Business exit during the COVID-19 pandemic: Non-traditional measures in historical context

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Joint work with Leland Crane, Aaron Flaaen, Adrian Hamins-Puertolas, Chris Kurz; all of Federal Reserve Board

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  - Establishment exit (BLS): late 2021
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  - e.g.: Yelp says 3.5% of restaurants died. Is that a lot?
- **Our purpose:** Review historical facts on business exit, then explore nontraditional data for 2020

History in the Census Business Dynamics Statistics (BDS)
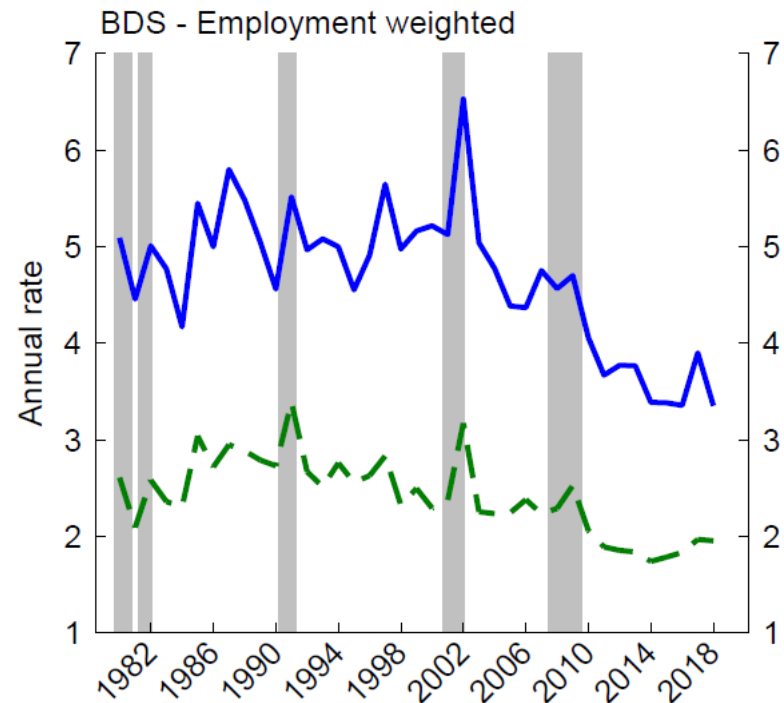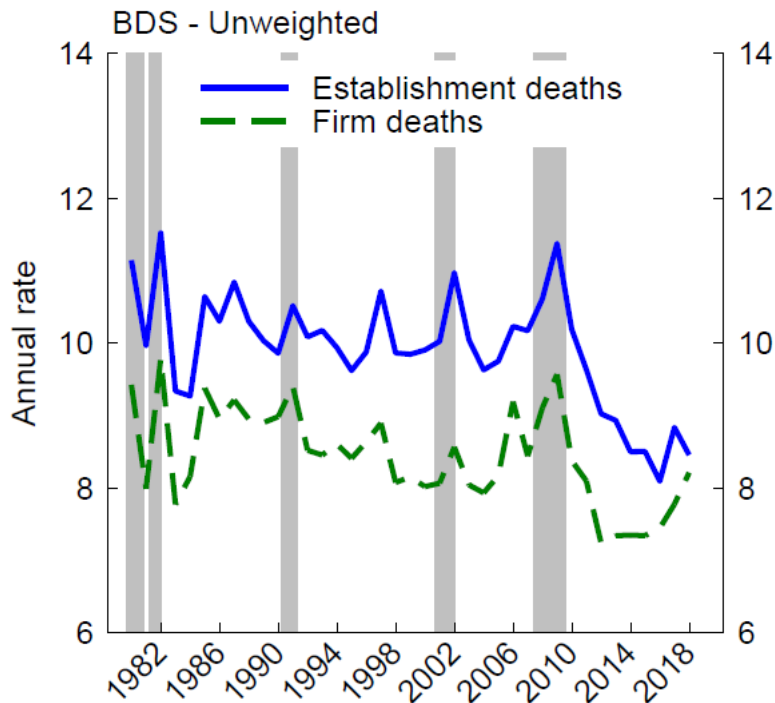
- BDS is based on data that underlie County Business Patterns and Statistics of US Businesses
  - September 2020 vintage (see appendix for vintage comparisons)
- Data are annual and at the firm and establishment level
  - Census years (2's, 7's) can be noisy (see appendix)

Stylized facts about business exit (both Census and BLS data)

- Annual firm exit rates: 7.5%
  - 2% of employment
- Annual establishment exit rates: 8.5%
  - 3.5% of employment
- Quarterly establishment exit rates: 2.5%
  - 0.5% of employment
- Temporary closure is common: 2% of estabs per quarter
- Exit is countercyclical (also apparent in state data)
 - Driven by small units

Nontraditional indicators

- Direct measures of business inactivity
  - ADP payroll data (allow employment-weighted version)
  - Homebase/Womply small business activity
  - SafeGraph cell phone tracking
- Forward-looking survey measures (see paper)
- Indirect measures (see paper)
  - Electricity accounts
  - Google searches
 - Credit delinquency
  - CRE vacancies

ADP payroll data:

ADP payroll data: little evidence of excess exit
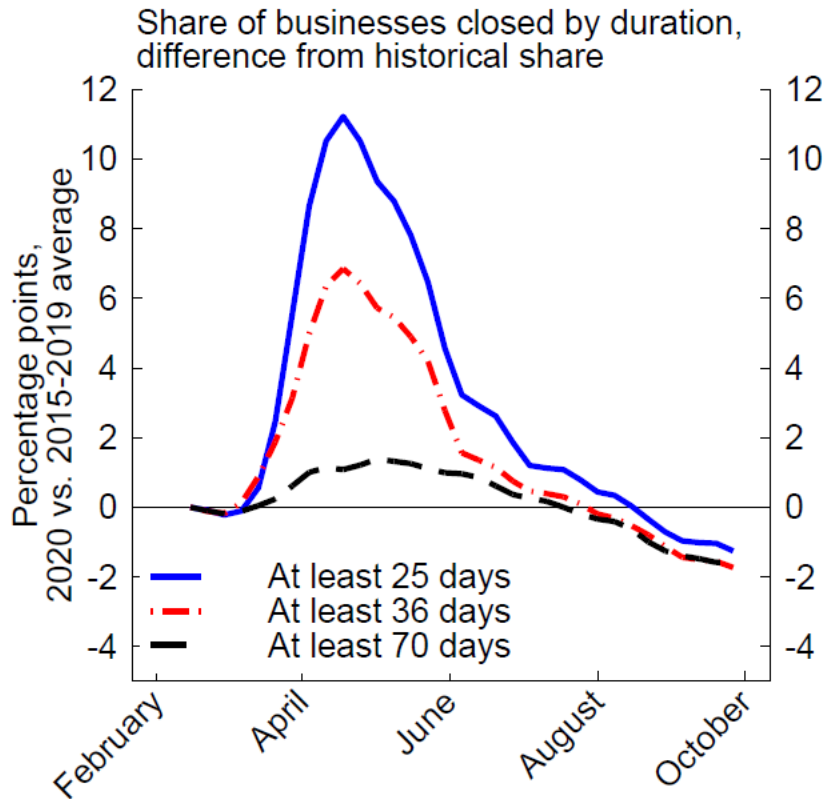
Share of businesses closed by duration, difference from historical share

Note: Share of Feb. 15 businesses issuing no paychecks, 2020 share minus same-week 2015-2019 average. Weekly data through September 26. Source: ADP.

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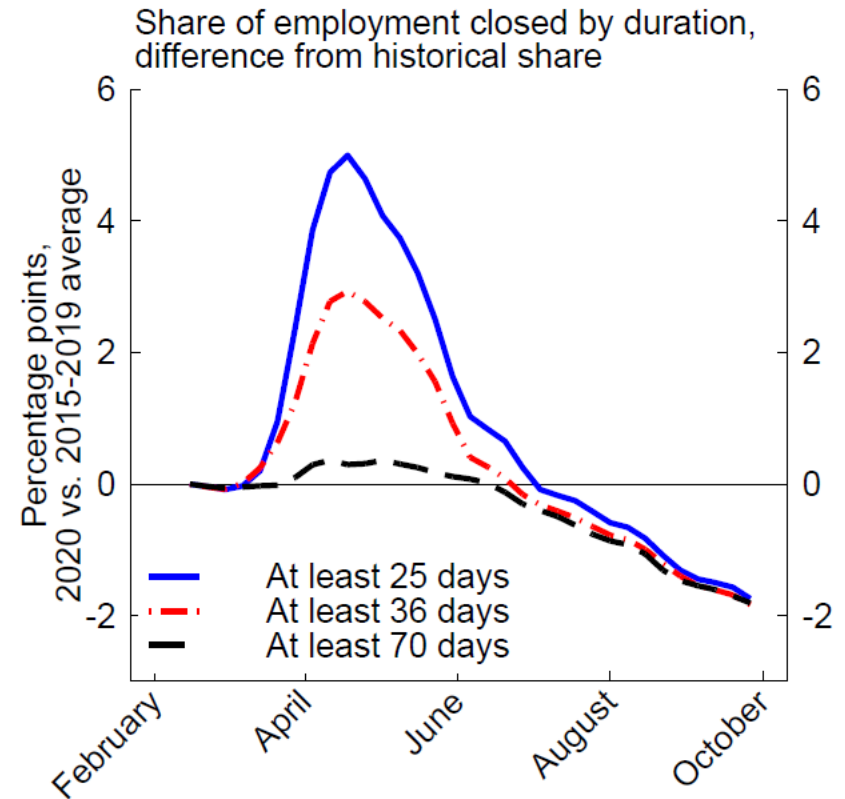
Note: Share of Feb. 15 employment at businesses issuing no paychecks, 2020 share minus same-week 2015-2019 average. Weekly data through September 26. Source: ADP.

See Cajner, Crane, Decker, Hamins-Puertolas, Kurz, Radler (2018) for ADP data detail

Small business closures
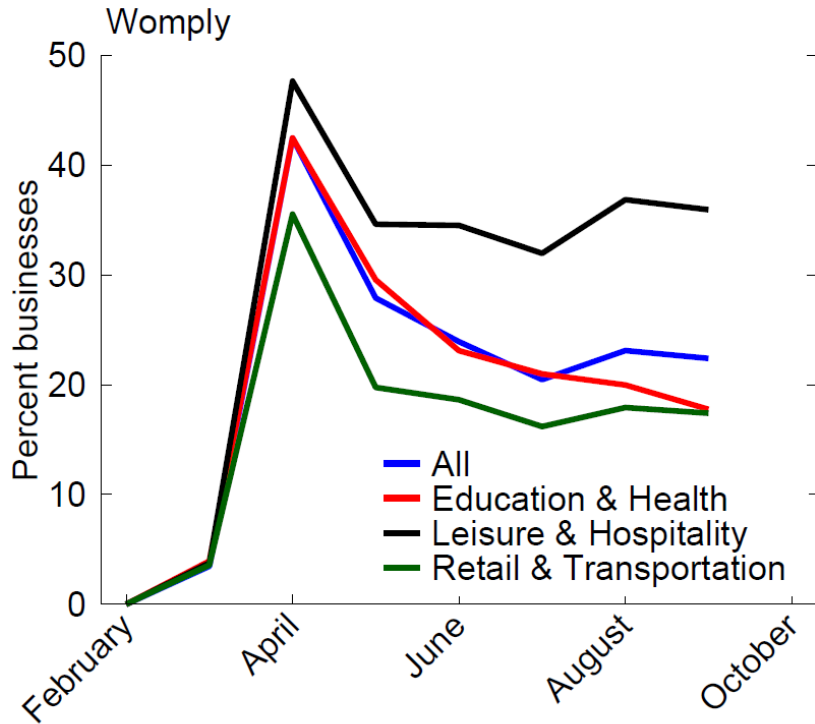
Womply

Note: Share of Feb. 15 firms with no transactions.
Monthly snapshots on the 15th; data through September 15
Source: Womply data from
https://www.tracktherecovery.org and Chetty et al. (2020).
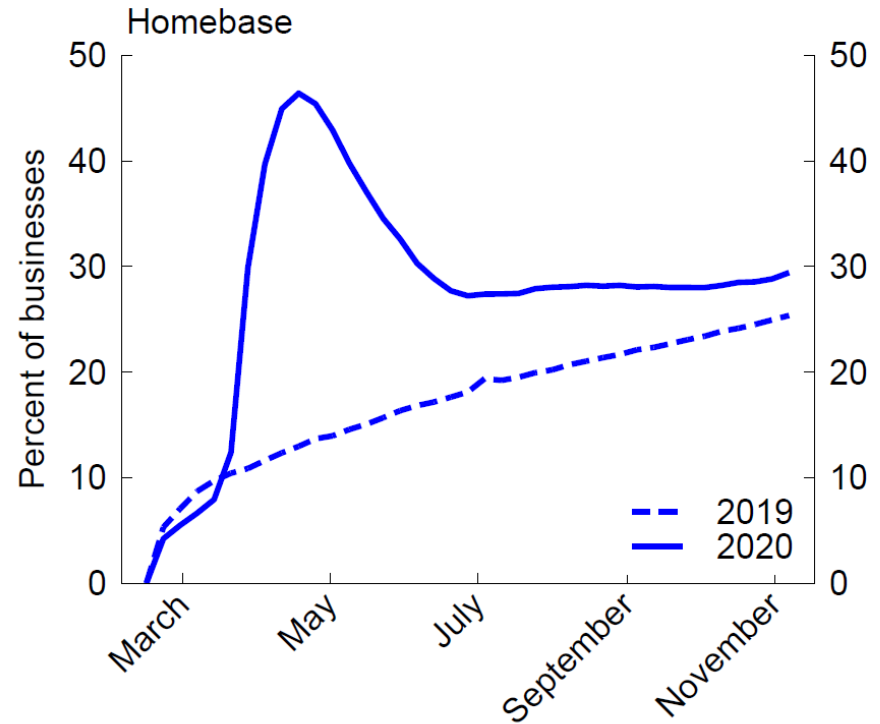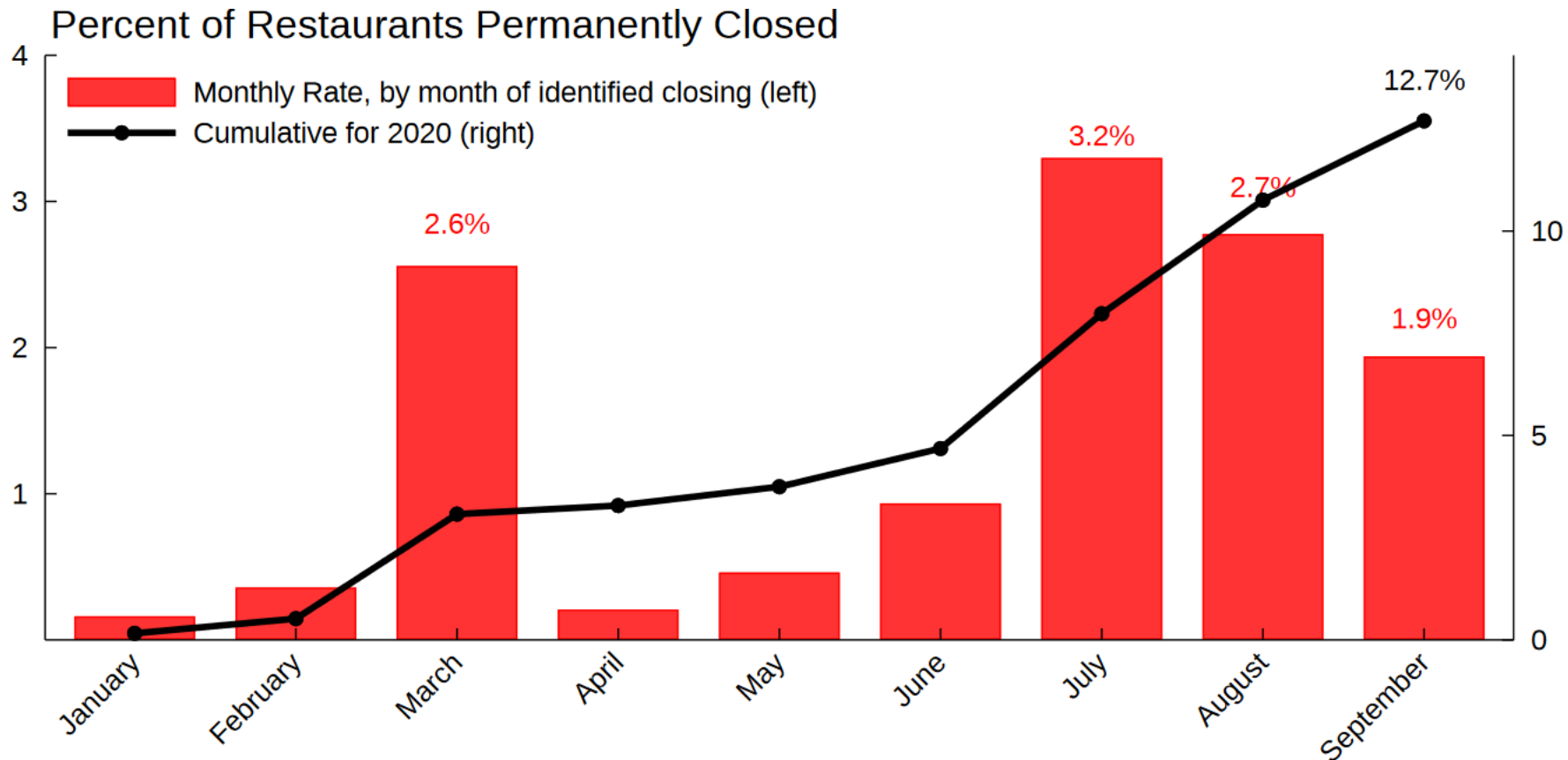
Homebase

Note: Share of Feb. 15 firms with no clock-ins.
Weekly data through week ending November 7.
Source: Homebase.

- Customer attrition can affect ADP, Womply, Homebase data; critical to compare to usual attrition rates

Restaurants (SafeGraph): Recent surge in exits vs normal rate 8%

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Percent of Restaurants Permanently Closed

Legend:
- Monthly Rate, by month of identified closing (left)
- Cumulative for 2020 (right)

Values: March 2.6%, July 3.2%, August 2.7%, September 1.9%, cumulative September 12.7%

Source: Author calculations from SafeGraph microdata.
Note: Permanent closure defined in Appendix.

- Customer attrition is non-issue for SafeGraph data

Taking stock

- Business exit appears elevated among restaurants and small businesses in related industries
  - Womply, Homebase, Safegraph
  - Also indirect evidence from credit delinquency, Google searches, commercial real estate vacancies

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- Small businesses in several sectors expect historically high exit during next 6 months (Pulse)

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- Exit does not (yet) account for a lot of employment (ADP)
- Small businesses in several sectors expect historically high exit during next 6 months (Pulse)
- Nontraditional/alternative/"big" data sources are most useful when used jointly with official statistics

Thanks

History in the BLS Business Employment Dynamics (BED)
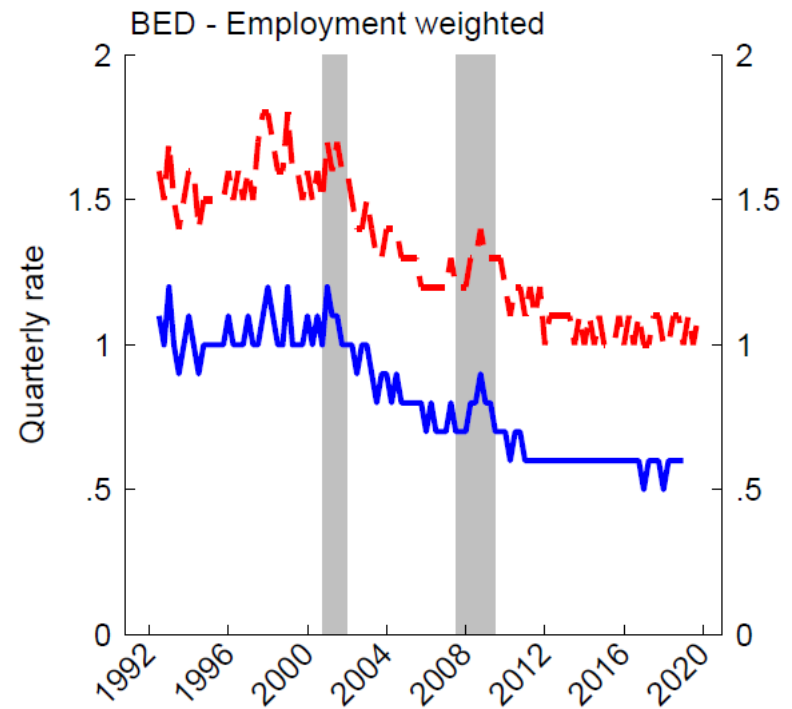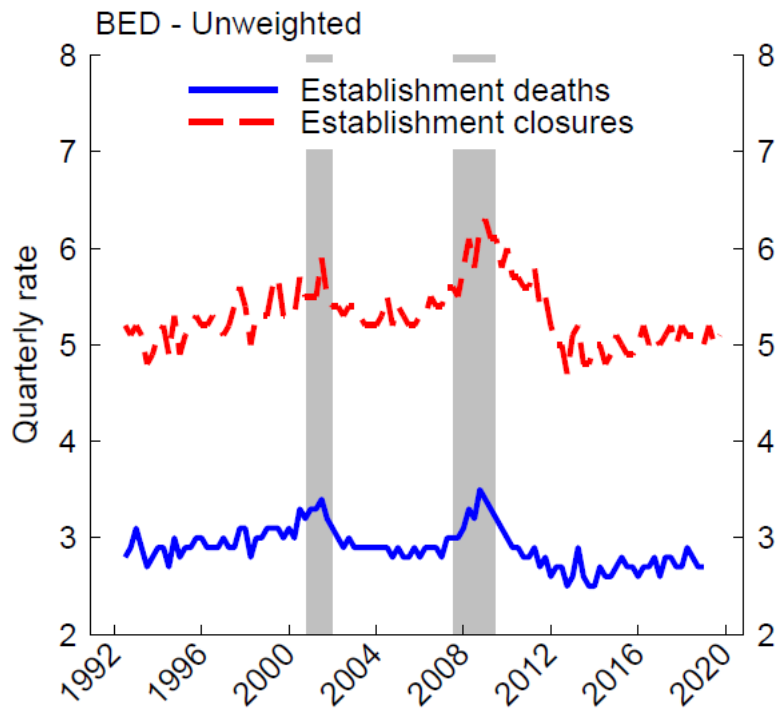
- BED is based on data that underlie QCEW
- Data are quarterly and at establishment level

Cyclicality within states

Table 2: Business cycle comovement: States

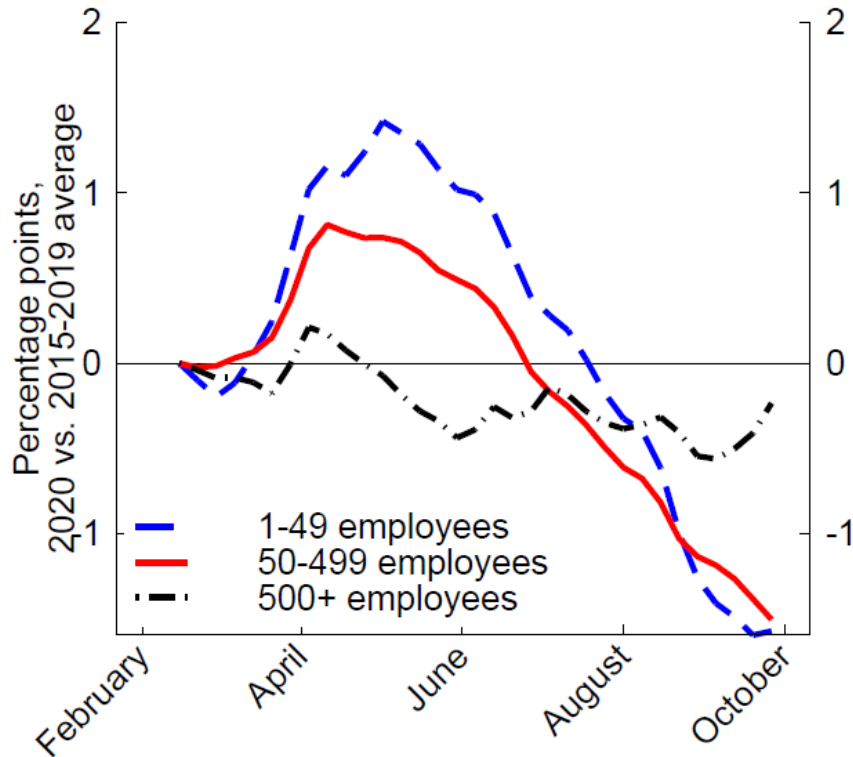| | Establishment death | | Firm death | |
	Unweighted	Weighted	Unweighted	Weighted
Change in unemp	0.56***	0.22***	0.36***	0.11***
	(0.03)	(0.02)	(0.02)	(0.01)
Observations	816	816	816	816
State FE	Yes	Yes	Yes	Yes

Note: Regression of annual exit rates on annual change in unemployment rates, 2003-2018. Unemployment rate changes timed to correspond with BDS annual timing (April-March).
***denotes statistical significance with $p < 0.01$.
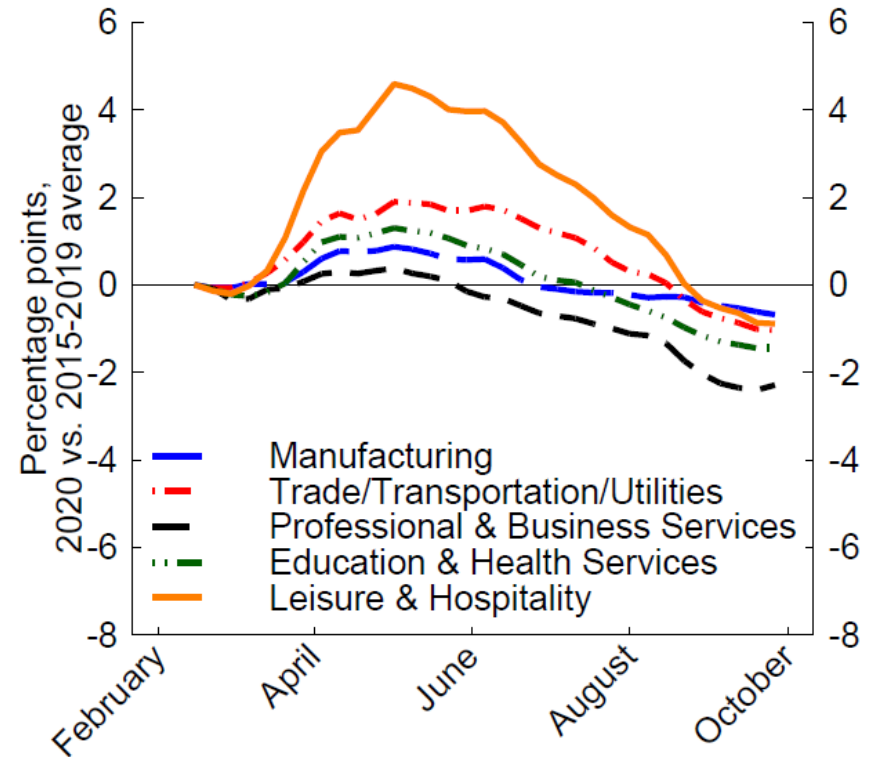Source: Author calculations from Business Dynamics Statistics and BLS unemployment data.

ADP: More detail

Share of businesses closed by initial size, difference from historical share

Percentage points, 2020 vs. 2015-2019 average

- 1-49 employees
- 50-499 employees
- 500+ employees

Note: Share of Feb. 15 businesses issuing no paycheck least 70 days, 2020 share minus same-week 2015-2019 average. Weekly data through September 2? Source: ADP.

Share of businesses closed by supersector, difference from historical share

Percentage points, 2020 vs. 2015-2019 average

- Manufacturing
- Trade/Transportation/Utilities
- Professional & Business Services
- Education & Health Services
- Leisure & Hospitality

Note: Share of Feb. 15 businesses issuing no paychecks for at least 70 days, 2020 share minus same-week 2015-2019 average. Weekly data through September 26. Source: ADP.

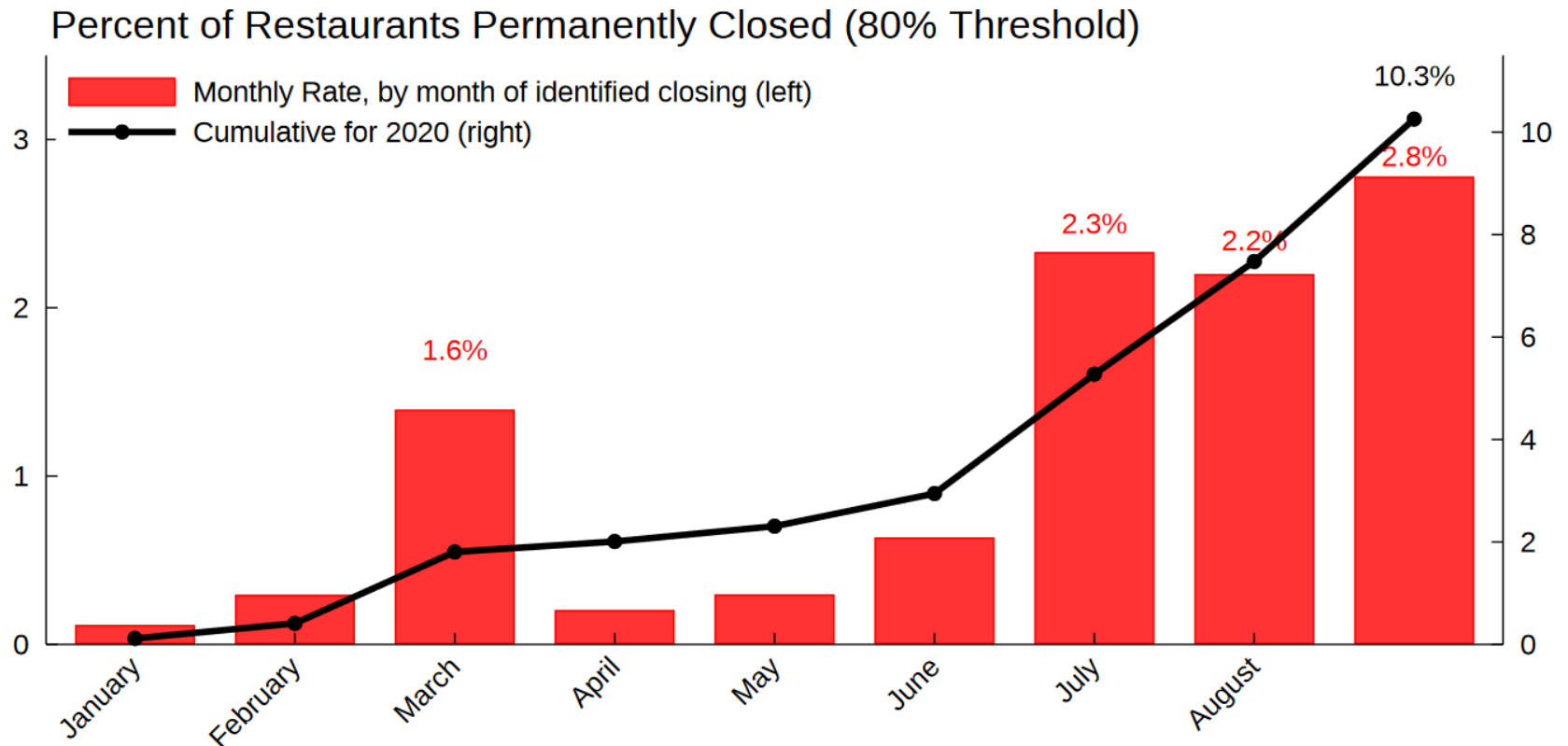See Cajner, Crane, Decker, Hamins-Puertolas, Kurz (2018) for ADP data detail

SafeGraph: Restaurants without traffic

Percent of Restaurants Temporarily Closed
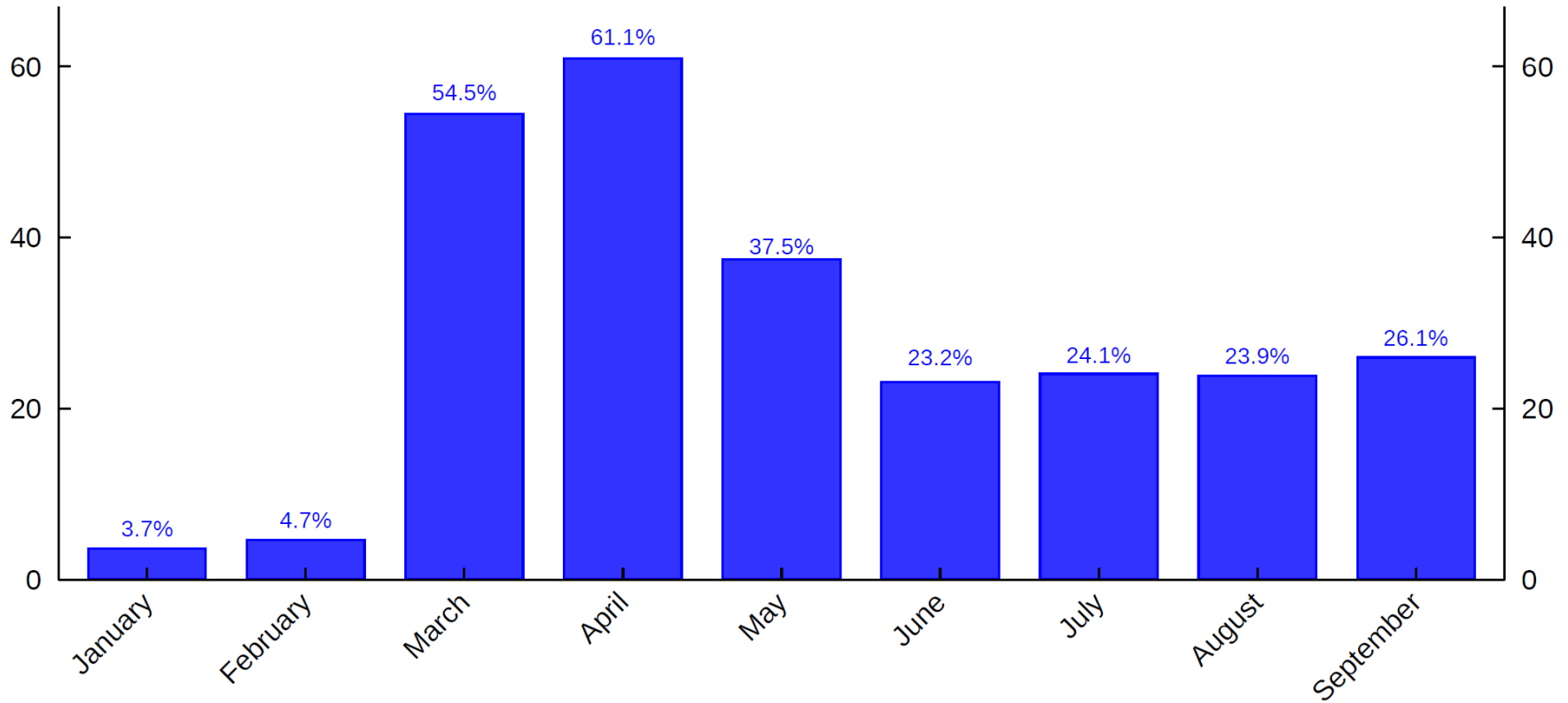
Source: Author calculations from SafeGraph microdata.
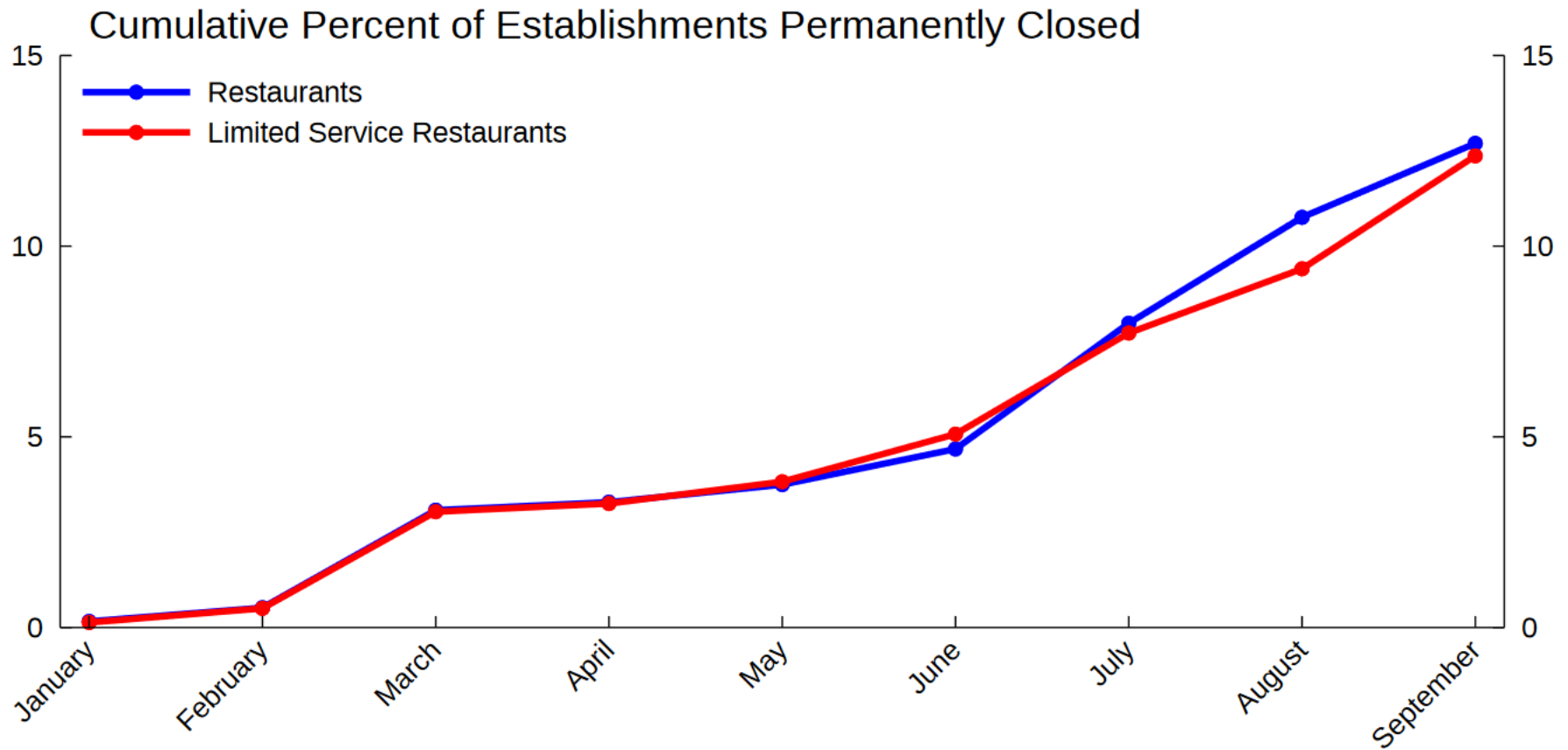Note: Temporary closure defined in Appendix.

Restaurants: 80% threshold

Percent of Restaurants Permanently Closed (80% Threshold)

Source: Author calculations using SafeGraph microdata.
Note: Permanent closure defined in Appendix. Last 3 months are preliminary and may revise.
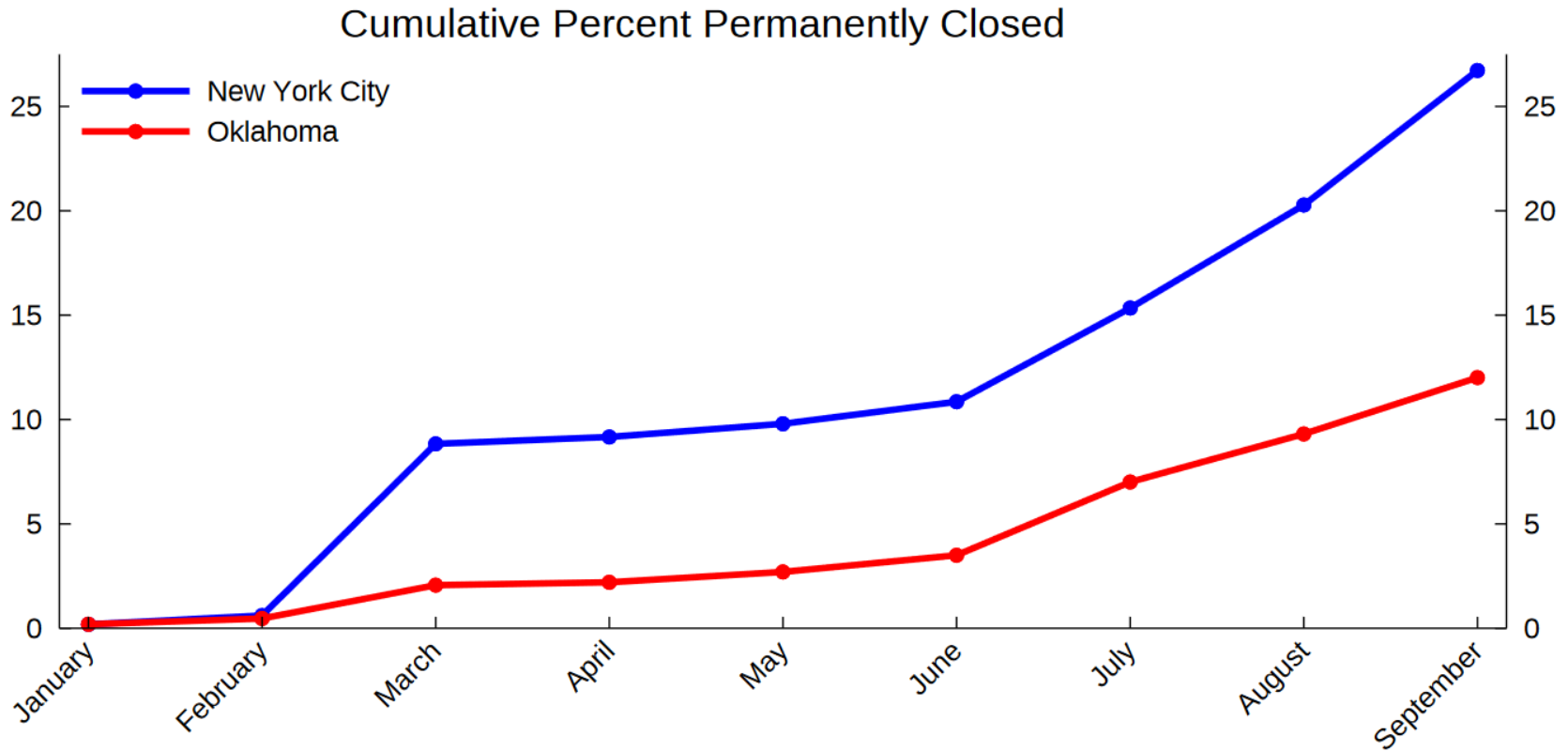
Restaurants vs Fast Food: Inferred permanent closure

Cumulative Percent of Establishments Permanently Closed

Legend:
- Restaurants (blue)
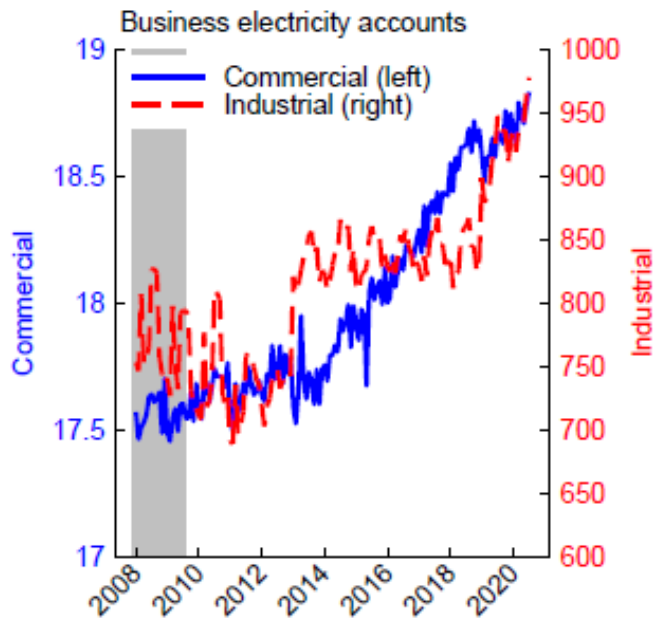- Limited Service Restaurants (red)

Source: Author calculations using SafeGraph microdata. Permanent closure is defined in the Appendix.
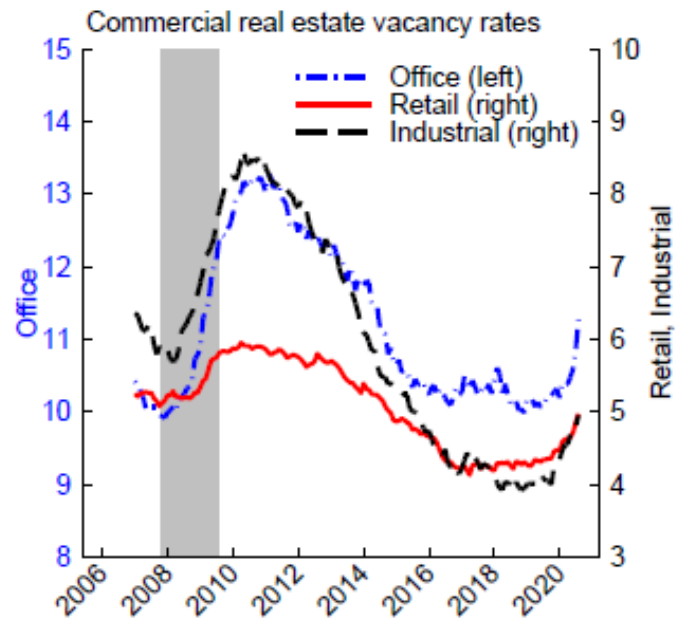Last three months are preliminary and may revise.
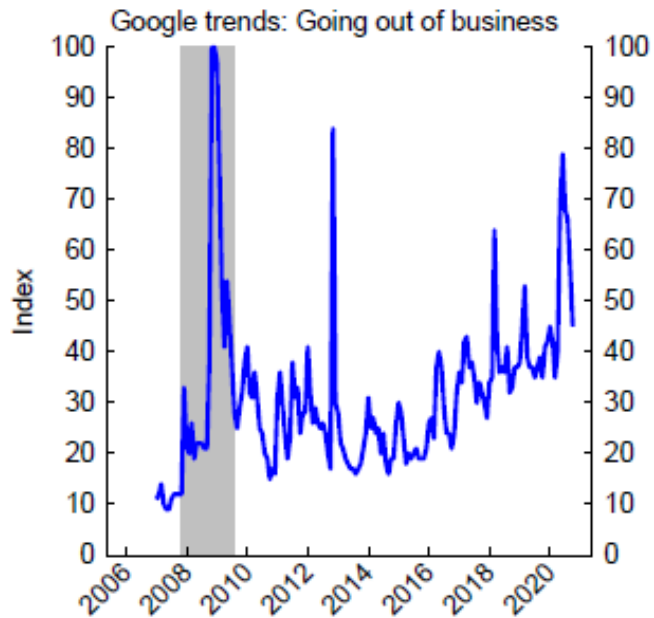
Restaurants: City comparison

Cumulative Percent Permanently Closed

Source: Author calculations from SafeGraph microdata.
Note: Permanent closure defined in Appendix.

Business electricity accounts

Legend:
- Commercial (left)
- Industrial (right)

Source: EIA through August 2020.

Commercial real estate vacancy rates

Legend:
- Office (left)
- Retail (right)
- Industrial (right)

Source: Costar Group, Inc. data through September 2020.

Google trends: Going out of business

Source: Google Trends through October 2020

Small business delinquency rates

Legend:
- 30-day
- 90-day
- Defaults
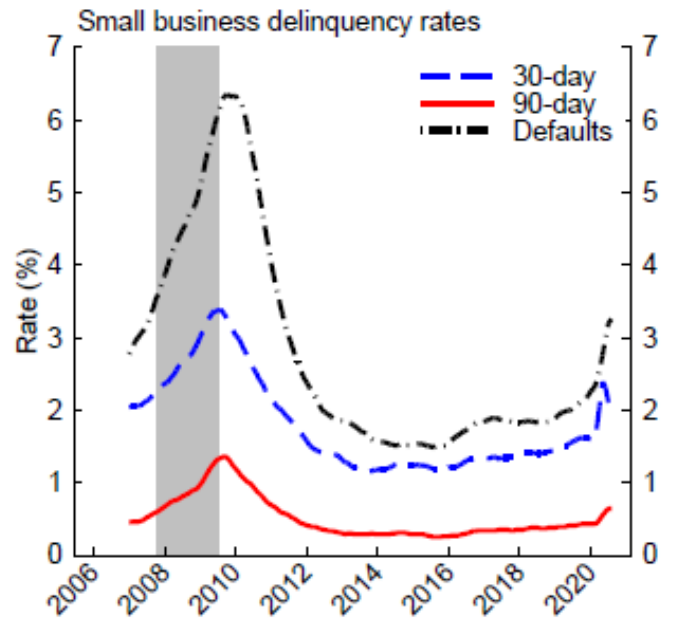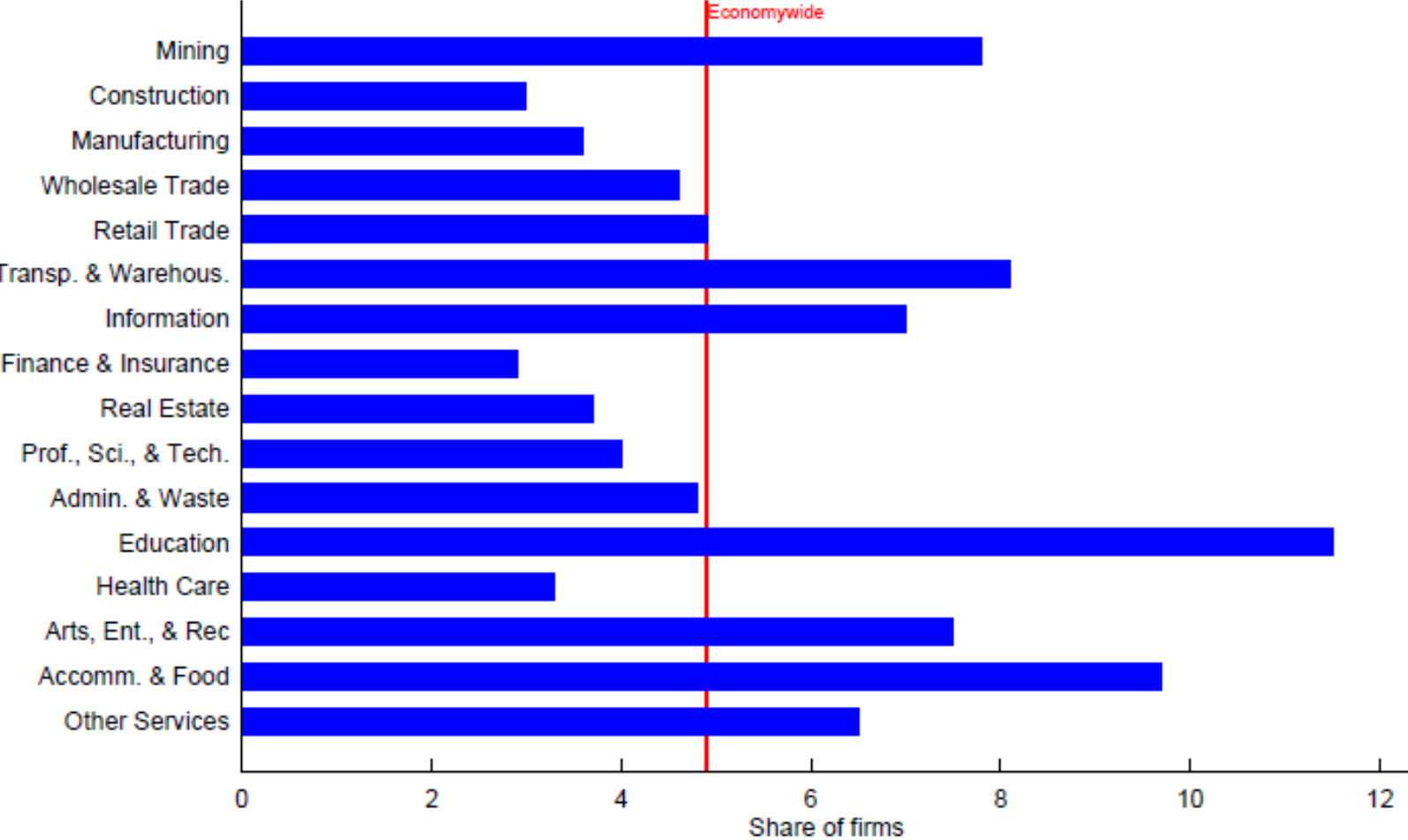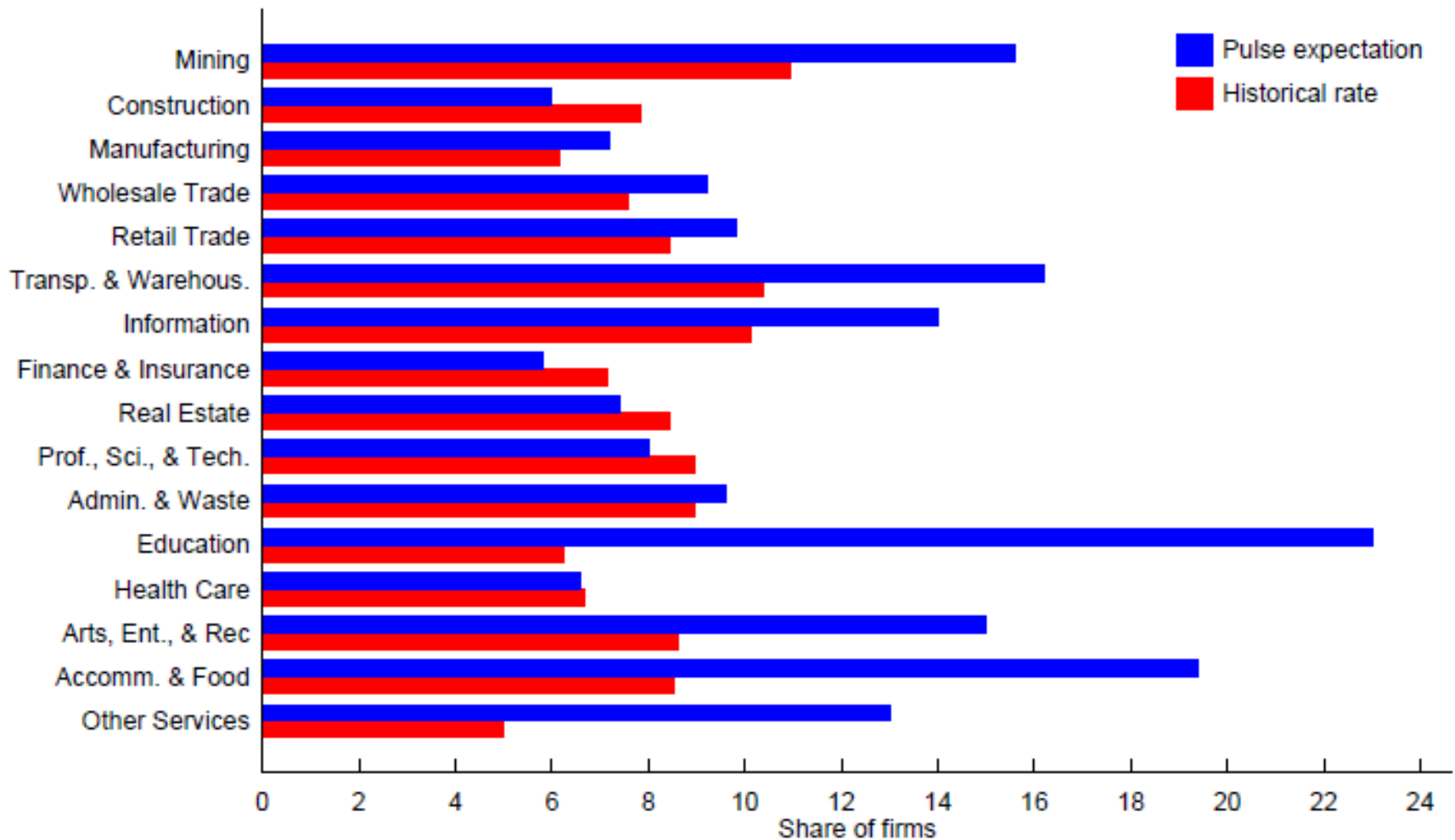
Source: Paynet, Inc. (2020) data through September 2020.

Pulse: Small Firms Expecting to Close within 6 months

Source: Census Bureau Small Business Pulse Survey, Sept 20-26.

Pulse: Exit expectations historically high in some sectors

Source: Census Bureau Small Business Pulse Survey, Sept 20-26 and Business Dynamics Statistics (BDS).
Pulse expectation is annualized pulse share. Historical rate is average firm exit rate among firms with <500 employees, 2015-2018