

*The Impact of COVID-19
on Small Business Owners:
Continued Losses and the
Partial Rebound in May 2020*

ROBERT FAIRLIE

Professor of Economics

UC Santa Cruz

June 2020

Working Paper No. 2020-01

The Impact of COVID-19 on Small Business Owners: Continued Losses and the Partial Rebound in May 2020

Robert Fairlie¹

June 22, 2020

Abstract

Social distancing restrictions and demand shifts from COVID-19 shuttered many small businesses and entrepreneurs in the first month of widespread shelter-in-place restrictions. Fairlie (2020) finds that 22 percent of small business owners were inactive in April 2020 with disproportionate impacts on African-American, Latinx, immigrant, and female business owners. What happened in the second month of social distancing restrictions? Were there further closures or a rebound? This paper provides the first analysis of impacts of the pandemic on the number of active small businesses in the United States using nationally representative data from the May 2020 CPS – the second month capturing effects from mandated restrictions. The number of active business owners in the United States is down by 2.2 million or 15 percent from February 2020, but up 7 percent since the low in April. The continued losses in May and partial rebound from April were felt across nearly all industries and were not sensitive to using alternative restrictions on hours worked and measures. African-American business owners continue to be the hardest hit by COVID-19 experiencing a drop of 26 percent in business activity from pre-COVID-19 levels. Latinx business owners fell by 19 percent, and Asian business owners dropped by 21 percent. Immigrant business owners experienced substantial losses of 25 percent. Simulations indicate that industry compositions partly placed black, Latinx and immigrant businesses at a higher risk of losses. All of these demographic groups, however, experienced partial rebounds in business activity from April lows. These findings of the continued early-stage losses to small businesses have important policy implications and may portend longer-term ramifications for job losses and economic inequality.

Keywords: Small business, entrepreneurship, business owners, self-employment, COVID-19, coronavirus, shelter in place restrictions, social distancing

JEL Codes: J15; J16; L26

¹ Department of Economics, University of California, Santa Cruz, Stanford University (Visiting Scholar), and NBER (rfairlie@ucsc.edu).

1. Introduction

The widespread closing of stores and businesses in the United States and around the world due to the coronavirus is unprecedented. Stores, factories and many other businesses have closed by policy mandate or downward demand shifts. Many of these closures may be permanent because of the inability to pay ongoing expenses and survive the shutdown. The impact on small businesses around the world is likely to be severe.

The early effects of COVID-19 on small business and entrepreneurs are not well known because of the lack of timely business-level data released by the government. I address this limitation by creating estimates of the number of business owners from monthly Current Population Survey (CPS) microdata files. Using these timely data, I first examined and reported the findings on how COVID-19 impacted small business owners in mid-April 2020 – the first month to capture the wide-spread shelter-in-place restrictions in the United States (Fairlie 2020). The main findings show that the number of working business owners dropped by 22 percent from February 2020 to April 2020. African-Americans experienced the largest losses, with 41 percent of business owners at least temporarily shutting down in April, followed by Latinx business owners who experienced 32 percent losses. Immigrant and female business owners also suffered disproportionate drops in business activity. The findings beg the question of whether the shutdowns in operations in April were temporary or permanent.

This paper builds on the earlier work by exploring COVID-19 impacts in the second month following widespread shelter-in-place restrictions across the country – May 2020. The analysis answers the question of whether there was further closing of small businesses or instead a partial rebound as small business owners tried to reopen or partially reopen. This study provides the first estimates of the early-stage effects of COVID-19 on small business owners from May 2020 CPS microdata. The findings indicate that there was a partial rebound from April 2020 numbers. The number of business owners bounced back by 7 percentage points resulting in 15 percent losses from February 2020 to May 2020. Although there is no way to know at this time if these business closures will be permanent they certainly have an impact on the revenues and profit levels, employees, and take home earnings from these businesses. When conditioning on working roughly two days per week or four days a week, the losses are larger from February to May 2020 (19 percent and 21 percent, respectively).

Patterns across gender, race and immigrant status reveal disproportionate impacts from COVID-19. African-Americans continue to experience the largest losses, eliminating 26 percent of active business owners (although an improvement from 41 percent losses in April). Latinx also experienced major losses with 19 percent of business owners disappearing between February and April 2020. Immigrant business owners suffered a large drop of 25 percent. Female business owners suffered similar percentage losses in business activity in May as male business owners. All groups experienced partial rebounds from April.

Most major industries experienced declines in the number of business owners in May, with agriculture representing a key exception. Most service sectors faced large declines in the number of business owners due to COVID-19 in May. Simulations reveal that the concentrations of female, black, Latinx and immigrant businesses in industries hit harder by the pandemic contributed to why losses were higher for these groups than the national average loss. Regional estimates indicate that the Northeast and West experienced larger losses than the Midwest and South, but these differences generally do not contribute to demographic differences. Overall, these estimates of impacts of COVID-19 on small businesses from the May 2020 CPS indicate that losses were spread across demographic groups and types of business – no group was immune to negative impacts of social distancing policy mandates and demand shifts. But, they also reveal positive news relative to April showing a partial bounce back for all groups.

In addition to building on the findings from April CPS data reported in Fairlie (2020), these results build on the findings from a few previous studies of the early effects of the coronavirus on small businesses. Employer business applications as measured by the U.S. Census weekly Business Formation Statistics (BFS) fell in the five weeks from mid-March to mid-April by over 27 percent relative to the previous year (Wilmoth 2020). Examining more recent data from the BFS there is some evidence of a bounce back, but weekly estimates show a lot of variation (U.S. Census Bureau 2020). Estimates from the U.S. Census Small Business Pulse Survey indicate that roughly 50 percent of businesses report having a large negative effect from the COVID-19 pandemic and that only 15-20 percent of businesses have enough cash on hand to cover 3 months of operations (U.S. Census Bureau 2020; Bohn, Mejia and Lafortune 2020). Bartik et al. (2020) conducted a survey in late March of nearly 6,000 small businesses that were members of the Alignable business network. They find that 43 percent of businesses are temporarily closed, large reductions in employees, and the majority of businesses have less than

one month of cash on hand. The Stanford Latino Entrepreneurship Initiative (2020) surveyed 224 high-revenue Latinx-owned businesses and found that 86% of respondents reported immediate negative effects such as delayed projects and closure from the pandemic. This paper builds on the previous work by focusing on early-stage effects in May using CPS data, and by exploring differential effects for female, minority and immigrant business owners, which is potentially important for targeting government aid to preserve small businesses and the jobs they create.¹

2. Data

2.1 Current Population Survey (CPS)

Although research on small businesses and entrepreneurship is growing rapidly, there are very few national datasets that provide information on ownership with additional information on demographic characteristics of the owners. Using microdata from the Current Population Surveys (CPS), I measure self-employed business ownership at the individual owner level. The underlying datasets are the basic monthly files to the Current Population Survey (CPS). These surveys, conducted monthly by the U.S. Bureau of the Census and the U.S. Bureau of Labor Statistics, are representative of the entire U.S. population and contain observations for more than 130,000 people.

The CPS has been conducted monthly since 1940 and is the underlying source of official government statistics on employment and unemployment. Data are collected by personal interviews. The data cover all persons in the civilian noninstitutionalized population of the United States living in households. The CPS is the only source of monthly estimates of employment, self-employed persons, wage and salary employees, and unemployment. Although the main purpose of the CPS is to collect information on the employment situation, a secondary purpose is to collect information on the demographics of the population.

Measures of the number and rate of business ownership are available from only a handful of other large, nationally representative government datasets, such as the Survey of Business Owners (SBO), Census PUMS files, and the American Community Survey (ACS). Measures of

¹ Large literatures explore the causes and consequences of disparities in ownership and success of minority-, female-, and immigrant-owned businesses. For broader discussions and reviews of these literature, see, for example, Davila and Mora (2013); Fairlie and Robb (2008); Jennings and Brush (2013); Kerr and Kerr. (2020); Parker (2018).

business ownership based on these cross-sectional data, however, cannot capture recent patterns because there is often a 1 to 2 year delay in release. The CPS is ideal in that it release microdata within a month of the survey week.

The measure of business ownership in the CPS captures all business owners including those who own incorporated or unincorporated businesses, and those who are employers or non-employers. Although some business owners own large businesses the predominate form are small businesses. I interpret the data as predominately covering small business owners.

To estimate business ownership in the CPS data, I identify all individuals who own a business as their main job in the survey month (based on the class of worker question and monthly labor force recode). The business ownership rate is thus defined as the percentage of the labor force that owns and is actively employed in a business. The main job is defined as the one with the most hours worked during the survey week. Thus, individuals who start side businesses will not be counted if they are working more hours on a wage and salary job. In addition to providing information on business ownership, the CPS data include information on detailed demographic information including gender, race, and immigrant status of the owner. The data also include information on the industry and incorporation status of the business.

Survey Timing and Shelter-in-Place Restrictions

The CPS survey reference period is generally the calendar week that contains the 12th day of the month. For May, the week was Sunday, May 10th through Saturday, May 16th. Looking back, for April the week was Sunday, April 12th through Saturday, April 18th, and the March survey reference week was March 8th through March 14th. Given that shelter-in-place restrictions started after this reference week, the April 2020 is the first CPS survey fully covering the early-stage impacts of COVID-19, and May 2020 is the second month. On March 16, 2020 San Francisco Bay Area imposed shelter-in-place restrictions followed by the State of California on March 19. New York State followed the next day. By early April all state imposed social distancing restrictions. The analysis below mostly relies on comparisons between February 2020

(prior to social distancing policy mandates) and April 2020 (the first month after policy mandates).²

3. Results

3.1 Number of Business Owners

I first examine small business ownership patterns over time to determine the impacts of COVID-19. Long-term trends in the number of business owners are displayed in Figure 1 (and recent months in Table 1). The number of business owners working any amount and working at least 15 hours in the survey week are reported. The choice of 15 hours is made to approximate two days a week and accommodate lumpy hours reporting (i.e. often 10, 15, 20, etc...). Over the past two decades, the number of business owners in the United States has shown relatively smooth patterns over time with a slight upward trend. What is clear, however, is the dramatic drop in the number of business owners in April 2020 and the partial rebound in May 2020. The number of working business owners dropped from 15.0 million in February 2020 to 11.7 million in April 2020 because of COVID-19. March 2020 only shows a small drop in business owners because of the limited effect from shelter-in-place restrictions. May 2020 shows a partial rebound from April 2020 adding back 1.1 million business owners (7 percentage points relative to February levels). The losses due to COVID-19 from February remain high at 15 percent, but the rebound suggests that not all of the losses of active business owners in April 2020 were permanent closures.

The loss of 3.3 million business owners (or 22 percent) from February to April 2020 was the largest drop on record. When conditioning on working roughly two days per week, the losses were even larger. There were 13.6 million business owners working 15+ hours in February 2020 and only 9.8 million in April 2020. The drop of 3.8 million business owners or 28 percent was unprecedented. Conditioning on 30 or more hours worked results in losses of 3.4 million or 31 percent (see Table 1). The losses condition in hours worked were also larger in May relative to February (19 and 21 percent drops, respectively). Both measures, however, show partial

² In most analyses March 2020 is not included because of partial effects. On March 11, the World Health Organization (WHO) declared COVID-19 a pandemic which might have resulted in early demand shifts over health concerns predating shelter-in-place restriction policies.

rebounds in May 2020 from April 2020. From 9 to 10 percentage points of the drops in business owners were added back in May.

Table 1 also reports the total number of hours worked in the survey week among all business owners by month. Figures reported in 1,000s. From February to March there was a drop in total hours worked in businesses by owners of 29 percent. From February to May there was also a drop in total hours worked by business owners, but the drop was not as large, 20 percent. These reductions in business hours worked have important ramifications for take home earnings for business owners. Business owners are likely to have experienced large reductions in income. Unfortunately, the data do not provide information on these losses to income.

Separating the number of business owners into unincorporated and incorporated status indicates large drops for both groups (see Table 1). Incorporated businesses are viewed as more growth- oriented, committed, pro-cyclical and entrepreneurial (e.g. Fairlie, Miranda and Zolas 2020; Levine and Rubinstein 2016, 2018). The number of unincorporated business owners dropped 28 percent from February to April but then rebounded 10 percentage points in May. Incorporated business owners realized a smaller drop in active business owners of 14 percent from February to April, and a smaller rebound of 3 percentage points. The losses from February to May remain large, however, with 17 percent of unincorporated business owners and 11 percent of incorporated business owners shutting down operations.

Demographic Patterns

The CPS data provide detailed information on gender, race and immigrant status. Figure 3 (Table 2) displays the number of female and male business owners in February, April and May 2020. Both male and female business owners were hit hard by COVID-19 in May relative to February levels prior to the social distancing restrictions. The number of active female business owners dropped from 5.4 million to 4.5 million (16 percent), and the number of active male business owners dropped from 9.6 million to 8.3 million (14 percent). Both female and male business owners bounced back from April losses. Among female owners 470,000 (9 percent) resumed work and 630,000 male owners resumed work relative to April levels.

Turning to racial patterns, Figure 4 (Table 2) displays business ownership by major racial groups. The findings are alarming. Although there was a partial rebound, the number of actively working African-American business owners remains 26 percent lower than in February 2020,

which is the highest for any major racial/ethnic group. The implications for lost income from having 41 percent of business owners not working in April and 26 percent not operating in May is disconcerting.

Latinx business owners also suffered major losses from COVID-19 that have continued into the second month after shelter-in-place restrictions. The number of Latinx business owners dropped from 2.1 million to 1.7 million (19 percent) from February to May. Although there was a partial rebound from April, these losses continue to be large and contribute to lost income.

Asian business owners suffered a loss of 200,000 representing 21 percent of February levels. The losses for whites were also large at 1.2 million business owners, but smaller than other groups as a percentage of starting levels (11 percent).

Focusing on immigrants, the number of business owners dropped from 3.1 million to 2.3 million (Figure 5 and Table 2). The loss of 800,000 immigrant business owners is alarming. It represents a drop of 25 percent from February levels. For U.S. born, the number of business owners dropped by 1.4 million representing 12 percent of February levels. Although active business owners numbers partially bounced back in May relative to April the levels did not return to anything close to pre-COVID-19 levels.

Comparing back to 2019 levels, the conclusions do not differ. For all of the demographic groups, the number of business owners dropped precipitously from 2019 levels in April 2020 and May 2020. In general, the number of self-employed business owners for each group does not change substantially over time especially during stable economic conditions, and thus February 2020 accurately captures previous levels (see Figure 1). April and May 2020 are clearly unprecedented drops to active business owners that hit all groups hard throwing business totals off relatively stable longer-term levels.

Industry Patterns

Table 3 reports estimates by major industry groupings. Almost every industry experienced sizeable drops in the number of business owners. The exceptions were Agriculture where the number of business owners actually increased since February 2020, and Wholesale Trade and Retail Trade where the number was essentially unchanged. Construction which is one of the largest industries for business ownership experienced a loss of 19 percent of active business owners from February to May. Although construction businesses experience a lot of swings in

demand, it is not clear how many of these business owners will be able to come back. Restaurants experienced a decline of 24 percent even though many of those remaining open turned to take-out or delivery services. The broad sector of arts, leisure and accommodations was hit hard losing 35 percent of business owners. Personal and laundry services are down by nearly 50 percent from February levels.

It is also possible to categorize industries into essential vs non-essential according to state or local government guidelines, although there is a lot of variation across these guidelines in terms of specific industries. Delaware State provides the most detailed and comprehensive list of essential businesses at the 4-digit industry level and follows the same 4-digit industry codes as the CPS (North American Industry Classification System, NAICS).³ The classification is likely to be imperfect, however, because definitions, enforcement, business owner compliance and consumer reactions vary across the country. Using this categorization, “essential” industries comprised 76 percent of business owners in February 2020. Losses in the number of business owners are lower for essential industries at 10 percent compared with 28 percent among non-essential industries (as expected).

Importance of Industry Distributions

Did the industry distribution of businesses owned by different demographic groups place them at a higher or lower risk of COVID related shutdowns in May 2020? To explore this question I simulate the total number of business owners for each demographic group by switching their industry distribution for the U.S. national industry distribution. The industry distributions are both measured in February 2020. Table 4 reports estimates from the simulations.

The number of female business owners declined by 16 percent from February to May 2020. The industry distribution of female business owners was partly responsible for relatively high business losses from February to April. When simulating a switch to the U.S. national industry distribution the decline in female business owners would have been lower at 10 percent. Thus, the female industry distribution was “unfavorable” in terms of placing them at relatively high risk of business losses in May 2020.

³ Delaware’s list can be accessed at “List of Delaware Business Categories that are Essential and Non-Essential (March 22, 2020)”, <https://coronavirus.delaware.gov/resources-for-businesses/>.

The industry distribution of black business owners placed them at a higher risk of losses due to COVID-19. The percent change in black business owners becomes smaller when simulations are run with the national industry distribution. The change is from a loss of 26 percent to a loss of 18 percent. A similar pattern is found for Latinx. When switching the Latinx industry distribution to the U.S. national industry distribution the predicted number of Latinx business owners drops from 19 percent to 13 percent. Latinx business owners had an “unfavorable” industry distribution partly placing them at higher risk of business losses. Asian business owners show a different pattern. When switching to the national industry distribution Asian business owners would have experienced larger losses in business activity. In terms of May 2020 losses, Asian business owners were more concentrated in industries placing them at a lower risk of losses.

The large loss in the number of immigrant business owners is partly due a less favorable industry distribution. The loss of 25 percent of immigrant business owners would drop to 19 percent if these owners had the same industry distribution as the national one.

Another way to estimate industry impacts is to examine the percentage of each demographic group that is in “essential” industries. As noted above the classification is not perfect and other factors such as differences in customer demand, enforcement and compliance by businesses also influence whether they are open. The percentage of black business owners in essential industries is 66 percent which is lower than the national percentage of 76 percent, and consistent with the less “favorable” industry distribution placing them at higher risk of losses due to COVID-19. Similarly, female-owned businesses are less concentrated in essential businesses at 61 percent. On the other hand, using the Delaware codes, Latinx and immigrant business owners are slightly more likely to be concentrated in essential industries (79-80 percent), and Asian business owners have the same concentration in essential industries as the national average (76 percent). The classification is likely to be imperfect and does not line up entirely well with patterns of group-specific losses.

Region

Table 5 reports estimates by region of the country. All regions of the country experienced losses in numbers of business owners from February to May 2020. There were some differences in magnitude, however. The Northeast and West experienced losses of 18 percent, whereas the

Midwest and South experienced losses of 13 and 12 percent, respectively. Relative to April 2020 the South saw the largest increase in business owners (10 percent) in May and the West saw the lowest (3 percent). Simulations of switching demographic group regional distributions for the national regional distribution do not indicate that regional differences by race were a major factor. Although some groups have regional concentrations the patterns tended to cancel each other out in the total.

4. Conclusions

The mandates and health related demand shifts of COVID-19 continue to have an impact on business owners. Estimates from nationally representative May 2020 CPS data – the second month into social distancing restrictions – indicate large reductions in small business activity. The number of active business owners in the United States dropped from 15.0 million to 12.8 million, or 15 percent, from February 2020 to May 2020. The number of business owners in May actually rebounded somewhat from the April low of 11.7 million. The partial rebound resulted in an increase of 1.1 million business owners or 7 percent of February levels. Although the rebound is promising news, it continues to show an extremely large decrease in business activity over a short period of time. For comparison, from the start to the end of the Great Recession the number of active business owners decreased by 730,000 representing a 5 percent decline. In general, business ownership is relatively steady over the business cycle (Fairlie 2013; Parker 2018).

The loss of 2.2 million business owners (15 percent) from February to May was comprised of large drops in important subgroups such as owners working roughly two days per week (19 percent), owners working four days a week (21 percent), and incorporated businesses (11 percent). When viewed as total hours worked by all business owners there was a drop of 20 percent. For all of these measures, May represented a partial rebound from April's sizeable losses, but continued to show large losses.

African-American businesses continue to be hit the hardest by COVID-19. From February to May the number of black business owners in the United States dropped by 26 percent, the highest for any major demographic group. Although the number in May represents a partial rebound from April the losses continue to be sizeable and pose serious concerns for continued lost income among business owners and earnings for any employees of those small businesses. Simulations indicate that the industry distribution of blacks was partly responsible

placing black business owners at greater risk of losses due to the pandemic. Latinx businesses were also hit hard by COVID-19 in May losing 19 percent of business owners. Asian business owners experienced a 21 percent decline over this critical period. Simulations also point to an unfavorable industry distribution for Latinx but not for Asians. Immigrant businesses were also hit with large losses of 25 percent. Although industry distributions placed some groups at higher risk of closures in the pandemic, differences in scale of business are likely a major cause of disproportionate losses among minority-owned businesses, which are smaller on average (Fairlie and Robb 2008). Larger businesses are more likely to have the resources, business and legal structure, and returns to scale to implement procedures to address social distancing regulations for operating and re-opening during the pandemic.

The negative early-stage impacts on minority- and immigrant-owned businesses, if prolonged, could be problematic for broader racial inequality because of the importance of minority businesses for local job creation (disproportionately for other minorities), economic advancement, and longer-term wealth inequality (Boston 1999, 2006; Bradford 2003, 2014; Fairlie and Robb 2008). With major losses in April and continued losses in May, even though these losses were smaller, business owners have already lost substantial amounts of income from their businesses. If a more complete rebound does not happen soon the long-term economic consequences could be severe. Many minority business owners will not have the resources to weather prolonged closures, reduced demand from health concerns, and a more comprehensive recession. The latest Census data indicate that the median level of wealth among black families is \$13,000 and Latinx families is \$20,000 compared with \$139,000 among white families (U.S. Census Bureau 2015).

The next important question is whether the shutdowns of small businesses are temporary or longer term. The government has been responding to concerns over longer-term effects on small businesses through several programs. The largest directed program is the Paycheck Protection Program (PPP) which has thus far provided \$669 billion to businesses. Another program that is less directed but also could be important are stimulus checks already totaling \$200 billion. Foundations and private companies are also starting to contribute to relief efforts. For example, Magic Johnson Enterprises is providing a \$100 million commitment to minority- and female-owned businesses left out of the PPP program. Another recent example, is that PayPal, in partnership with the Association for Enterprise Opportunity, created a \$10 million

fund to help black-owned businesses. Can these programs help small businesses survive the setbacks and shutdowns due to the coronavirus pandemic, or will more assistance be needed? More permanent mass closures of small businesses in the United States are likely to have a dramatic effect on employee job losses, further income inequality, and contributing to a prolonged recession.

References

- Alexander W. Bartik, Marianne Bertrand, Zoë B. Cullen, Edward L. Glaeser, Michael Luca, and Christopher T. Stanton. 2020. "How Are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey." NBER Working Paper No. w26989.
- Bohn, Sarah, Marisol Cuellar Mejia, and Julien Lafortune. 2020. "The Economic Toll of COVID-19 on Small Business," Public Policy Institute of California.
- Boston, Thomas D. 1999. "Generating Jobs Through African American Business Development", in J. Whitehead and C. Harris, eds. *Readings in Black Political Economy* (Dubuque: Kendall-Hunt).
- Boston, Thomas D. 2006. "The Role of Black-owned Businesses in Black Community Development" ed. Paul Ong, *Jobs and Economic Development in Minority Communities: Realities, Challenges, and Innovation*. Temple University Press
- Bradford, William D. 2003. "The Wealth Dynamics of Entrepreneurship for Black and White Families in the U.S.," *Review of Income and Wealth*, 49(1): 89-116.
- Bradford, William D. 2014. "The "myth" that black entrepreneurship can reduce the gap in wealth between black and white families." *Economic Development Quarterly* 28.3: 254-269.
- Dávila, Alberto, and Marie Mora. 2013. *Hispanic Entrepreneurs in the 2000s: An Economic Profile and Policy Implications*. Stanford University Press, Stanford.
- Fairlie, Robert W. 2020. "The Impact of COVID-19 on Small Business Owners: Evidence of Early-Stage Losses from the April 2020 Current Population Survey," NBER Working Paper No. 27309, SIEPR Working Paper No. 20-022, May 23, 2020.
- Fairlie, Robert W. 2013. "Entrepreneurship, economic conditions, and the great recession." *Journal of Economics & Management Strategy* 22.2 (2013): 207-231.
- Fairlie, R. W., and F. M. Fossen. 2019. "Opportunity versus Necessity Entrepreneurship: Two Components of Business Creation." NBER Working Paper No. w26377.
- Fairlie, Robert W., Javier Miranda, and Nick Zolas. 2020. "Job Creation and Survival among Entrepreneurs: Evidence from the Universe of U.S. Startups," Working Paper.
- Fairlie, Robert W., and Alicia M. Robb. 2008. *Race and Entrepreneurial Success: Black-, Asian-, and White-Owned Businesses in the United States*, Cambridge: MIT Press.
- Jennings, Jennifer E., and Candida G. Brush. 2013. "Research on women entrepreneurs: challenges to (and from) the broader entrepreneurship literature?." *The Academy of Management Annals* 7.1: 663-715.
- Kerr, Sari Pekkala, and William Kerr. 2020. "Immigrant entrepreneurship in America: Evidence from the survey of business owners 2007 & 2012." *Research Policy* 49.3: 103918.

- Koellinger, Phillip, and Maria Minniti. 2006. "Not for lack of trying: American entrepreneurship in black and white." *Small Business Economics* 27, no. 1:59–79.
- Levine, Ross, and Yona Rubinstein. 2016. "Smart and Illicit: Who Becomes an Entrepreneur and Do they earn more?." *Quarterly Journal of Economics*.
- Levine, Ross, and Yona Rubinstein. 2018. "Selection into Entrepreneurship and Self-Employment." National Bureau of Economic Research Working Paper No. 25350.
- Lofstrom, Magnus, and Chunbei Wang. 2009. "Mexican-American self-employment: a dynamic analysis of business ownership." *Research in Labor Economics* 29: 197-227.
- Parker, Simon C. *The economics of entrepreneurship*. Cambridge University Press, 2018.
- Wang, Chunbei. "Tightened Immigration Policies and the Self-Employment Dynamics of Mexican Immigrants." *Journal of Policy Analysis and Management* 38.4 (2019): 944-977.
- Wilmoth, Daniel. 2020. "Small Business Facts: Early Data Show Severe Disruptions," U.S. Small Business Administration, April 25, 2020.
- USA Today. 2020. "Coronavirus reopening Map of COVID-19 case trends, reopening status and mobility," Last update: June 22, 2020. <https://www.usatoday.com/storytelling/coronavirus-reopening-america-map/>
- U.S. Census Bureau. 2015. "Wealth, Asset Ownership, & Debt of Households Detailed Tables: 2015."
- U.S. Census Bureau. 2016. "Survey of Business Owners (SBO) - Survey Results: 2012"
- U.S. Census Bureau. 2020. "Business Formation Statistics, Business Applications."
- U.S. Census Bureau. 2020. "Small Business Pulse Survey."

Table 1: Number of Business Owners in the United States before and after COVID-19

	Worked in Survey Week	Worked 15+ Hours	Worked 30+ Hours	Total Hours Worked in Business	Unincorporated	Incorporated
May 2020	12,809,946	11,040,149	8,808,505	448,786	7,292,477	5,517,469
April 2020	11,710,360	9,821,255	7,684,501	394,678	6,392,480	5,317,880
March 2020	14,475,704	12,803,107	10,392,909	523,558	8,545,156	5,930,548
February 2020	15,012,692	13,582,876	11,086,054	558,440	8,828,513	6,184,179
January 2020	14,832,717	13,293,991	11,093,877	551,153	8,649,659	6,183,059
Changes						
Feb 2020 to Apr 2020	-3302331	-3761621	-3401554	-163762	-2436032	-866299
Feb 2020 to May 2020	-2202745	-2542726	-2277549	-109654	-1536036	-666710
Apr 2020 to May 2020	1099586	1218894	1124004	54109	899997	199589
Change (Percent)						
Feb 2020 to Apr 2020	-22%	-28%	-31%	-29%	-28%	-14%
Feb 2020 to May 2020	-15%	-19%	-21%	-20%	-17%	-11%
Apr 2020 to May 2020 relative to Feb 2020	7%	9%	10%	10%	10%	3%

Notes: Estimates from CPS Microdata. Monthly sample sizes are roughly 55,000 for the labor force and 5,000 for business owners.

Table 2: Demographic Group Losses in May 2020

Group	Feb. 2020	Apr. 2020	May 2020	Feb. to May Losses		Rebound of April Losses	
	Number	Number	Number	Number	% Change	Number	% Change
Total	15,012,692	11,710,360	12,809,946	2,202,745	15%	1,099,586	7%
Female	5,389,399	4,048,205	4,517,965	871,433	16%	469,761	9%
Male	9,623,293	7,662,156	8,291,981	1,331,312	14%	629,825	7%
Black	1,079,116	637,769	798,668	280,448	26%	160,899	15%
Latinx	2,070,896	1,412,925	1,668,254	402,642	19%	255,328	12%
Asian	888,528	657,896	700,393	188,135	21%	42,497	5%
White	10,553,415	8,761,531	9,373,304	1,180,111	11%	611,773	6%
Immigrant	3,120,275	2,009,597	2,329,820	790,455	25%	320,222	10%
Native	11,892,417	9,700,763	10,480,126	1,412,290	12%	779,364	7%

Notes: Estimates are from CPS microdata. Percentage change in reversal of losses from April to May uses February numbers as the denominator.

Table 3: Business Losses by Selected Industries from COVID-19

Industry	May 2020	Change from Feb. 2020	Percent Change	February 2020	Percent in Feb. 2020
Agriculture	1,005,466	135804	16%	869,661	6%
Construction	1,967,233	-468824	-19%	2,436,057	16%
Manufacturing	420,954	-145238	-26%	566,192	4%
Wholesale Trade	262,937	2786	1%	260,151	2%
Retail Trade	1,052,060	-16424	-2%	1,068,484	7%
Transportation	704,646	-93680	-12%	798,325	5%
Utilities	11,375	-2402	-17%	13,777	0%
Information	191,914	-43933	-19%	235,847	2%
Financial activities	1,227,731	-74038	-6%	1,301,769	9%
Professional and bus.	2,980,703	-315172	-10%	3,295,875	22%
Educational services	296,981	-32562	-10%	329,544	2%
Health services	1,020,495	-217839	-18%	1,238,335	8%
Arts, leisure, hotels	447,245	-237764	-35%	685,009	5%
Restaurants	309,253	-100352	-24%	409,605	3%
Repair and maintenance	399,549	-112854	-22%	512,403	3%
Personal and laundry serv.	478,372	-448037	-48%	926,409	6%
All other industries	33,032	-32216	-49%	65,248	0%
"Nonessential" industry	2,640,924	-1035016	-28%	3,675,939	24%
"Essential" Industry	10,169,023	-1167730	-10%	11,336,752	76%

Notes: Estimates from CPS microdata. Essential industries are defined using the classification provided by Delaware State for essential and nonessential businesses.

Table 4: Demographic Group Losses and Simulations of Business Losses from Switching Industry Distributions

Group	Actual Losses		Predicted using National Industry Distribution	
	Number	% Change	Number	% Change
Total	-2,202,745	-15%	-2,202,745	-15%
Female	-871,433	-16%	-539,427	-10%
Male	-1,331,312	-14%	-1,425,086	-15%
Black	-280,448	-26%	-193,042	-18%
Latinx	-402,642	-19%	-279,378	-13%
Asian	-188,135	-21%	-239,016	-27%
White	-1,180,111	-11%	-1,251,421	-12%
Immigrant	-790,455	-25%	-597,103	-19%
Native	-1,412,290	-12%	-1,446,152	-12%

Notes: Estimates are from CPS microdata. Predicted changes switch the group's industry distribution for the U.S. industry distribution but continue to use the group's percent change between the two months.

Table 5: Business Losses by Regions from COVID-19

Industry	May 2020	Change from Feb. 2020	Percent Change	February 2020	Percent in Feb. 2020
Northeast	1,998,213	-427,334	-18%	2,425,547	16%
Midwest	2,666,792	-401,978	-13%	3,068,770	20%
South	4,889,045	-650,629	-12%	5,539,675	37%
West	3,255,895	-722,804	-18%	3,978,699	27%

Notes: Estimates from CPS microdata.

Figure 1
Number of Business Owners in the United States (January 2000 - May 2020)

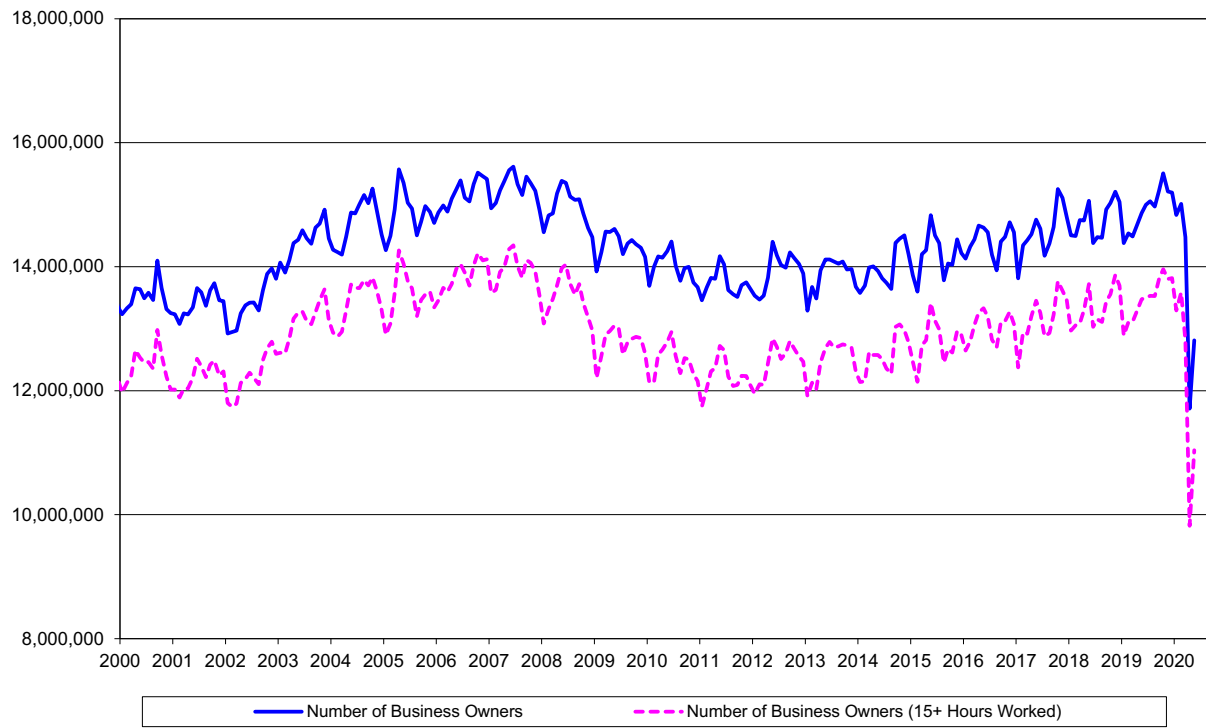


Figure 2: Number of Self-Employed Business Owners before and after COVID-19

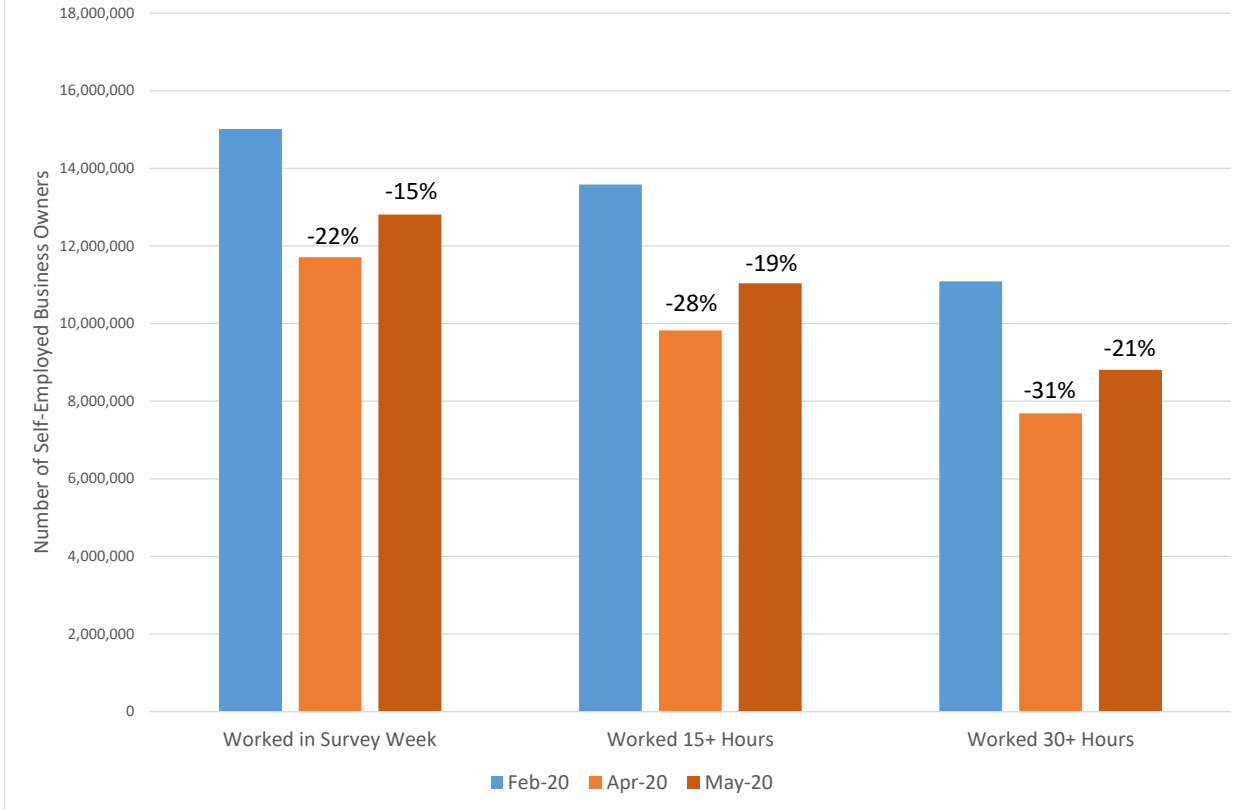


Figure 3: Number of Self-Employed Business Owners before and after COVID-19 (Corporation Status)

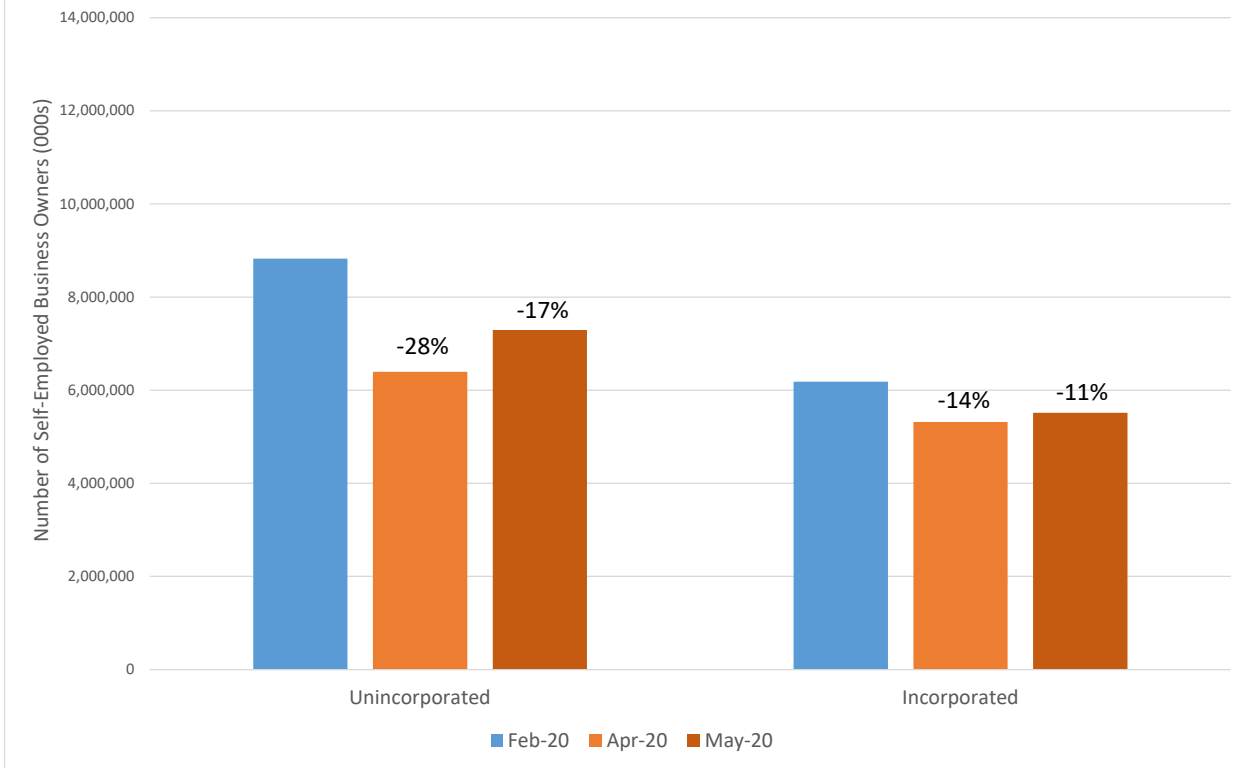


Figure 4: Number of Self-Employed Business Owners before and after COVID-19 (Gender)

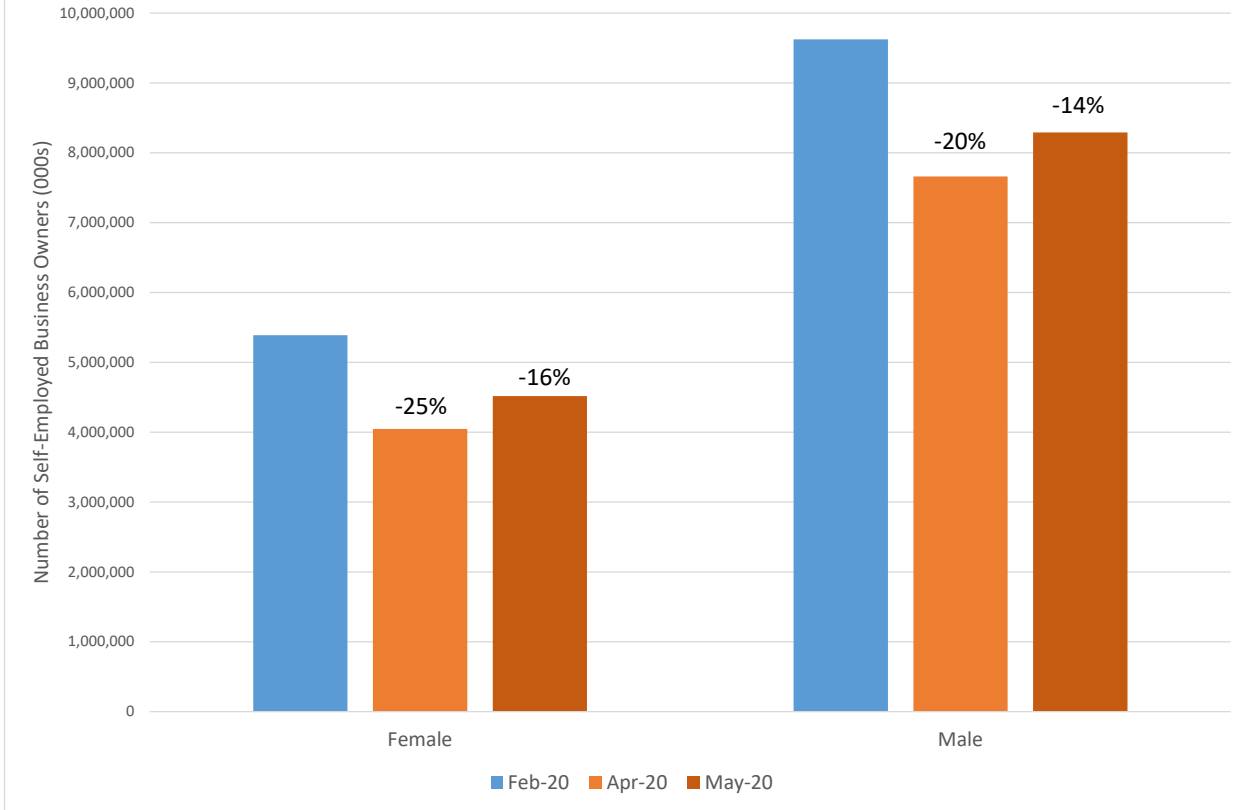


Figure 5: Number of Self-Employed Business Owners before and after COVID-19 (Racial Minority Groups)

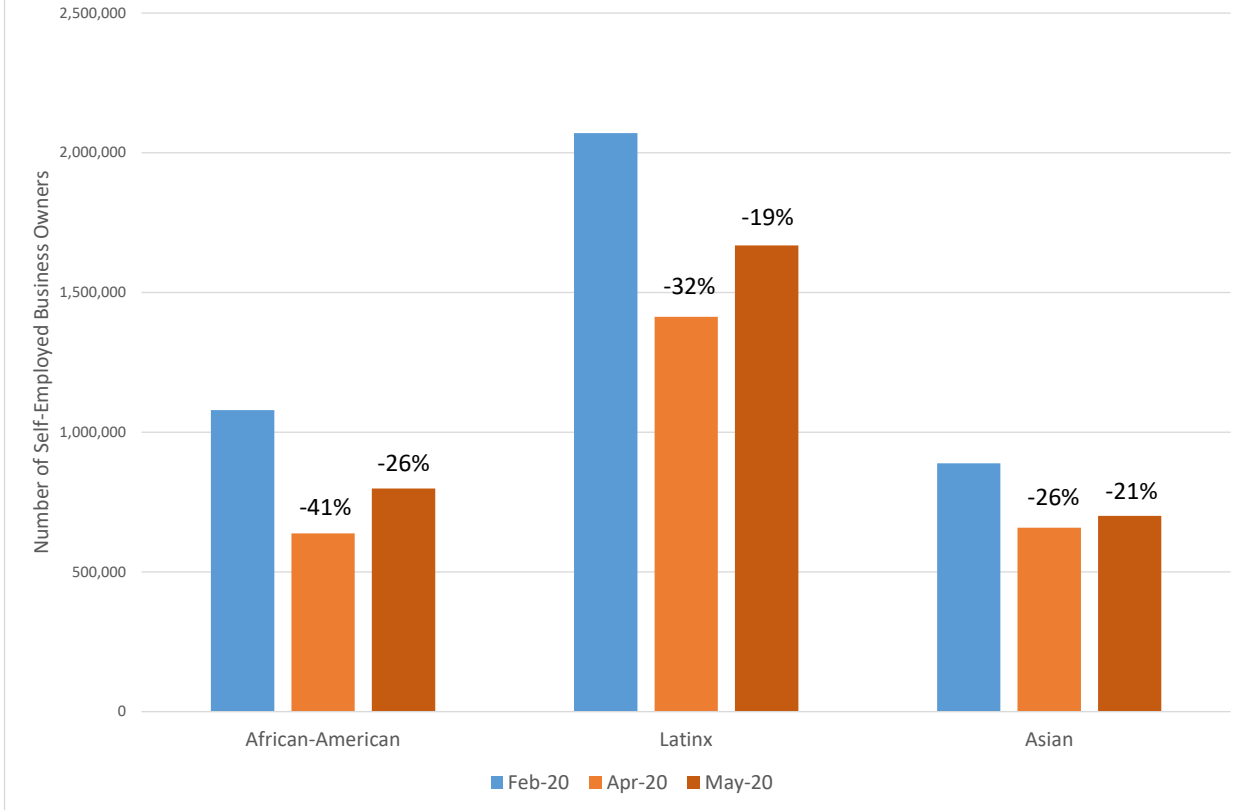


Figure 6: Number of Self-Employed Business Owners before and after COVID-19 (Immigrant Status)

