WHITEPAPER

JULY 13, 2020

Authors
Irina Korablev
Senior Director, Credit Analytics

Brian Beggs
Technical Communication, Credit Analytics

Acknowledgements
The authors would like to thank Stuti Rastogi for her help.

Contact Us

Americas
+1.212.553.1658
clientservices@moodys.com

Europe
+44.20.7772.5454
clientservices.emea@moodys.com

Asia (Excluding Japan)
+85.2.2916.1121
clientservices.asia@moodys.com

Japan
+81.3.5408.4100
clientservices.japan@moodys.com

Pre-COVID-19 Health of Small Businesses

Abstract

The economy is currently experiencing unprecedented turmoil because of the COVID-19 pandemic and the resulting quarantine. Based on Moody's Analytics database of financial statements, loans, and non-payment data collected from major financial institutions, we offer unique insights into small business viability from three historic crisis periods.

Table of Contents

1. Probability of default and observed default rate trends

According to Main Street America's online survey, up to 25% of small businesses may shut down permanently if the economy continues to experience the same disruption for the next three to five months.[1] Another source of uncertainty comes from possible subsequent waves of outbreaks and further quarantines. Small businesses will require loans from various sources to get through times when they are not operating and when they reopen. These lending sources will likely include banks, private investors, and the US government.

Our analysis is based on data from Moody's Analytics Data Alliance. This information was collected from major financial institutions and includes almost 500,000 borrowers and three million statements over 20 years.[2]

In this paper, we offer a unique insight into small (less than $5 million in sales), medium ($5 million to $80 million in sales), and large businesses (more than $80 million in sales). We examine pre-COVID-19 financial health covering three past crisis periods: 9/11 (2001), Hurricane Katrina (2005), and the Great Recession (2008). Figures 1 and 2 illustrate the historical trend of probability of default (PD) measure/mean Credit Cycle Adjusted Expected Default Frequency (CCA EDF™) and observed default rate. As expected, small businesses are the riskiest, with the EDF value about 1.8 times higher than the PD for medium and large businesses.

Figure 1 Mean CCA EDF by business size

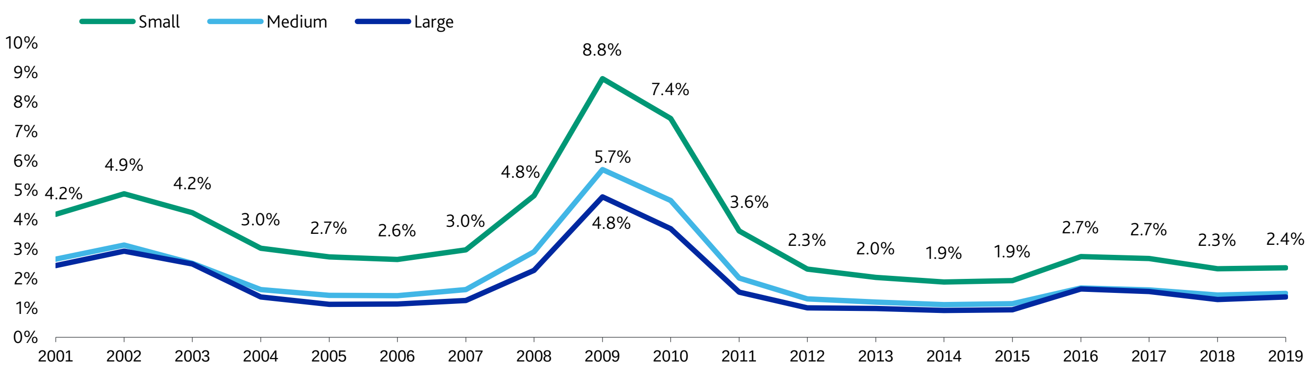
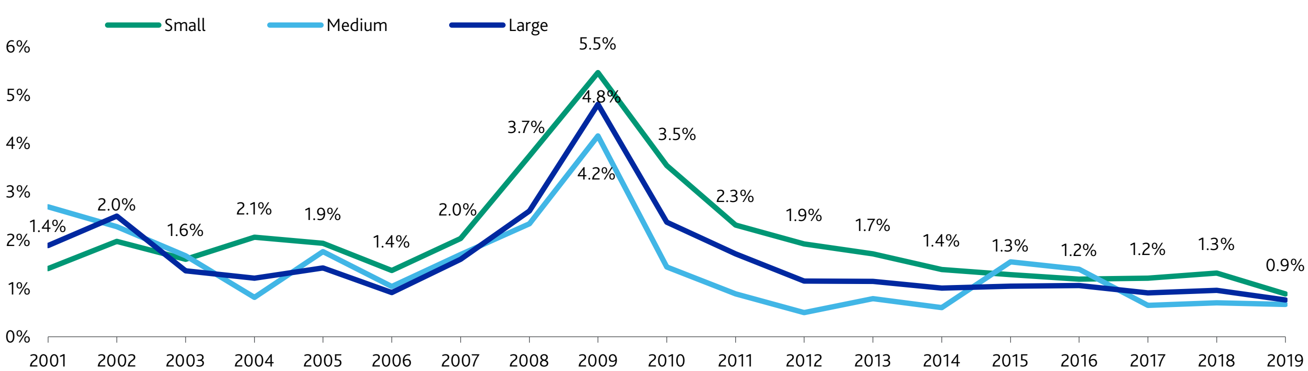


Figure 2 Historical observed default rate by business size



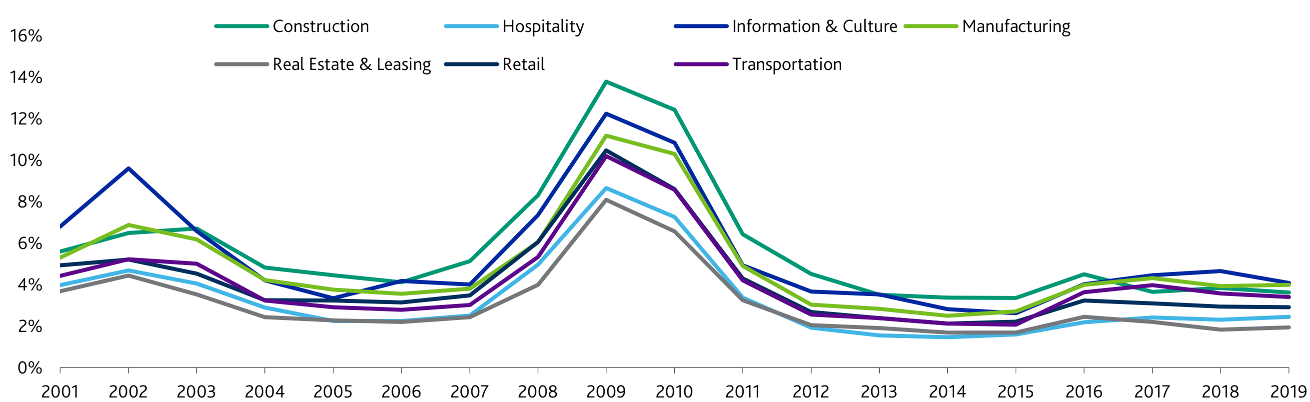
[1] "The Impact of COVID-19 on Small Businesses," Main Street America, April 9, 2020. https://www.mainstreet.org/blogs/national-main-street-center/2020/04/09/new-report-the-impact-of-covid-19-on-small-busines

[2] The loans in Moody's Analytics Data Alliance represent 37% of the total C&I balance of 116 FDIC-insured banks with assets greater than $10 billion.

Consistent with predictions, overall historical observed default rate over time is generally higher for smaller borrowers. Surprisingly, small firms were less affected by the 9/11 event. Over the last five years, default rates across all three groups are similar. In 2019, the default rate dropped below 1%, which is the lowest recorded drop over the 19-year history. Based on the 2008 results—considered the worst crisis in the last 20 years—we can expect the default rate for small businesses to be at least 5.5%, which is more than four times higher than in the last few years.

First, we examine which industries within small businesses have been most affected by the previous crises and which ones might be affected significantly by the current crisis. Figure 3 illustrates small businesses' mean CCA EDF by different sectors of the economy.

Figure 3 Mean CCA EDF for small business borrowers by industry sectors



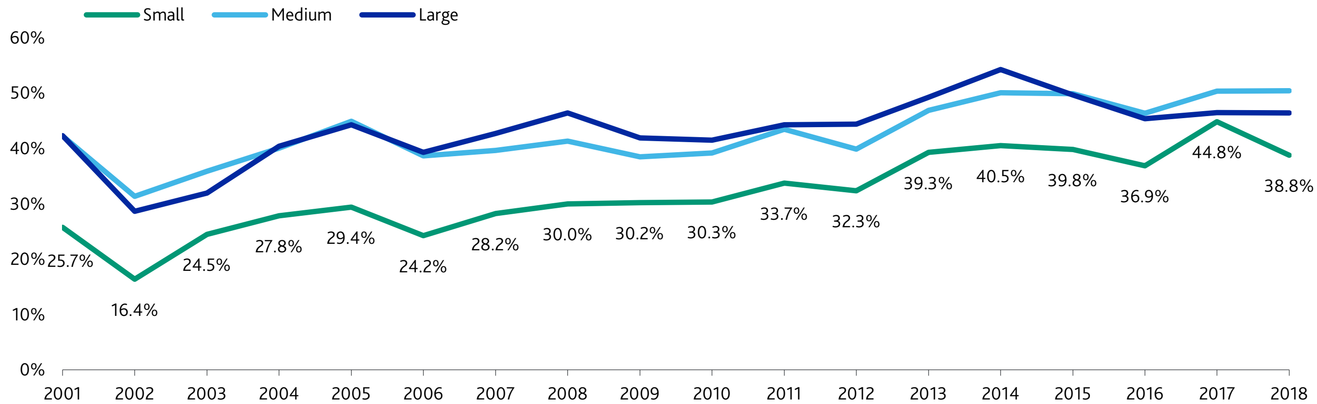
Construction was and remains the riskiest small business type. Hospitality, one of the industries hit hard by the current crisis due to the shelter-in-place order and travel restrictions, had one of the lowest EDF values across major industries during the last 20 years. Manufacturing and Retail have also suffered under the current conditions. Supply chain disruption, low demand for handcrafted products, stale inventories, and less disposable income will lead to survival difficulties for small Manufacturing businesses and Retail businesses as well. Store closures, curtailed shipments around the world, and lower purchasing power for consumers will lead to financial distress across retailers. We are already witnessing big names in Retail filing for bankruptcy, such as Neiman Marcus and J.Crew in May 2020.

2. Profitability, liquidity, and leverage of small businesses

Profitability of a small business is arguably one of the most important indicators of business financial health. Other indicators are also important to consider for business survivability during periods of uncertainty. If a small business is profitable, does it have access to cash and is it leveraged? Different definitions of leveraged lending exist in the financial services industry. Here, we use the operating leverage ratio Total Debt/EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization). When the ratio is greater than seven, we consider a company to be highly leveraged.[3] This paper analyzes companies that have been profitable for two years in a row. Figure 4 shows the trend for the overall sample based on the three business-size categories.

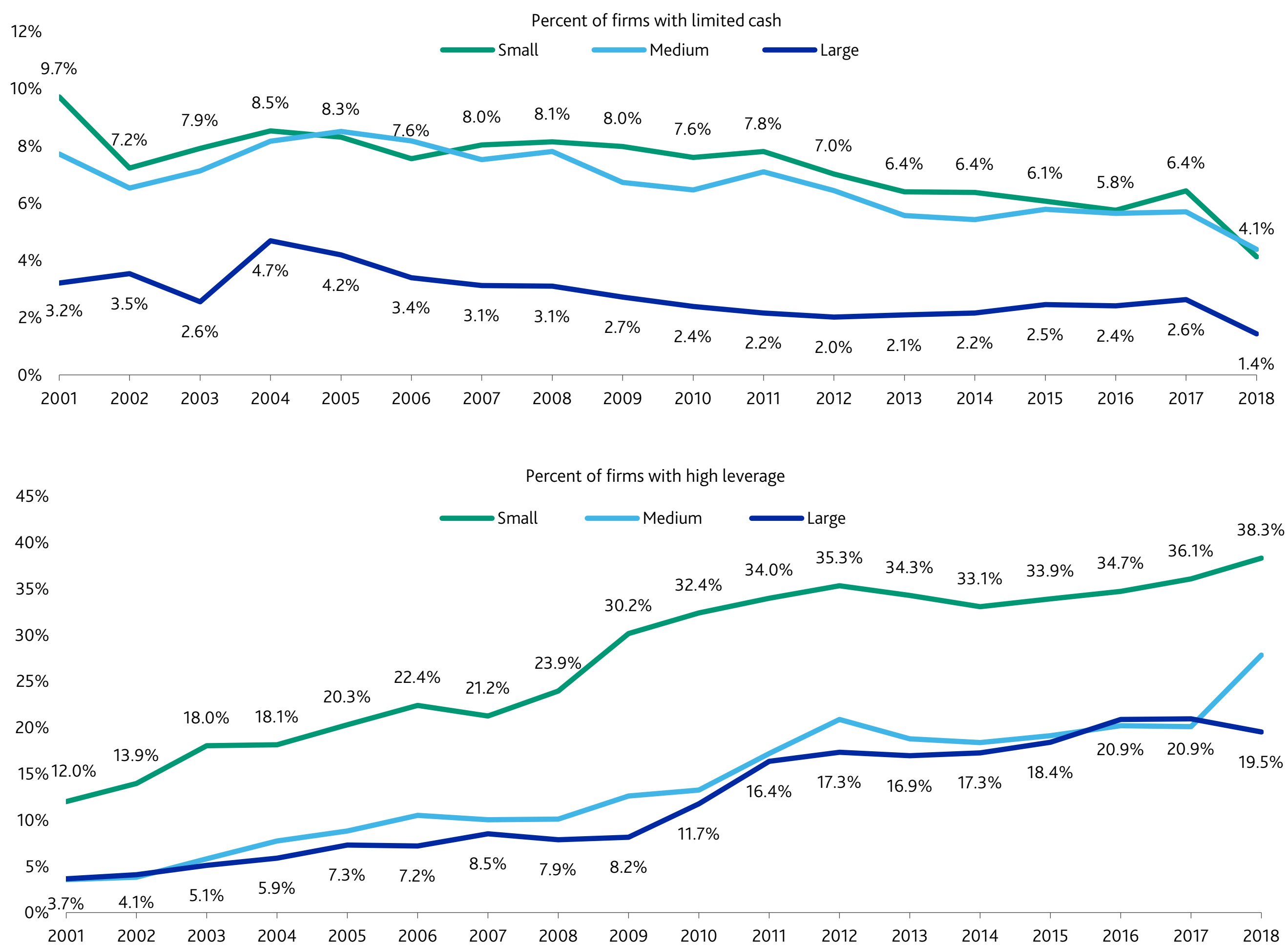
[3] OCC considers a loan leveraged if Total Debt is above 4.0 times EBITDA. https://www.occ.gov/publications-and-resources/publications/comptrollers-handbook/files/leveraged-lending/pub-ch-leveraged-lending.pdf

Figure 4 Percent of companies that have been profitable two years in a row



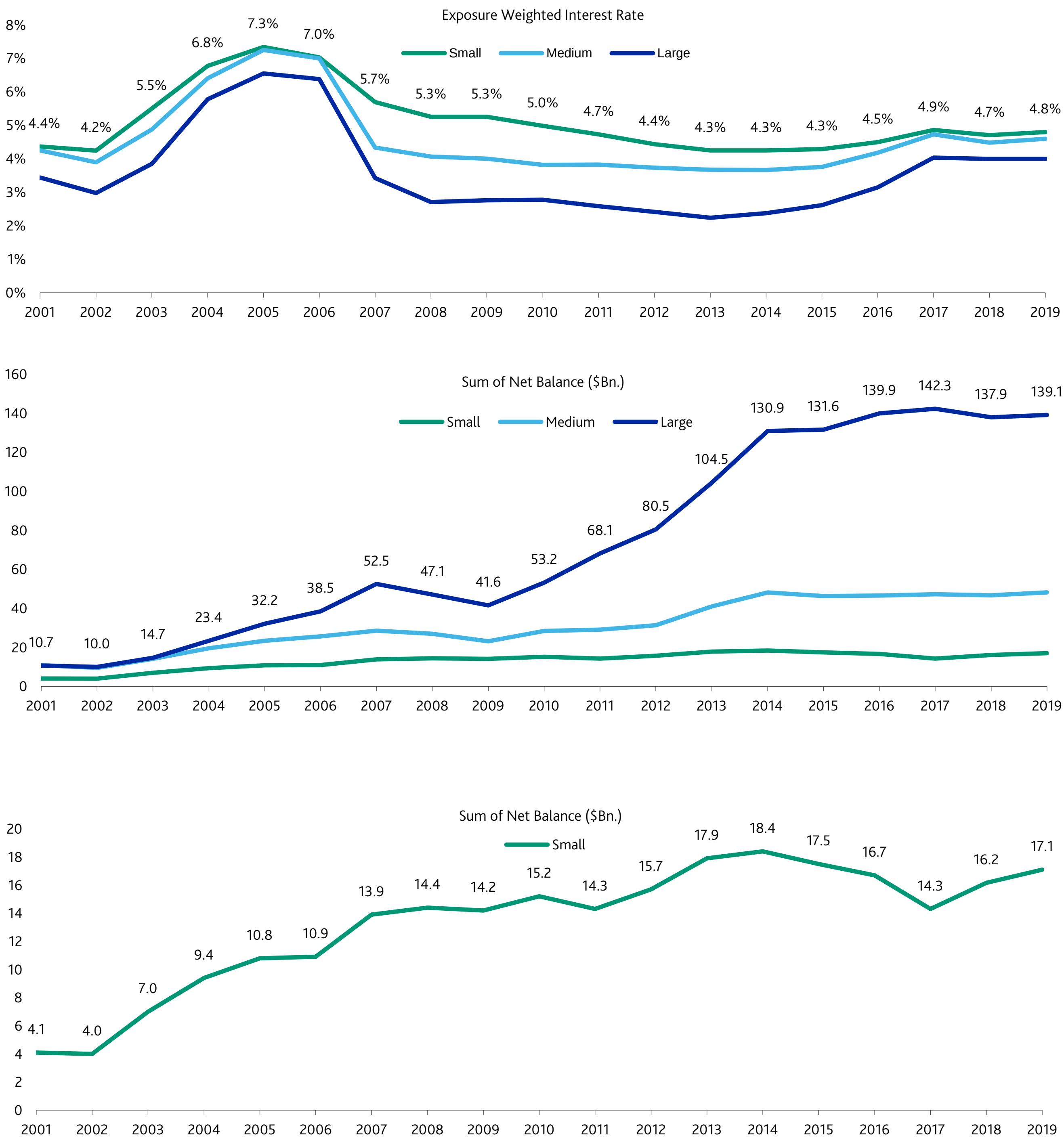
During the crisis periods, Figure 4 shows pronounced drops in the percentage of profitable small businesses. This information—combined with data about a firm's access to cash and leverage—provides insight into how these small businesses will endure and perform during the current economic crisis. Figure 5 shows the percentage of profitable firms with limited cash and the percentage of firms with high leverage. The color-coded lines represent the same business types as in the previous charts: small, medium, and large.

Figure 5 Percent of profitable firms with limited cash and high leverage by business size



The charts in Figure 5 show that after 2010 about 37% of the small businesses were financially solid, with only 6% having limited cash. The percentage of medium-sized firms experiencing cash problems is similar to small businesses. We see that the percentage of profitable borrowers with limited cash declines after the 2008 crisis, which is in line with the higher percentage of profitable borrowers. We also note that profitable borrowers across all sizes have increased leverage during this same period after the Great Recession of 2008. However, the percent of small businesses that are highly leveraged is almost twice as high as that of medium or large businesses. Figure 6 shows the increase in borrowing after 2008, which was fueled by low interest rates.

Figure 6 Exposure weighted interest rate and sum of balances by business size

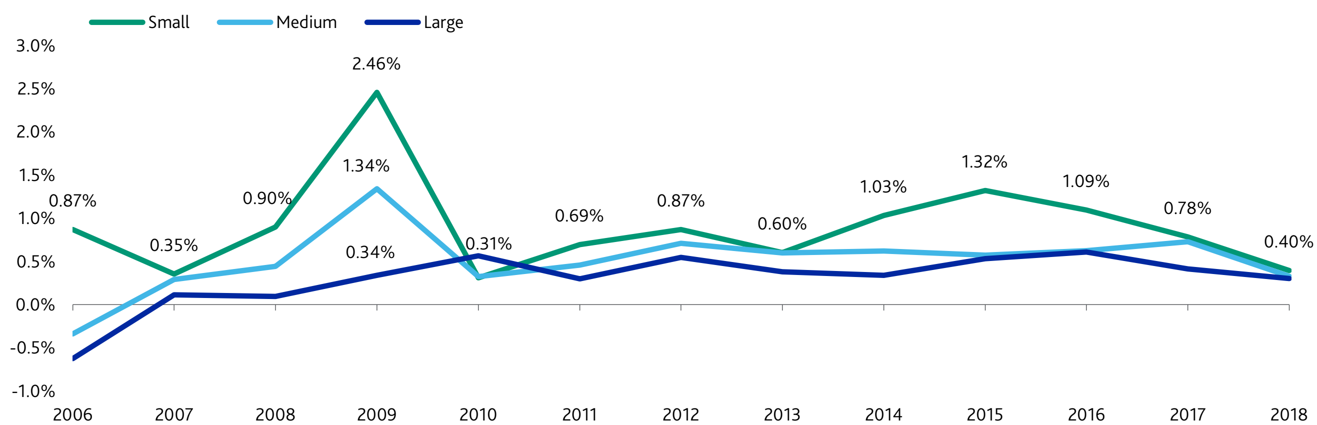


The exposure weighted interest rate chart (Figure 6) shows interest rates dropping sharply between the Hurricane Katrina disaster and the end of the Great Recession. Rates stay relatively low through the following decade. This low interest rate encouraged businesses to borrow money, resulting in higher-leveraged businesses. The two sum of net balance charts show the sum of the net balances of all businesses. The lower right-side chart shows that in our database, the sum of net balances for small businesses grew from $11 billion in 2006 to $18 billion in 2015. Although we see small drops in balances during the crisis periods, there is overall upward growth due largely to low interest rates that promoted borrowing. The following sections take a closer look at the three types of small businesses that could be most affected by current conditions.

2.1 Results for Manufacturing

Manufacturing makes up 11% of the US economy. Manufacturing ranges from handcrafted artisan products to standardized parts for larger industrial assemblies. Despite the size or type of business, small businesses in general have been hit hard by the COVID-19 pandemic and resulting quarantine. Compared to the Great Recession, the coronavirus pandemic will have larger repercussions. In the current crisis, the global economy is dramatically affected as opposed to the singular sector impact on the financial/mortgage sector in 2008. Some potential issues facing small business manufacturers are supply chain disruptions, low demand for handcrafted products, and cancellations of orders leading to excessive back inventory. The effects will likely be late average receivables, higher inventories, lower profitability, and lower earnings-to-debt service ratio. All of these effects can lead to increased credit risk. Figure 7 shows the change in working capital.[4]

Figure 7 Change in working capital to sales ratio in the Manufacturing industry

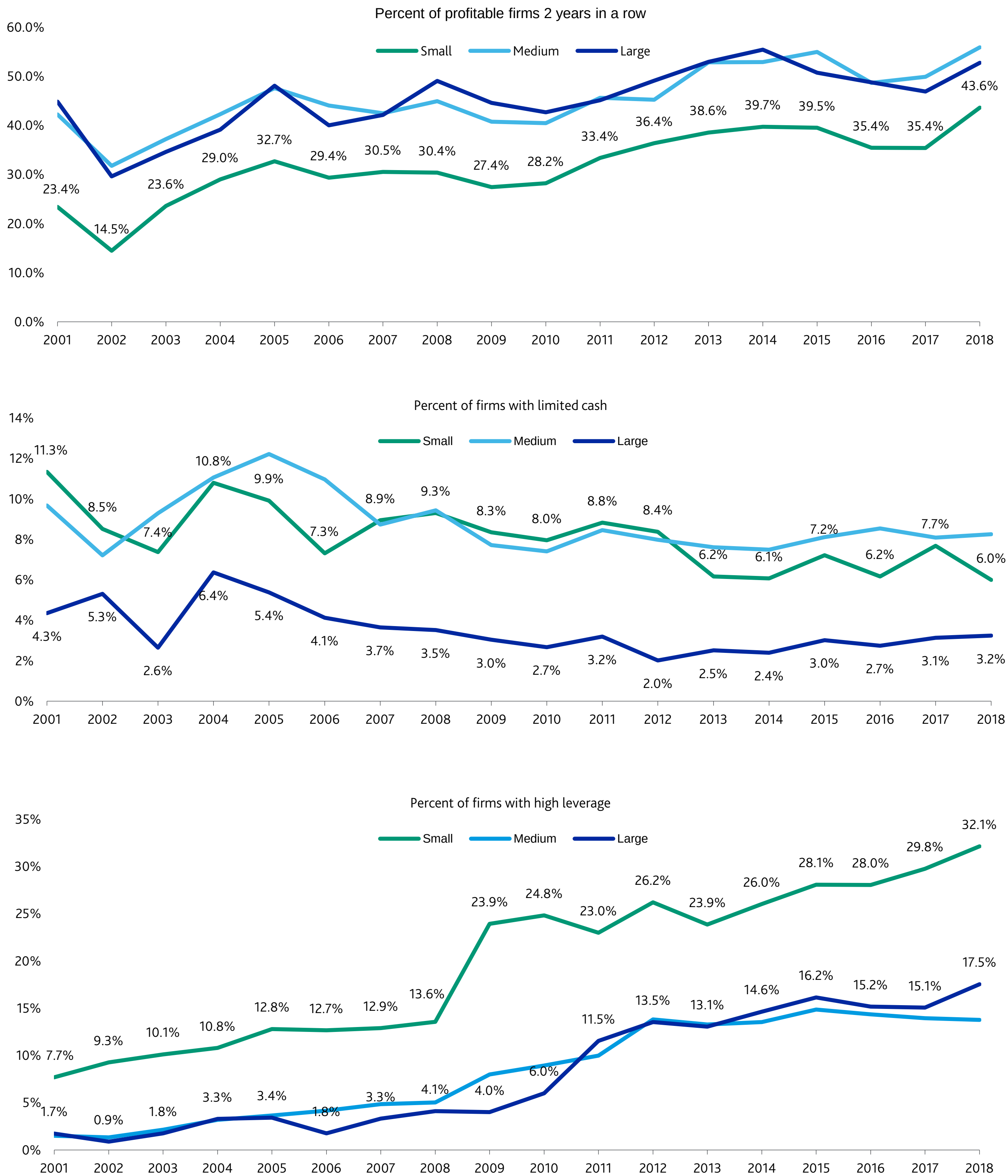


As shown in Figure 7, a sharp spike in the working capital to sales ratio for small businesses in 2009 led to increased credit risk. This spike is due to increased inventory of about 5%, increased receivables of about 8%, decreased payables of about 1%, and increased sales of about 4%. In particular, Fabricated Metal Product Manufacturing (NAICS Code 332), Machinery Manufacturing (NAICS Code 333), and General Purpose Machinery Manufacturing (NAICS Code 339) witnessed a 2% to 3% increase in change in working capital/sales in 2009. Together, these subsectors make up about 39% of total borrowers in the Manufacturing sector. California accounts for 10% to 25% of the firms in these subsectors.

In Figure 8, we see the percentage of manufacturing firms that have been profitable for two years in a row. Manufacturing has a similar trend to the overall sample, with a slightly lower percentage of profitable businesses closely following the 2001 and 2008 crises. After 2010, about 36% of the small businesses were financially solid, with only 7% having limited cash.

[4] Figure 7 only includes regions which, as of April 2020, were hit hardest by COVID-19: North West, Mid Atlantic, South West, and South Central.

Figure 8 Percent of companies in Manufacturing that have been profitable two years in a row, and percent of profitable firms with limited cash and high leverage by business size



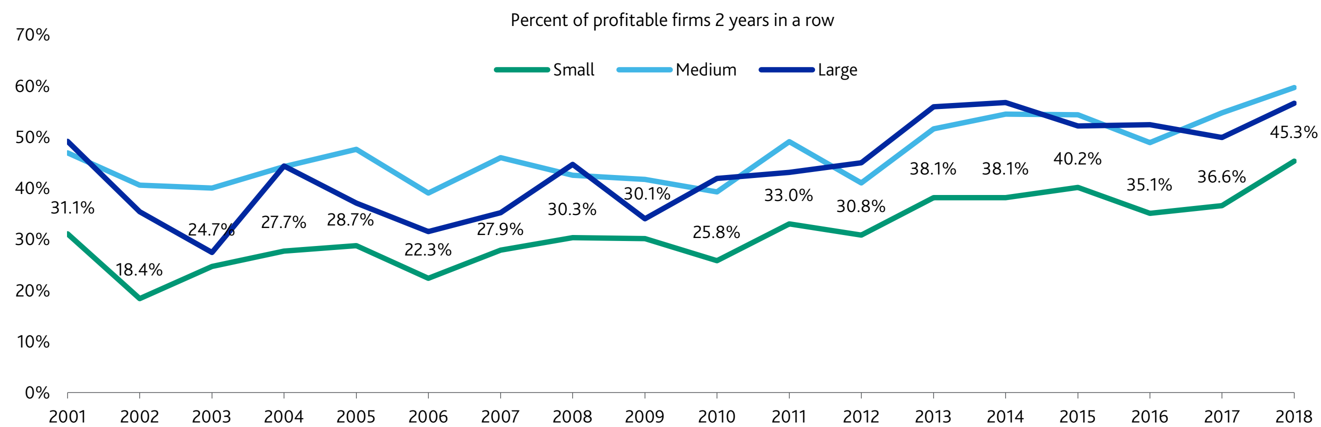
The percentage of profitable borrowers with limited cash is similar between small and medium businesses. Small borrowers saw a decline during the post-2008 crisis years, in line with the higher percentage of profitable borrowers. In the chart detailing firms with high leverage in Figure 8, we see a slightly lower percentage of borrowers with high leverage than the overall sample. Borrowers across different business sizes saw increased leverage during the post-2008 crisis years as well because of lower interest rates. The percent of small profitable borrowers with high leverage is almost twice as high as the percent of medium and large businesses with high leverage.

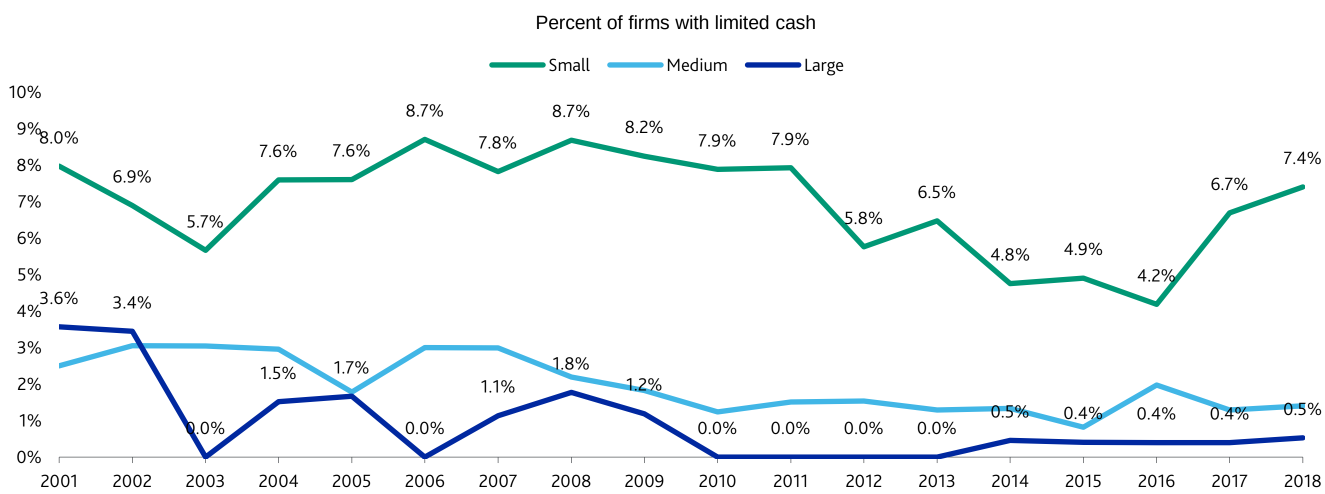
Based on the data we just analyzed, we can say that small business manufacturing firms will encounter significant working capital needs in the months following the coronavirus pandemic. Apart from liquidity, small business borrowers may encounter higher leverage; favorable debt restructuring could help businesses survive.

2.2 Results for Hospitality

The Hospitality sector shows trends that are similar to the overall sample, with 35% of small businesses being financially solid in the past 10 years. In the years immediately following each of the previous crises, Hospitality saw a drop in the percentage of borrowers that were profitable for two years in a row.

Figure 9 Percent of companies in Hospitality that have been profitable two years in a row, and percent of profitable firms with limited cash and high leverage by business size





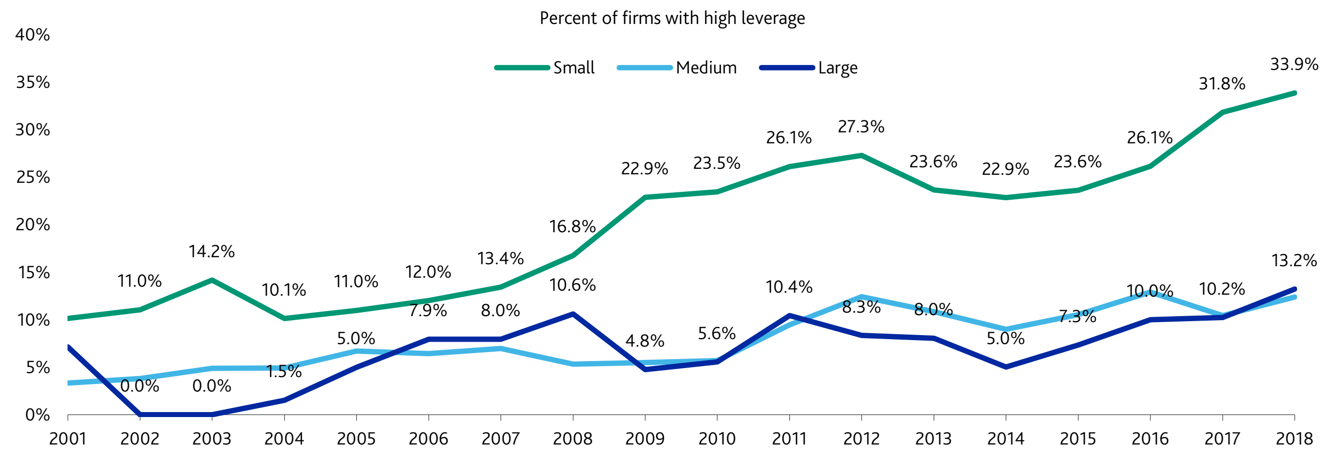
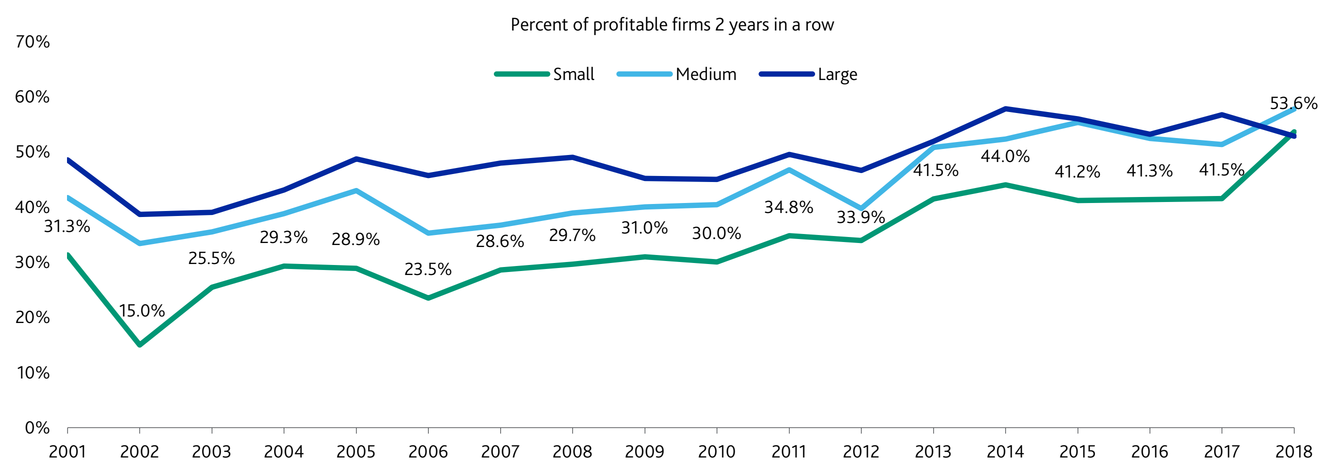


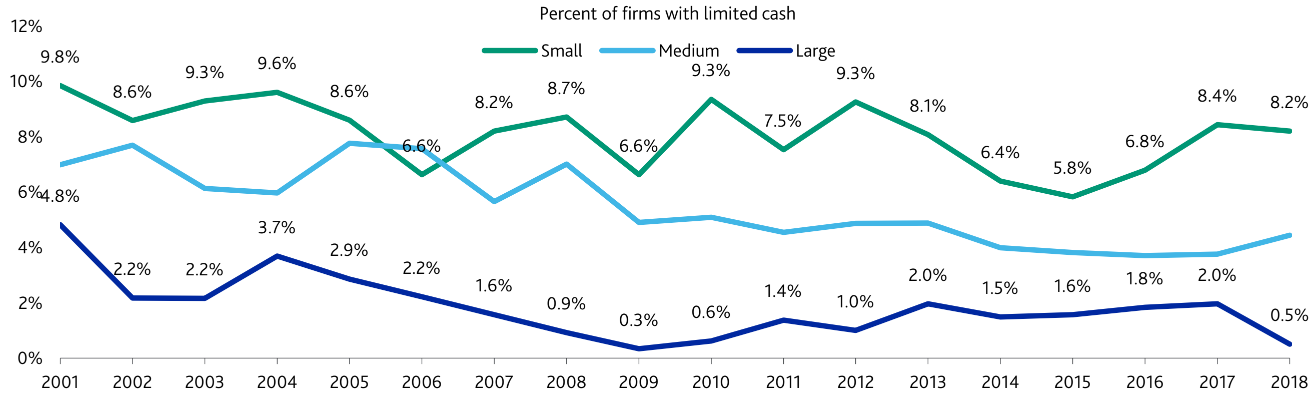
Figure 9 shows that a slightly higher percentage of profitable small business borrowers with limited cash exist in the Hospitality industry. Compared to the overall sample and the Manufacturing sector, medium and large businesses have a much lower percentage of businesses with limited cash. A slightly lower percentage of borrowers with high leverage exist than the overall sample. Borrowers across all business sizes see increased leverage after the 2008 financial crisis due to lower interest rates. Within the Hospitality sector, the percent of small profitable businesses with high leverage is almost double the percent of those borrowers in the medium and large categories.

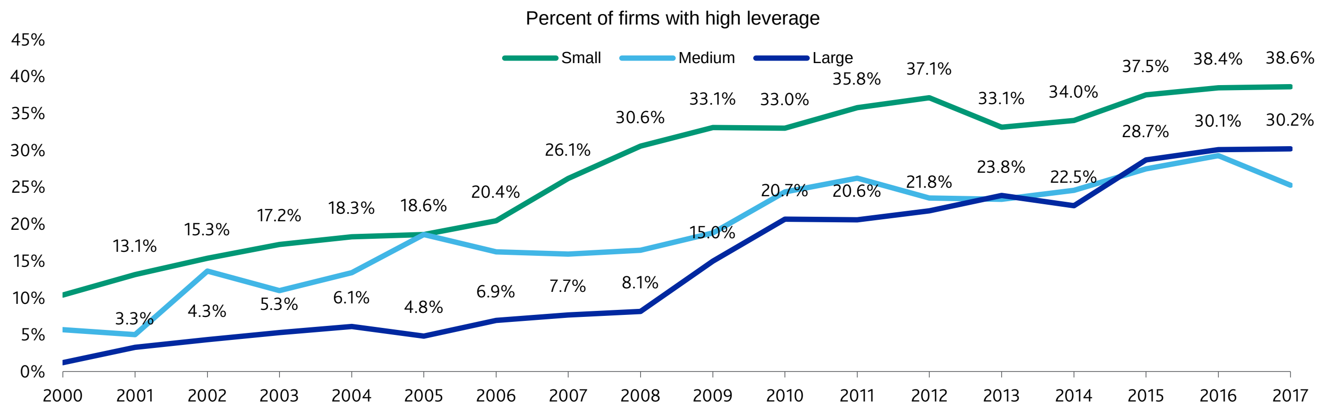
2.3 Results for Retail

About 40% of all Retail businesses were viable after 2010. Figure 10 indicates that Retail has similar trends to the overall sample. Like the other sectors, Retail experiences a drop in the percent of profitable borrowers immediately following each crisis period.

Figure 10 Percent of companies in Retail that have been profitable two years in a row, and percent of profitable firms with limited cash and high leverage by business size







We see a higher percentage of profitable small business borrowers with limited cash, about 8% on average. Like the overall sample, Manufacturing, and Hospitality, all business sizes have a distinct downward trend in businesses with limited cash. This was especially apparent after the Great Recession.

Recently, we noted a slightly higher percentage of borrowers with higher leverage than the overall sample. Borrowers across all business sizes saw increased leverage after the Great Recession, again based on low interest rates. Currently, we see less differentiation in leverage across business sizes. The percentage of highly leveraged retailers among medium and large businesses is almost three times higher than in Hospitality, while the percent of highly leveraged small businesses is similar.

3. Conclusions

During the last two decades, more than 30% of small businesses were financially strong as measured by the percentage of profitable businesses. Profitability, liquidity, and leverage trends are similar across the Manufacturing, Hospitality, and Retail industries with some differences in cash and leverage. The downward trends we observed from previous crises are likely to be far worse beyond 2020 considering that the entire global economy has been affected. While less than 40% of viable businesses had high leverage in the pre-COVID-19 era, without any sources of cash, this number will increase dramatically and will lead to increased credit and financial risk in the near future.

BX818