

# Business Formation Statistics: Research and Production

**Emin Dinlersoz**

Center for Economic Studies  
emin.m.dinlersoz@census.gov

**Rebecca Hutchinson**

Economic Indicators Division  
rebecca.j.hutchinson@census.gov

Shape  
your future  
START HERE >

United States<sup>®</sup>  
Census  
2020

# Business Formation Statistics (BFS)

**BFS is an experimental data product that provides high frequency, timely data on early stage new business activity in the U.S. including**

- Business applications as indicated by applications for an Employer Identification Number (EIN)
- Actual and projected business formations originating from business applications based on the record of first payroll tax liability for an EIN
- Delay in business formation as indicated by the average duration between business application and business formation



**EXPERIMENTAL  
DATA**

2020CENSUS.GOV

Shape  
your future  
START HERE >

United States<sup>®</sup>  
**Census**  
**2020**

# BFS Research History

Research collaboration with economists at Board of Governors of the Federal Reserve System, Federal Reserve Bank of Atlanta, University of Maryland, and University of Notre Dame.

- Research Paper by Bayard, Dinlersoz, Dunne, Haltiwanger, Miranda (2018) provides details on the construction of BFS series
- Initial development phase spanned 2012-2018
- Released first as a research product on February 14, 2018
- First vintage: Quarterly Data, 2004Q3-2017Q3

Transitioned to the Economic Indicator Division for Production in 2019.

# BFS Production Timeline

**July 17**  
**First release of Quarterly BFS by Economic Indicator Division**  
 (national, regional, state)

**October 22**  
**Special release of Weekly BFS by NAICS**  
 for 2019-2020

**January 14**  
**Final Quarterly BFS Release**

**Late Spring (tentative)**  
**Annual county BA series through 2020**

**Late 2021 (tentative)**  
**Implement new HBA NAICS Criteria**



## Publications by Year

- **2019** – 2 Quarterly
- **2020** – 41 Weekly, 4 Quarterly, 1 Annual
- **2021** (estimated) – 49 Weekly, 11 Monthly, 1 Quarterly, 1 Annual

**April 9**  
**First release of Weekly BFS**  
 (national, regional)  
**April 16**  
 Weekly state data added

**November 11**  
**Annual release of county level Business Application series**  
 through 2019

**February 10**  
**First Monthly BFS Release, including monthly series by 2-digit NAICS**

Shape your future  
 START HERE >



# Data widely featured during pandemic

**For New Congress And Administration: State Of Small Business And Entrepreneurship** Forbes, 2/4/21

**Business Startups Surged Amid Covid-19 Pandemic** Insurance Journal, 1/19/2021

**Americans are hatching many new businesses, confounding expectations** CBS News, 2/8/21

**Data Bank: Oregon business filings climb in 2020 in spite of pandemic closures** Portland Business Journal, 1/29/21

**With small businesses suffering, women turning to entrepreneurship** Greater Baton Rouge Business Report, 1/26/21

**How To Start A Business During COVID** Forbes, 1/17/21

# Source and Types of BFS Series

All applications for an EIN via IRS form SS-4 (starting in 2004q3) delivered weekly to Census Bureau are inputs to the BFS processing.

BFS consists of

- 4 Business *Application* Series
- 8 Business *Formation* Series (formations are applications that become employer businesses)

| BFS Publications |   |   |                      |
|------------------|---|---|----------------------|
| Frequency        | Weekly                                      | Monthly   | Annual               |
| Series           | 4 Application series, not seasonal adjusted | 4 Application series<br>8 Formation series, seasonally adjusted and not seasonally adjusted | 1 Application series |
| Geography        | National, Regional, State                   | National, Regional, State   | County               |
| Other            |   | National industry series  |                      |

# Business Application Series

Several criteria applied to the entire set of EIN applications to generate various business application series

**Business Applications (BA)** - The core series that includes all EIN applications made in the U.S. (50 states + DC) except those filed without a business intent:

- Trusts, estates, tax-liens
- Public entities
- Some other filings with little or no business intent (e.g. personal tax/finance related filings, some household activities, etc.)

# Business Application Series

**High-Propensity Business Applications (HBA): Applications that have a relatively high likelihood of becoming employer businesses**

- From corporate entities
- Indicate hiring employees, purchasing a business or changing organizational type
- Provide a date for first-wages paid/planned
- In manufacturing, part of retail, health care, and food/accommodation services

**Business Applications with Planned Wages (WBA) – a subset of HBA**

- Provide a date for first-wages paid/planned

**Business Applications from Corporations (CBA) – a subset of HBA**

- From corporate entities

# Business Formation Series

Use Census Bureau's Longitudinal Business Database (LBD) to identify new employer firm (EIN) births from business applications and the timing (quarter) of these births

## **Business Formations within 4 Quarters (BF4Q):**

Employer businesses that originate from Business Applications (BA) within a four quarter window from the time of application

## **Projected Business Formations within 4 Quarters (PBF4Q):**

- Projected employer businesses that originate from Business Applications (BA) within a four quarter window from the time of application
- Provides estimates for the periods for which actuals are not yet available
- Estimates based on a model of employer birth indicator as a function of application characteristics

**Series that piece together actual and projected formations, and series that measure average duration from application to formation (SBF4Q,DUR4Q)**

All series also provided for an 8-quarter window (BF8Q, PBF8Q, SBF8Q, DUR8Q)

# Benefits of the BFS

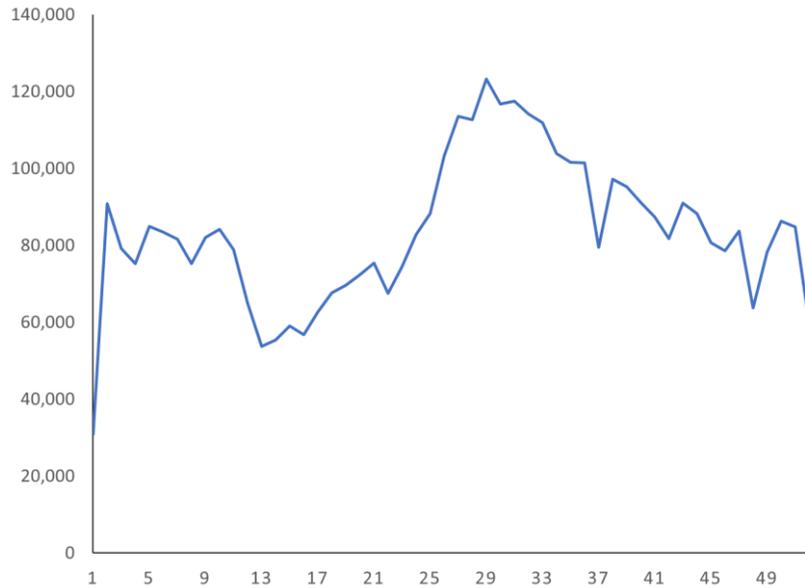
Analysis indicates that EIN applications provide forward-looking and timely information on business formation in the United States

- Work in progress to explore properties of BFS series as early indicators of economic activity
  - Particularly BA and HBA series (and part of BA that is not HBA – informative about non-employer business formation)

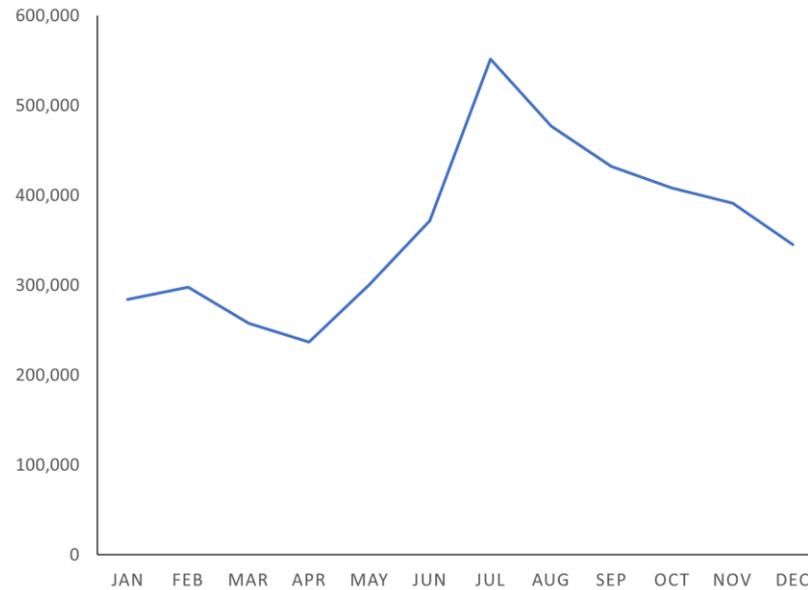
More frequent and timely BFS data allows policymakers, analysts, and researchers to better monitor the state of entrepreneurial activity in the United States

Proved especially useful during the COVID-19 Recession in monitoring the weekly progress of business applications

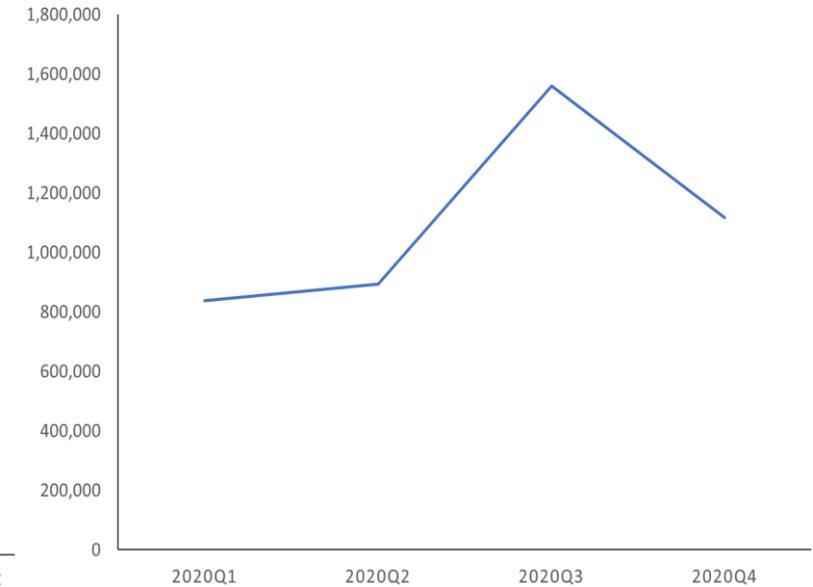
# Business Applications (BA) in 2020



Weekly  
(unadjusted)



Monthly  
(seasonally adj.)



Quarterly  
(seasonally adj.)

Source: [Quarterly, Monthly, and Weekly Business Formation Statistics](#)

2020CENSUS.GOV

Shape  
your future  
START HERE >

United States<sup>®</sup>  
**Census**  
**2020**

# Growth in Business Applications and Formations (Transitions) Great Recession

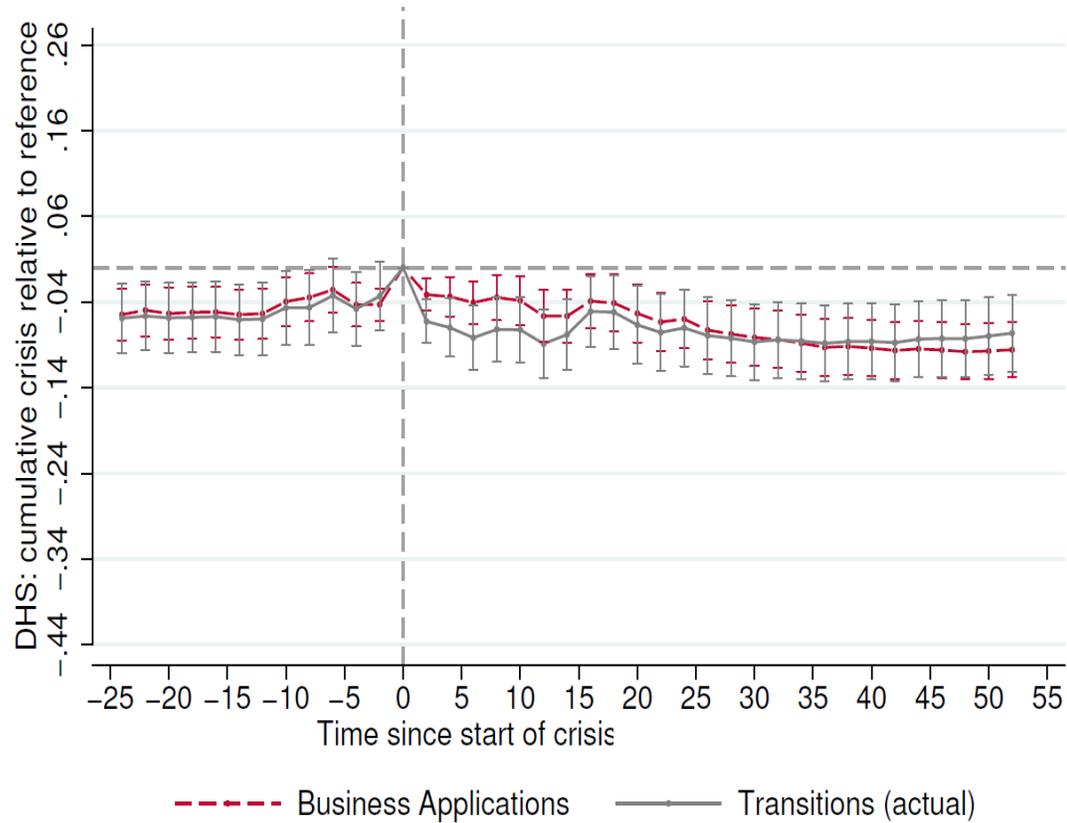


Figure 1a: Great Recession -- Applications and Transitions

# Growth in Business Applications and Formations (Transitions) Covid-19 Recession

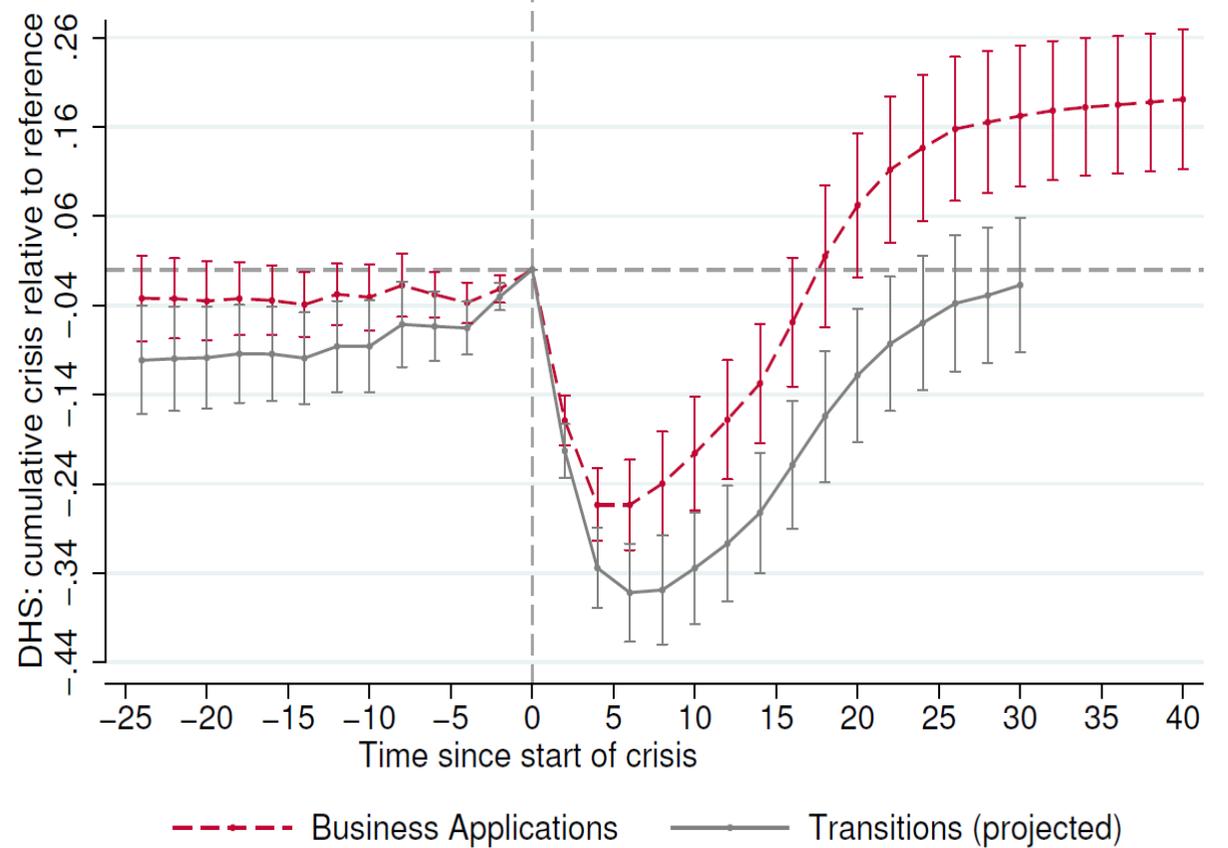
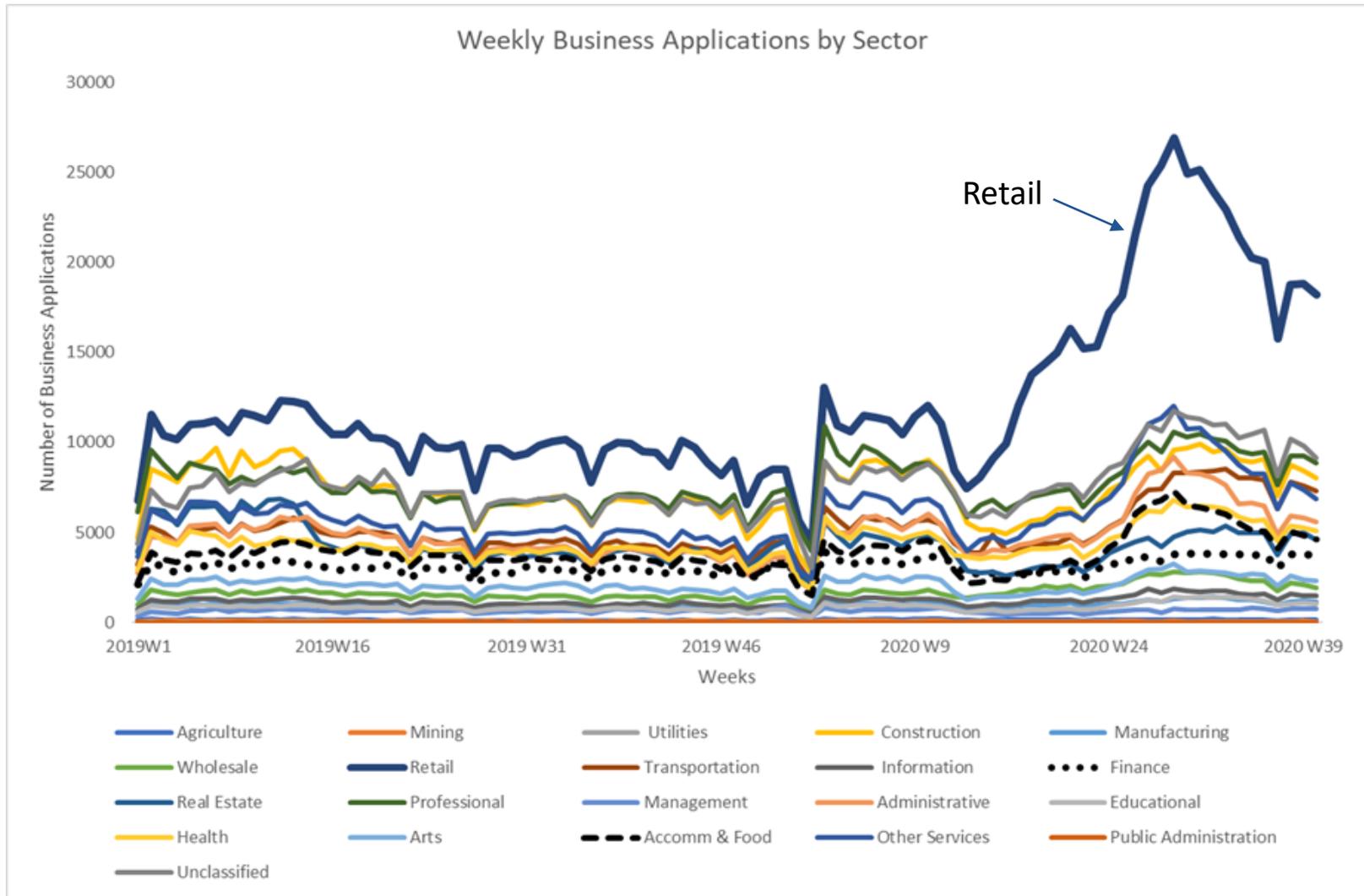


Figure 1b: COVID -- Applications and Transitions

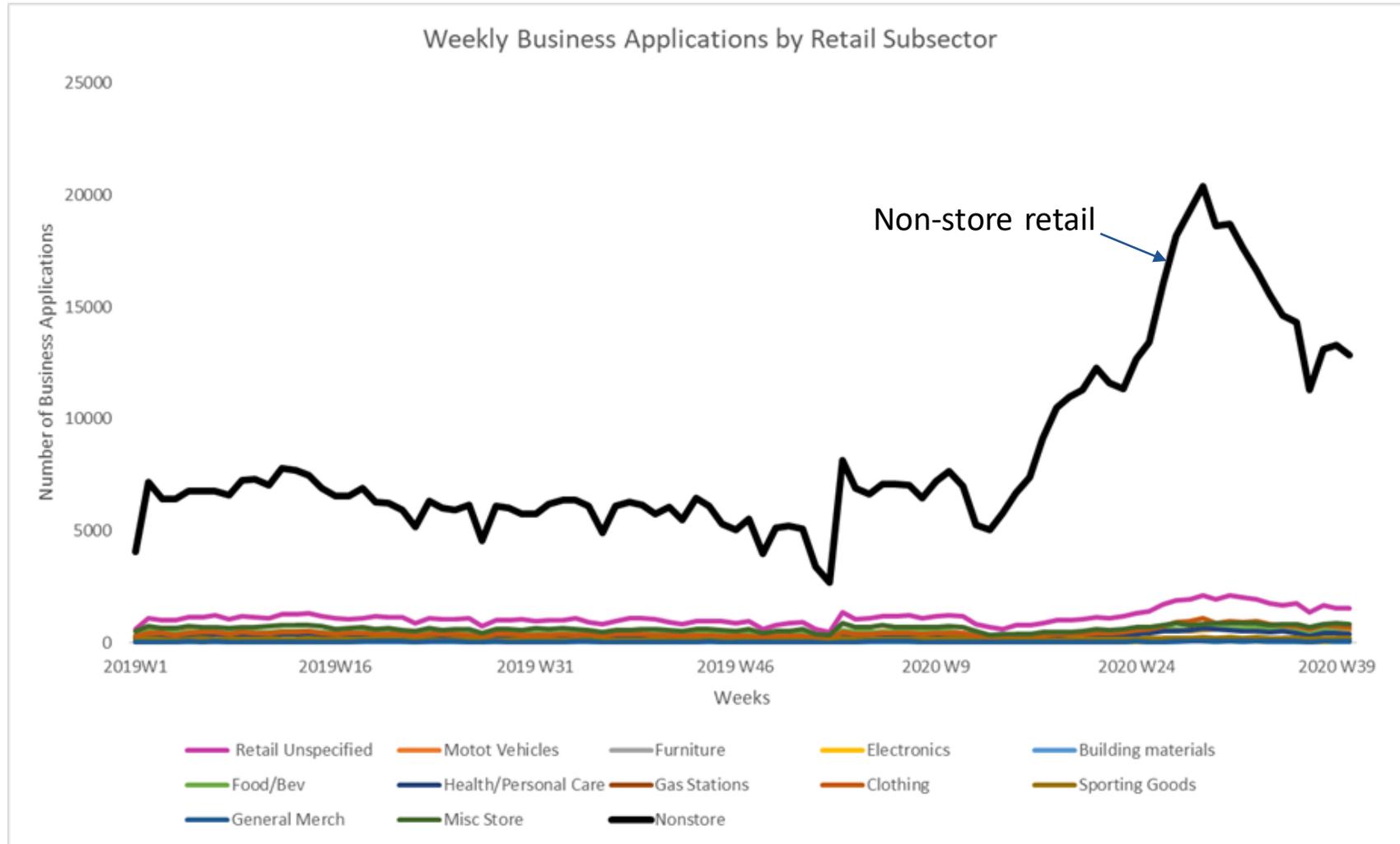
Source: [Dinlersoz, Dunne, Haltiwanger, Penciakova \(2021\) "Business Formation: A Tale of Two Recessions", forthcoming AEA P&P May 2021](#)

# Business Applications (BA) by Sector (2-digit NAICS) in 2019-2020



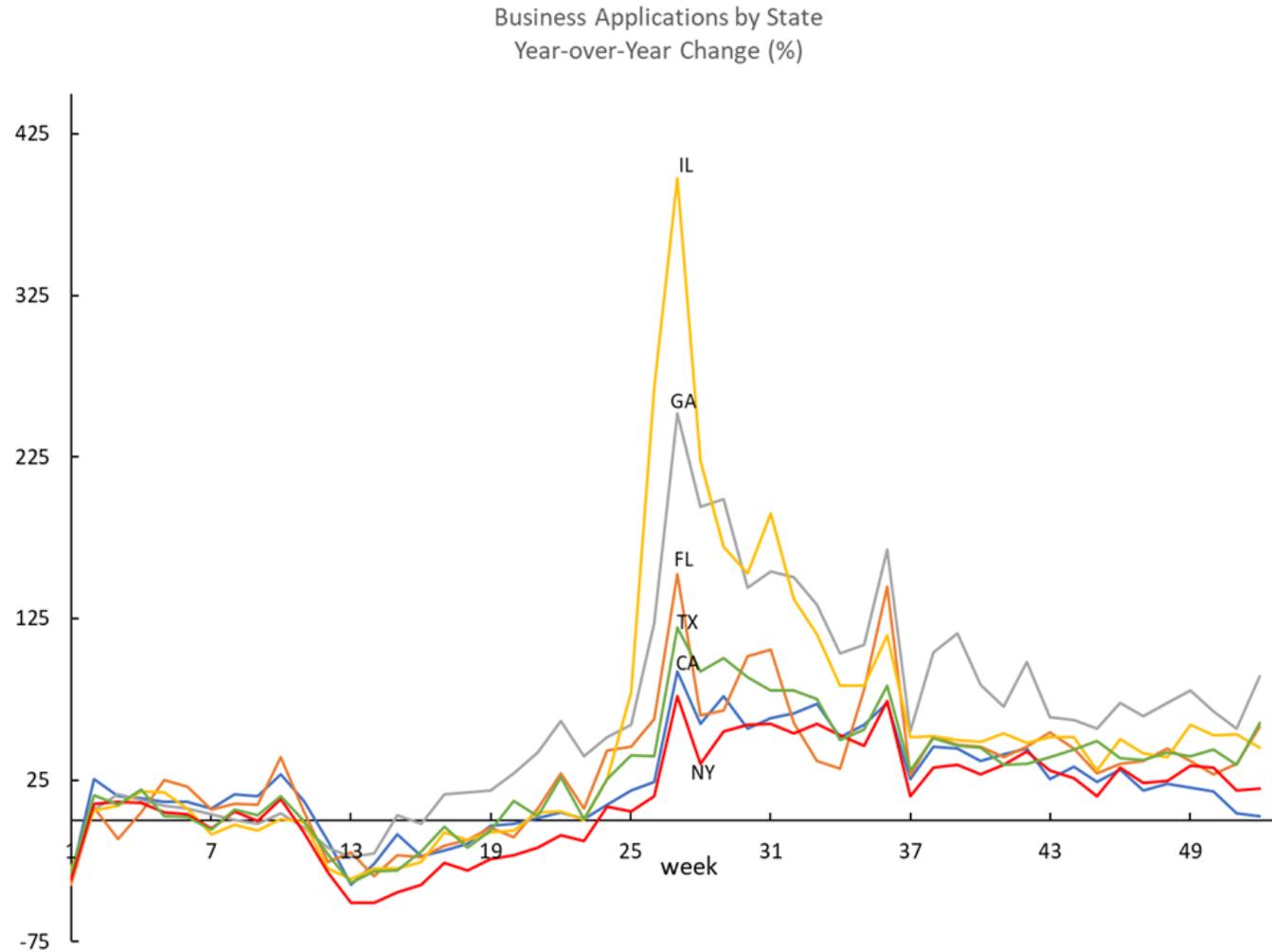
Source: [Quarterly, Monthly, and Weekly Business Formation Statistics](#)

# Business Applications (BA) by Retail Sub-Sector (3-digit NAICS) in 2019-2020



Source: [Quarterly, Monthly, and Weekly Business Formation Statistics](#)

# Growth of Business Applications (BA) in 2020, selected states



Source: [Quarterly, Monthly, and Weekly Business Formation Statistics](https://www.2020census.gov/quarterly-monthly-and-weekly-business-formation-statistics)

2020CENSUS.GOV

Shape  
your future  
START HERE >

United States<sup>®</sup>  
Census  
2020

# Current Research Projects

Properties of BFS as an early indicator of economic activity, with a goal to establish some BFS series as PFEIs

- by Asturias, Dinlersoz, Haltiwanger, and Hutchinson
- Compares BFS monthly series with economic indicators generated by Census Bureau and other agencies

Understanding non-employer business activity that originates from business applications, and modeling of non-employer versus employer business formation

- by Dinlersoz and Luque
- Leverages the work done in the context of Non-employer Statistics presented earlier to connect business applications with non-employer business formations

Exploring local origins of business applications and transitions to employer status: the effects of local characteristics

- by Dinlersoz, Dunne, Haltiwanger, and Penciakova
- Uses ACS, Decennial and other data from Census Bureau to relate business applications/formations to race, gender, foreign, education, income and employment composition at the local level

Sectoral shifts and reallocation in business applications and formations during recessions

- by Dinlersoz, Dunne, Haltiwanger, and Penciakova

# Questions

- We are now publishing the BFS series at a higher-frequency (e.g. weekly, monthly) and with more geographic granularity (e.g. county). Are there other series would you like to see in the future?
- What uses of BFS do you see in your specific expertise/industry/practice? Do you think BFS might be helpful in your decision-making? What else would you like to see in BFS that would make it more useful to you?