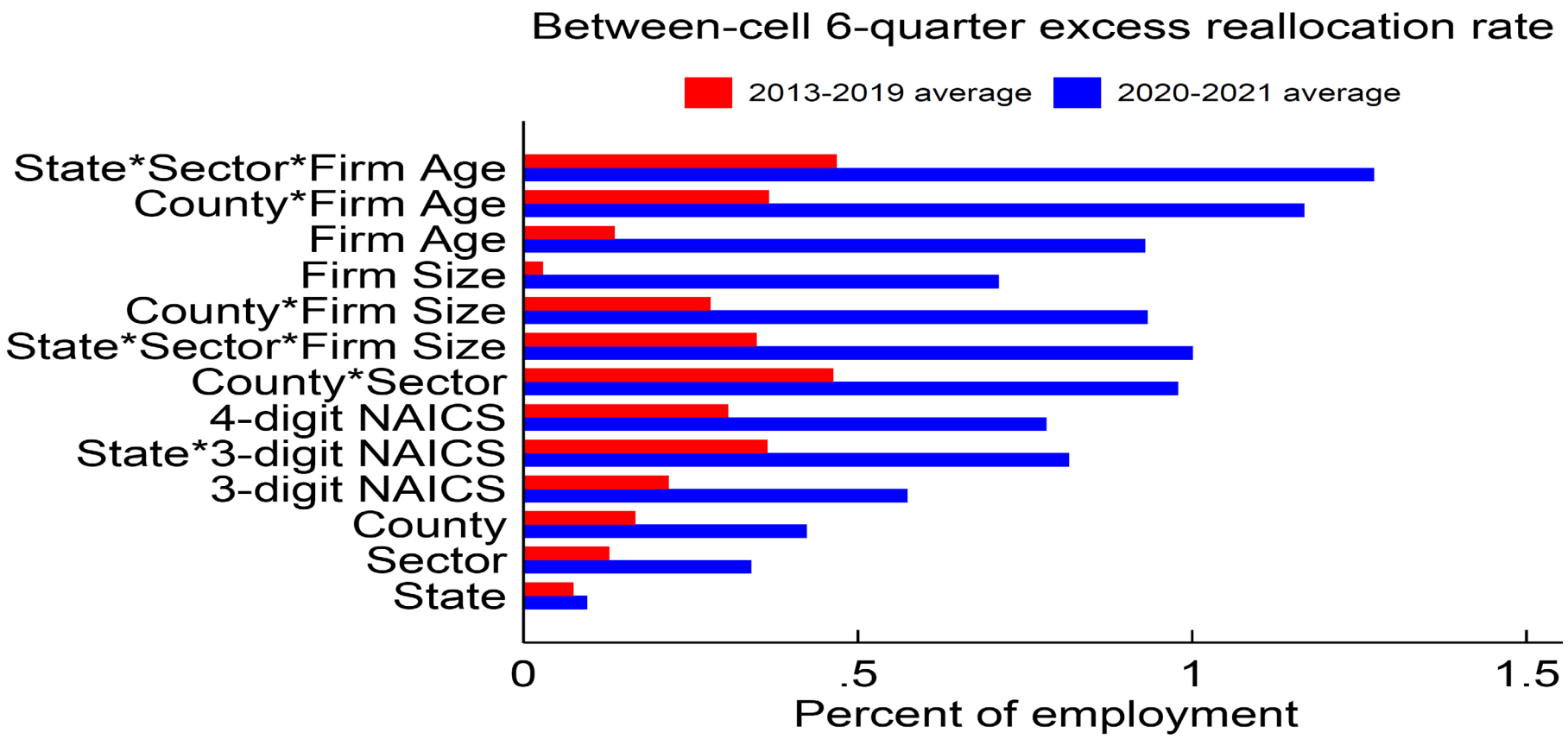




Note: Seasonally adjusted. Reallocation is JC+JD. Shaded areas indicate NBER recession dates.
Source: BLS Business Employment Dynamics (BED) and author calculations.

Open question from one-quarter rates is how much of subsequent job creation is reversing job destruction within establishments

Reallocation Rate has increased. Difficult to interpret Within Cell (within-establishment reversals within cells).
Between cell implies reallocation across groups – cannot be within-establishment reversals.



Note: Averages of quarterly seasonally adjusted data through 2021q2.
Sorted (descending) by change 2013-2019 to 2020-2021.
Source: Census Bureau Quarterly Workforce Indicators (QWI)
and author calculations.

Between cell: If cell has no cumulative net change over 6-quarters it will not contribute to between cell.
State*sector*firm age has differences in cumulative net growth rates across cells have seen largest increase.

Taking stock

- Striking surge in business applications during the pandemic, concentrated in pandemic-friendly industries
- Historically, a tight relationship between applications and business creation—both nonemployers and job creators
  - But with a lag
- Sectoral reallocation implied by dispersion of growth rate of applications across sectors
- Geography of business applications: outer rim of cities? Also movement away from major cities.
  - Highly nonlinear
- Has this surge in applications yielded surge in new businesses?
  - Surge in establishment births
  - Sectoral mix of establishment openings similar to sectoral mix of applications.
  - Surge in establishment formation in tandem with surging business applications, with roughly similar geography
- What about overall reallocation?
  - Surge in between-cell excess reallocation, particularly across state, sector and firm age categories.

References

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