Business formation patterns before and during the Pandemic (in the U.S.)

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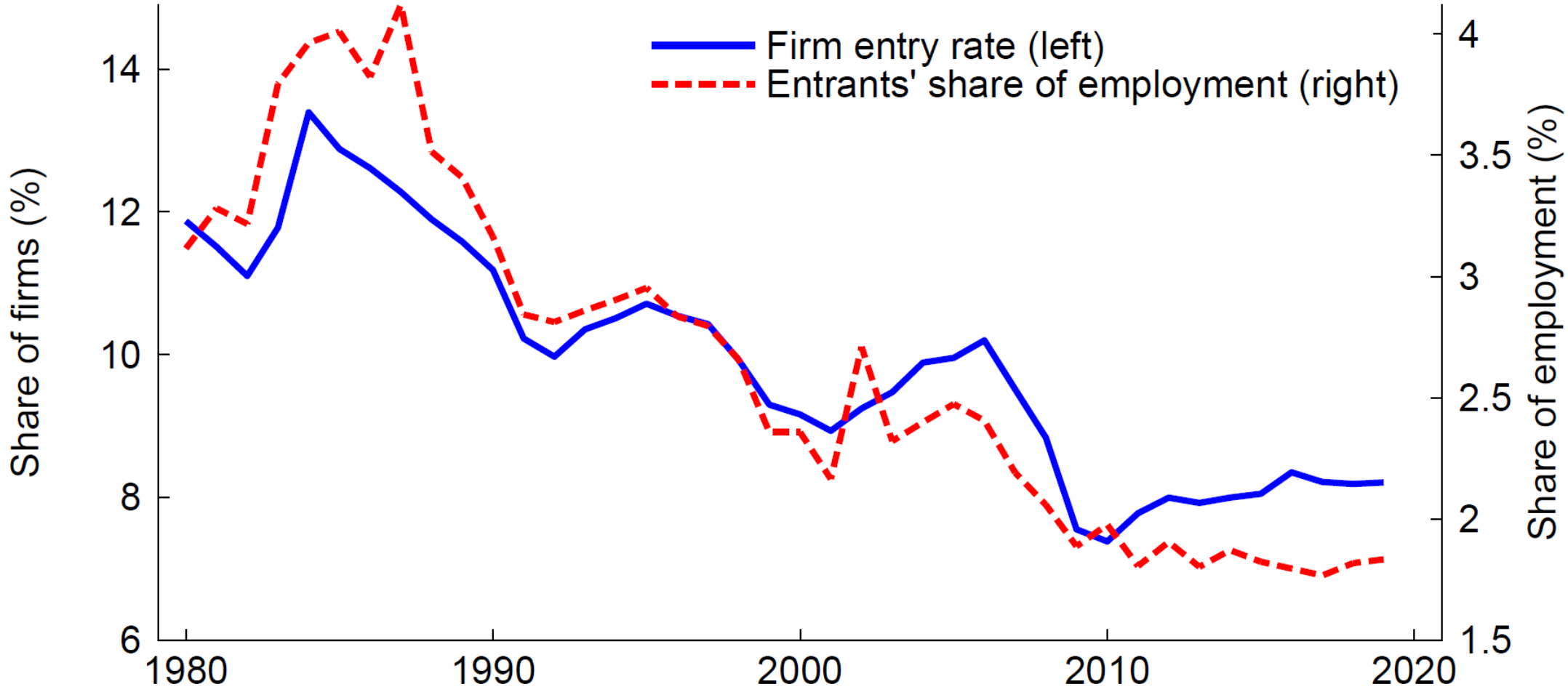
I thank John Haltiwanger for comments. Without implication, this presentation draws heavily on joint work with Brian Albrecht, John Haltiwanger, Javier Miranda, and Ron Jarmin.

Business creation is important

- New and young firms make disproportionate contributions to aggregate job creation (Haltiwanger, Jarmin & Miranda 2013)
  - Despite high failure rates, typical cohort employment after 5 years is 80% of initial job creation (Decker, Haltiwanger, Jarmin, & Miranda 2014)
- Entrants make disproportionate contribution to aggregate productivity (Decker, Haltiwanger, Jarmin, & Miranda 2017; Alon, Berger, Dent, & Pugsley 2018)
- Young firms play large role in job ladder, hiring from across the firm distribution (Haltiwanger, Hyatt, Kahn, & McEntarfer 2018)

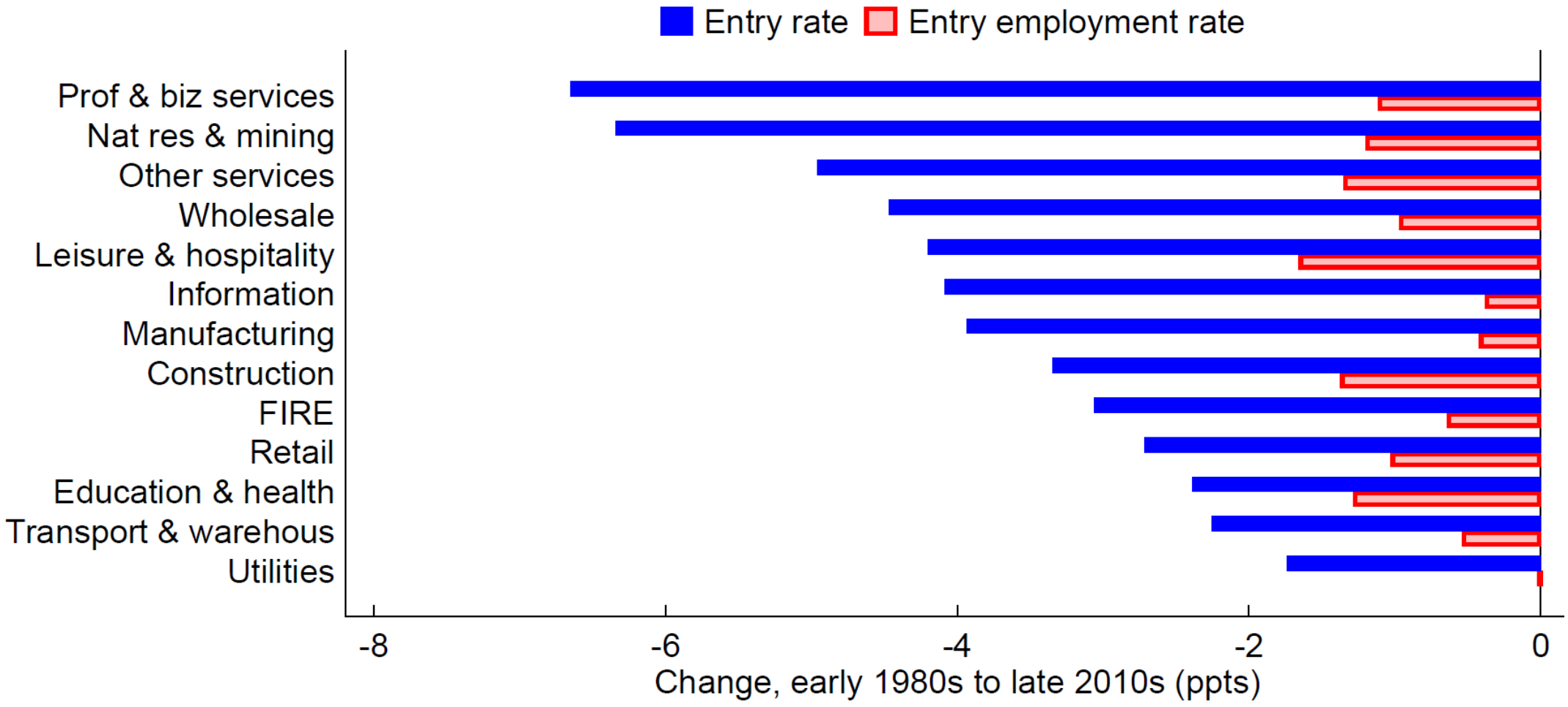
Pre-pandemic business formation and dynamism

Before the pandemic, firm entry had declined.



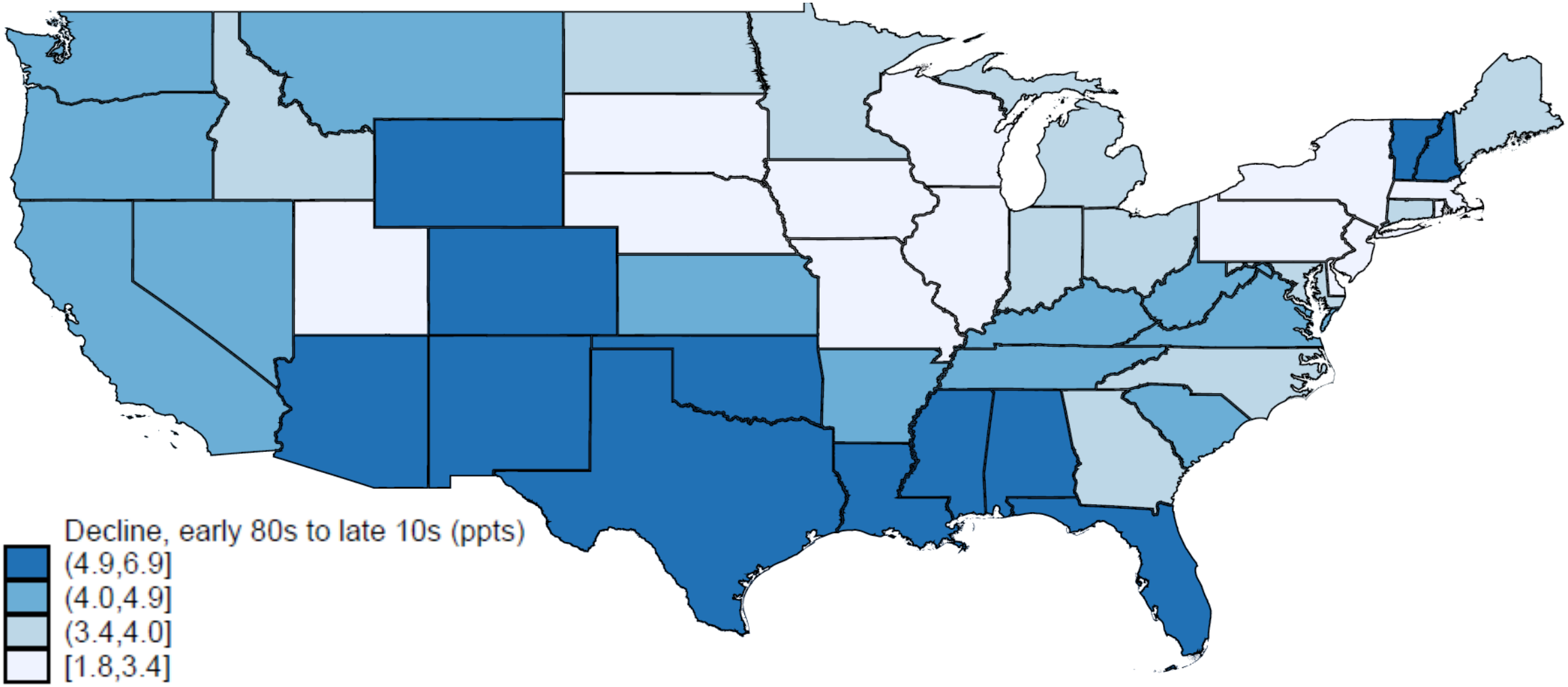
Note: Y axis does not begin at zero.
Source: Business Dynamics Statistics.

The decline was widespread across sectors…



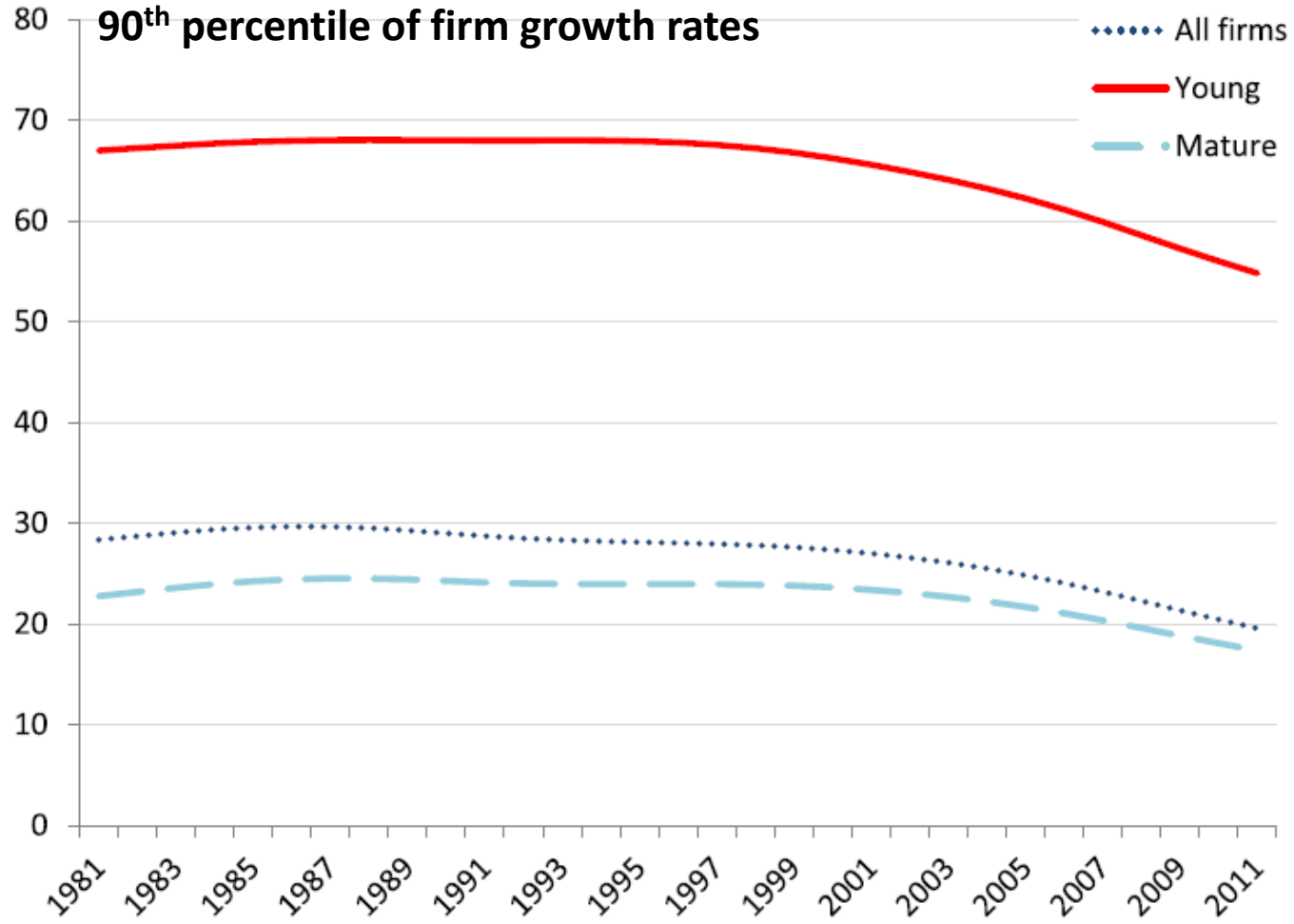
Note: Change, 2015-2019 average vs. 1980-1984 average.
Source: Business Dynamics Statistics.

…and across geographic regions.



Note: Decline in firm entry rate, 2015-2019 average vs. 1980-1984 average. Source: Business Dynamics Statistics.

High-growth young firm activity declined after 2000.



Source: Decker, Haltiwanger, Jarmin, Miranda 2016

Note: The 90th percentile is based on the employment-weighted distribution of firm employment growth rates. Data are HP trends using parameter set to 100. Young firms have age less than 5. Data include continuers only.

Productive young firms' relative growth declined.

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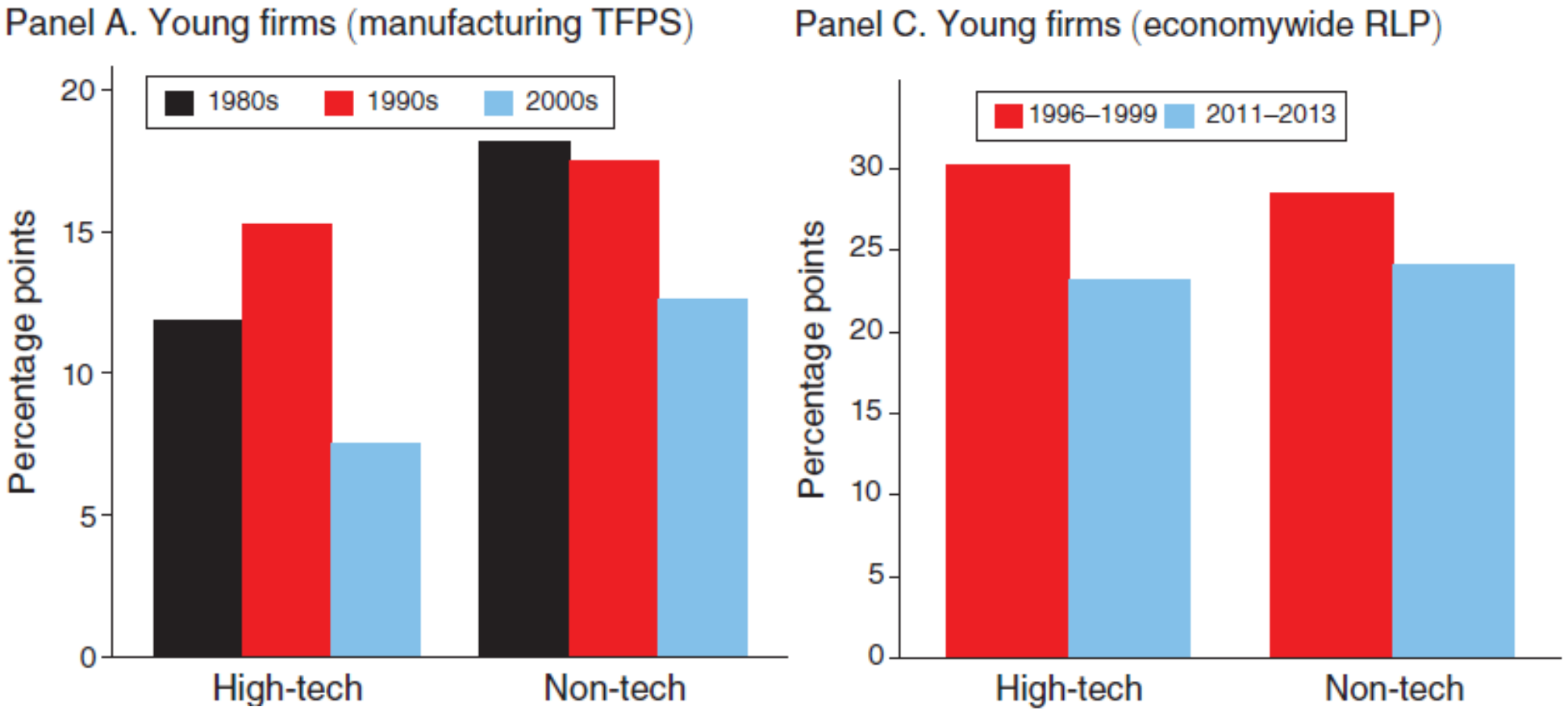
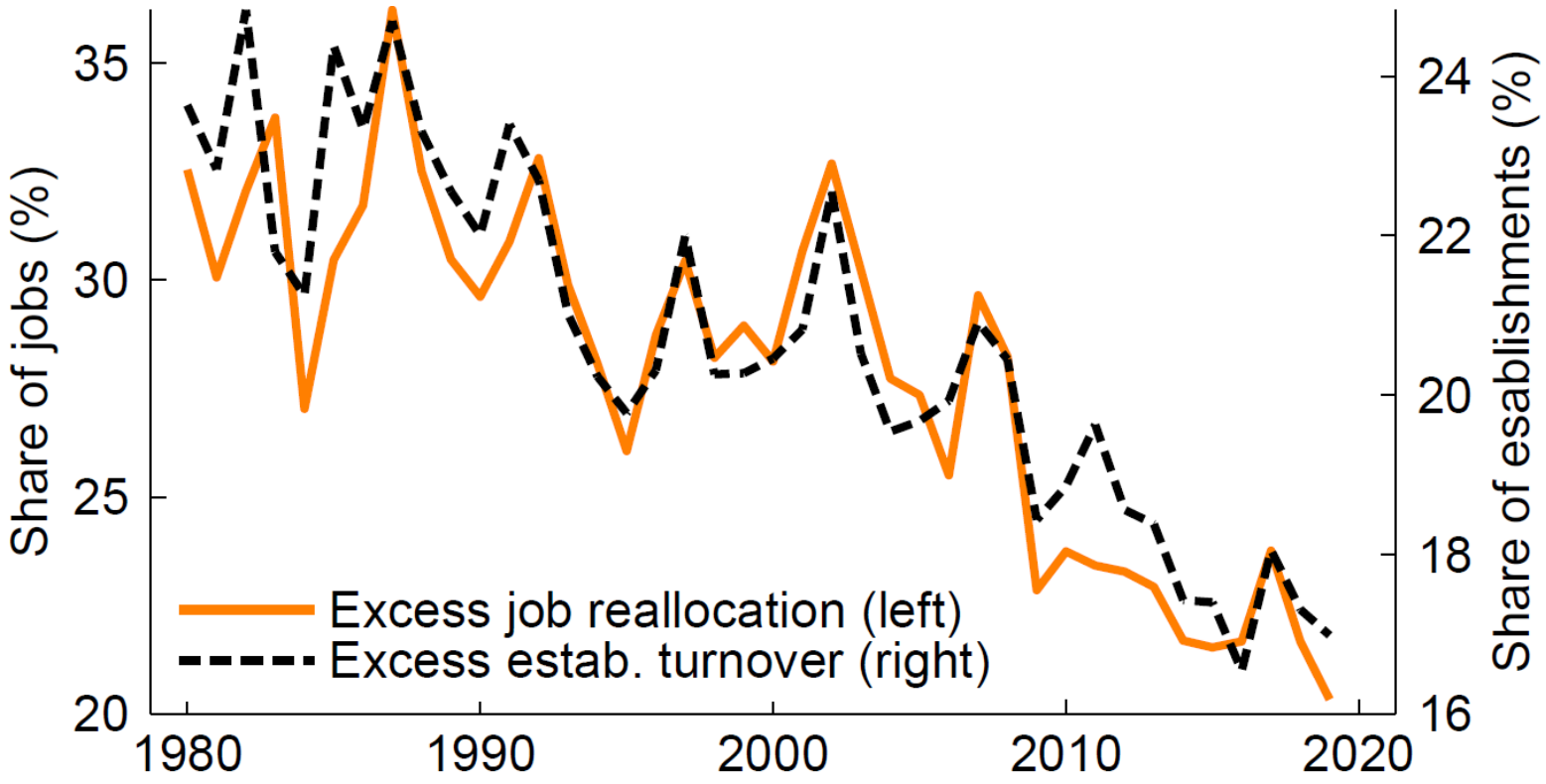


Source: Decker, Haltiwanger, Jarmin, Miranda 2020

Note: Compares employment growth rate of establishment (panels A, B) or firm (panels C, D) that is one standard deviation above its industry-year mean productivity, versus the mean.

Other “dynamism” measures have also fallen.



Note: Y axes do not begin at zero. Excess job reallocation is gross job creation + gross job destruction less absolute net job creation. Excess establishment turnover is establishment births + deaths less net establishment births.
Source: Business Dynamics Statistics.

- Job reallocation
- Establishment turnover

Also:

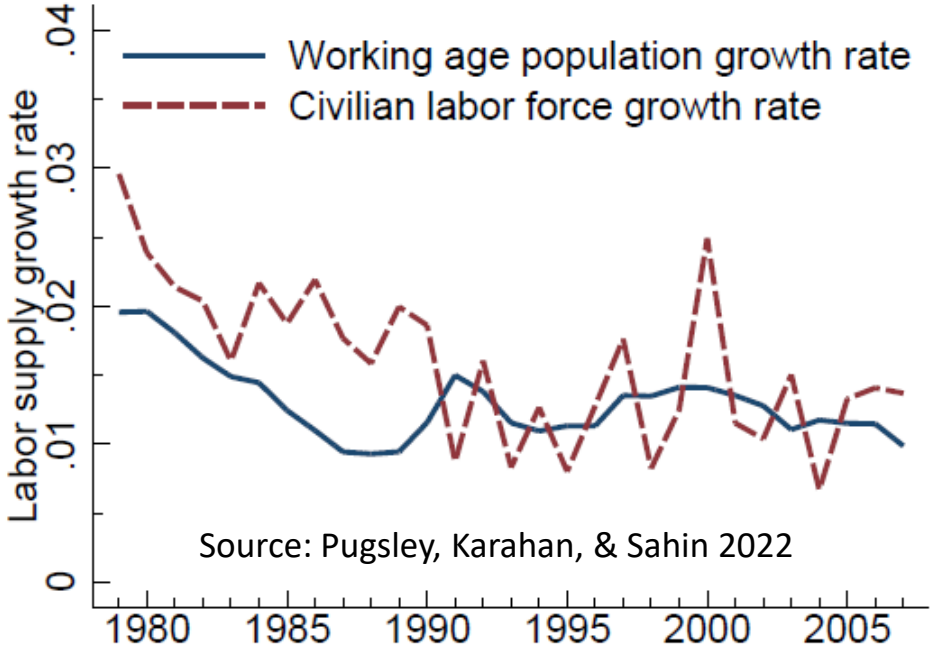
- Worker flows: hires, separations, churn (e.g., Hyatt & Spletzer 2013)
- Within-firm volatility (e.g., Davis et al. 2007, Decker et al. 2016)
- Migration (e.g., Molloy et al. 2016; Hyatt et al. 2018)
- IPOs (Gao, Ritter, & Zhu 2013)

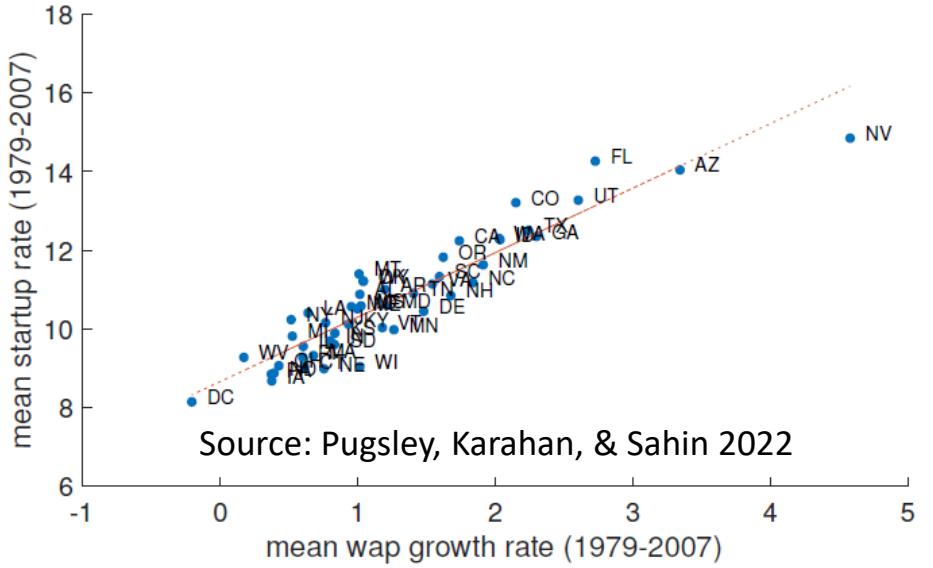
Why the decline in entry & business dynamism?

- Not fully understood, but various theories with some supporting evidence
  - Demographics
  - Regulatory environment
  - Change in business model (retail consolidation, shift to nonemployers, gig economy)
  - Rising market power
  - Knowledge investment or diffusion
  - Or… debates about whether the decline in real

Demographics

- In standard models, business entry is facilitated by labor force growth:
  - Slow population growth → Slow labor force growth → less entry (Pugsley, Karahan, & Sahin 2022)
  - But note: labor force growth decline concentrated in the 1980s
- Other potential population-related mechanisms: Hathaway & Litan (2014); Ozimek (2017)

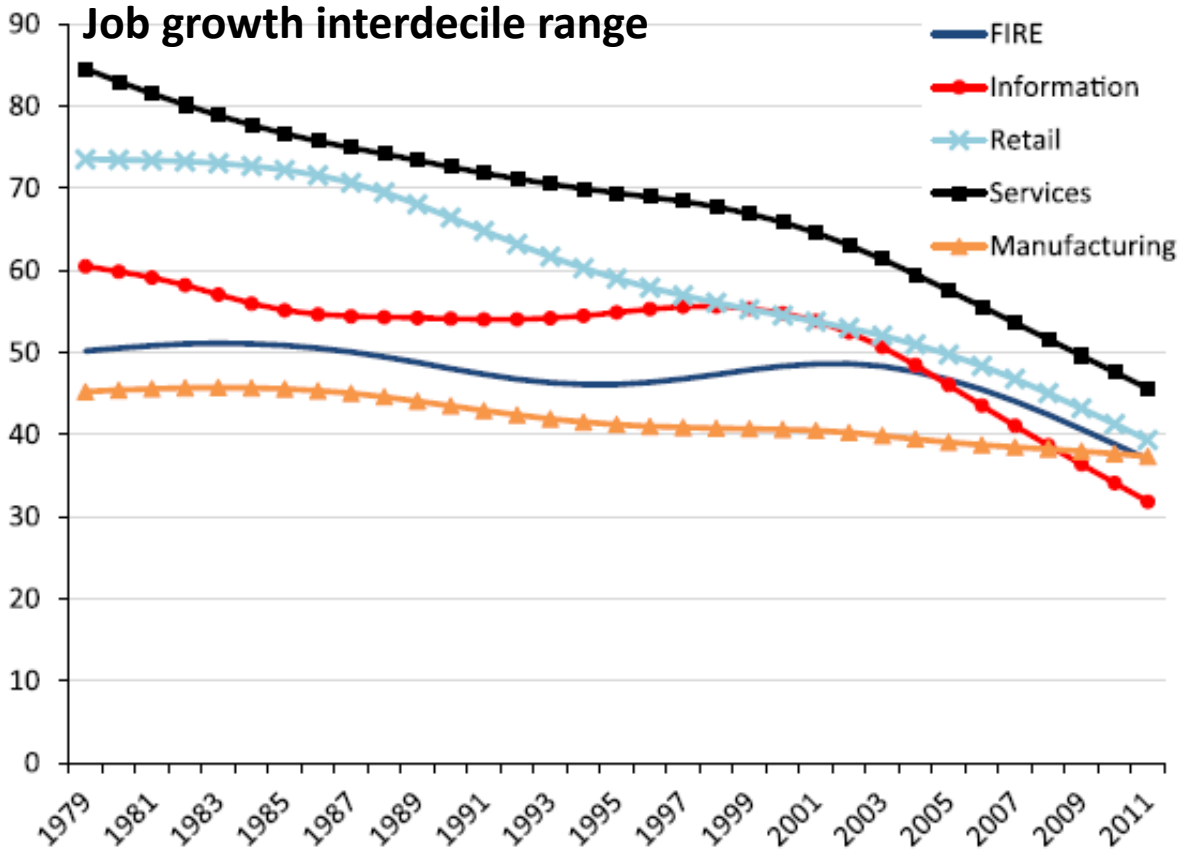


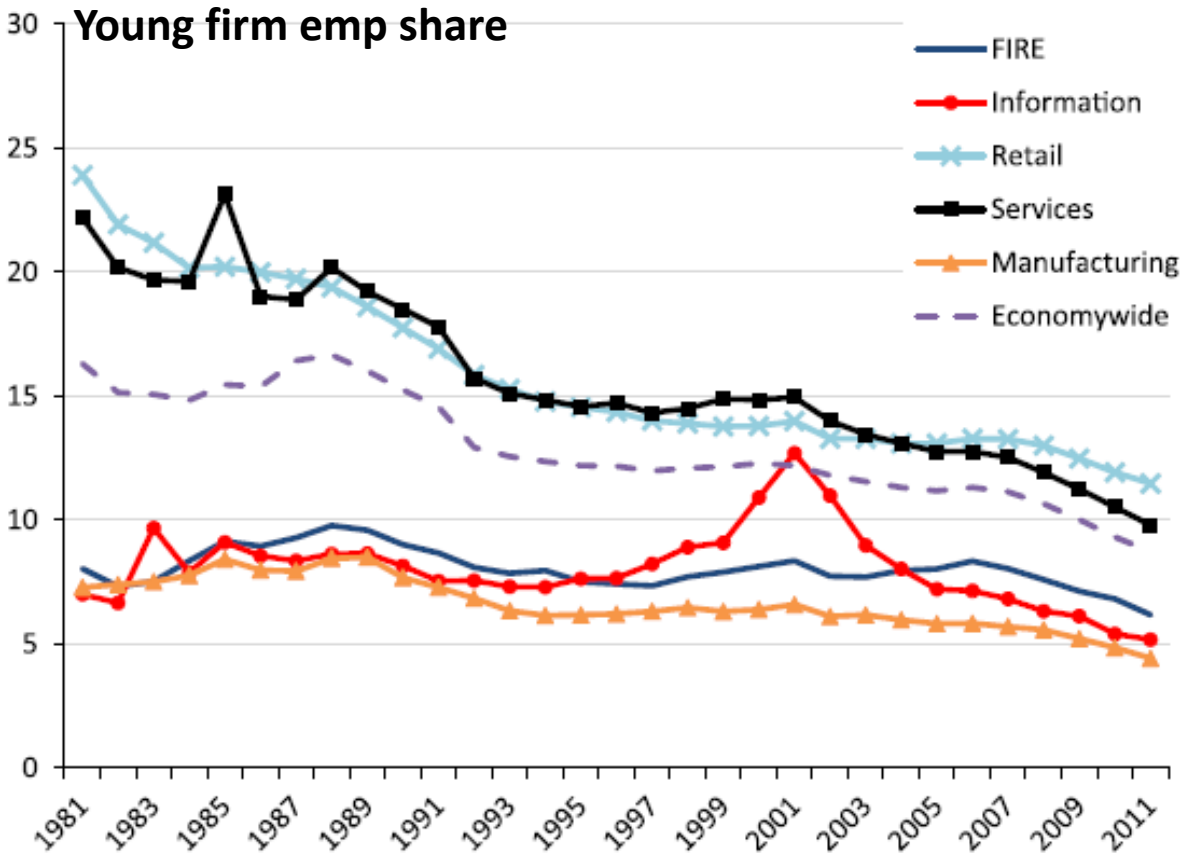


Regulatory environment

- “Death by 1000 cuts” (e.g., Davis & Haltiwanger 2015)
  - Unlawful discharge (Autor, Kerr, & Kugler 2007)
  - Occupational licensing (Johnson & Kleiner 2020)
  - Zoning & other limits on mobility
  - Federal regulation count? No clear relationship with estab. formation (Goldschlag & Tabarrok 2018)

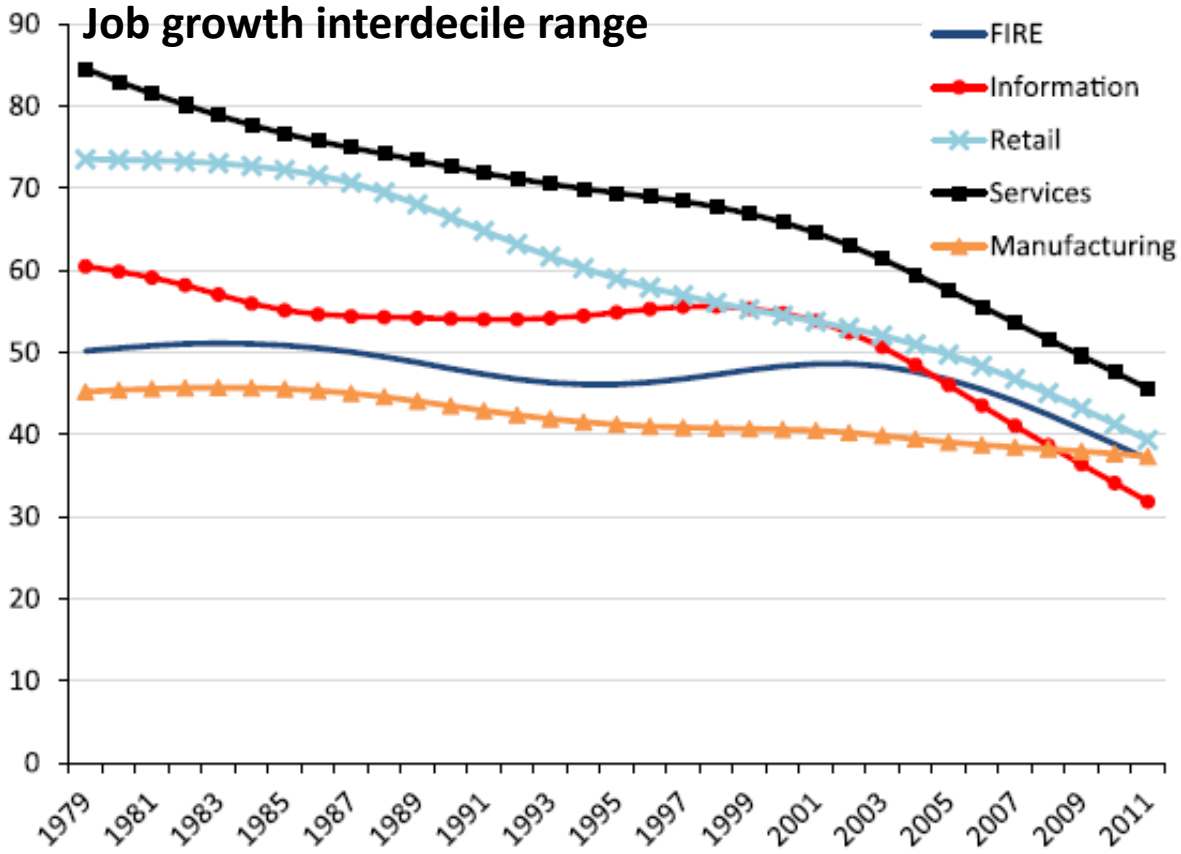
Changing business models



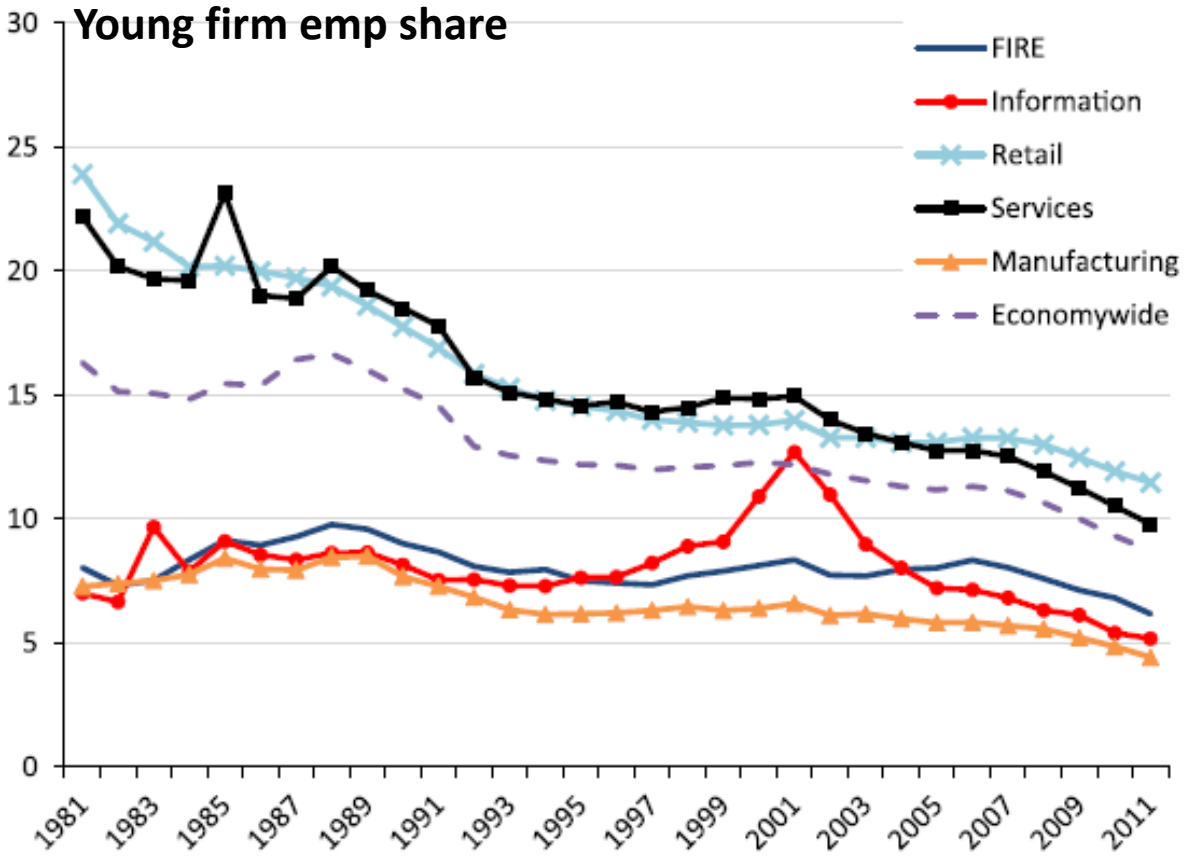


Source: Decker, Haltiwanger, Jarmin, & Miranda (2016) EER

Changing business models



- Retail: decline of "mom and pop" entrepreneurship in favor of "big box" retailers.
  - 1980s-1990s retail consolidation (rise of "big box" retail) was productivity enhancing (Foster et al. 2006, 2016)



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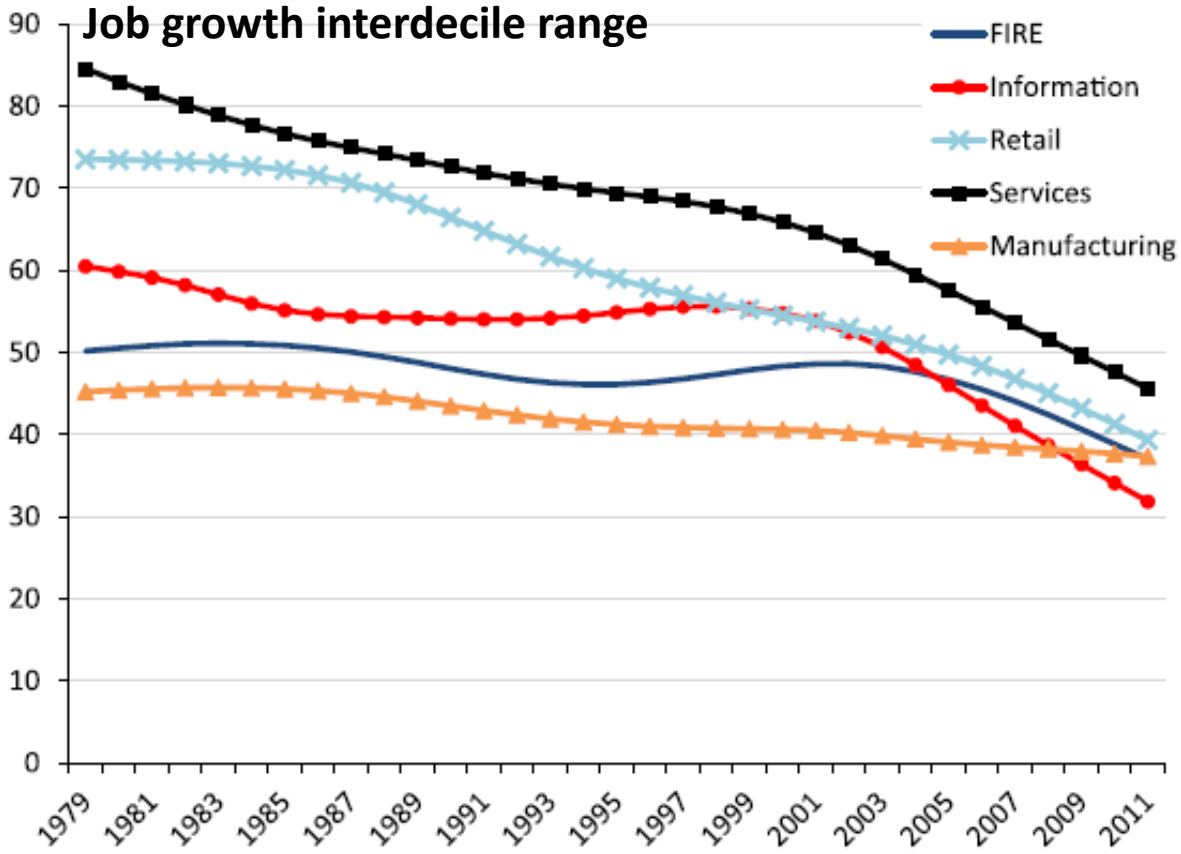

- Tech, information decline starts after ~2000

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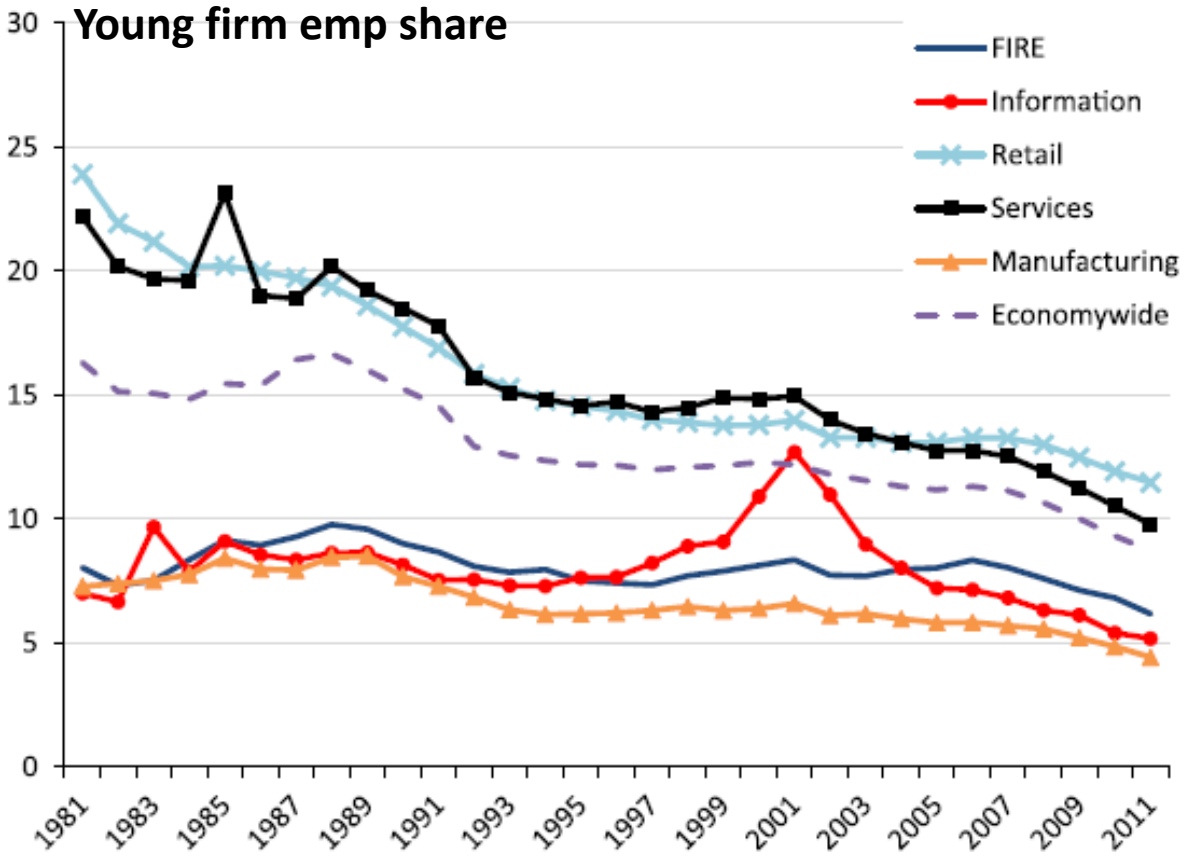
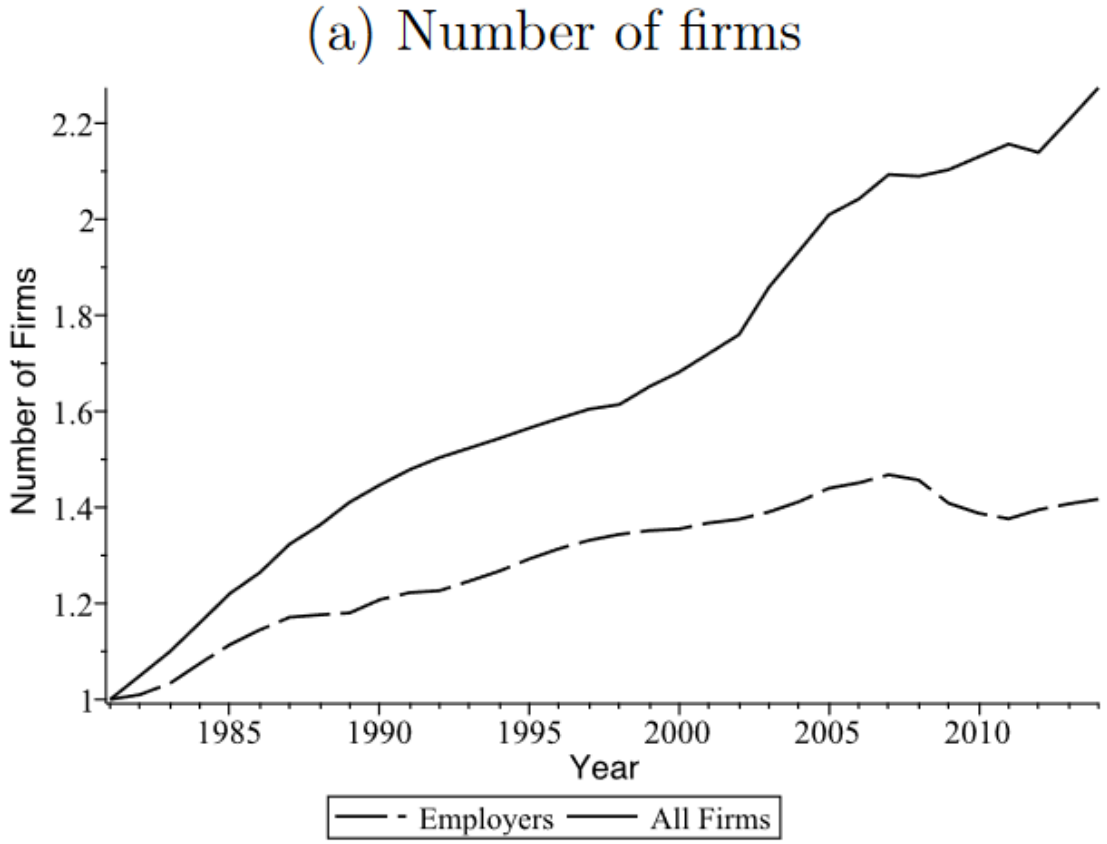


Source: Decker, Haltiwanger, Jarmin, & Miranda (2016) EER

Changing business models (2)

- Shift to nonemployer entrepreneurship (Bento & Restuccia 2021)
- Rise of “gig” economy?
  - Perhaps limited to transportation sector (Abraham et al. 2019)



Market power

- Rising market power/monopolies (De Loecker, Eeckhout, & Mongey 2021)
  - Market power makes firms less responsive to shocks (↓ reallocation), deters entry

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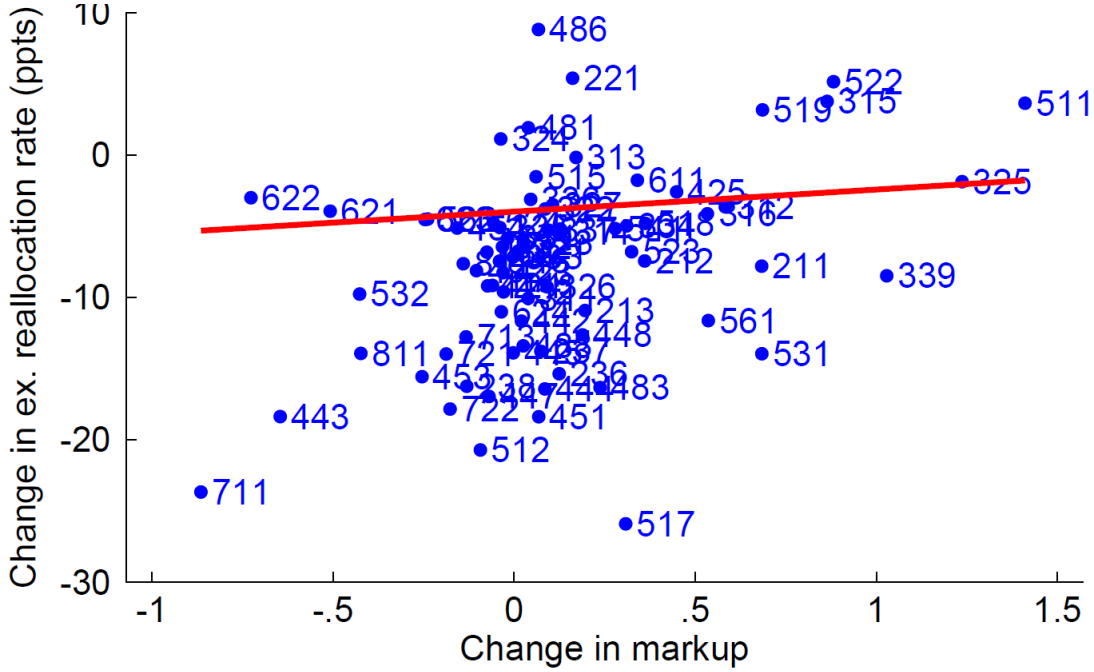
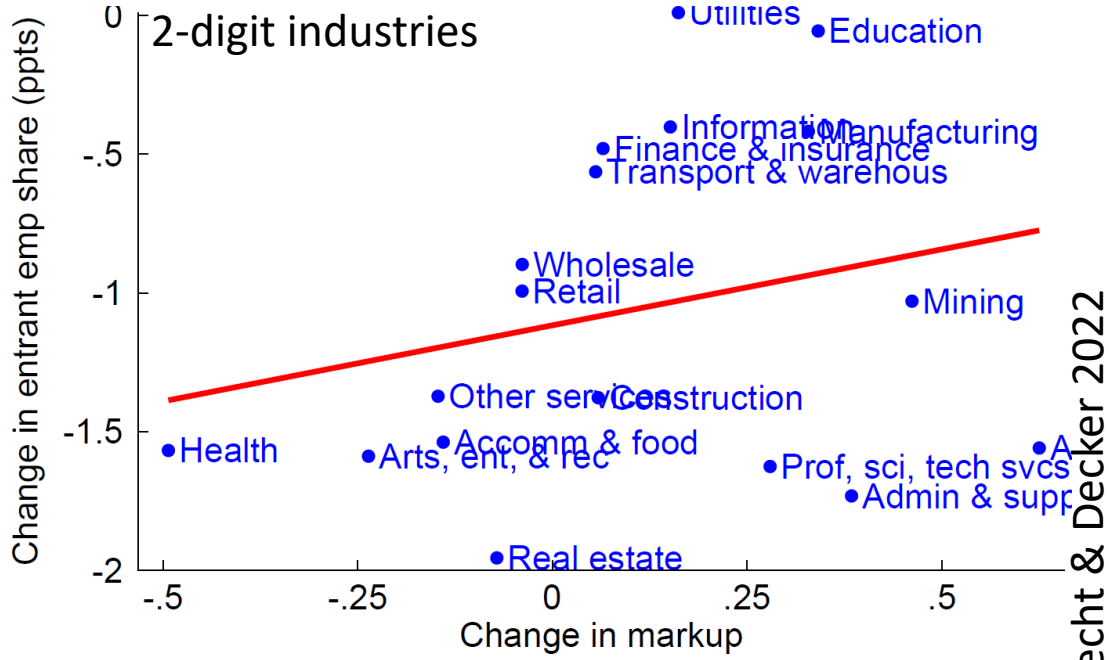
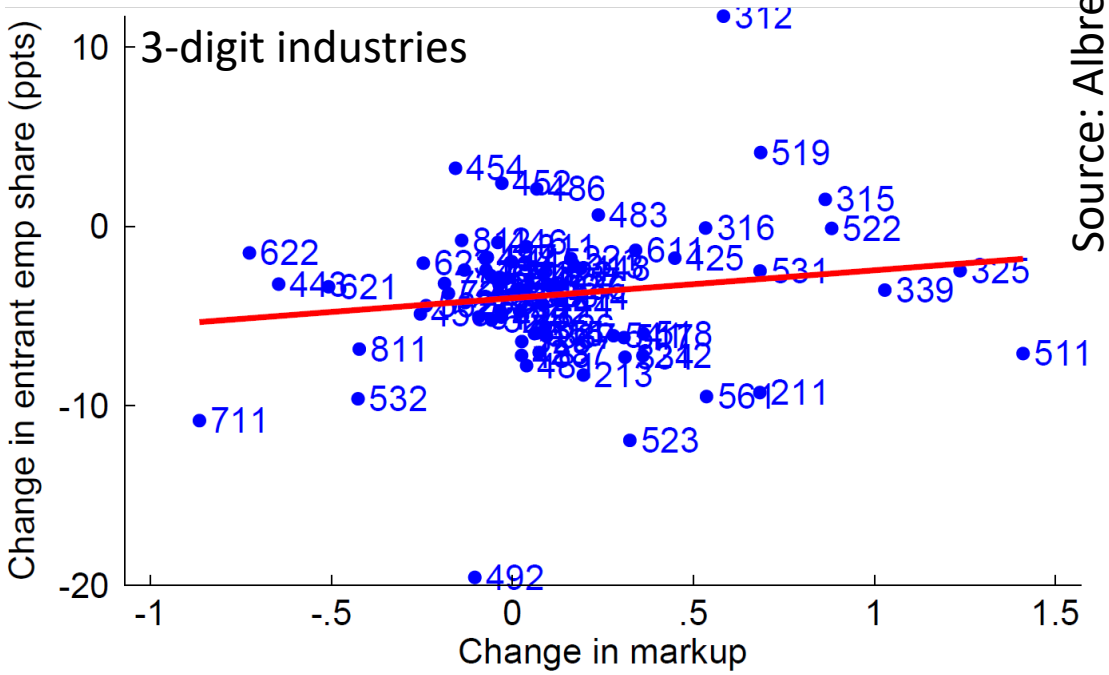


Note: Change, 2012-2016 average vs. 1980-1984 average.
Source: Business Dynamics Statistics and Compustat following De Loecker, Eeckhout, & Unger (2020).





Source: Albrecht & Decker 2022

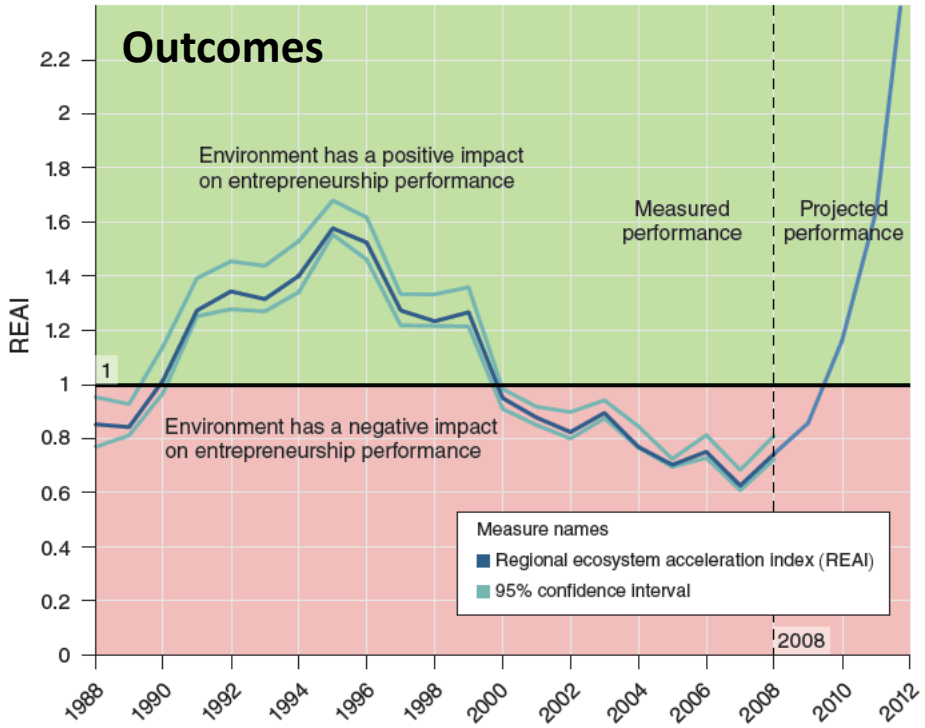
Note: Change, 2012-2016 average vs. 1980-1984 average.
Source: Business Dynamics Statistics and Compustat following De Loecker, Eeckhout, & Unger (2020).

Knowledge investment or diffusion

- Higher entry costs due to rising importance of intangible capital (De Ridder 2021)
- Declining pace of knowledge diffusion from superstar firms (Akcigit & Ates forthcoming; Autor et al. 2020; Andrews, Criscuolo, & Gal 2016)
  - Perhaps more relevant for post-2000 decline of high growth young firms, less relevant in pre-2000 period?

Is the decline real?

- Guzman & Stern (2020): Model for identifying high-potential entrepreneurs at (or shortly after) founding



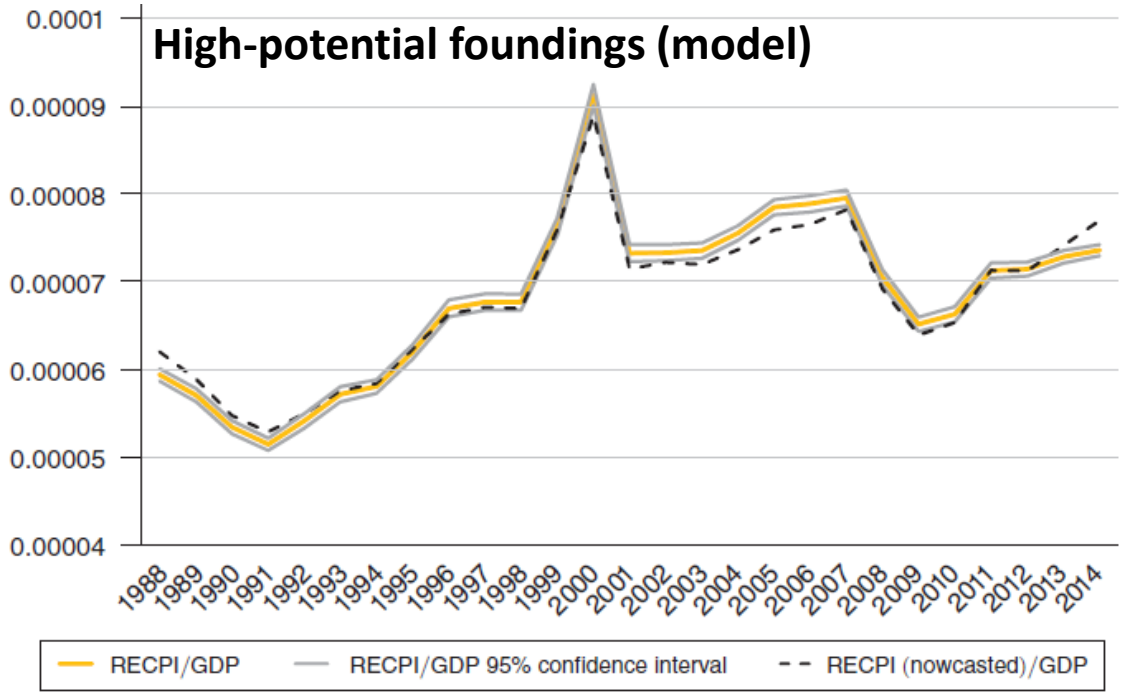


FIGURE 3. US AGGREGATE ENTREPRENEURSHIP REGIONAL ENTREPRENUERSHIP COHORT POTENTIAL INDEX (RECPI) BY YEAR

- Model says: High-potential foundings still robust after 2000
- But… outcomes lower than model expects
  - Consistent with post-2000 decline in high-growth firms & tech documented elsewhere

Explaining the (pre-pandemic) decline in dynamism

- Demographics (1980s?), regulation likely play some role
- Changing business models
  - Retail consolidation apparent in pre-2000 period—productivity enhancing
  - Shift to nonemployers?
- Market power story matches aggregate time series; less apparent in industry cross section
  - Some debate over markup measurement; e.g. Bond et al. (2021); Foster, Haltiwanger, & Tuttle (2021)
- Slowing knowledge diffusion, rising intangibles—potential stories especially for post-2000 decline of high-growth startups
- High-potential foundings (Guzman & Stern) can still be robust without converting to growth outcomes

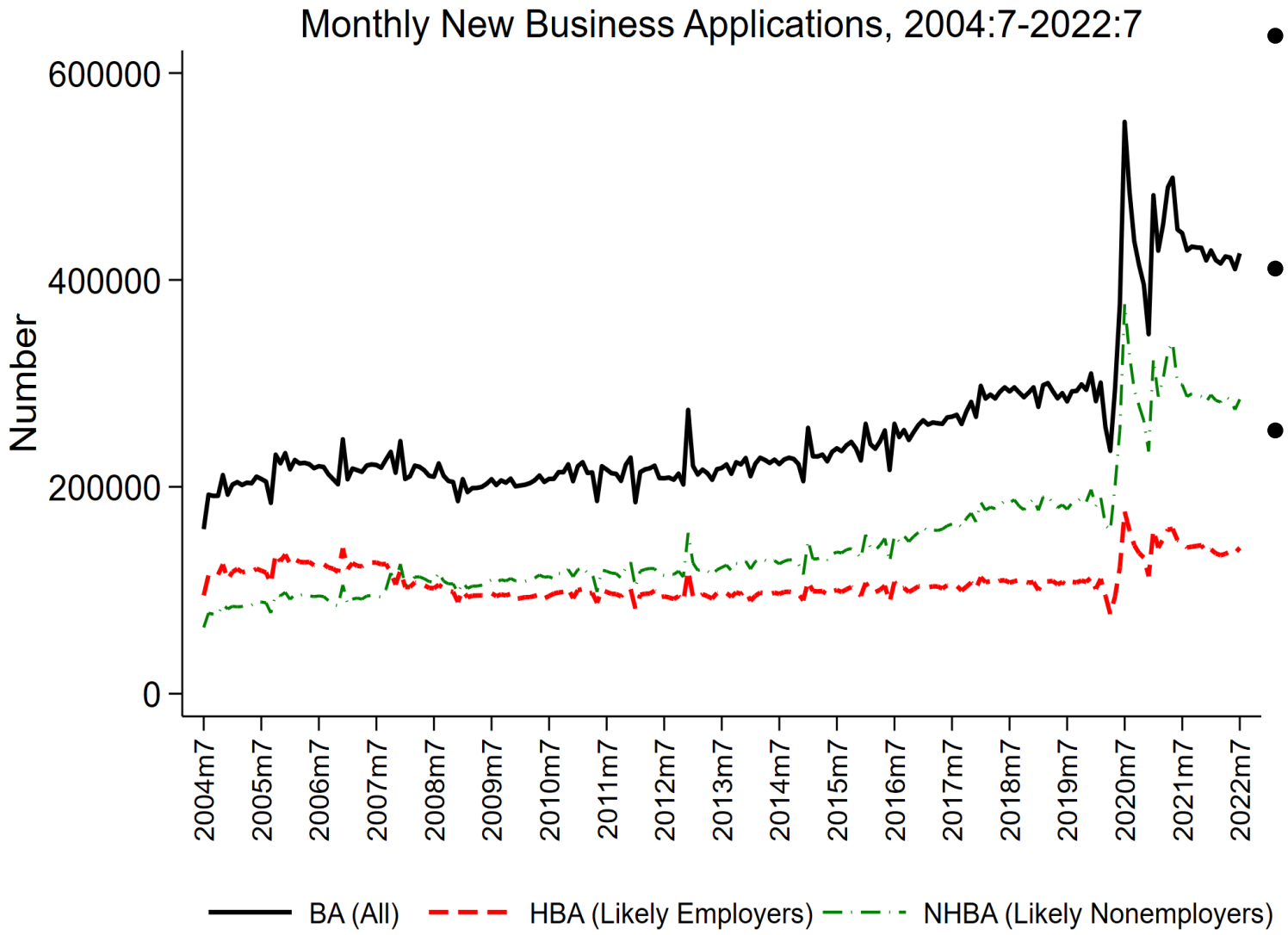
There is likely no single explanation for the 40-year dynamism decline.

U.S. business formation during the pandemic

This section summarizes Decker & Haltiwanger (2022b), “Surging Business Formation in the Pandemic: Causes and Consequences.”

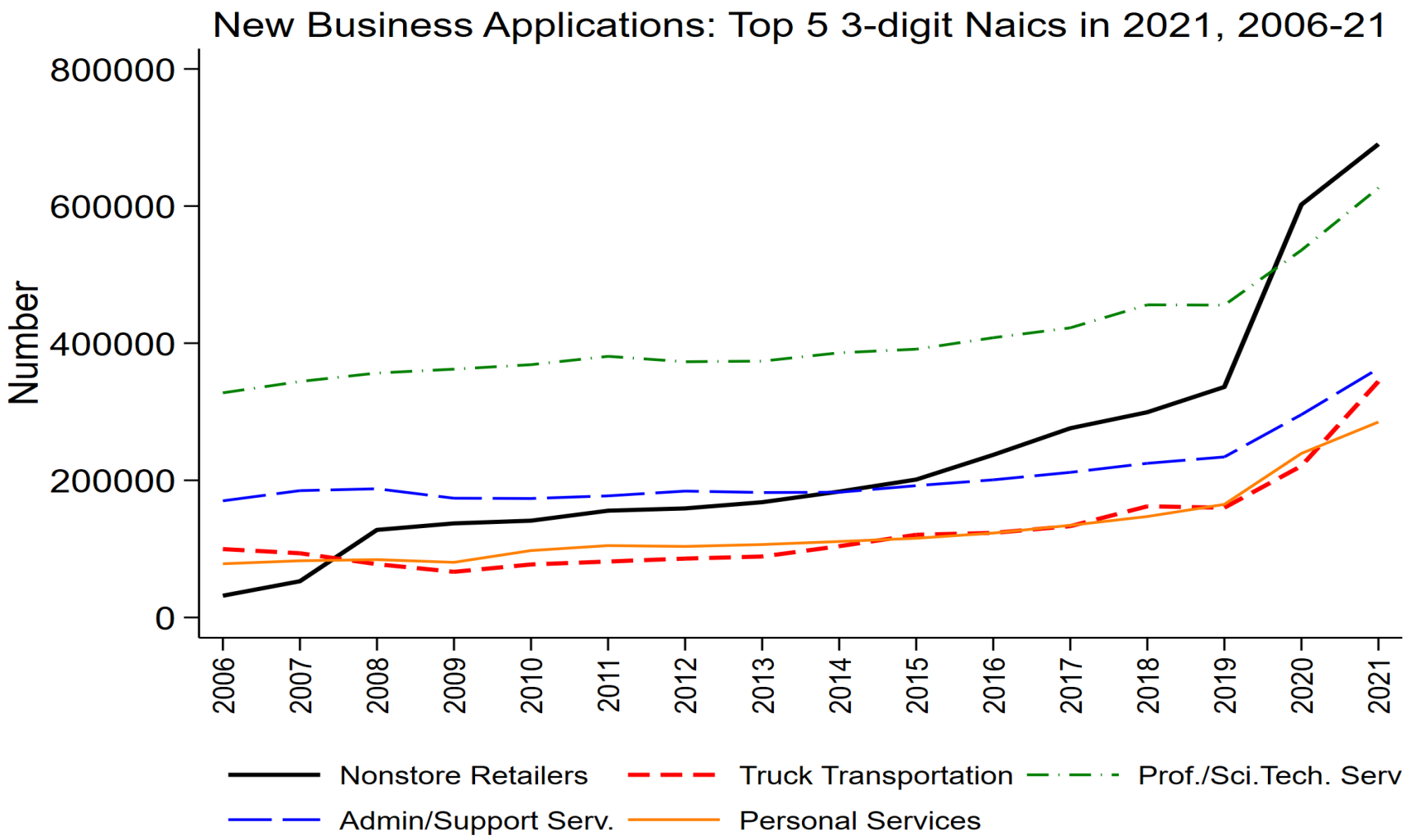
Paper draft coming soon.

Applications for new businesses surged early in the pandemic



- HBA highly predictive of actual employer startups
  - But with a lag!
- NHBA predictive of new nonemployer businesses
- Data come out in near real time…
  - … while data on actual business starts & hiring have long lags

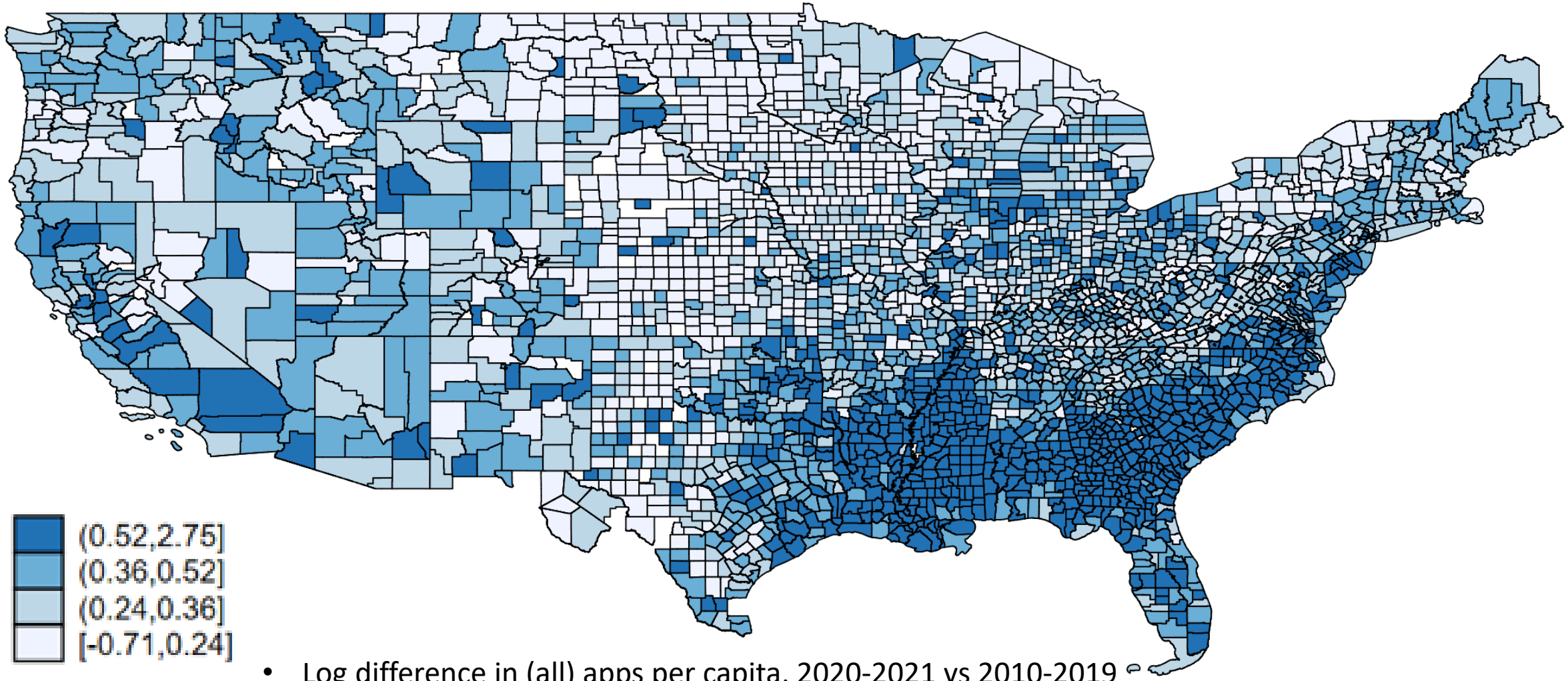
Five 3-digit sectors account for half of the applications surge



- Business applications in pandemic-friendly industries
- Record level of cross-industry dispersion in applications → sectoral reallocation

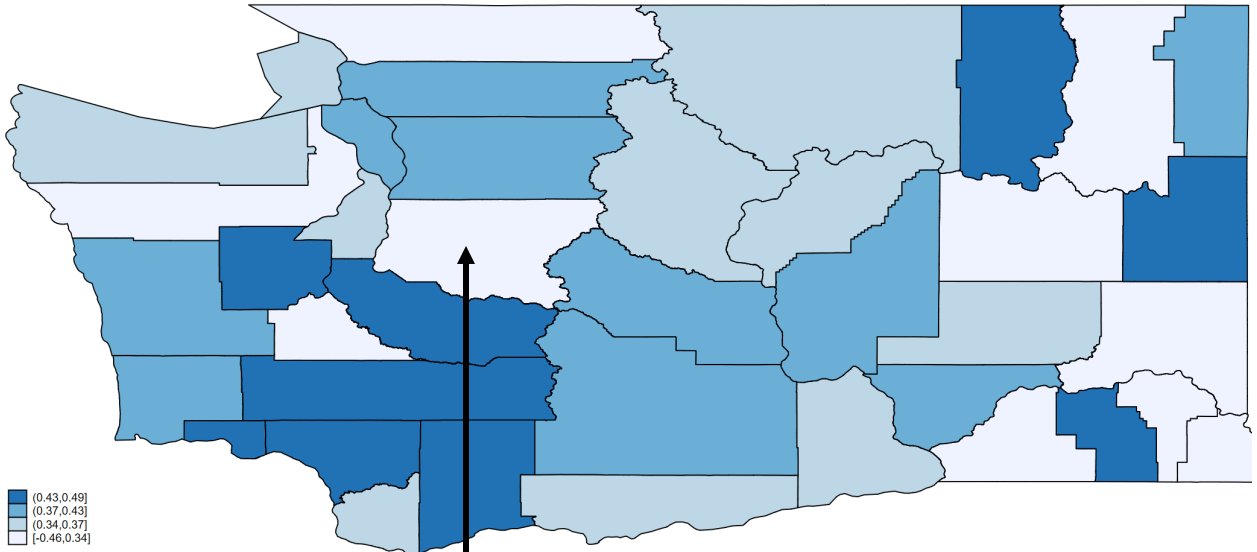
Source: BFS tabulations (annual)

Application surge widespread across geography, but some areas particularly strong

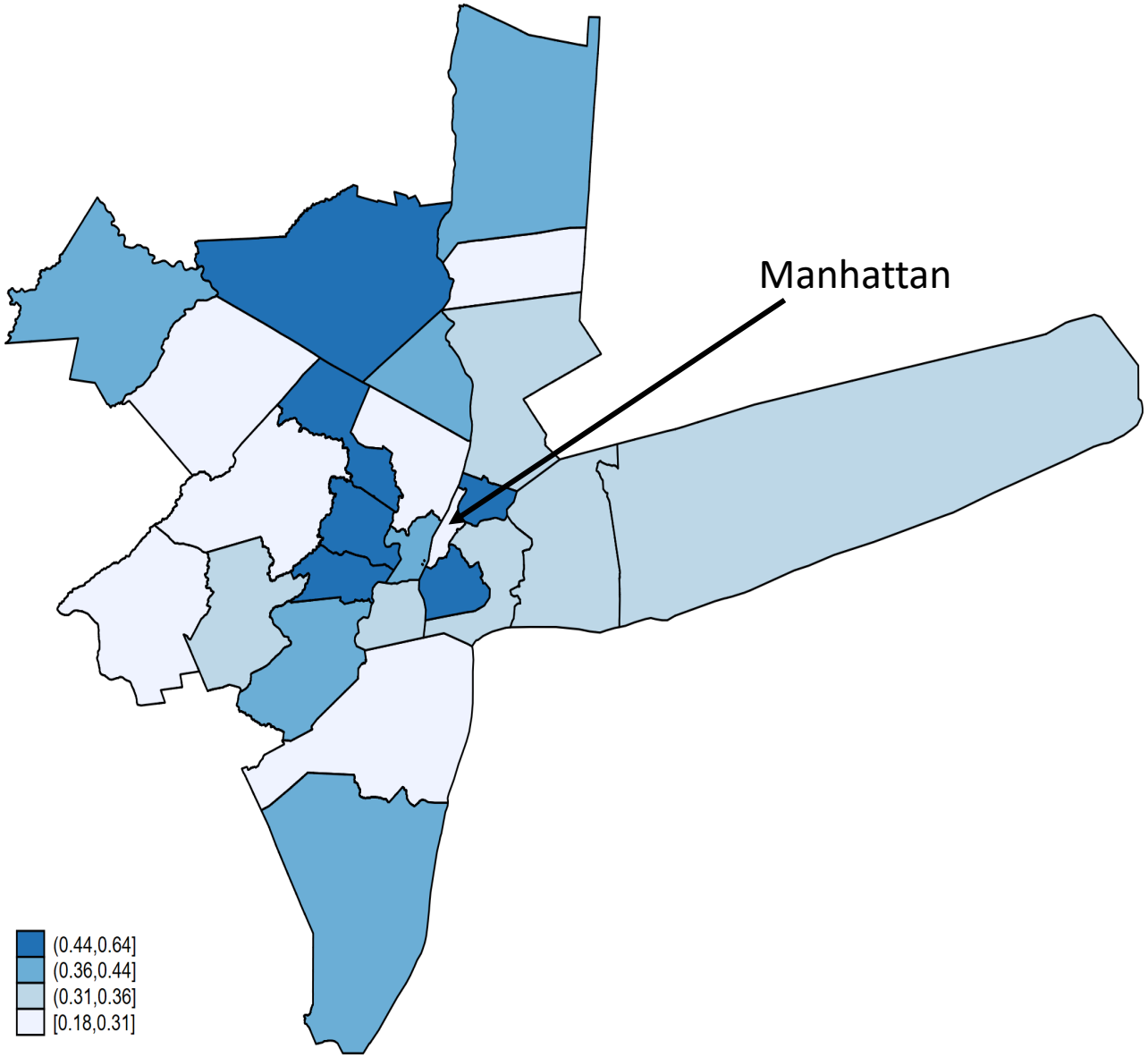


- Log difference in (all) apps per capita, 2020-2021 vs 2010-2019
- Top counties increase by 52-275 log points

“Donut” effects in cities? (Darker = more apps)



King County (Seattle)

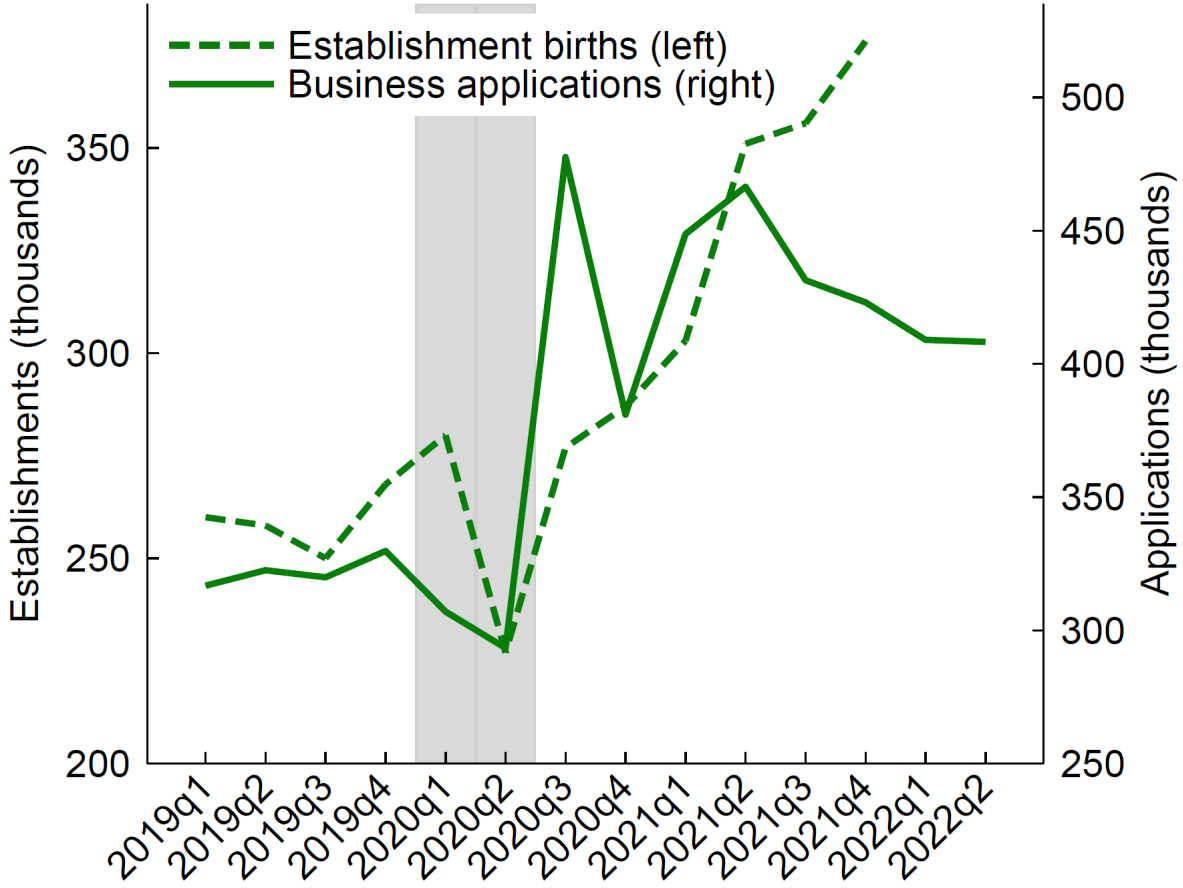


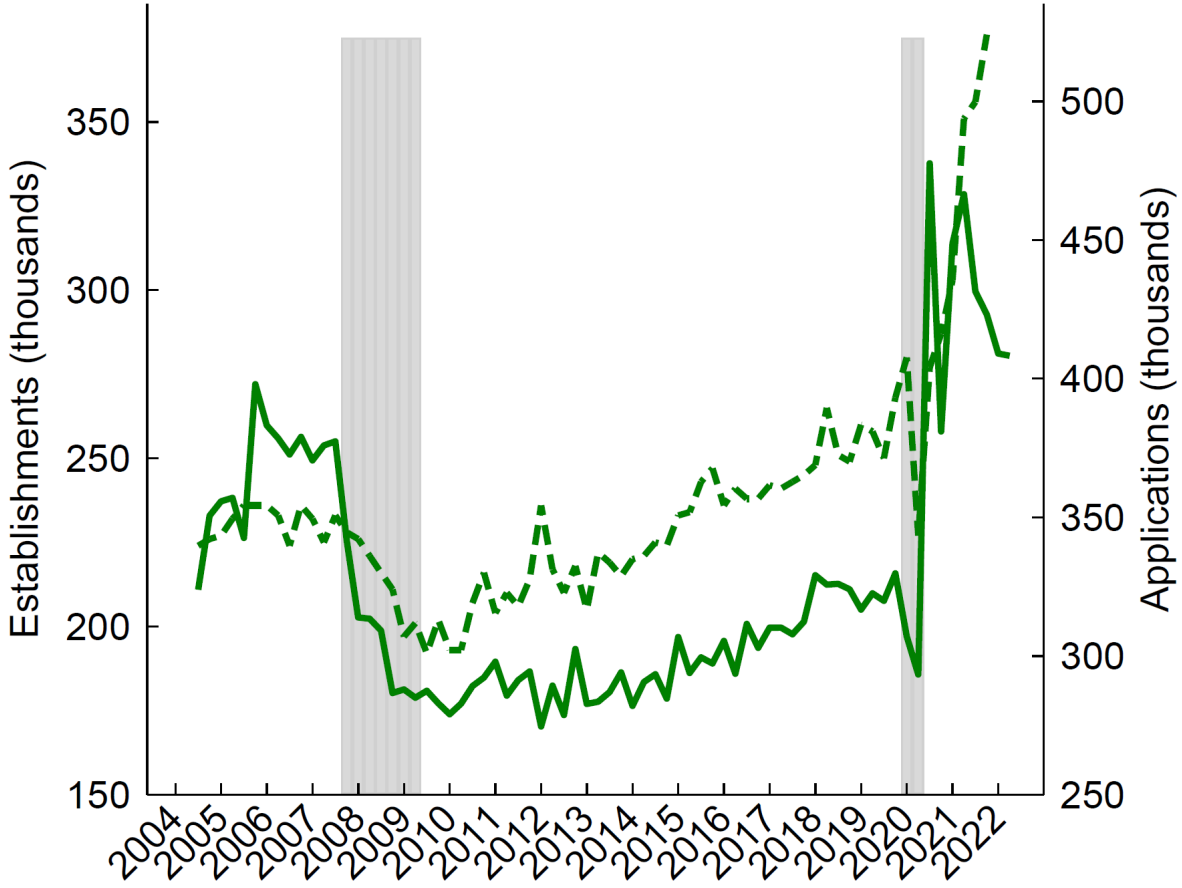
Log difference in applications, pandemic versus pre-pandemic.

- Similar patterns for Los Angeles, San Francisco, Atlanta
- Some regression evidence for “donut” relationship between density and applications

Did surging business applications result in business creation and affect labor markets?

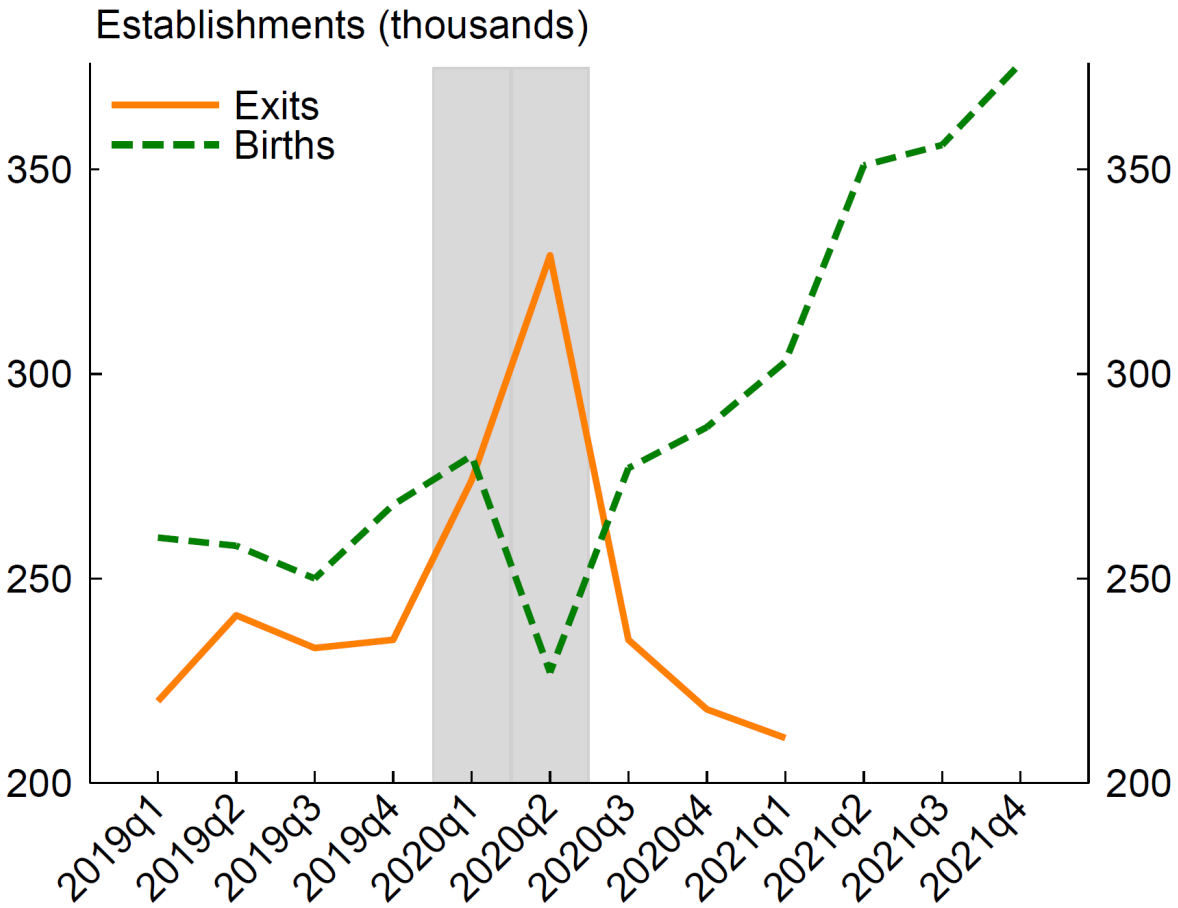
Too early to observe true *firm* births, but establishment birth pattern consistent with business applications





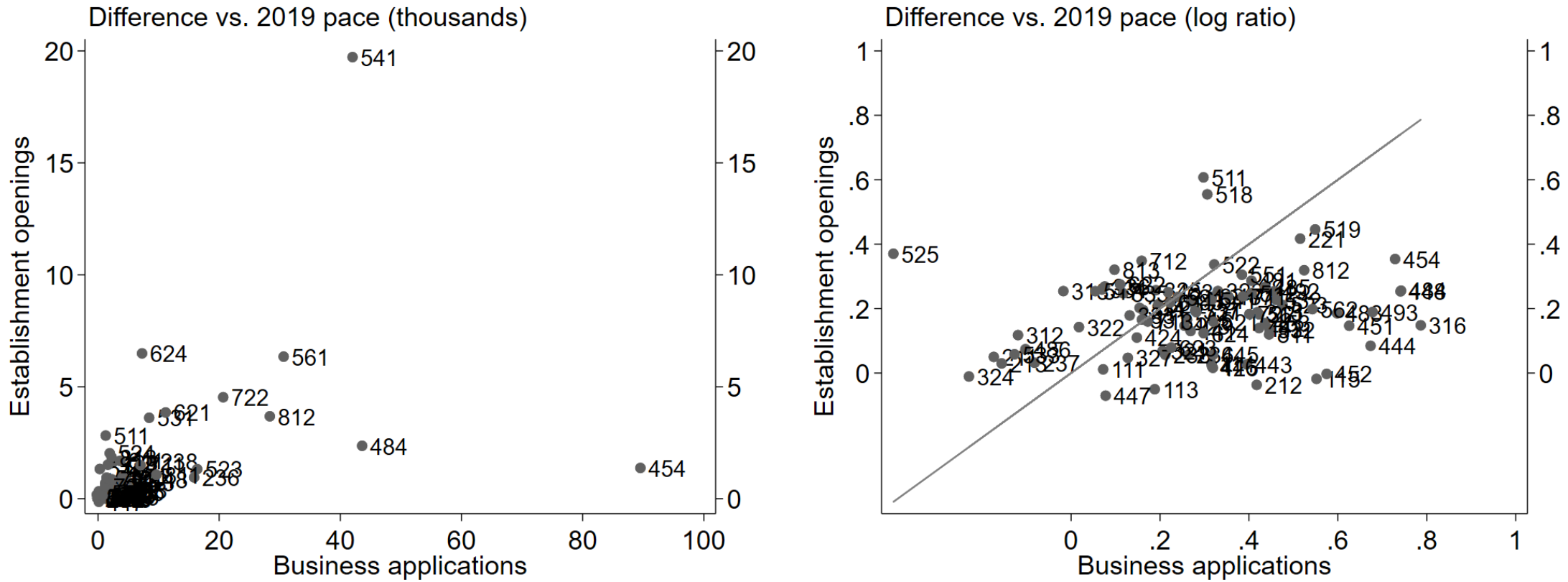
Note: High-propensity business applications. Seasonally adjusted. Y axes may not start at zero. Shaded areas indicate NBER recession dates.
Source: BLS Business Employment Dynamics (BED) and Census Bureau Business Formation Statistics (BFS).

Establishment birth surge created many jobs



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

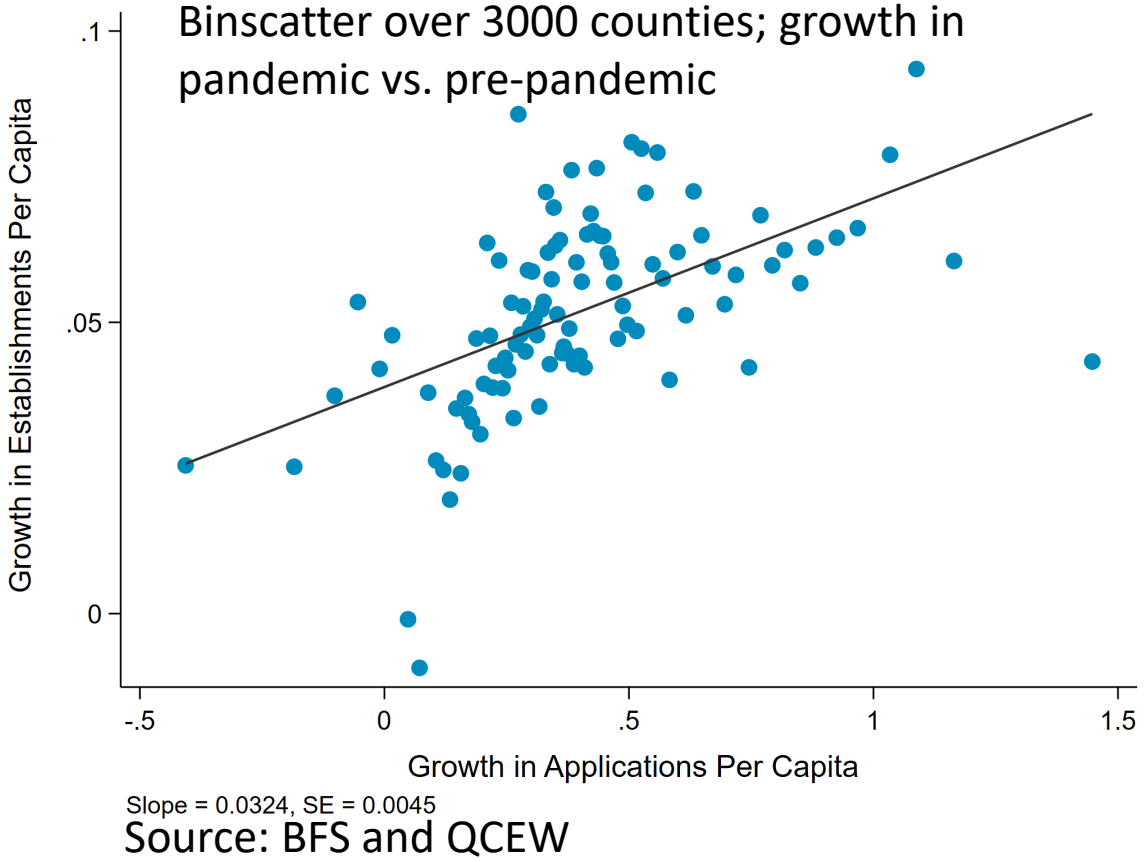
Industry patterns: Establishment openings versus business applications



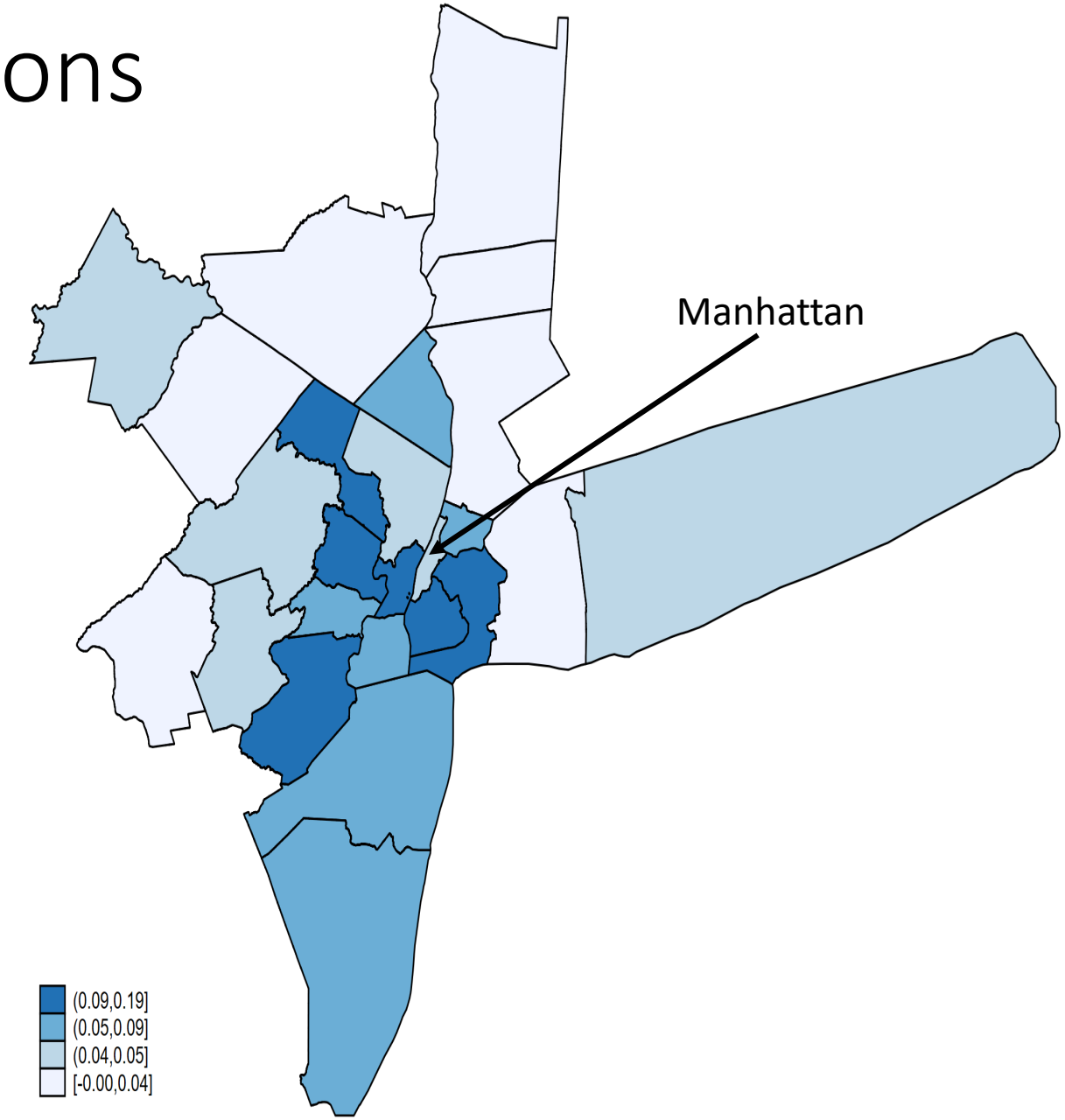
Note: Differences based on averages for 2020:Q4-2021:Q4 and 2019:1-2019:4. Left panel expressed in average seasonally adjusted quarterly pace. Solid line is 45-degree line.
Source: BLS Business Employment Dynamics (BED), Census Bureau Business Formation Statistics, and author calculations.

See Decker & Haltiwanger (2022a) for discussion.

Geographic patterns: Net establishment births versus business applications

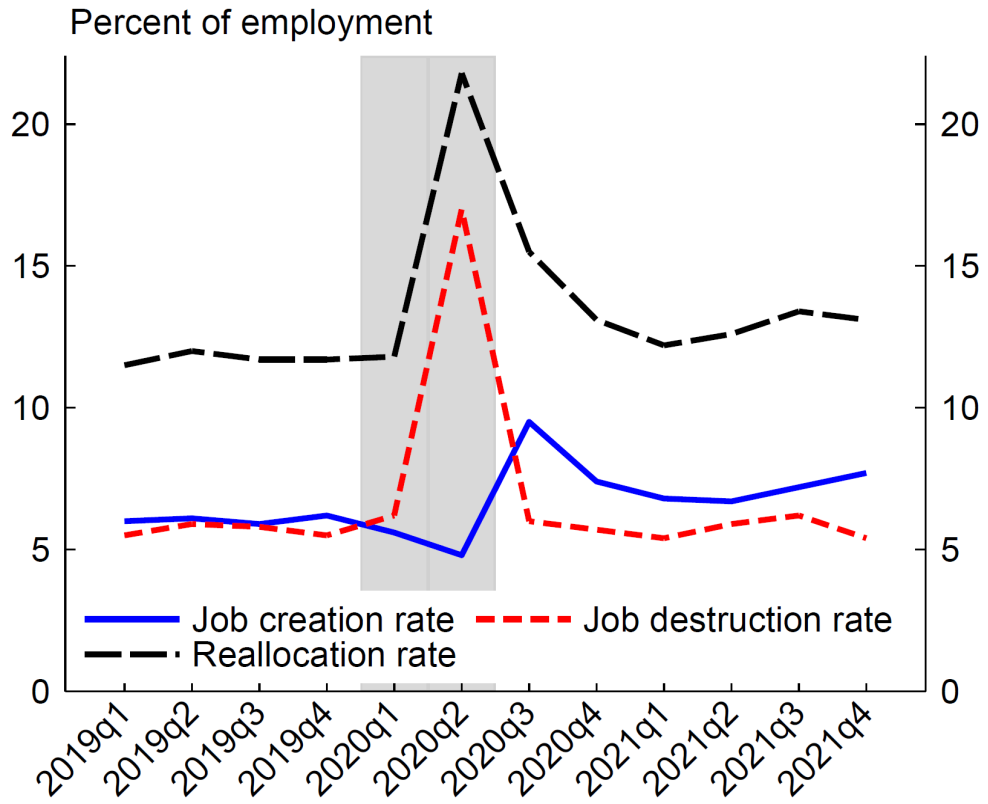


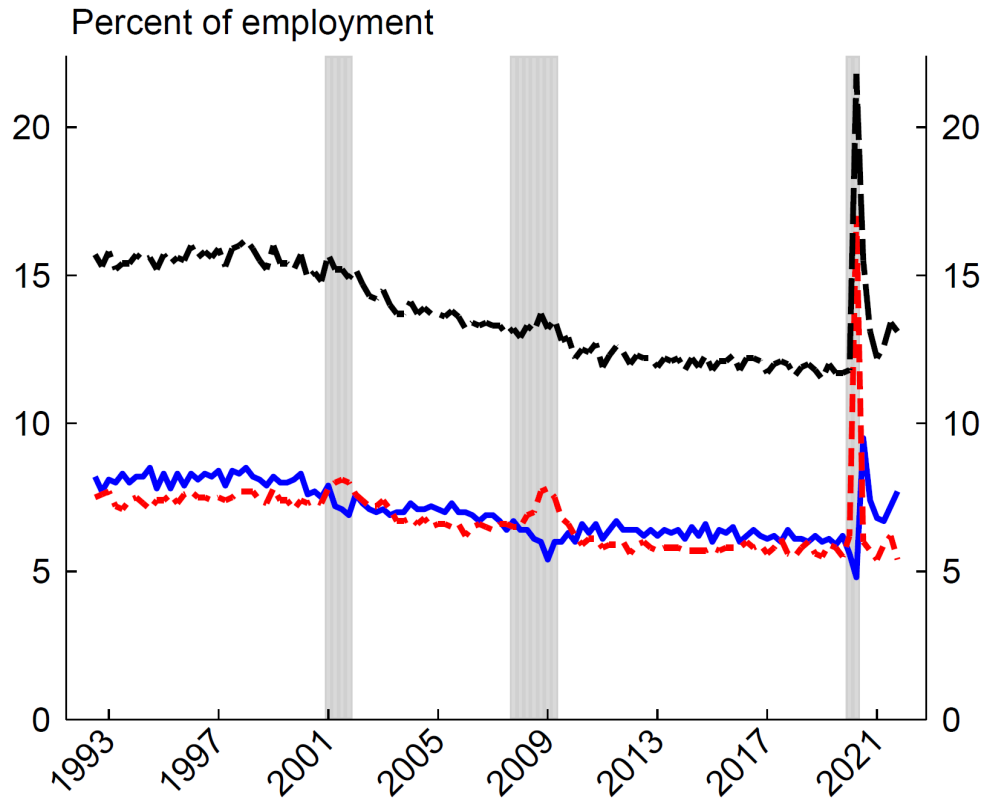
Source: BFS and QCEW



Caution! net employer establishment births vs. all applications

Job reallocation during the pandemic



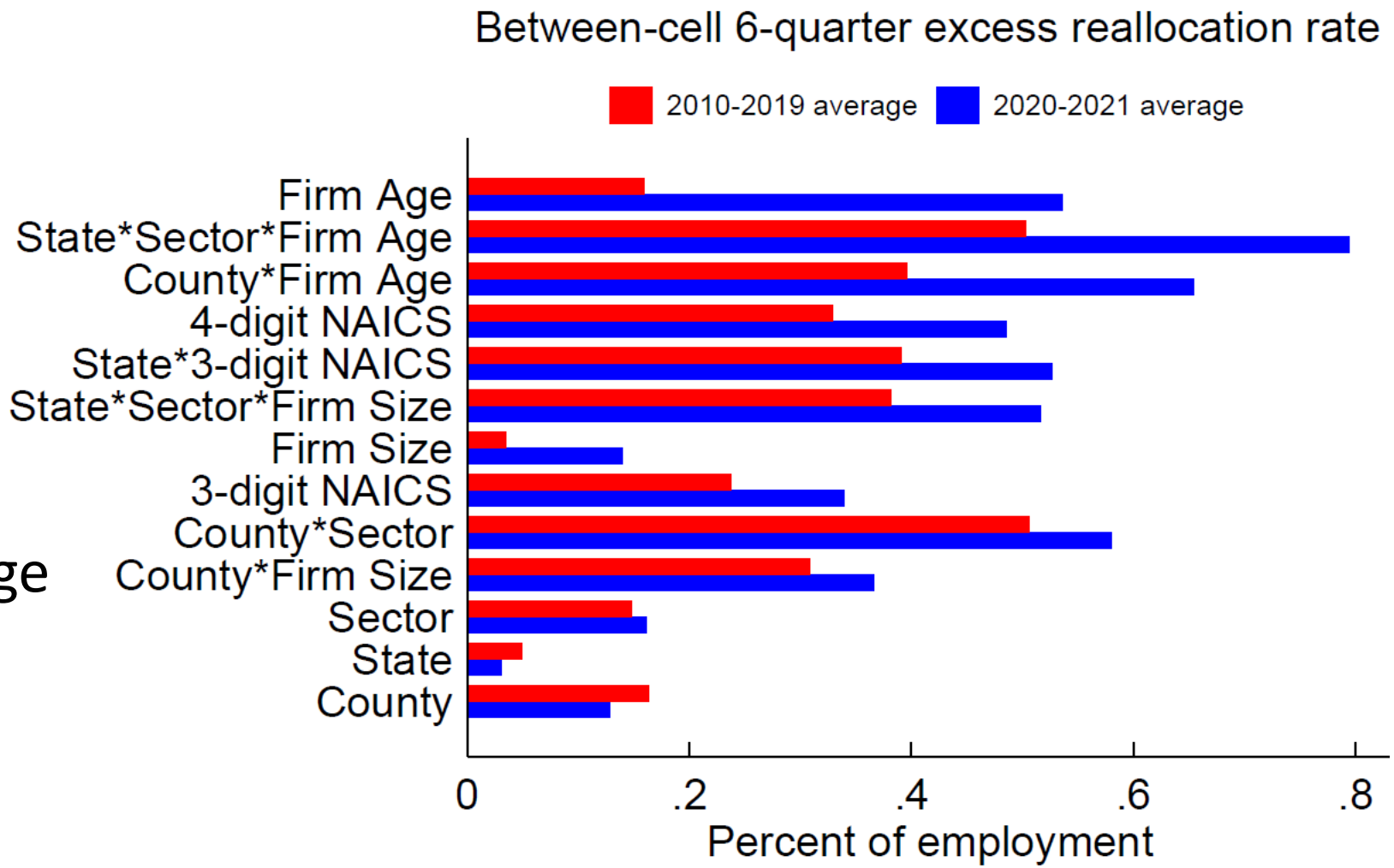


Note: Seasonally adjusted. Reallocation is JC+JD. Shaded areas indicate NBER recession dates.
Source: BLS Business Employment Dynamics (BED) and author calculations.

- Elevated reallocation during pandemic, still below 1990s pace
- **One-quarter reallocation rate hard to interpret** given pandemic situation (much job creation likely reversed initial job destruction *within establishments)*

Focus on *between-cell excess* reallocation

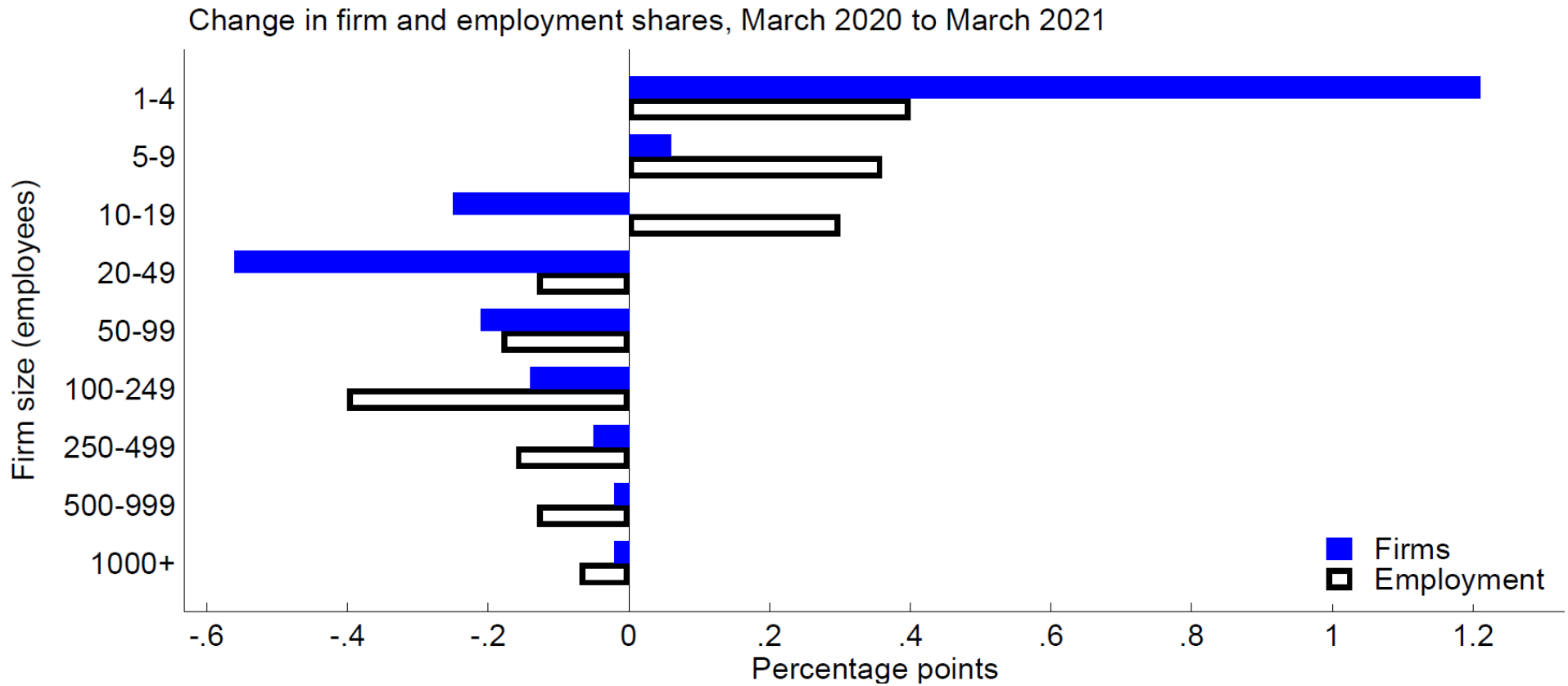
- The component of excess reallocation occurring across cells
- 6-quarter concept (average JC and JD across 6 quarters)
- Surge in between-cell reallocation, especially across firm age categories



Note: Averages of quarterly seasonally adjusted data through 2021q3.
Sorted (descending) by change 2010-2019 to 2020-2021.
Source: Census Bureau Quarterly Workforce Indicators (QWI) and author calculations.

Firm size distribution appears to have shifted down

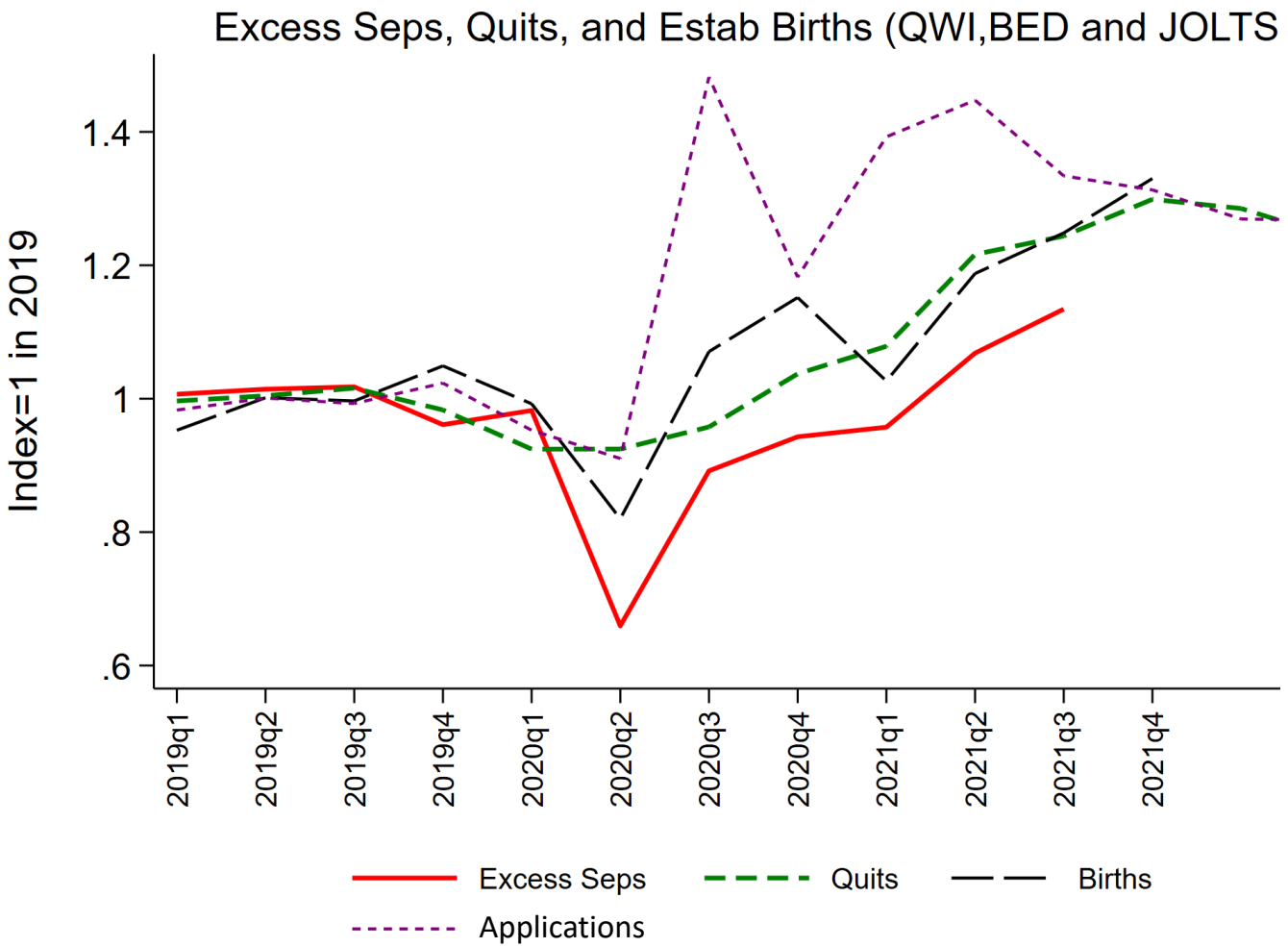
- More activity among smallest firms
- Partly reflects firms downsizing across categories…
- …but total firm count rose

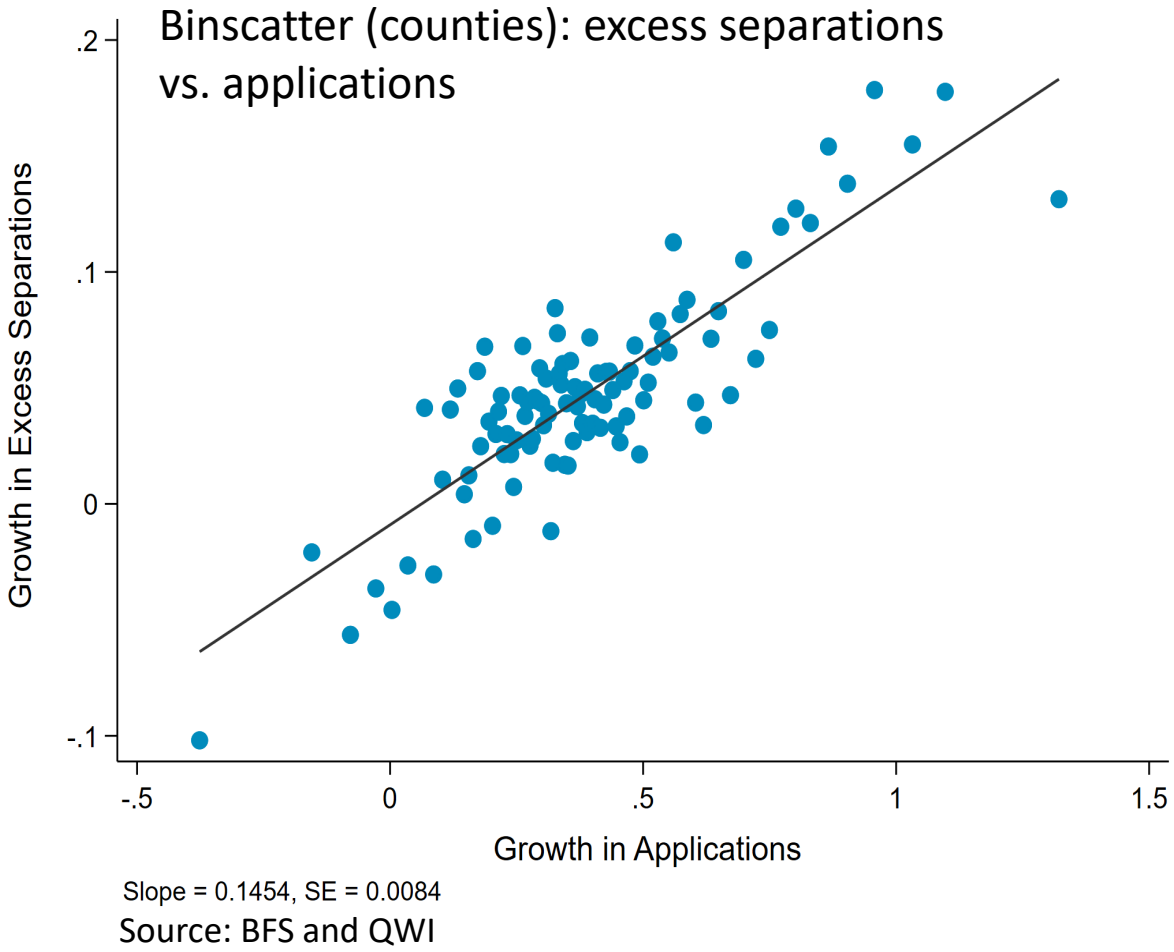


Note: Firms and firm size defined by EIN. Dynamic method distributes net growth across size categories in which it occurs.
Source: BLS Business Employment Dynamics (BED).
See Decker & Haltiwanger (2022a) for discussion.

→ Entry surge likely created many new small firms

Tight relationship of applications with excess separations





Note: Excess separations tend to comove with quits (conceptually related)

Taking stock

- Striking surge in business applications during the pandemic, concentrated in pandemic-friendly industries
- Historically, a tight relationship between applications and business creation—but with a lag
- Sectoral reallocation implied by dispersion of growth rate applications across sectors
- Geography of business formation: outer rim of cities? And movement away from major cities (highly nonlinear)
- Has the surge in applications yielded a surge in new businesses and job flows? Suggestive evidence
  - Surge in establishment births
  - Sector and geographic patterns of establishment births similar to applications
  - Surge in between-cell excess job reallocation, especially across firm age-based cells
  - Tight correlation between applications and excess worker flows

Thanks

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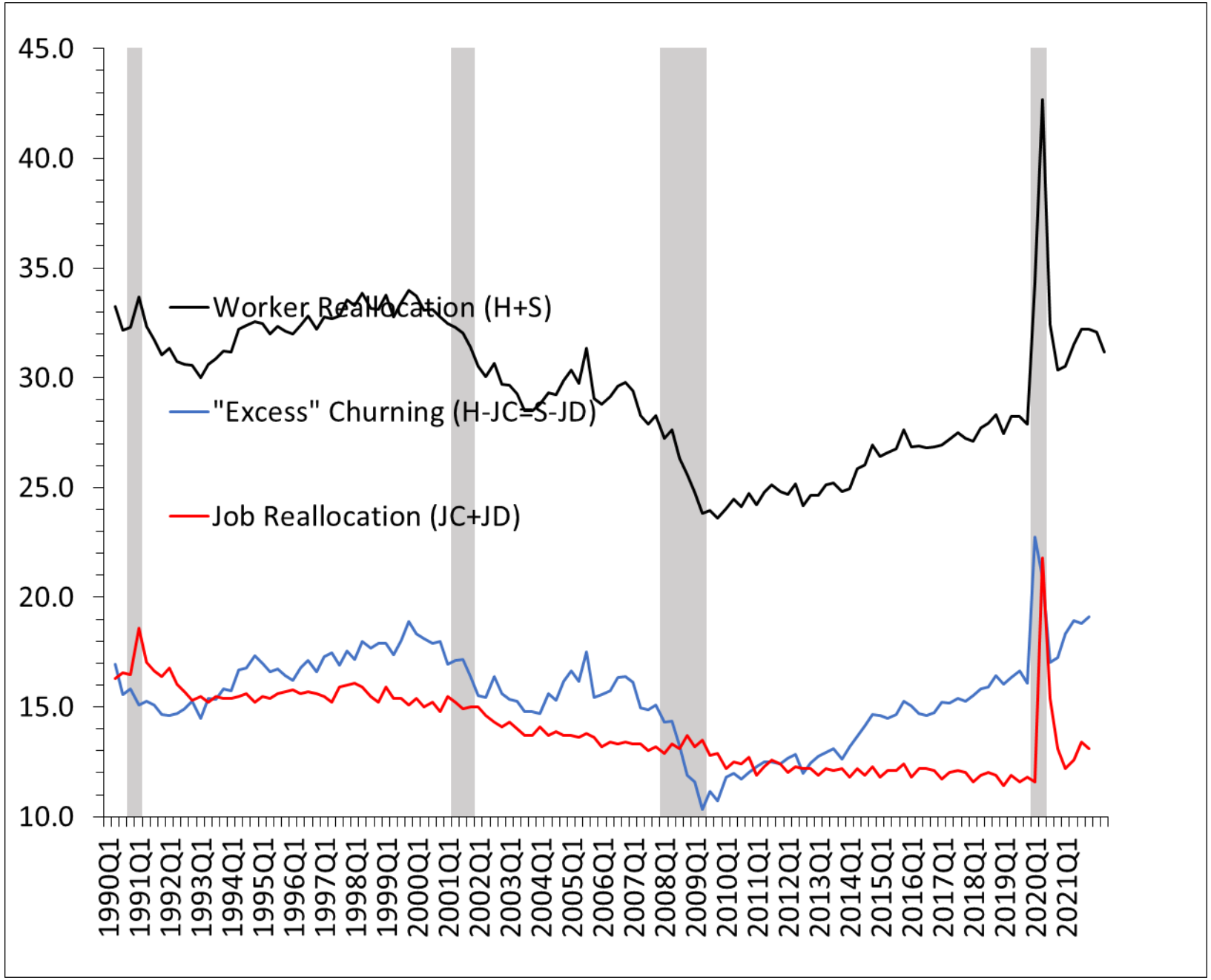
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20.0
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Worker Reallocation (H+S)
"Excess" Churning (H-JC=S-JD)
Job Reallocation (JC+JD)
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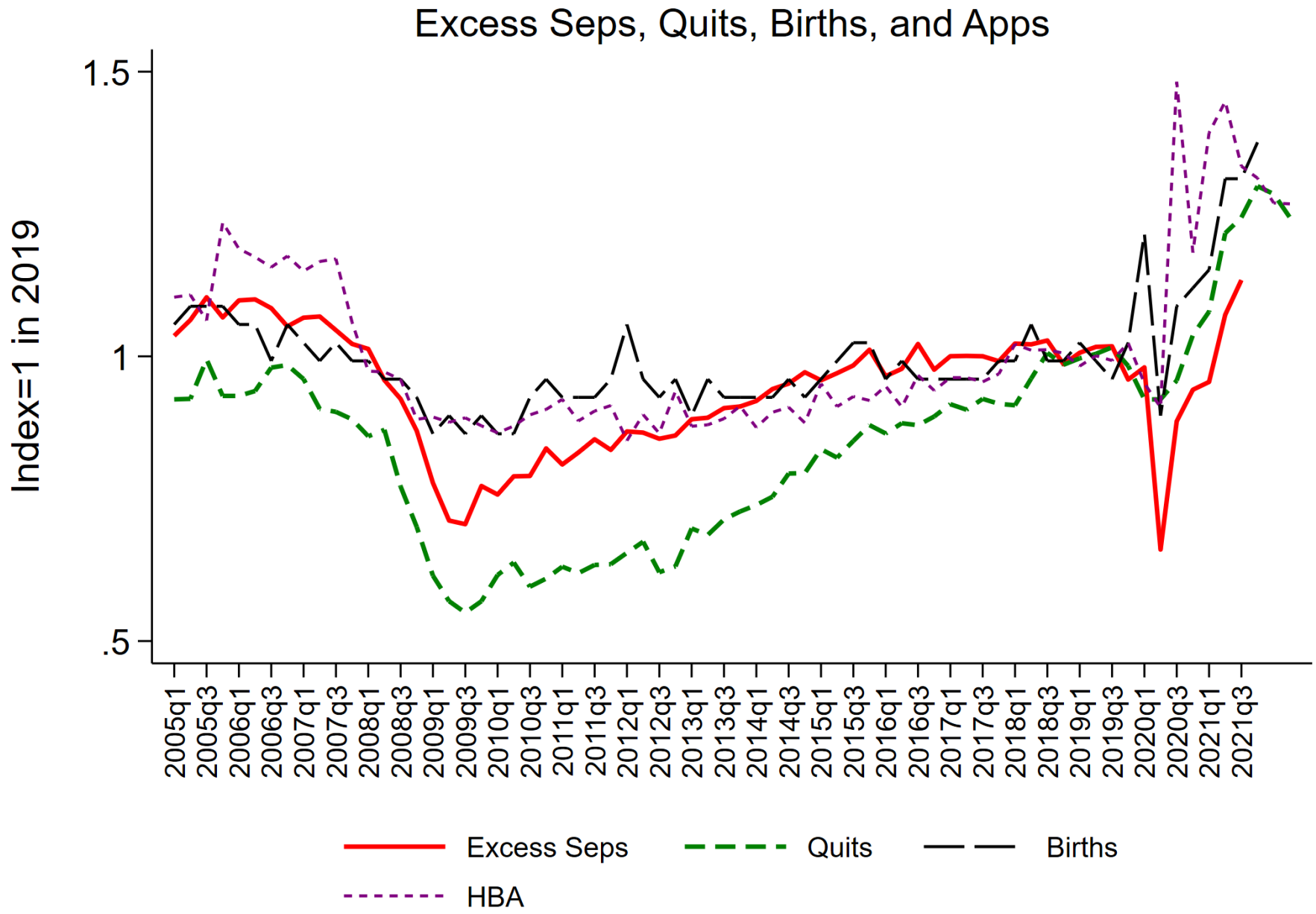
Excess Seps, Quits, Births, and Apps
Index=1 in 2019
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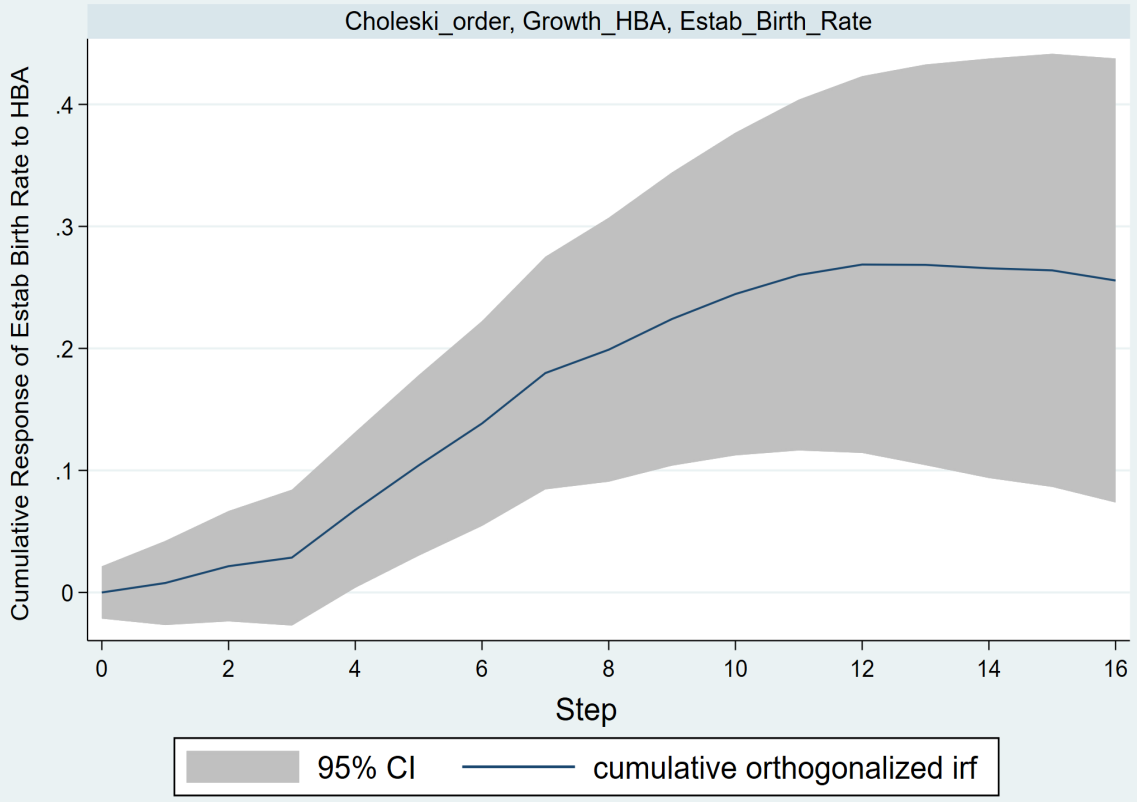
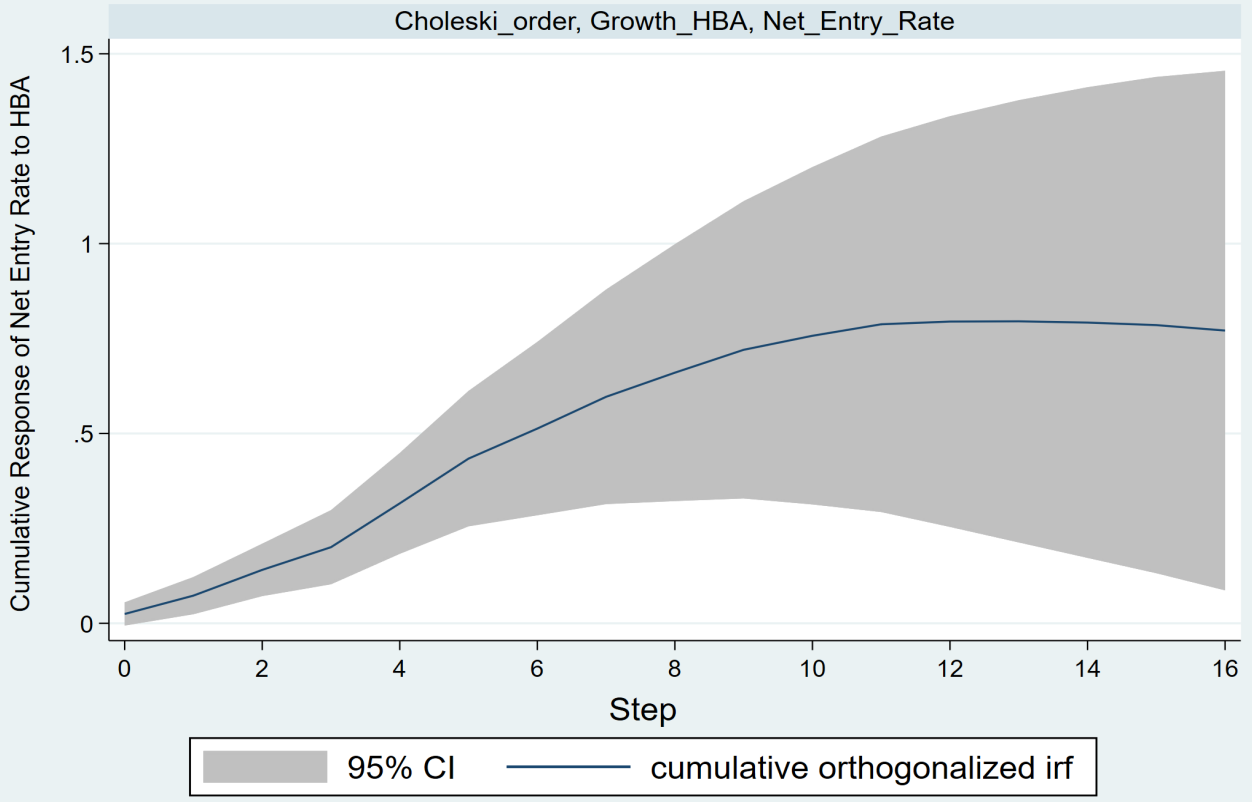
Excess Seps
Quits
Births
HBA

Historically, applications are a leading indicator for establishment birth





Quarterly data, 2004:4-2019:4. Establishment data from BED. Bivariate VAR