

The Entrepreneurial Resurgence: Business Formation During the COVID-19 Pandemic

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Business formation is a critical component of local and national economic growth. The creation of new jobs and establishments from newly minted firms helps ensure the vitality of entrepreneurial activity in the United States. However, Pugsley and Sahin (2019) document a prominent and problematic 30-year decline in new employer business startups, something closely linked with "jobless recoveries."¹ This is especially concerning given that nearly 20 percent of entrepreneurship stems out of necessity, as opposed to opportunity, during cyclical downturns (Fairlie and Fossen, 2019). The extent to which new firms are able to begin operating as innovative vessels during depressed economic times directly influences the pace at which the national economy can recover to pre-recession levels.

This topic of business formation during economic recoveries is especially relevant today. In response to the rapid increase in COVID-19 infections in the early months of 2020, the federal government declared a national emergency on March 13th, thereby marking the official start of the COVID-19 pandemic. In the ensuing weeks, state governments implemented a slew of stay-at-home orders aimed at containing the spread of the virus.² Although some industries have been able to transition to remote work, those providing in-person services have been particularly hard hit. At its peak in April, unemployment in the leisure and hospitality industry reached 39.3 percent, more than two-and-a-half times higher than the national average across all industries (Congressional Research Service, 2020). Consequently, upwards of 100,000 small businesses have permanently closed their doors with another 65,000 temporarily halting operations according to several studies (Bartik et al., 2020; Yelp, 2020). In

¹Jobless recoveries occur when output recovers quicker than employment levels after a recession. Pugsley and Sahin (2019) note that jobless recoveries have persisted since the 1990-91 recession. With the decline in startup activity, aggregate employment levels are immediately affected while the future composition of employment creation bends toward older businesses less responsive to the business cycle.

²Eight states have yet to issue stay-at-home orders. These include Arkansas, Iowa, Nebraska, North Dakota, South Dakota, Oklahoma, Utah, and Wyoming. For a state-by-state overview of COVID-19 restrictions, see <https://www.usatoday.com/storytelling/coronavirus-reopening-america-map/#restrictions>.

the midst of such economic turmoil, it is reassuring to note that early-stage business formation appears to have surged during the summer months, perhaps serving as an important economic backstop. However, there exists few empirical efforts aimed at unpacking this recent surge and how it might impact future business landscapes.³

In recognition of this gap in our understanding, the goal of this paper is twofold. First, it provides policymakers, economists, and business professionals a detailed examination of where and when the recent surge in early-stage business formation has been most prevalent. Second, this paper explores where newly created businesses might have the greatest impact on local economies, thereby providing forward guidance. To accomplish these tasks empirically, I turn to the Census Bureau’s Business Formation Statistics (BFS) database, which offers a high-frequency snapshot of state-level requests for Employer Identification Numbers (EINs). Indeed, an EIN application represents one of the many upfront fixed costs necessary to operate a business, and therefore, can be used to anticipate the trajectory of future business activity. Available for the 2006-2020 time period, the data allow for comparisons between history and the current year to quantify the COVID-19 impact.

To be sure, there are several potential channels that explain this year’s dramatic increase in business applications. In acknowledging that all are important drivers of the overall effect, this paper attempts to highlight those that have been most pronounced. One potential channel is the transition from unemployment to entrepreneurship. Furloughed workers in particularly hard hit industries may have started up their own operations as personal trainers or hair stylists to make ends meet. It could also be that individuals working from home had the extra time necessary to formalize back-burner business plans. Another potential channel involves the usage of pandemic relief funds. When the federal government pumped an historic amount of stimulus into the economy beginning in early April, some would-be entrepreneurs probably saw this as an opportunity to capitalize on "free" money.⁴ Taken together, these channels provide for a better understanding of the overall surge in early-stage business formation.

Table 1 compares business application summary statistics for the historical period and current year. Between 2006 and 2019, states reported an average of 54,699 business applications each year. This year, with eight weeks still remaining, the number of business applications filed year-to-date measures 74,505, an increase of 36 percent. Naturally, this translates into greater business application density, as well. Unpacking the recent uptick shows how the composition of this year’s business application growth compares to the historical period. During the 14 years that preceded 2020, 44.2 percent of all business applications were considered

³One example is Alder (2020).

⁴In particular, the Coronavirus Aid, Relief, and Economic Security (CARES) Act provided an estimated \$560 billion in relief to individuals. Direct cash payments (i.e., stimulus checks) sent to individuals making less than \$99,000 per year and families making less than \$198,000, amounted to about \$300 billion. An additional \$260 billion was spent on expanding state unemployment insurance systems. Unemployed individuals received an extra \$600 per week in benefits from the federal government.

high-propensity. In other words, they had a high likelihood of turning into a business with payroll.⁵ During the first 45 weeks of 2020, only one third of all applications have been classified as high-propensity, suggesting an increase in individuals' stated willingness to start a business, but perhaps with a less-developed business plan.

To visualize the trajectory of this year's summer surge in business applications, Figure 1 provides a comparison with recent history. Plotted are weekly business applications aggregated to the national level and indexed to the second week of each calendar year during the 2017-20 period. Several striking patterns emerge. First, regardless of the year, business applications remain quite stable through the first 12-14 weeks before gradually declining about 20 percent by year-end. Second, the current year is undeniably unique. Relative to the first full week of the calendar year (week 2), business applications at the national level declined 40 percent by week 13, just two weeks after the national emergency was declared by the federal government. The general trend over the next 16 weeks, however, traced out a substantial recovery and expansion.

Figure 2 compares the national trend in business application growth with those of individual states, this time with business applications indexed to week 11. Although the same pattern of dip-recovery-expansion emerges, what is clear is the extensive state-level heterogeneity. Pennsylvania, which experienced the most drastic decline, recorded 53 percent fewer business applications in week 13 relative to pre-pandemic levels. In contrast, the state of Illinois experienced a much more mild drop in business applications (just 34 percent), before surging to 308 percent of pre-pandemic levels in week 27, the largest gain among all states.

Figure 3, which presents state-specific graphs, highlights that many southern states, including Alabama, Georgia, Louisiana, and Mississippi, recorded the most rapid expansions in early-stage business formation. Largely immune from the spread of COVID-19 during the early months of the pandemic, would-be entrepreneurs in many of these southern states benefited from generous stimulus checks and the perception that the virus was limited to densely populated metropolitan areas. In addition to adopting stay-at-home orders at a more reluctant pace, it appears that some southern states, including Alabama and Georgia, benefited from migration patterns. In June, roughly 20 percent of the nation's population either relocated or knew someone who did because of the pandemic (Cohn, 2020). Those living in densely populated cities with high infection rates either moved to smaller towns in the same state or to a different state altogether (Bowman, 2020).⁶

⁵Bayard et al. (2018) outline the conditions that an application must meet to be regarded as high-propensity. One or more of the following must be met: (1) the applicant is a corporate entity, (2) the applicant indicates a plan to hire employees, purchase a business, or change organizational type, (3) the applicant provides planned wage data, (4) the application is for a business that would operate in the manufacturing, retail, healthcare, or restaurant industries. High-propensity applications have an eight-quarter transition rate of 27.0 percent, meaning that within two years, nearly three in 10 high-propensity business applications turn into an operating business. For all other applications, the transition rate is much lower, averaging 3.8 percent.

⁶Examining change-of-address data from the United States Postal Service (USPS), Bowman (2020) found that

With key industrial sectors having been particularly hard hit this year, including retail trade and food services, to what extent will this recent surge in business applications help fill the void left from those businesses that have closed their doors permanently? As of August 31st, more than 32,000 restaurants have closed as a result of the COVID-19 pandemic and imposition of dining restrictions, with more than 19,500 of those business closures being permanent (Yelp, 2020). Similarly, 17,500 of the retail industry’s 30,300 closures are considered permanent. Amidst this grim economic landscape, much of the national surge in business applications has been concentrated in retail trade, particularly nonstore retailers as seen in Figure 4. Indeed, retail trade business applications totaled more than 626,000 in the first 40 weeks of 2020, an increase of more than 54 percent from the previous year. Adapting to more time spent at home, the number of active sellers on the e-commerce website, Etsy, increased by more than one million during the second and third quarters (Marketplace Pulse, 2020), now totaling 3.7 million. Alongside the dramatic surge in retail business applications, the services sector has also been fueling topline growth. Workers who previously held positions at gyms and salons have turned into entrepreneurs, addressing critical gaps in supply of once-ubiquitous services (Mackrael, 2020).

To explore further the states that have been the dominant beneficiaries from the national surge in business applications and how local economies might be impacted going forward, Figure 5 proves instructive. Panel (a) displays the simple count of state-level business applications during the first 45 weeks of 2020. It is not surprising that this simple count correlates with population. Interestingly, the five states that reported the most permanent and temporary business closures since the start of the COVID-19 pandemic (California, Texas, Florida, New York, and Illinois), as reported by Yelp (2020), are the same states that lead the nation in 2020 business applications.⁷ Taken at face value, alongside the industrial sector results discussed above, these results tell a story of greater entrepreneurial activity where the existing business landscape has been most disrupted.

Panel (b) of Table 5 reports a measure of business application density (i.e., the number of business applications per 100,000 residents) highlighting several western and southern states. Next, Panel (c) reports current-year growth in business applications relative to the average annual level recorded over history (2006-19). Most evident is the dark contiguous swath of states in the southeast region. During the early months of the pandemic, New York and the state of Washington were hit hardest with COVID-19 infections, whereas many of the southern and midwestern states remained isolated from the virus. In tandem with generous stimulus payments provided by the federal government, it appears that individuals in many

Florida, New York, and California recorded the largest volume of out-migration, whereas Michigan, North Carolina, and Texas gained the most movers between February 1 and July 31, 2020.

⁷Total business closures measured 39,100 in California, 14,200 in Texas, 10,200 in Florida, 10,200 in New York, and 5,900 in Illinois. Across these states, the share of total closures considered permanent was highest in Florida, measuring 69.6 percent.

of these southern states chose to enter into entrepreneurship out of opportunity as opposed to necessity in the spirit of Fairlie and Fossen (2019). If that is the case, business applications in those states would not necessarily be of the high-propensity type, exactly what is shown in Panel (d), which reports the share of high-propensity applications. Instead, four of the five states reporting the most business closures since the start of the COVID-19 pandemic are shaded dark blue, suggesting that the potential replacement of exiting business establishments is of high quality.

Going forward, the states that have reported both high business application density (signaling a strong infusion of new entrepreneurial activity) and a relatively high share of applications considered high-propensity (signaling business application quality) appear poised to benefit the most in the coming months as applications transition into operating businesses. These states are shaded dark blue in Panel (a) of Figure 6. Ranked by their share of high-propensity business applications, these states include California, New York, Illinois, Florida, Alaska, Idaho, Delaware, and Nevada. Based on the relative necessity to replace the stock of businesses that have permanently closed, it appears that this year’s business applications are geographically concentrated where they will do the most good. Alongside these results, Panel (b) performs the same exercise, but substitutes business application density for business application growth, producing a similar graph that still highlights California, Florida, and Illinois among the top yet-to-be beneficiaries.

So far, this paper has explored *what* happened to early-stage business formation in 2020, *where* business applications have been concentrated, and *when* certain states experienced their recovery and expansion phases leading up to and through the summer months. To further explore *why* business applications surged in the extraordinary fashion in which they did, I turn to Figure 7 to start the discussion. After the imposition of state-issued stay-at-home orders and the onslaught of business closures, it is possible that individuals receiving unemployment benefits from their state and the federal government utilized their time away from work to construct business plans, or at least file a business application with a loosely constructed business plan in place. The binned scatter plots show a positive and significant relationship between last month’s stock of unemployed persons (continued unemployment insurance claims from five weeks prior) and the current level of business applications. The tightness of fit and direction of correlation appear consistent when looking at the log of total applications or high-propensity applications. To examine this relationship more rigorously, Table 2 shows that doubling last month’s stock of unemployed persons generates a gain of 9.1 percent in state-level business applications. For high-propensity applications, this gain measures a highly significant 8.0 percent. Taken together with the binned scatter plots, it appears that at least some of the recent surge in business applications can be attributed to the erosion of local labor markets and the unique setting that the expanded unemployment insurance program created with respect to more time spent at home.

To put all of this into perspective, the potential silver lining in a year plagued with the COVID-19 pandemic and dramatic disruption to the national business landscape is, what appears to be, an entrepreneurial resurgence. This year, applications for EINs, which represent one of the many upfront fixed costs necessary to operate a business, surged to levels never seen before. The unique setting created by stay-at-home orders, mass layoffs in particular industries (e.g., retail and restaurants), and an enormous infusion of cash from the federal government seem to have served as a sound incubator for entrepreneurial growth. Despite the difficult economic landscapes that exist today, the early-stage business formation data suggest that those states hardest hit this year are in fact the same states poised to benefit from this entrepreneurial resurgence.

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Table 1: Summary Statistics of Business Applications

	2006-2019		2020	
	Mean	Share	Mean	Share
Business Applications (per 100,000 ppl.)	893	—	1,128	—
Business Applications (total)	54,699	100.0	74,505	100.0
High-Propensity	25,018	44.2	26,018	33.9
Not High-Propensity	29,680	55.8	48,486	66.1

Note: High-propensity business applications are a subset of total business applications that are likely to turn into a business with payroll. Total business applications for the 2006-19 period represent an annual average. Current year data include up to week 45 of 2020.

Table 2: Key Correlates of Business Applications

	(1)	(2)	(3)
Log of Business Applications			
Log of Continued UI Claims (t-5)	0.517*** (0.042)	0.123*** (0.010)	0.091*** (0.029)
Log of High-Propensity Business Applications			
Log of Continued UI Claims (t-5)	0.512*** (0.045)	0.100*** (0.010)	0.080*** (0.029)
State Fixed Effects	No	Yes	Yes
Week Fixed Effects	No	No	Yes

Note: The state-week panel spans the first 45 weeks of the 2020 calendar year. UI = unemployment insurance. Standard errors clustered by state and presented in parentheses. Statistical significance is denoted by * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

Figure 1: Annual Trajectory of Business Applications at the National Level

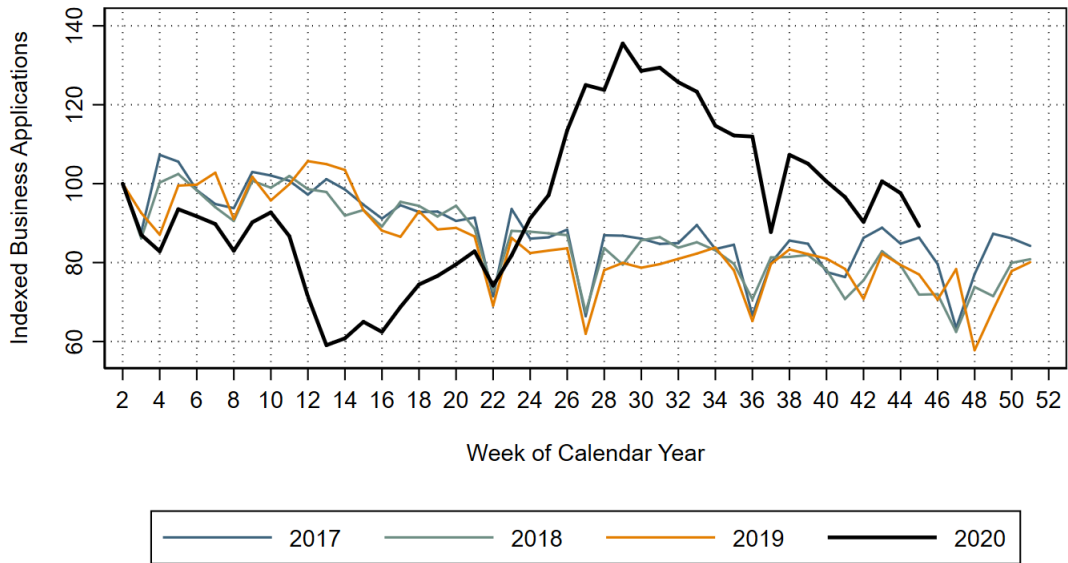


Figure 2: Total Business Applications Indexed to the National Emergency Declaration

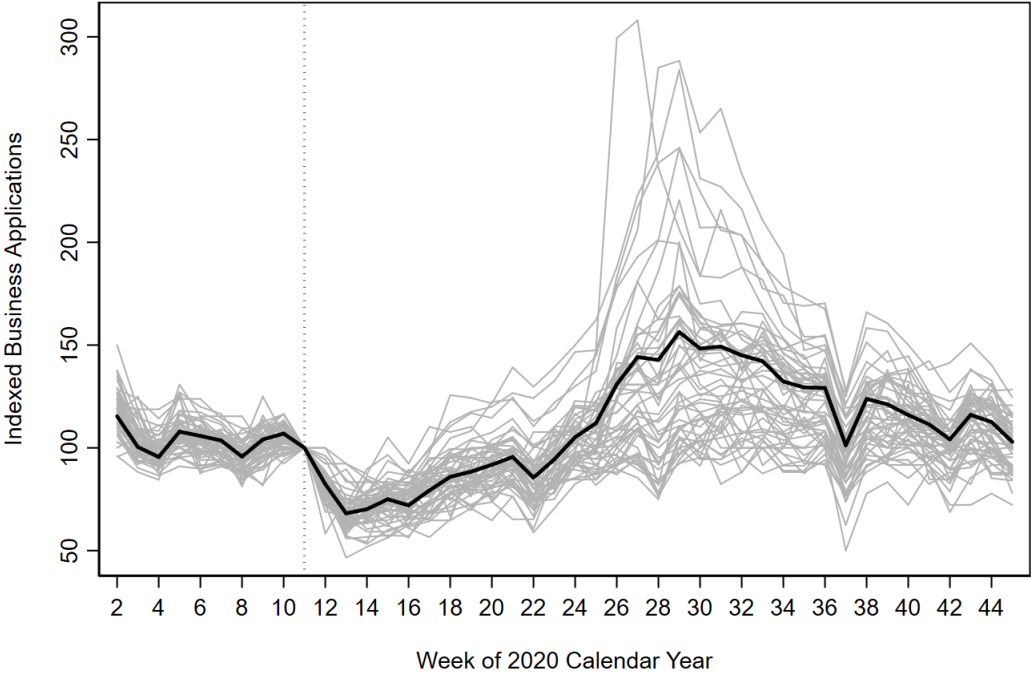


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration

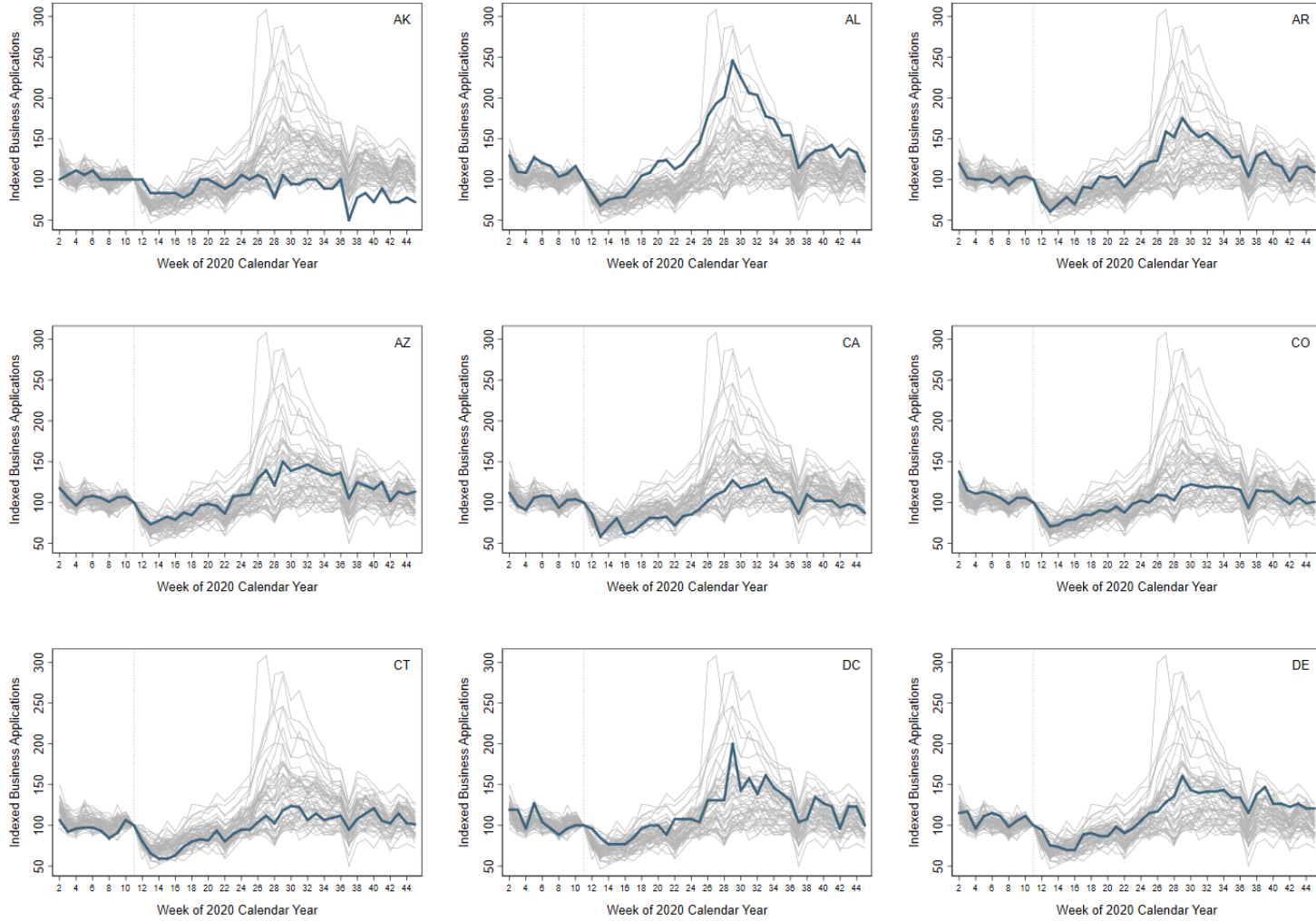


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration (*continued*)

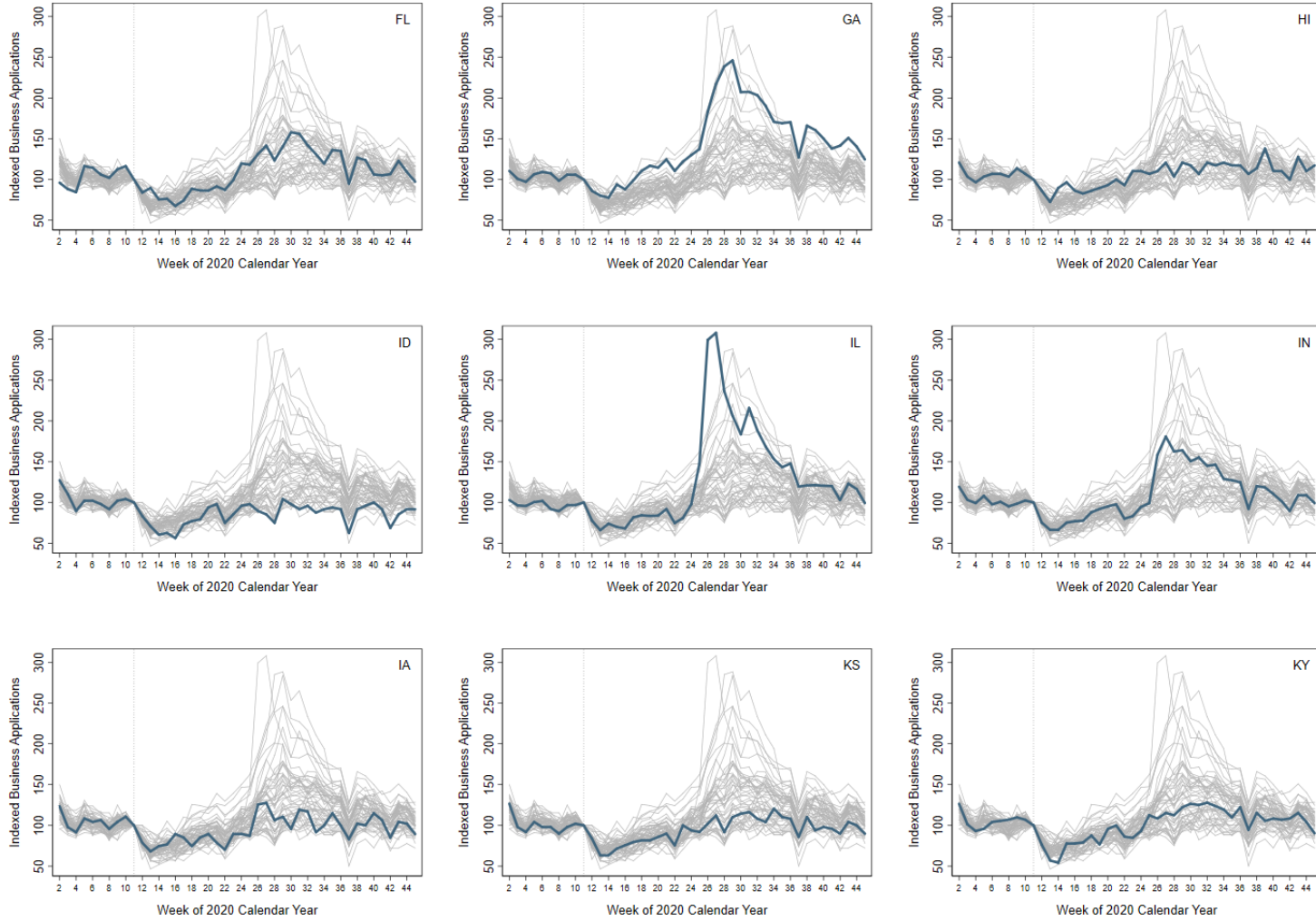


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration (*continued*)

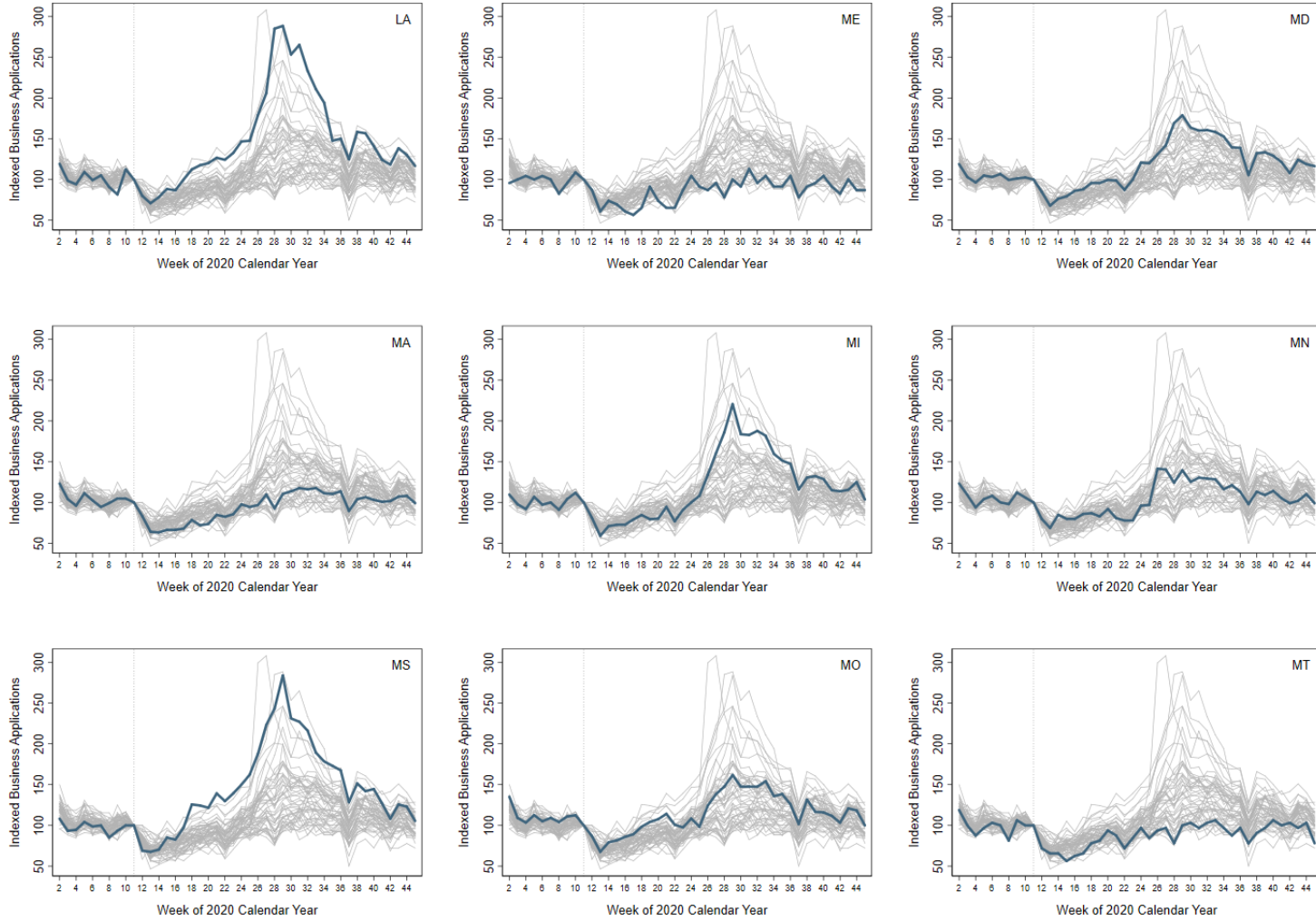


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration (*continued*)

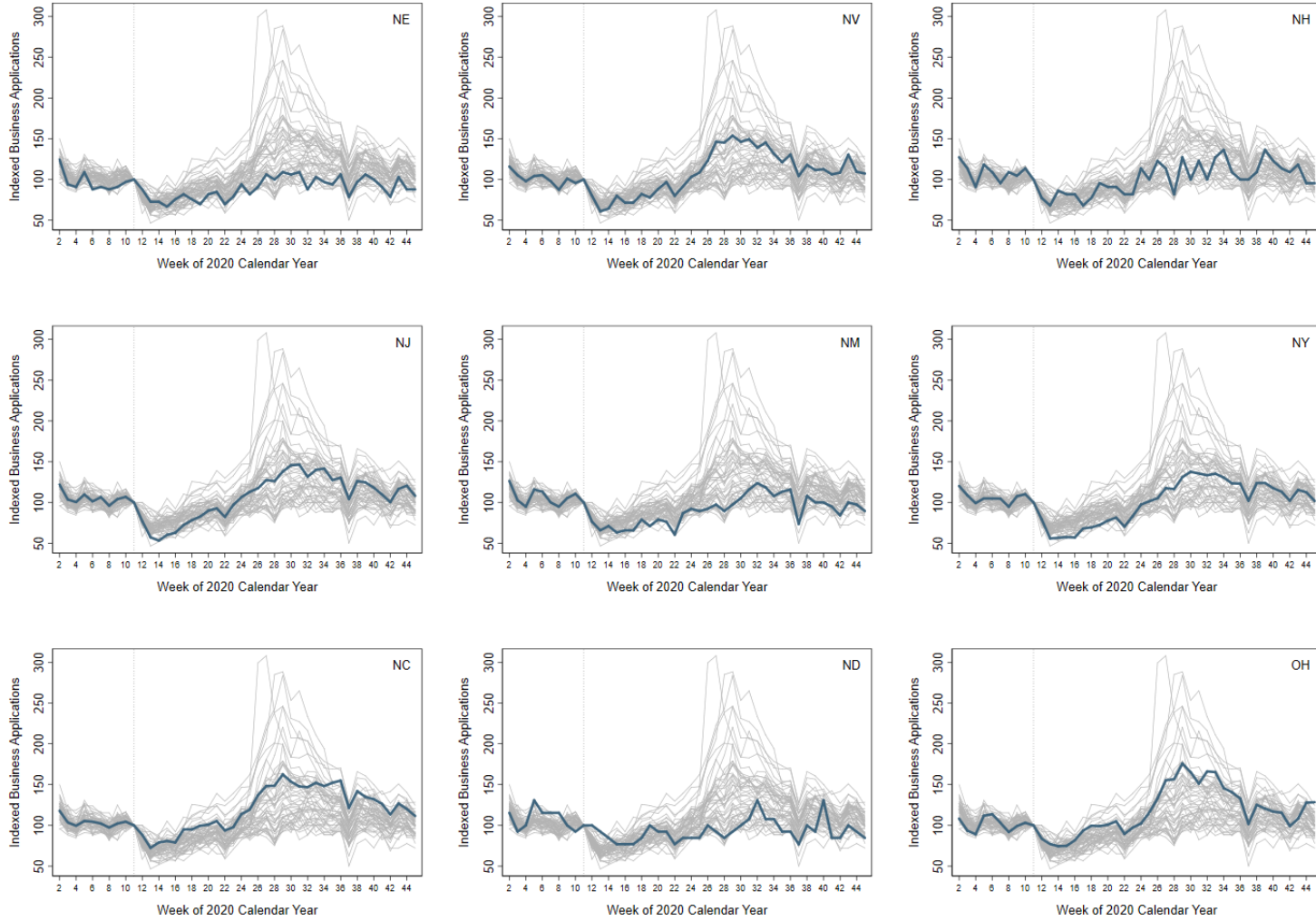


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration (*continued*)

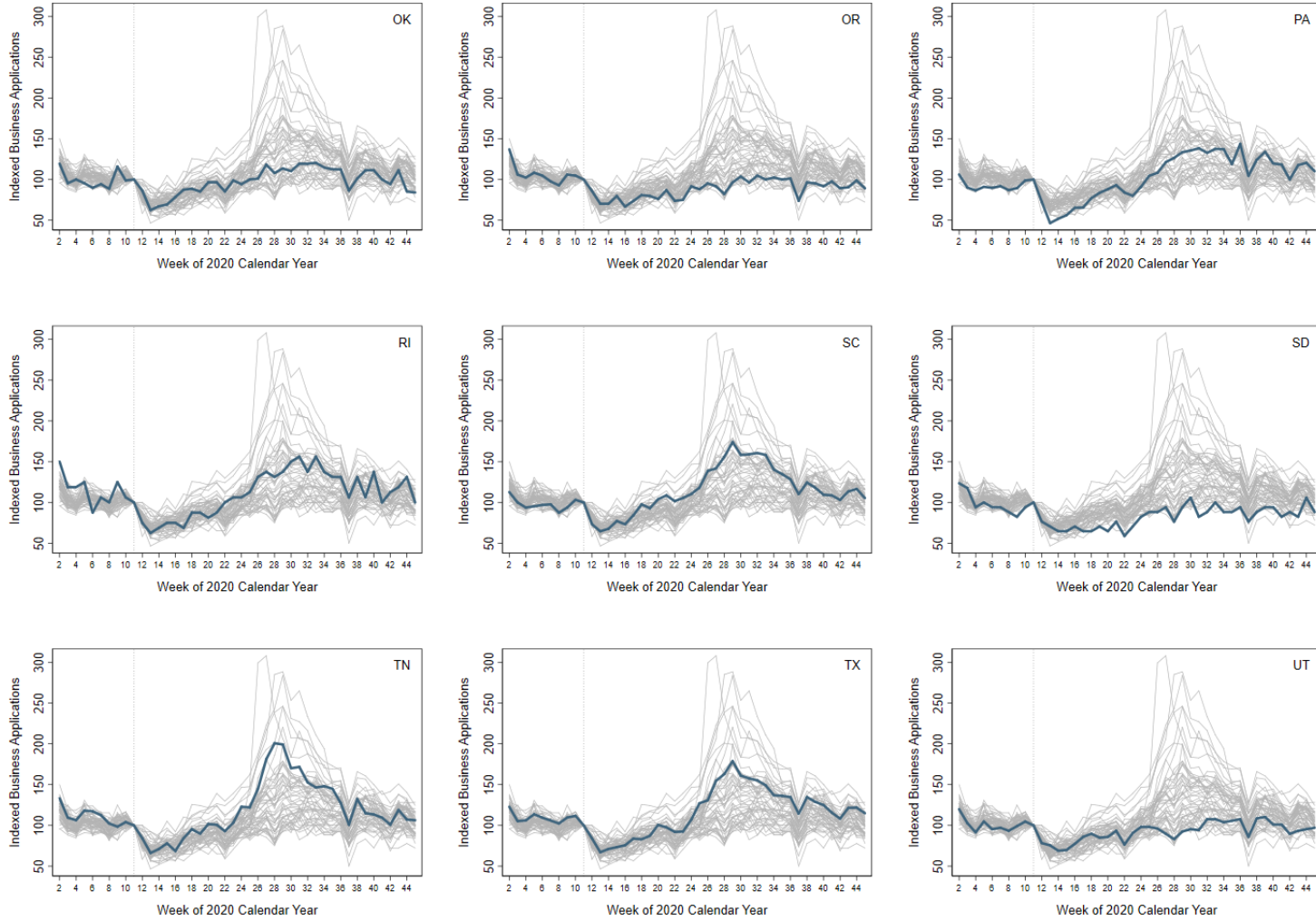


Figure 3: State-Level Business Applications Indexed to the National Emergency Declaration (*continued*)

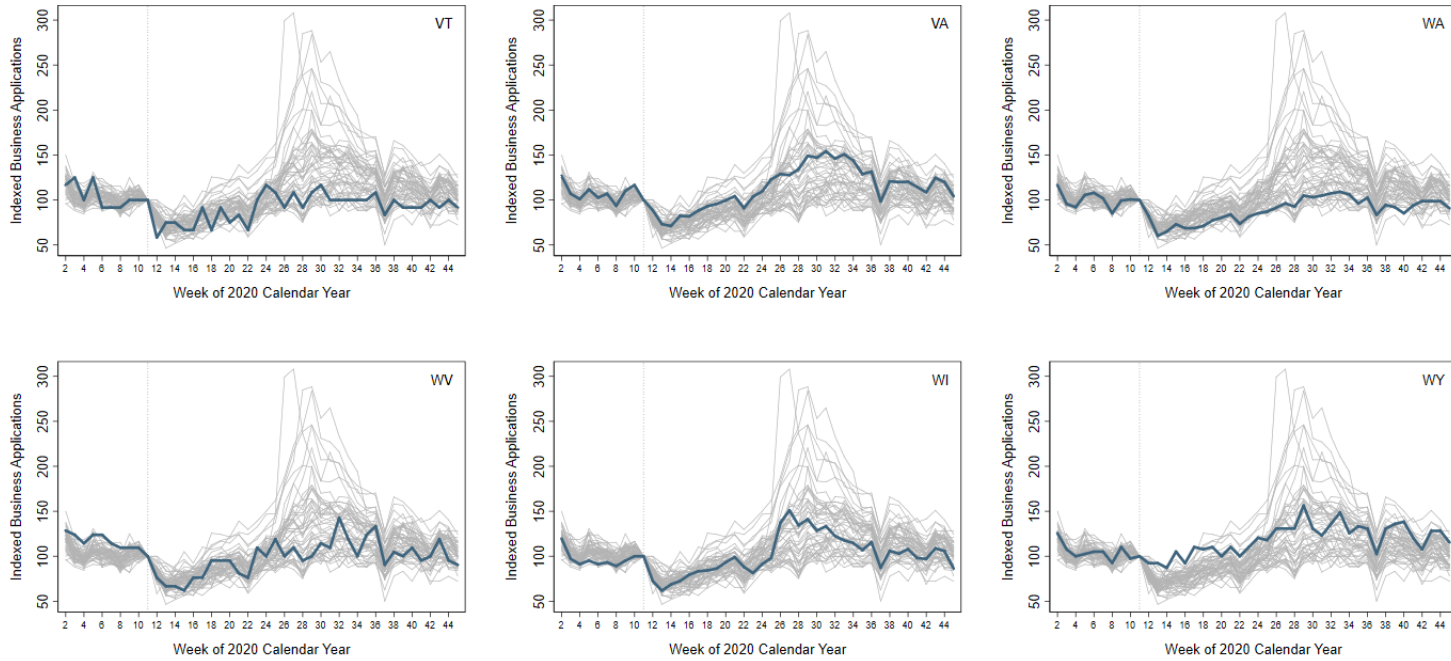


Figure 4: Business Applications by Industrial Sector

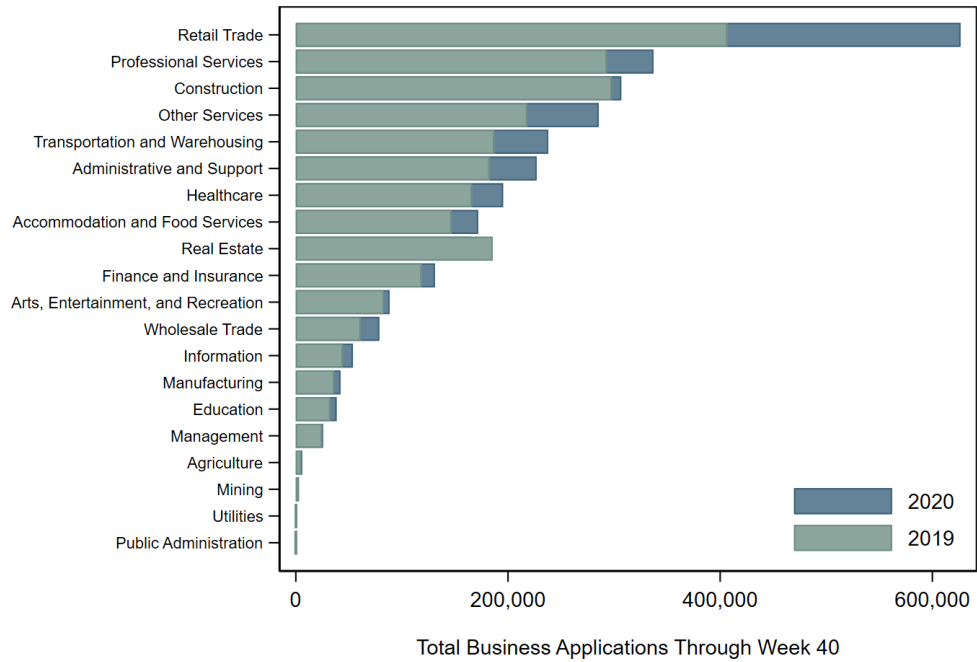
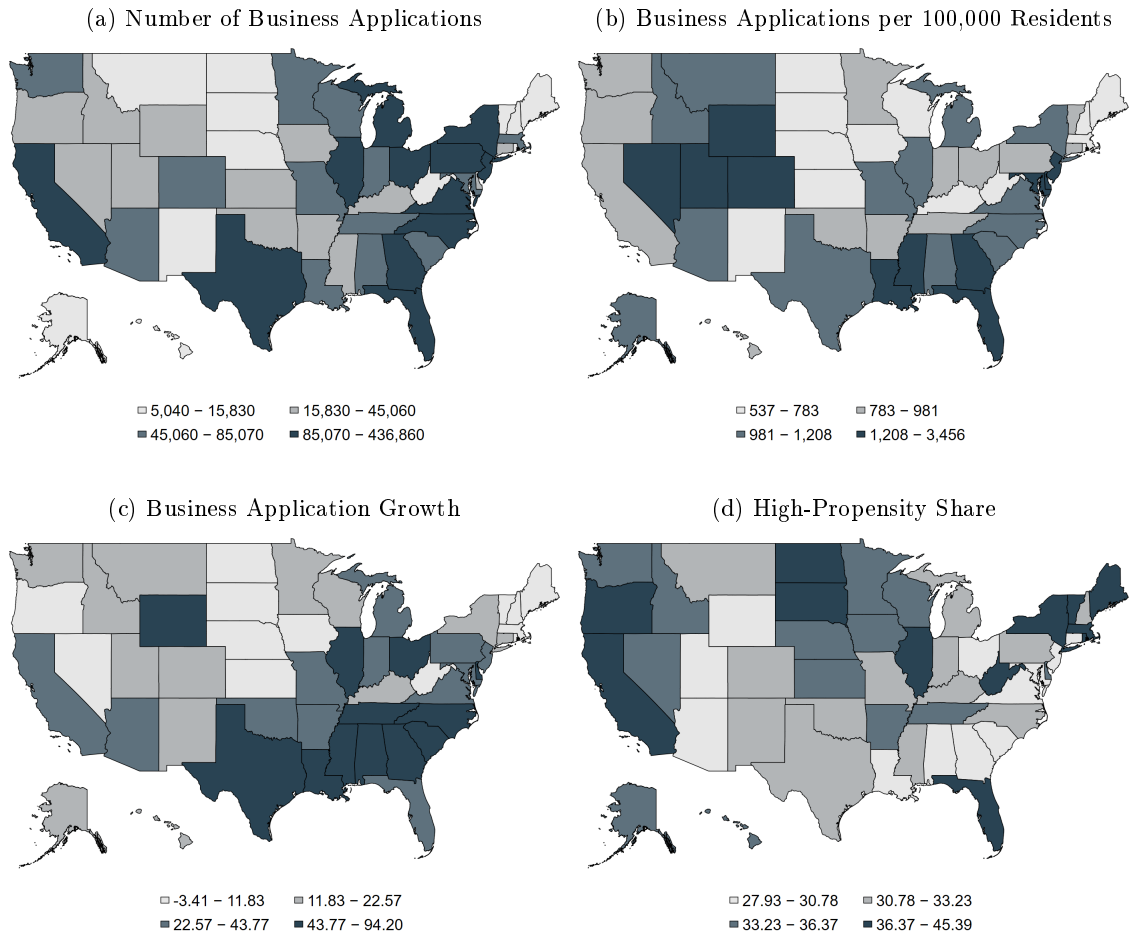
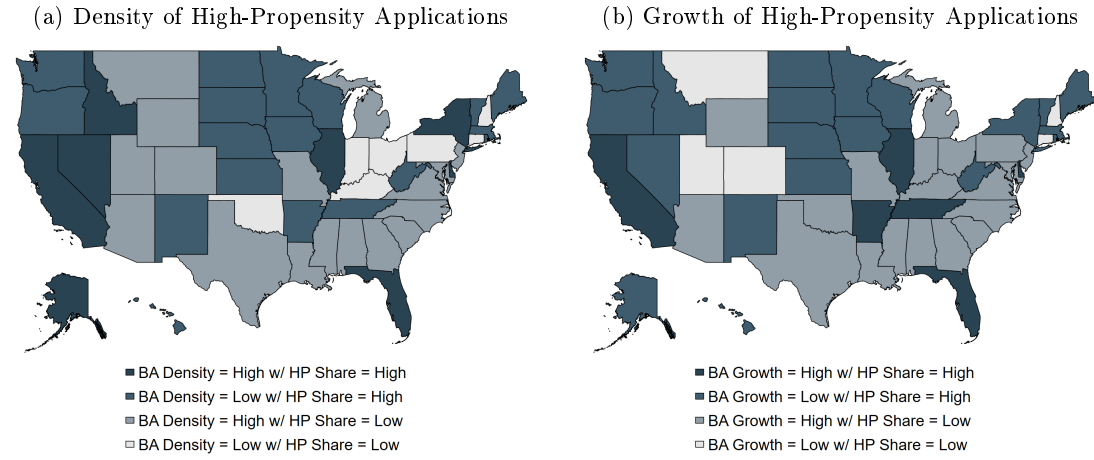


Figure 5: Unpacking the Recent (2020) Boom in Business Applications



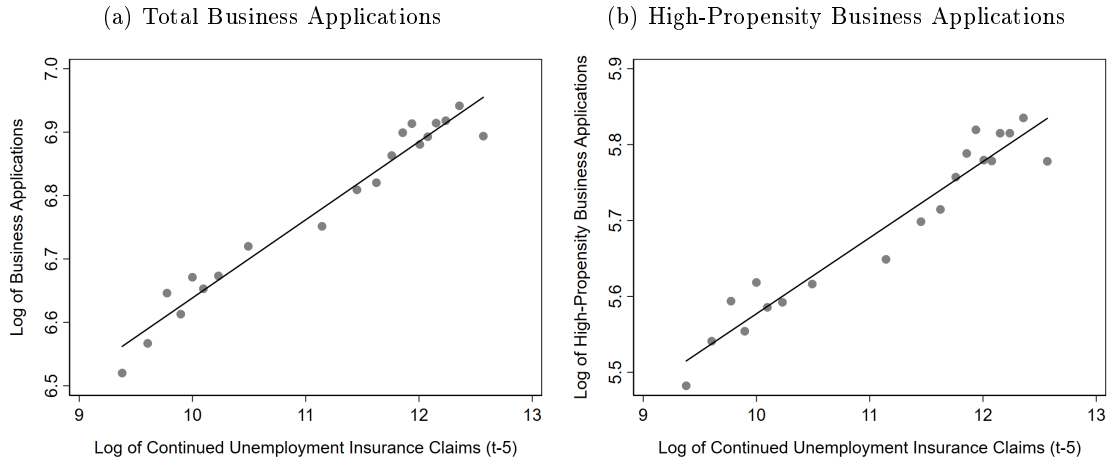
Note: Panel (a) shows where business applications have been geographically prevalent during the first 45 weeks of 2020, with cumulative business application totals displayed. Panel (b) shows where the recent surge in business applications has been most concentrated, with the number of business applications per 100,000 residents shown. Panel (c) shows how the current surge in business applications compares to each state's historical trend. The percentages by which current year-to-date business application totals exceed historical averages during 2006-19 are displayed. Panel (d) shows the percentage of business applications in 2020 that are considered high-propensity, or those that are likely to turn into a business with payroll.

Figure 6: States by Business Application Density, Growth, and High-Propensity Share



Note: BA = business application. HP = high-propensity. High and low values are defined as above-median (high) and below-median (low). Panel (a) groups states into four bins based on business application density (number of business applications per 100,000 residents) and the share of total applications that are considered high-propensity (likely to turn into a business with payroll). Panel (b) groups states into four bins based on the growth of current (2020) business applications relative to historical annual averages during 2006-19 and the share of total applications that are considered high-propensity.

Figure 7: Correlation Between Unemployment Insurance Claims and Business Applications



Note: The binned scatter plots above were generated using the Stata command `binscatter` and show the correlation between last month's (t-5) level of continued unemployment insurance claims and current business application activity. Panel (a) explores whether the weakness of local labor markets impacts total business applications. Similarly, Panel (b) explores this correlation with high-propensity applications.