
Place Matters

September 2019

Small Business Financial Health in Urban Communities



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Abstract

While many researchers have observed overall heterogeneity in the small business sector, existing data sources provide limited information about community-level differences in small business financial outcomes. In this report, we use de-identified transaction data from business deposit accounts to identify small business financial outcomes in ZIP codes across 25 U.S. metropolitan areas. While the majority of small businesses were profitable, many had limited cash liquidity. Moreover, community-level differences in small business profitability and cash liquidity were persistent from 2013 to 2017. We also found that small business cash liquidity and profitability were correlated with other community-level indicators. Small businesses held more cash and were more profitable in communities with

higher home values, higher shares of college-graduates, and smaller shares of non-White residents. Finally, we found that larger high-tech and other professional services firms were less prevalent in communities where small businesses had limited profitability or cash liquidity. These community-level differences suggest that place-based small business economic development programs may contribute to broad-based economic growth, that policies that address household financial wealth and education might also benefit small businesses, that programs could be targeted to the needs of small businesses most prevalent in majority Black and Hispanic communities, and that both high-tech and lower-tech firms can serve as anchor institutions in supporting community economic development.

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and nonprofit leaders—appreciate the scale, granularity, diversity, and interconnectedness of the global economic system and use timely data and thoughtful analysis to make more informed decisions that advance prosperity for all.

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Executive Summary

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Community characteristics are important correlates of small business financial outcomes.

Small businesses can make substantial contributions to the economic growth and dynamism of the places where they operate. However, small businesses are also often affected by the characteristics of the communities in which they operate. Communities with more resources can create a favorable ecosystem for small businesses to thrive, while communities with fewer resources may have less economic activity. Within metro areas, communities vary widely in economic and social characteristics that could create different experiences for the small businesses that

operate in them. Understanding the nature of this variation and its effect on small businesses is critical to the development of policies that promote small business success.

This report aims to inform differences in financial outcomes in the small business sector across communities in the largest metro areas of the United States. In doing so, it provides a granular view of differences in the performance of small businesses by two key indicators: profit margin and cash buffer days. It also analyzes the impact of socioeconomic conditions of a community on small

business financial performance. The report aims to inform the specific challenges of communities within cities, as well as contribute to a wider understanding of the community characteristics behind the success of small businesses in urban America.



Communities vary widely in economic and social characteristics that could create different experiences for small businesses.

Our findings are six-fold:

Finding 1: In the typical community, 29 percent of small businesses were unprofitable, and 47 percent had two weeks or less of cash liquidity.

Finding 2: Nearly 70 percent of communities where small businesses had limited cash liquidity in 2013 also had small businesses with limited cash liquidity in 2017.

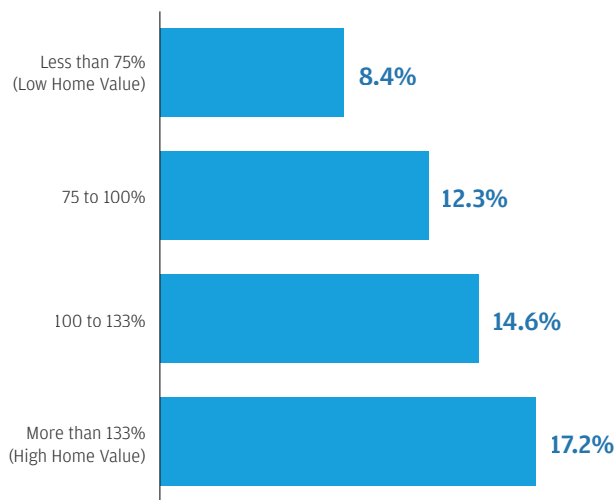
Finding 3: Small businesses in low home value communities had seven fewer cash buffer days than those in high home value communities. However, they had similar exit rates.

Finding 4: Profit margins for small businesses in communities with few college graduates were over 10 percentage points lower than those in communities with many college graduates.

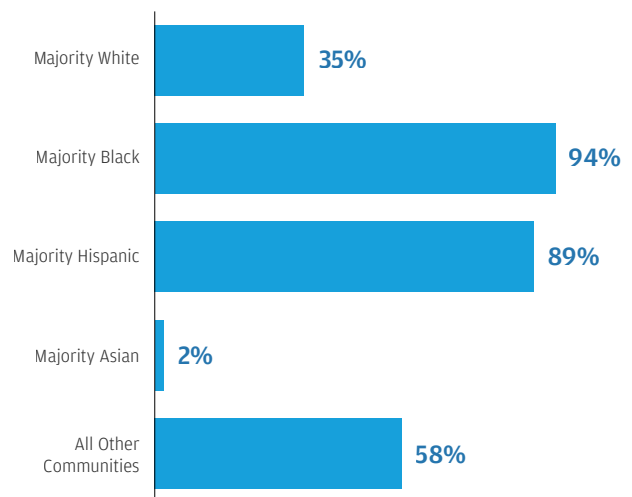
Finding 5: In all majority Black or Hispanic communities, most small businesses had fewer than twenty-one cash buffer days.

Finding 6: Communities where small businesses had limited profits and cash liquidity rarely had large high-tech or other professional firms, but often had large retail or health care services firms.

Median profit margin by normalized home value



Share of communities where most small businesses have fewer than 14 cash buffer days by community racial composition



Source: JPMorgan Chase Institute

These findings suggest that the socioeconomic and industry composition of a community have a meaningful impact on the financial health of small businesses and their ability to contribute to broad-based economic growth.

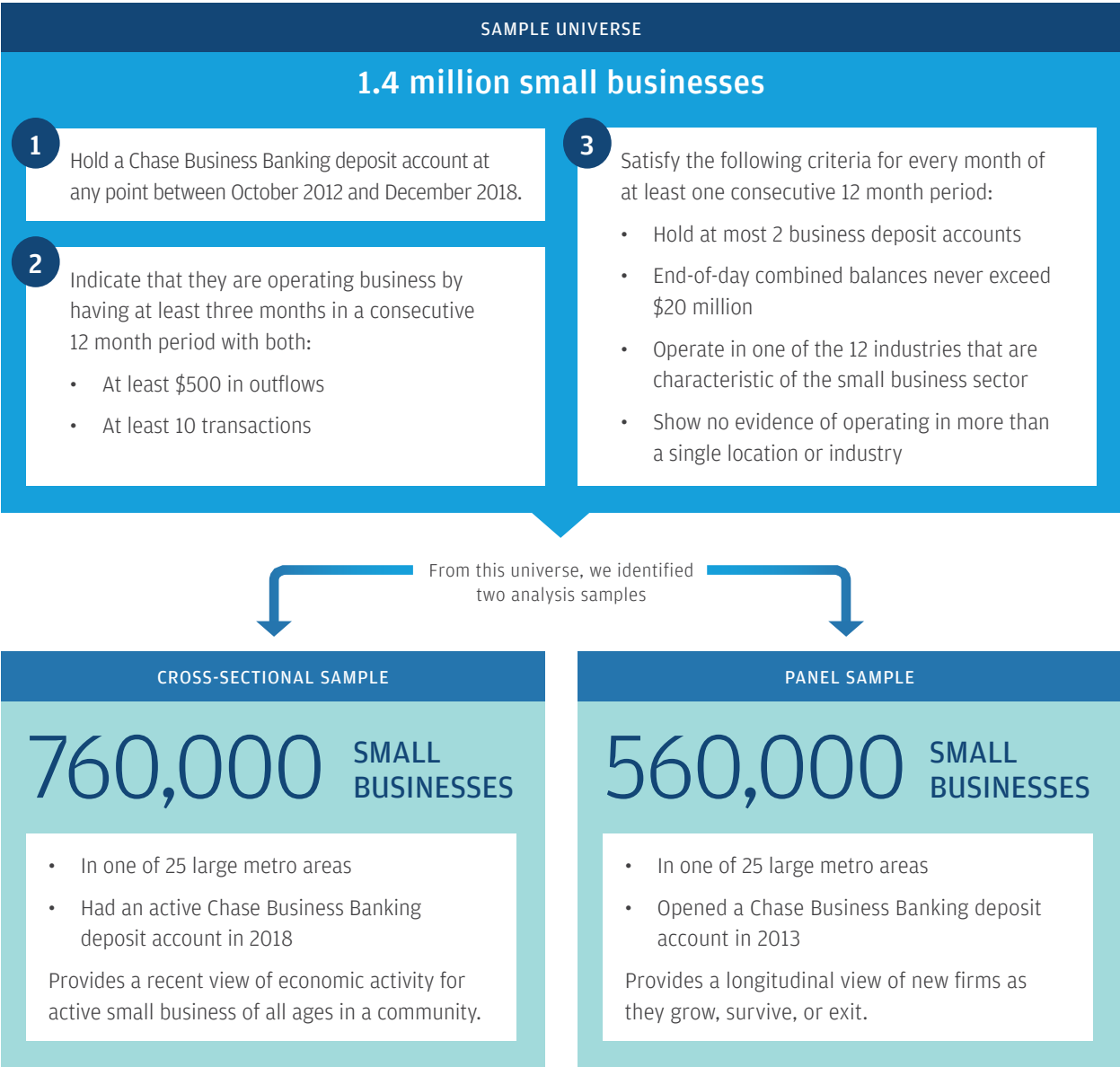
Data Asset

This report leverages two samples to generate insights—a panel sample of small businesses of any age active in 2013, and a cross-sectional sample of businesses operating in 2018.

The panel sample consists of 560,000 firms that have Chase Business Banking deposit accounts located in

25 metropolitan areas in the U.S. We track their outcomes in terms of cash liquidity, profit margin, and exit (see Glossary for definitions) from 2013 to 2017. This panel sample allows us to observe the outcomes of firms with various ages across time in order to characterize the small business sector across cities and determine

differences in performance. The cross-sectional sample consists of 760,000 firms that were operating in 2018 in one of 25 metropolitan areas. This sample allows us observe the financial outcomes of firms of all ages in 2018 and aggregate their performance at the ZIP code level.



These samples are based on business deposit accounts and not on employment records, which allow our data to provide insights on the vast majority of small businesses that do not have paid employees. Only 2.5 percent of nonemployers become employers in their first year of operations and the rate of transition to employment declines as they mature (Farrell et

al., 2018). While most firms in our sample are nonemployers, they are nevertheless sufficiently formal to have business banking deposit accounts. We do not capture informal businesses that operate only through cash or personal deposit accounts.

Finally, our sample includes firms in ZIP codes that have a sufficiently large number of firms in each of the

two samples across the 25 metro areas where we have the highest number of firms in our sample. The selection of 25 metro areas is based on a prior report that characterized the growth and vitality of the overall small business sector (Farrell et al., 2018). Some large metropolitan areas where Chase does not operate branches are absent from our sample.

Figure 1: Metropolitan areas in our sample



Source: JPMorgan Chase Institute

Introduction

Communities are an important part of the social and economic fabric that defines the success of a city. In recent years, there has been increasing evidence about the wide and increasing variation of economic performance across communities in the United States, and about the difficulties economically challenged places face catching up with more prosperous ones (Ganong and Sheoag, 2017; Chetty et al., 2014). Communities at the bottom of the distribution seem to be stagnating while places at the top of the distribution have increasingly positive outcomes. Common mechanisms that once aided the convergence process, such as the relocation of families and businesses, seem to be altered (Schleicher, 2017; Molloy et al., 2014). This has initiated a policy debate about how to best support the places that have been left behind (Brookings, 2018; Federal Reserve Bank of San Francisco, 2012).

Building sustainable and prosperous communities often requires a multi-dimensional approach, from ensuring access to the necessary infrastructure to providing educational and job opportunities to its inhabitants (Hoffman, 2012; Miller-Adams et al., 2019). Among all these actions, there is extensive literature that emphasizes the importance of supporting small businesses (Rupasingha, 2013; Davis et al., 2007). Small businesses can both contribute to the prosperity of a community as

well as serve as an indicator of its economic well-being. Owners of small businesses have historically been active voices in a community (Mills, 1946), and can engage by demanding better services and more support. Moreover, their success or failure can reflect the economic performance of a community. Successful small businesses will tend to contribute to local economic stability and reinvest in communities, which in turn reinforces development in the community.

The role of small businesses in building a prosperous community merits a deeper look into their financial outcomes at the community level. Transformational changes in communities typically require the involvement of a wide set of stakeholders—including residents, businesses, nonprofit organizations, financial institutions, and local government. However, the financial challenges of businesses at the local level are an important and surprisingly understudied area of local economic development. With this concern in mind, this report aims to understand the challenges that small businesses face across communities in the United States, and the impact of socioeconomic and industry characteristics on their profitability and liquidity. To this end, we leverage our unique longitudinal view of 760,000 firms using their financial transactions from 2013 to 2018 to analyze the performance of small business across 25 U.S. cities. We also include more

detailed results for six cities in order to provide more concrete examples of the characteristics of communities across cities in the United States.


Through these lenses, our findings reveal that across communities, most small businesses were profitable, though profitability levels varied widely within metro areas. In 2018, profitable small businesses were more prevalent in communities that had higher shares of college graduates, and less prevalent in majority Black and Hispanic communities. Second, while small businesses had limited cash liquidity in most communities, small businesses in communities with high home values had relatively more cash liquidity. Third, community-level industry composition appeared to affect small business profitability and cash liquidity. Small businesses were more profitable in communities that had more small businesses in industries such as high-tech services, other professional services, and health care services. Similarly, small businesses had higher profit margins in communities that had more large high-tech and professional services firms, though in general, most communities did not have these large firms. Finally, the ranking of profitability and liquidity in a community was persistent across time. More than three out of every five communities in the bottom quartile of cash liquidity and profitability in 2013 remained in the same quartile in 2017.

Finding One

In the typical community, 29 percent of small businesses were unprofitable, and 47 percent had two weeks or less of cash liquidity.

Communities with large shares of small businesses that are profitable, long-lived, and have sufficient liquidity to generate profits and survive may make material contributions to the overall economic prosperity of their local residents. Owners of profitable small businesses may invest their earnings in their businesses, in their homes, or in other local assets, increasing the overall asset base of the community and making it generally more attractive to others. Overall, small business owners are also relatively more likely to spend revenue locally (Bartik, 2004; Institute for Local Self Reliance, 2003). Minority-owned small businesses are also more likely to hire locally, especially employees from underrepresented groups (Bates, 1994). Long-lived small businesses may provide a greater capacity for their owners to contribute to local institutions, and

long-lived employer small businesses may provide more stable employment for their local employees.

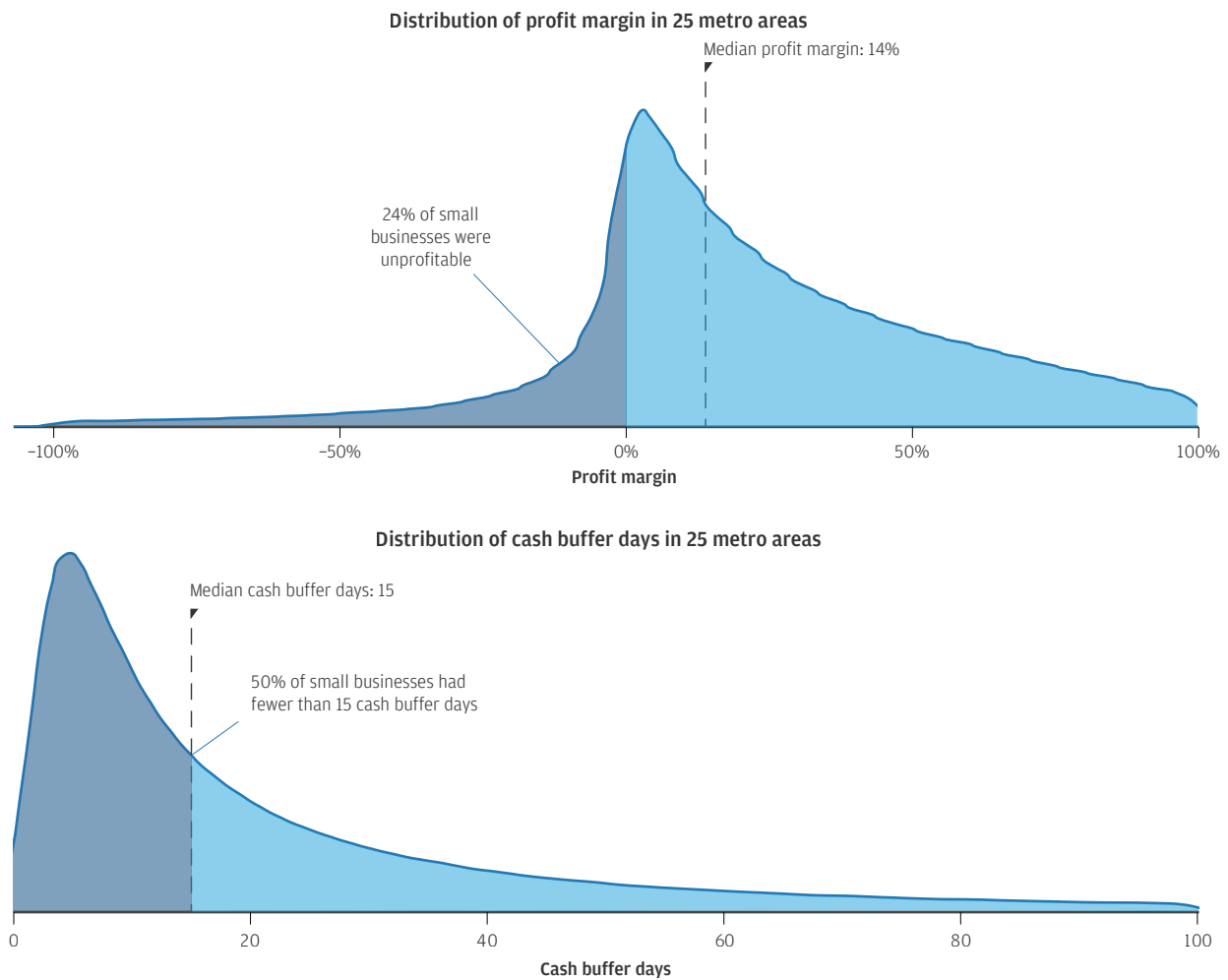


Cash liquidity in particular is a critical predictor of small business survival and growth.

We analyze small businesses individually and at the community level by assessing their cash liquidity, profitability, and survival. Cash liquidity in particular is a critical

predictor of small business survival and growth (Farrell and Wheat 2016; Farrell et al. 2018; Farrell et al. 2019), and profitability may be an indicator of wealth building in a community (Bendick and Egan, 1993). We measure the cash liquidity of a small business in terms of cash buffer days. We measure small business profitability in terms of annual profit margins—the difference between revenues and expenses divided by revenues. Finally, we measure survival in terms of exit rates—the number of small businesses that closed all of their Chase deposit accounts as a share of the total number of businesses as of January 1st in a given year. We leverage the geographic granularity of our data to develop these community-level small business financial outcomes by aggregating observations of small businesses to ZIP codes.¹

Figure 2: Most small businesses are profitable, though many have limited cash liquidity



Note: Profit margin and cash buffer days measured from 2013 to 2017 in the cross-sectional sample.

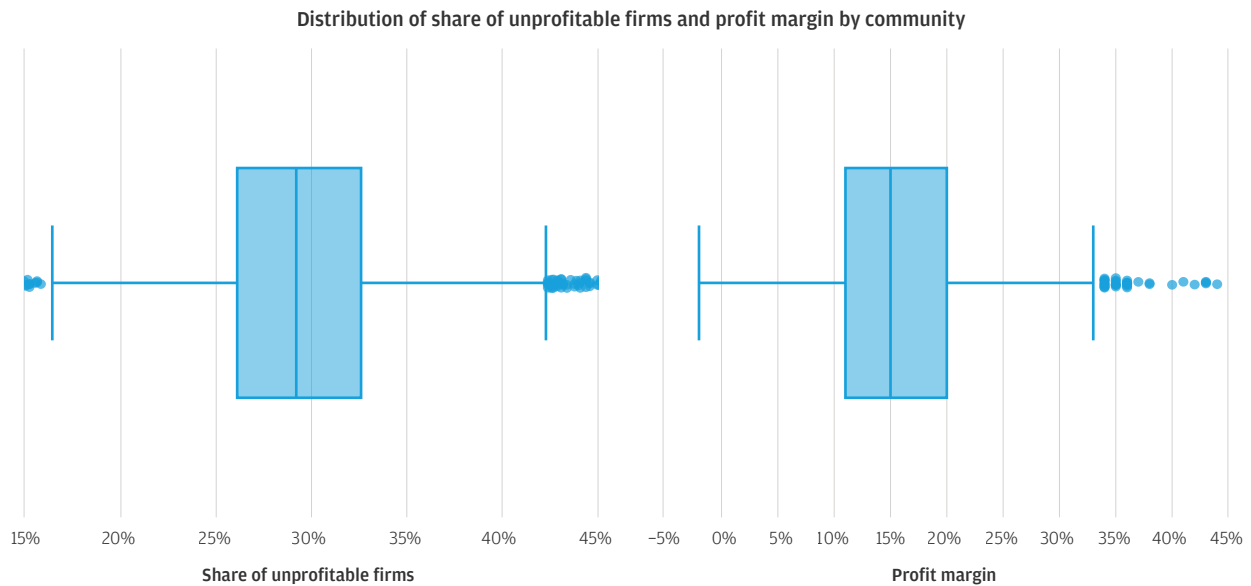
Source: JPMorgan Chase Institute

In our sample, individual small businesses were generally profitable, though many had limited cash liquidity, and many exited at relatively high rates. The top panel of Figure 2 presents the distribution of profit margin for individual firms in our cross-sectional sample. Overall, 76 percent of firms were profitable, with a median profit margin of 14 percent.² However, most firms had limited cash liquidity. The bottom panel of Figure 2 presents the

distribution of cash buffer days in the same cross-sectional sample. Fifty percent of firms had less than fifteen cash buffer days, and only 40 percent had more than three weeks.³ Moreover, exits were quite frequent across our samples. In our panel sample, approximately 9.2 percent of firms exited in each year. While prior research has informed a view of the financial outcomes for individual businesses, policymakers have fewer sources to turn to in order

to understand how these outcomes occur in and across communities. To this end, Figure 3 presents the distribution of the share of unprofitable firms in each of the communities in our panel sample. If every community had the same distribution, 24 percent of firms would be unprofitable in the typical community. Instead, we find that 29 percent of firms are unprofitable in the median community—in most communities, at least 71 percent of firms are profitable.

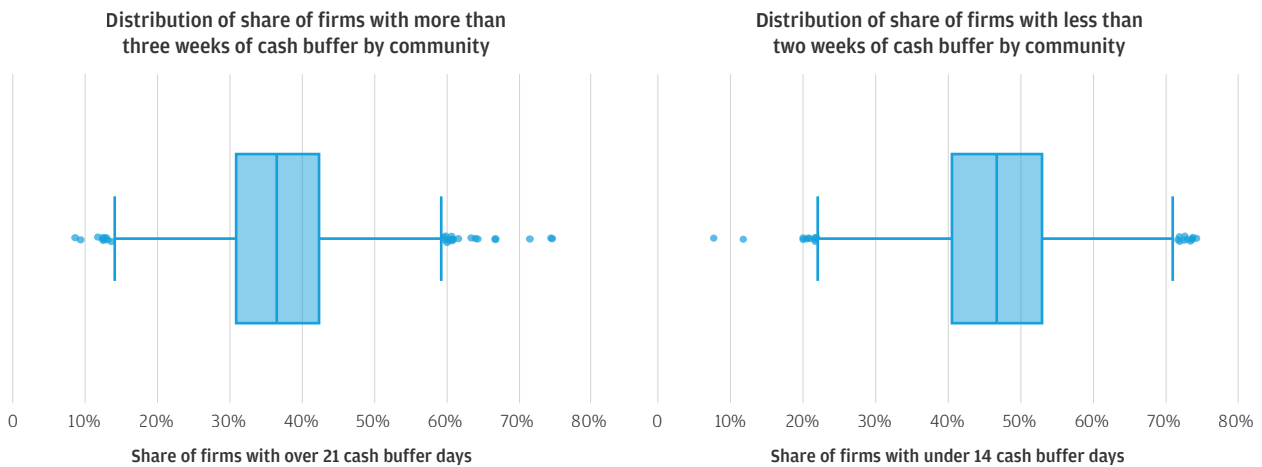
Figure 3: In the typical community, 29 percent of small businesses were unprofitable and the profit margin of 50 percent of the businesses was 15 percent.



Note: Profit margin measured from 2013 to 2017 in the cross-sectional sample.

Source: JPMorgan Chase Institute

Figure 4: Most small businesses are profitable, though many have limited cash liquidity



Note: Profit margin and cash buffer days measured from 2013 to 2017 in the cross-sectional sample.

Source: JPMorgan Chase Institute

Figure 4 characterizes the distribution of community outcomes in terms of small business cash liquidity. The left panel presents the distribution of communities with respect to the share of firms with at least three weeks of cash buffer, and the right

panel presents the distribution of communities with respect to the share of firms with at least two weeks of cash buffer. Overall, communities where a majority of small businesses have substantial cash liquidity are rare.

In most communities, at least 71 percent of firms are profitable.

Notably, the variation in profitability and cash liquidity we observe was not driven principally by differences at the city or region level. Table 1 presents median profit margin and cash buffer

days for six metropolitan areas in our sample. Variation in profitability and variation in cash liquidity across metro areas were both substantially less than variations across

communities in our data. Specifically, city fixed-effects only explain 13 percent of the variation in median profit margin across communities.

Table 1: Profitability and cash liquidity are relatively similar across metro areas

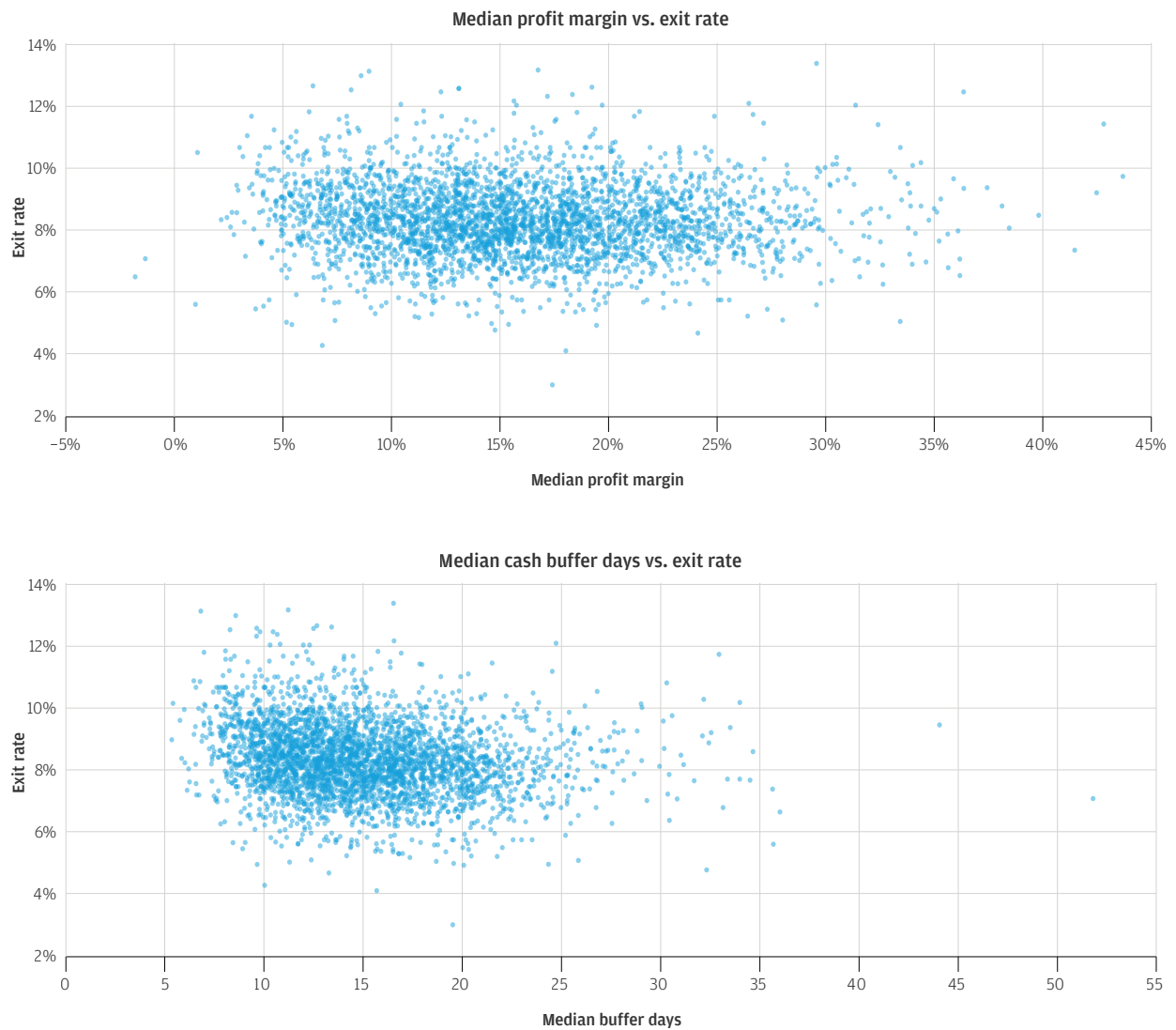
Profitability and cash liquidity in six metro areas

	Profitability		Cash liquidity		
	Median profit margin	Share profitable	Median cash buffer days	Share with <14 cash buffer days	Share with >21 cash buffer days
Chicago	17.2%	71.3%	16.1	43.6%	40.1%
Detroit	14.7%	71.4%	14.4	47.0%	37.2%
Houston	12.4%	69.1%	14.6	46.1%	37.2%
Miami	13.9%	68.3%	11.8	51.9%	31.5%
New York	12.9%	69.4%	15.6	44.5%	39.0%
San Francisco	18.4%	72.5%	17.9	40.3%	43.1%

Note: Profit margin and cash buffer days measured from 2013 to 2017 in the cross-sectional sample.

Source: JPMorgan Chase Institute

Figure 5: Neither profitability nor cash liquidity correlated strongly with exit rates



Note: Profit margin measured from 2013 to 2017 in the cross-sectional sample, exit rates measured 2018 in the panel sample.

Source: JPMorgan Chase Institute

While profitability and cash liquidity varied widely between communities, exit rates varied less so. Figure 5 presents the joint distribution of median profit margin and exit rates, and the joint distribution of median cash buffer days and exit rate. One quarter of communities in our panel sample had exit rates lower than 7.5 percent, and one quarter of communities had exit rates higher than 9 percent—half of the communities in our sample had

exit rates in this range. While these are high exit rates, they varied substantially less than profitability or cash liquidity. Moreover, neither profitability nor cash liquidity correlated strongly with exit rates at the community level.

In total, these results suggest that profitable firms and firms with substantial cash liquidity are distributed unevenly across communities, while exit rates are more evenly distributed. Moreover, communities in which small

businesses have both low profitability and low cash liquidity (or high profitability and high cash liquidity) do not appear to be randomly distributed (see Box 1). To better understand the drivers and correlates of these differences, Findings 3 through 6 explore the characteristics of communities associated with small business profitability and cash liquidity, and describe the extent to which these characteristics are associated with small business survival.

Box 1: Profitability variation by community in six metro areas

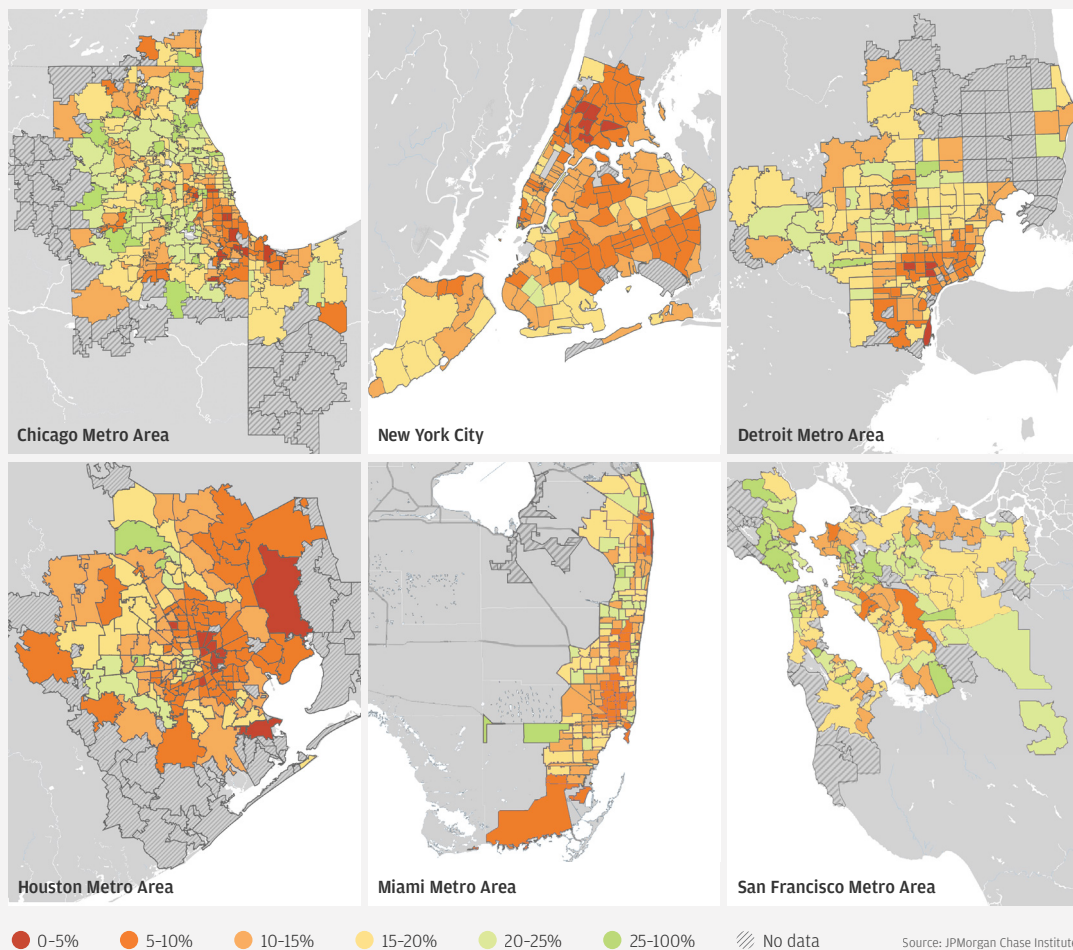
To illustrate one dimension of heterogeneity in small business outcomes within metro areas, Figure 6 presents the median profit margin for communities in the Chicago, Detroit, Houston, Miami, New York, and San Francisco metro areas. In each metro area, there are large contiguous areas in which most

small businesses had low profit margins. Median profits were less than 10 percent in most of the West and South Sides of Chicago as well as its south suburbs, most of the City of Detroit, much of East Oakland, in North Miami, and large areas of Brooklyn and the Bronx in New York. In contrast, there are

large areas where most small businesses were quite profitable. Many small businesses had profits over 20 percent along the I-10 corridor in Houston, in Marin County north of San Francisco, and in suburban communities in the North and West suburbs of Chicago.

Figure 6: Profitability varies substantially within metropolitan areas

Median profit margin for ZIP codes in Chicago, Detroit, Houston, Miami, New York, and San Francisco metro areas, 2013-2017



Finding Two

Nearly 70 percent of communities where small businesses had limited cash liquidity in 2013 also had small businesses with limited cash liquidity in 2017.

The divergence of outcomes across regions and communities in the United States has been well-documented in recent years (Economic Innovation Group, 2017; Chetty et. al, 2018). The last decade has been a period of recovery for the United States after the Great Recession. In this context, Americans have become increasingly clustered in well-off locales, and those areas are enjoying extraordinary prosperity and dynamism. However, the gaps in well-being between thriving and struggling communities

have widened at seemingly every scale (Economic Innovation Group, 2018).

A similar pattern emerges in the short-term persistence of small business financial outcomes. Specifically, we found a strong persistence of community-level cash liquidity and profitability over the five year period from 2013 to 2017. For each metro area in our sample, we ranked communities with respect to their median cash buffer days and profitability in 2013 to assign

them to an initial quartile. We then ranked communities again in 2017 to identify their final quartile. Table 2 presents the share of communities in each initial 2013 quartile that transitioned to a 2017 quartile for both cash buffer days and profit margin. Almost 70 percent of communities in the bottom quartile of cash buffer days were still in the bottom quartile four years later. Similarly, 69 percent of communities in the top quartile remained in the top quartile.

Table 2: Few communities changed their relative cash liquidity or profitability between 2013 and 2017

Transition matrix for communities based on median cash buffer days and profit margin quartile in 2013, 25 Metros

Transition matrix for median cash buffer days					Transition matrix for median profit margin						
		2017 Quartile						2017 Quartile			
		1	2	3	4			1	2	3	4
2013 Quartile	1	71%	20%	7%	2%	2013 Quartile	1	65%	24%	8%	3%
	2	22%	48%	24%	7%		2	24%	41%	27%	9%
	3	6%	28%	43%	23%		3	10%	26%	39%	25%
	4	1%	4%	27%	68%		4	2%	9%	27%	63%

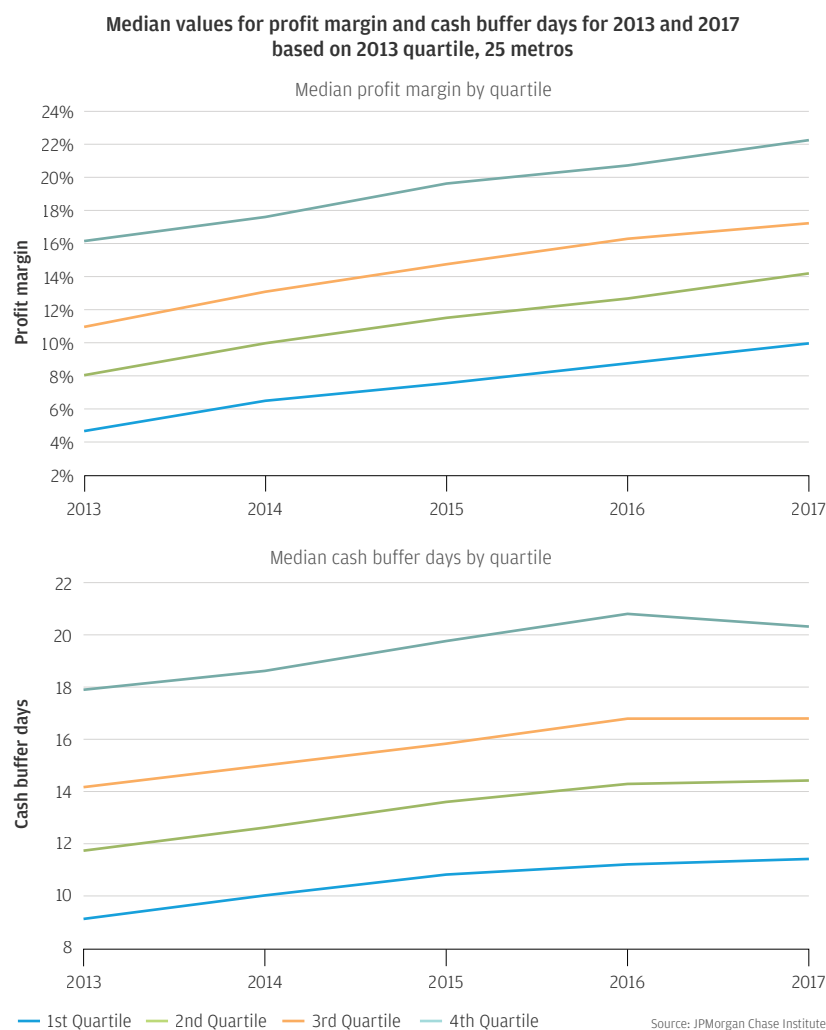
Source: JPMorgan Chase Institute

The relatively high share of communities that remained in the top and bottom quartiles of cash liquidity and profitability might suggest that the small business sector has seen not only persistence in recent years, but actually divergence. This possibility is all the more salient given the divergence seen in the U.S. since 2007 in net job creation across communities

(Economic Innovation Group, 2018).⁴ In fact, it appears that with respect to small business cash liquidity and profitability, most communities are improving, even if communities with worse outcomes are not catching up to those with better outcomes. To illustrate this, Figure 7 presents the median profit margin and median cash buffer days by quartile. All quartiles

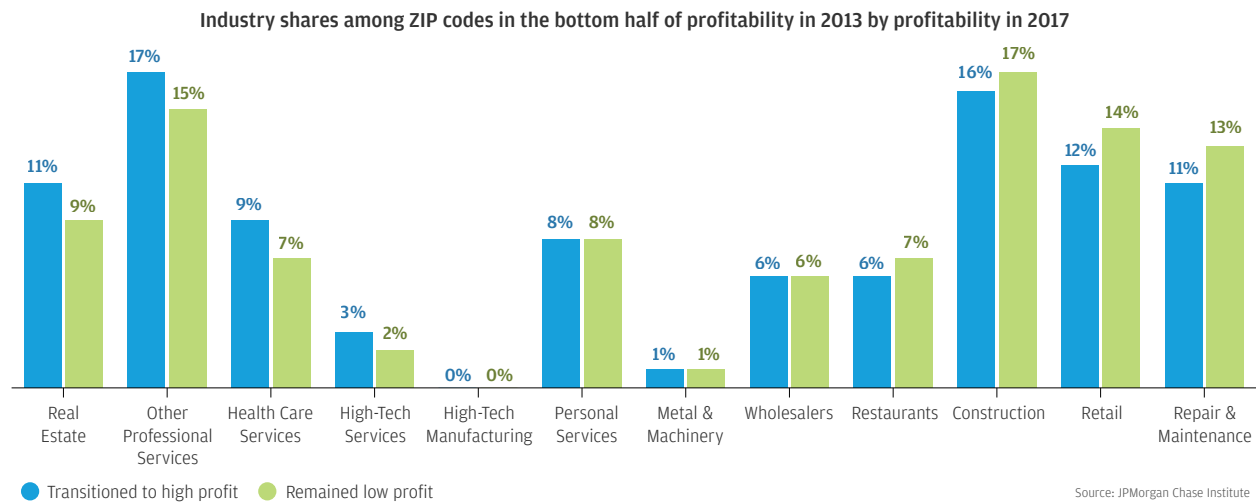
had higher median profitability in 2017 than they did in 2013, and all quartiles had more cash buffer days. That said, the difference between the top quartile and the bottom quartile in these measures changed very little from 2013 to 2017. This difference increased 1 percentage point from 2013 to 2017 for median profit margin and 0.4 cash buffer days over the same period of time.

Figure 7: Cash liquidity and profitability improved across quartiles from 2013 to 2017, though differences between quartiles were persistent



While the ranking of communities with respect to cash liquidity and profitability was largely persistent from 2013 to 2017, a small share of communities did transition from the lower quartiles to the upper ones. In fact, 11 percent of communities that were in the bottom half of profitability moved to the top half of profitability. While there are many factors that could explain this dynamic, industry composition appears to play a role in determining whether a community is likely to move to the top half of the distribution. To assess this, we analyzed all communities in the bottom half of profitability in 2013, and compared those that transitioned to the top half of profitability by 2017 to those that remained in the bottom half. Figure 8 shows the 2013 and 2017 industry shares of these two groups. The figure shows that communities that stayed in the bottom half of profitability had 2 percentage points more businesses in the repair and maintenance industry in 2013 than those that moved up, and that those that moved up had 2 percentage points more businesses in the other professional service industry than those that remained. Notably, the communities that did transition to higher profitability had a higher share of the more profitable industries and a lower share of the less profitable industries in 2017 (See Box 2).

Figure 8: Communities that transitioned from below median profitability to above median profitability had more health care and other professional services firms and fewer repair and maintenance and retail firms



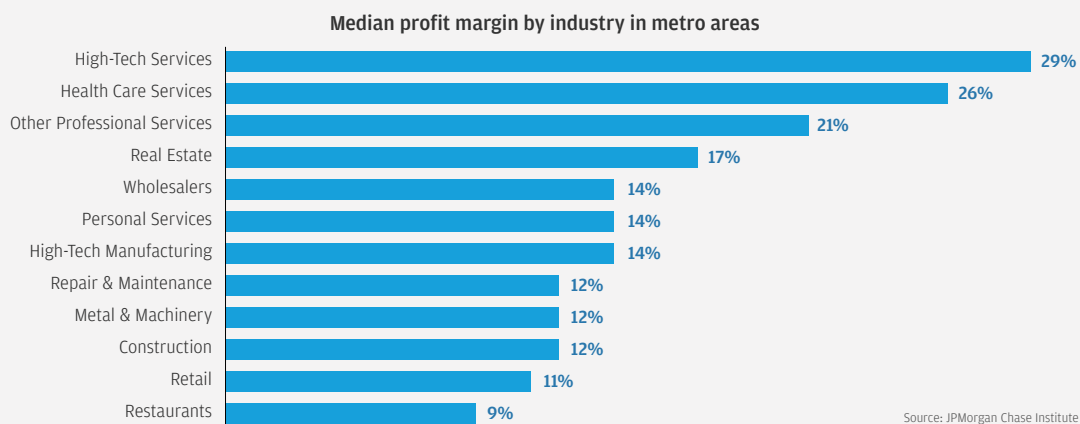
Box 2: Small business profitability by industry

The profit margin of small businesses is, in part, determined by the industry where it operates. Figure 9 shows the median profit margin in each of twelve industries in our sample. Typical profit margins vary between

industries. For instance, there is a 20 percentage point variation between the profitability of high-tech services (29 percent), and restaurants (9 percent). In our sample, the typical firm operating in high-tech services, health care

services or other professional services industry has a profit margin over 20 percent. On the other hand, small businesses in the restaurant, retail, and repair and maintenance industries had lower profit margins.

Figure 9: Profitability varies widely by industry



Finding Three

Small businesses in low home value communities had seven fewer cash buffer days than those in high home value communities.

Access to financial capital has long been viewed as a key input to small business success. Within the boundary of the firm, liquidity plays a large role in the ability of small businesses to make investments to support their growth, and to weather shocks and survive. Given the tight coupling of household and business finance for owners of smaller businesses, such as those that comprise the bulk of the sector, household liquidity may play a key role in shaping small business outcomes as well. A key community-level indicator of liquidity, assets, and wealth is the value of homes in a community. Homes are the largest asset on the balance sheet of most U.S. households, and while the relationship between housing assets and small business performance is complex (Kennickell, et al., 2015), home values may be an important indicator of the broader

reserve of liquidity and financial capital that small business owners can leverage to support their ventures.

Home values may be an important indicator of financial capital that small business owners can leverage to support their ventures.

Home values vary widely both within and across metro areas. In 2017, the median home value was \$655,300 in San Francisco and \$413,200 in New York, as compared to \$166,500 in Houston and \$149,900 in Detroit. In addition to this regional variation, there is substantial within-metro

variation in home values. In the New York metro area, the typical home in Manchester Township, NJ (ZIP code 08759) was valued at \$114,800, while in some parts of Lower Manhattan (ZIP code 10013) and Tribeca (ZIP code 10008) the typical home was valued at over 2 million dollars.

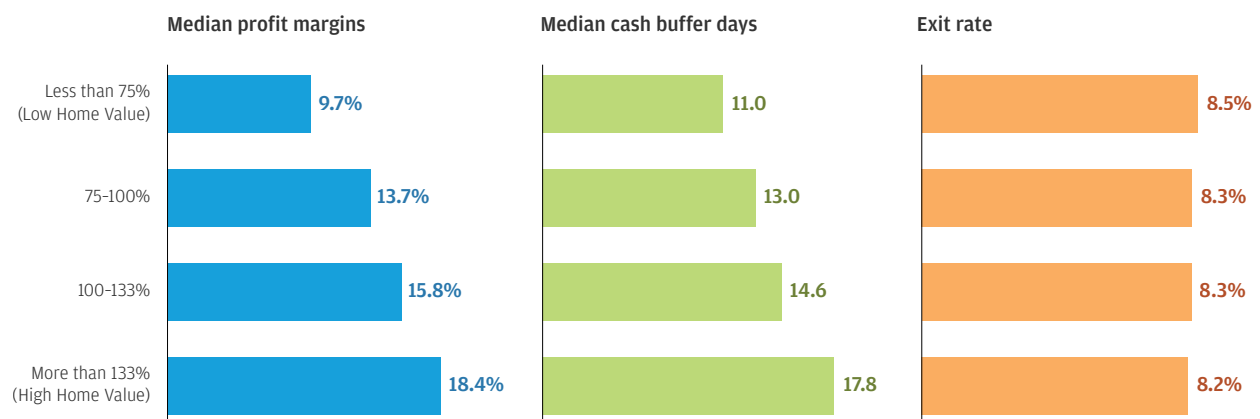
To better account for this variation in our cross-city comparisons, we define normalized home value as the median home value in a community divided by the median home value in the metro area. Using this metric, we define low home value communities as those with a normalized home value less than 75 percent of the metro median, and high home value communities as those with a normalized home value over 133 percent of the metro median. Across our sample, this categorization classifies 20 percent of communities as low home value, and 24 percent of communities as high home value.

Across all 25 metro areas in our sample, communities with higher home values were more likely to have profitable businesses and businesses with higher levels of cash liquidity, though exit rates were less strongly correlated with home values. Figure 10 presents median profit margins, cash buffer days, and exit rates for communities by their normalized home value. The typical

small business in a low home value community had a profit margin of 9.7 percent while the typical small business in a high home value community had a profit margin of 18.4 percent—a difference of 8.7 percentage points. Home values also corresponded to substantial differences in cash liquidity. The typical small business in a low home value community had eleven cash buffer days as compared to 17.8

for the typical small business in a high home value community—a difference of 6.8 days. In contrast, there was a very small difference in exit rates by home value. Small businesses in low home value communities exited at a rate of 8.5 percent as compared to an exit rate of 8.2 percent in high home value communities—a difference of only 0.3 percentage points.

Figure 10: Small businesses in high home value communities had higher profits and more cash liquidity than those in low home value communities, but similar exit rates



Source: JPMorgan Chase Institute, US Census Bureau

Profitability and cash liquidity not only vary between home value segments—home values in individual communities are materially related to community-level indicators of small business liquidity and

profitability. Across all communities in our sample, the pairwise correlation between normalized home values and median profit margins was 0.43, and the pairwise correlation between normalized

home values and median cash buffer days was 0.56. This means that home values meaningfully differentiate these small business financial outcomes in many metro areas.

Figure 11: Most communities with limited cash liquidity also have low home values

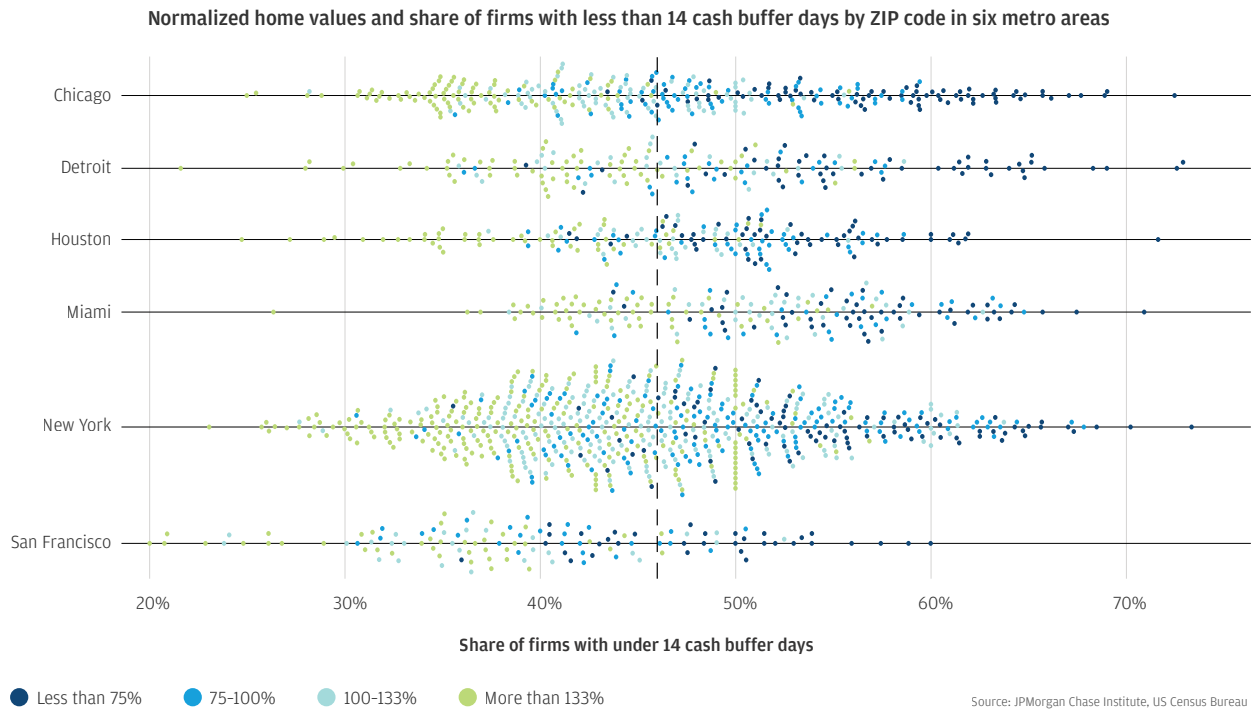
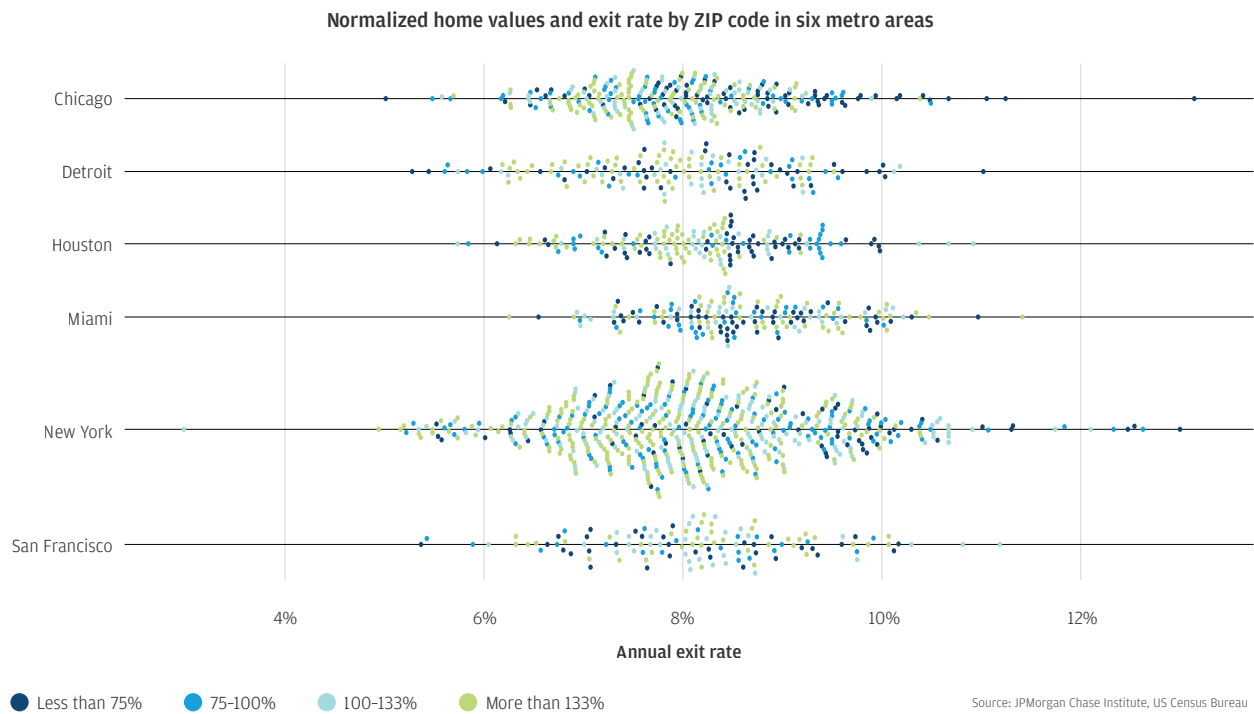


Figure 11 illustrates this by showing the relationship between cash liquidity and home values for each community in our six featured metro areas. In the figure, the left-to-right position of each dot reflects the share of small businesses with fewer than fourteen cash buffer days in a community, and its color reflects normalized home value. In some of these metro areas, the patterning of cash liquidity by home value is stark. Specifically, in the Chicago, Houston, and Miami metro areas, in nearly all low home value communities more than 46 percent of small businesses had less than two

weeks of a cash buffer while in nearly all high home value communities over 46 percent of small business had more than fourteen cash buffer days. In other metros, this separation is less clear. In the New York and San Francisco metro areas, there were more communities classified as low home value in which a minority of small businesses had less than fourteen cash buffer days. Notably, communities we classify as low home value in the New York and San Francisco metro areas still had relatively high median home values in absolute terms.

In contrast, Figure 10 shows that exit rates varied widely across communities, but did not correlate strongly with home values. Across all communities in our sample, the pairwise correlation between exit rates and normalized home values was only -0.07. Figure 12 illustrates the weakness of this relationship by presenting the distribution of exit rates by normalized home value segments for our six featured cities. There is no clear patterning in this result. Exit rates materially higher and lower than 8 percent were prevalent among both high and low home value communities.

Figure 12: Exit rates vary substantially across communities, but are unexplained by home values

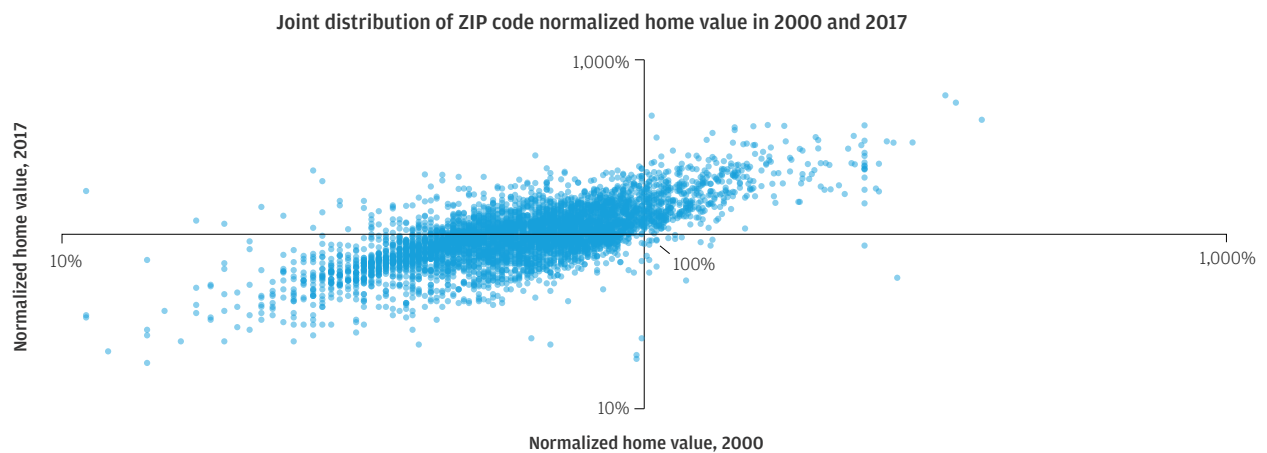


The observed differences in profitability and cash liquidity are especially important because of the relative stability of the ordering of home values by communities. Figure 13 compares the normalized home value for a community in 2017 to the normalized home value for the same community

in 2000. Almost all communities that had low home values in 2000 still had low home values in 2017, and almost all communities that had high home values in 2000 still had high home values in 2017. While our sample does not allow us to assess small business cash liquidity or profitability in 2000,

the stability of home values along with the strong correlation of home values with cash liquidity and profitability suggests that relatively short-term persistence in cash buffer days and profitability identified in Finding 2 may also exhibit longer-term persistence.

Figure 13: Normalized community home values were largely stable from 2000 to 2017



Note: Normalized home values in 2000 computed using 2000 Census estimates of ZIP code median home value divided by 2005 median CBSA home value.

Source: US Census Bureau

Finding Four

Profit margins for small businesses in communities with few college graduates were over 10 percentage points lower than those in communities with many college graduates.

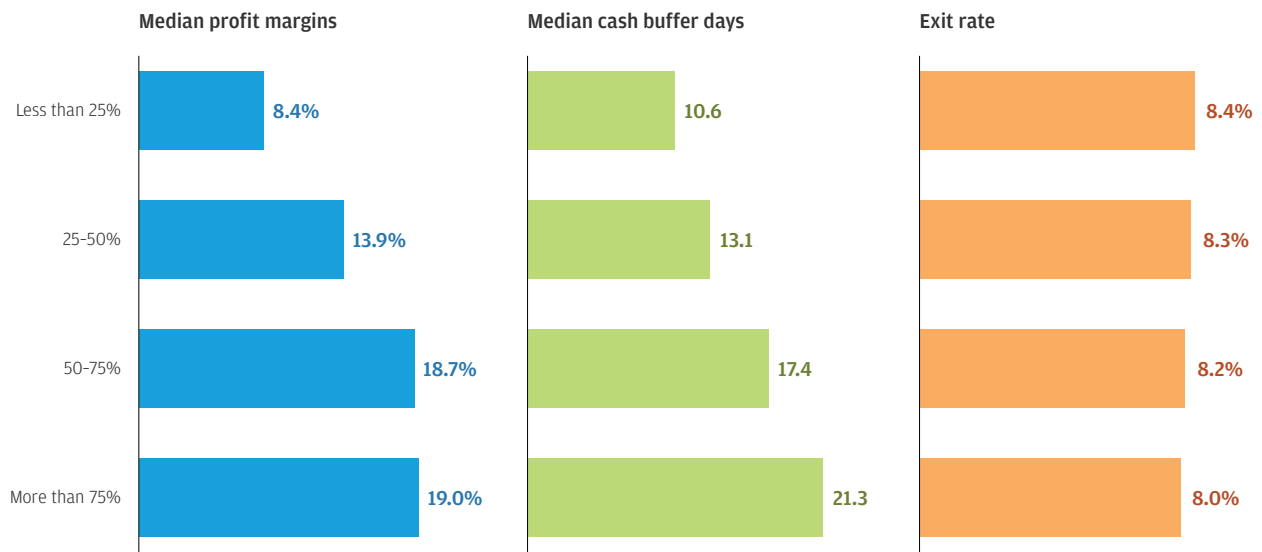
Like larger firms, small businesses need human capital in addition to financial capital to survive and grow. Owners of small businesses in communities where residents have higher educational attainment may have more skills and training to bring to bear on the success of their own businesses, and greater access to local professional expertise. Specifically, entrepreneurs with more years of formal education have higher self-employment earnings than those with fewer years of education (Robinson and Sexton, 1994). Moreover, small businesses in industries that may require education, professional training, and credentialing like high tech and health care services often have stronger economic performance than those that might require less education (Farrell and Wheat, 2019). Finally, those small businesses that do become employers may have access to potential employees with more human capital.

Like home values, community-level educational attainment varies widely across metropolitan areas. For these analyses, we define communities with few college graduates as those where less than 25 percent of residents over twenty-five years of age have at least an Associate's degree, and communities with many college graduates where at least 75 percent of such residents have at least an Associate's degree. The distribution of share of college graduates was not uniform in our sample. In our sample, and by this definition, 7 percent of communities had many college graduates, and 15 percent had few college graduates.

The differences in small business cash liquidity and profitability between communities with few college graduates and those with many college graduates were directionally the same as those between low home value and high home value communities. Figure 14 presents median profit margins, cash

buffer days, and exit rates for communities by community-level educational attainment in our samples. The typical small business in a community with few college graduates had a profit margin of 8.4 percent while the typical small business in a community with many college graduates had a profit margin of 19 percent—a difference of 10.6 percentage points. Community-level educational attainment similarly had a strong relationship with cash liquidity. The typical small business in a community with few college graduates had 10.6 cash buffer days as compared to 21.3 for the typical small business in one with many college graduates—a difference of 10.7 days. Again, exit rates did not meaningfully vary by community-level educational attainment. Small businesses in communities with few college graduates exited at a rate of 8.4 percent as compared to an exit rate of 8 percent in communities with many college graduates—a difference of only 0.4 percentage points.

Figure 14: Small businesses in communities with many college graduates had higher profits and more cash liquidity than those in communities with few college graduates, but similar exit rates



Source: JPMorgan Chase Institute, US Census Bureau

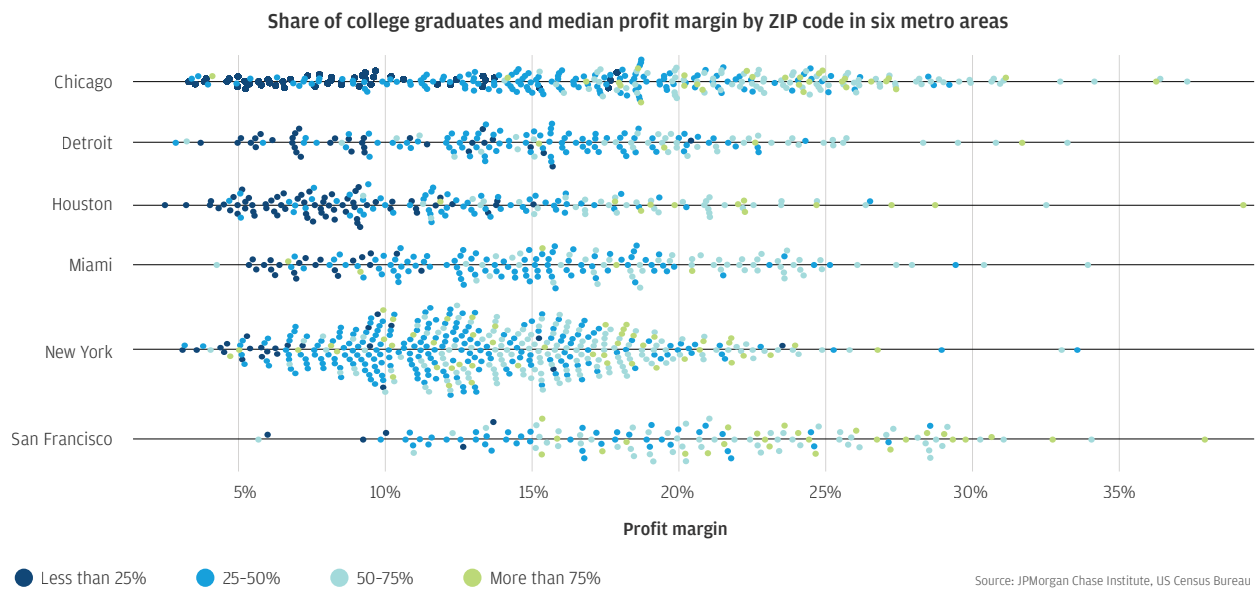
Small business profitability and cash liquidity tracked variation in community-level educational attainment much as they tracked variation in home values. Specifically, the pairwise correlation between the share of college graduates in a community and median profit margins was 0.63 and the pairwise correlation between the share of college graduates in a community and median cash buffer days was 0.70. In our sample, community-level educational attainment was a stronger correlate of small business financial health and performance than home values. These strong correlations correspond to a striking level of community-level differentiation in small business indicators by educational attainment levels.

The pairwise correlation between the share of college graduates and median profit margins was .63 and the correlation between college graduates and cash buffer days was .70.

Figure 15 illustrates this differentiation by showing the relationship between the median small business profit margins and educational attainment for our six key metro areas. In all six metro areas, nearly all communities with few college graduates were more

likely to have lower median profits than communities with many college graduates. The figure also illustrates a specific way in which educational attainment and small business profitability interact at the metro area level. In most metros, many communities with median profit margins over 20 percent had a majority of college graduates among their adult population. However, cities vary meaningfully in the number of communities that have large numbers of college graduates. The San Francisco metro area has a large share of such communities, while the Detroit and Miami metro areas have relatively few—corresponding to the generally higher median profitability levels in San Francisco as compared to Detroit or Miami.

Figure 15: Most communities with few college graduates also had low profit margins

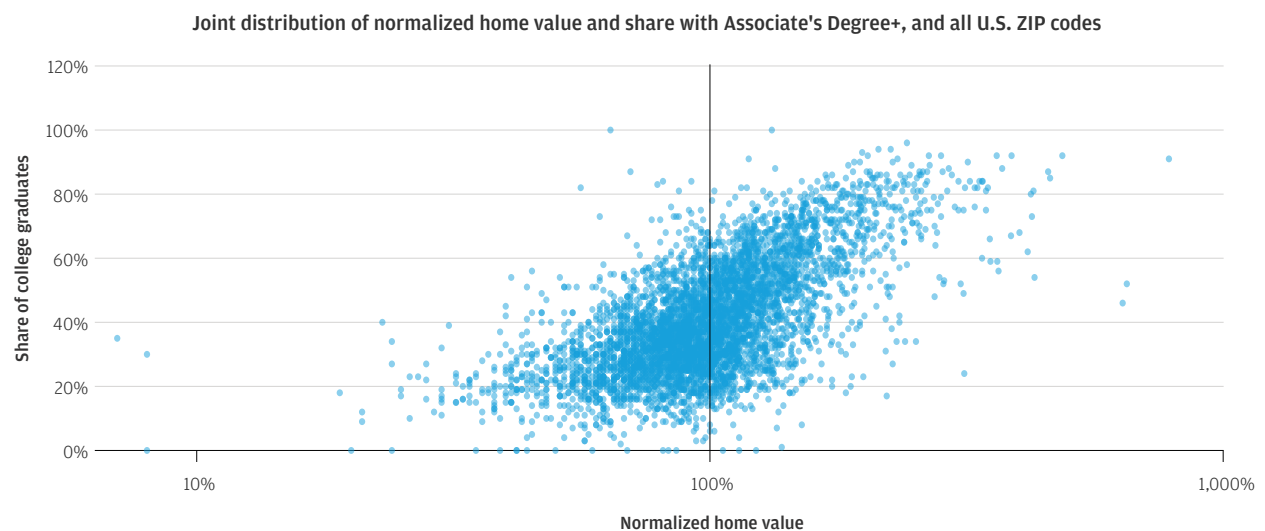


The similarity of small business cash liquidity and profitability by home values and educational attainment at the community level is consistent with the possibility that home values and educational attainment themselves are strongly related. Economic and institutional forces may raise home values in communities that produce

strong educational outcomes, and individuals with high educational attainment may have the economic resources to purchase higher priced homes. Figure 16 illustrates that in the U.S. this correlation generally holds—the share of college graduates is substantially higher in communities with higher home values. If home

values and educational attainment are important predictors rather than correlates of small business cash liquidity and profitability, these linkages suggest that policies aimed at addressing small business outcomes through these channels may benefit from some degree of coordination.

Figure 16: Communities with higher home values have higher shares of college graduates



Note: Normalized home values and educational attainment from 2017 American Community Survey estimates.

Source: US Census Bureau

Notably, educational attainment was also related to the kinds of small businesses in a community. Table 3 reports the industry distribution of small businesses in our sample for each community-level educational attainment segment. For the most part, small businesses in industries with stronger outcomes were more concentrated in communities with many college graduates, while industries with weaker outcomes were more

concentrated in communities with fewer college graduates. Specifically, small businesses in the health care services, high-tech services, other professional services, and real estate industries were substantially more likely to be in communities with many college graduates, and small businesses in the construction, metal and machinery, repair and maintenance, and retail industries were meaningfully more likely to be in communities with

few college graduates. Importantly, industries that were overrepresented in communities with many college graduates also grew in share in communities that transitioned from low to high profitability as shown in Figure 8. These factors suggest a connection between educational attainment, entry into higher profitability industries, and small business financial health in communities.

Table 3: Industry shares vary substantially by community-level educational attainment

Industry distribution by share of college graduates				
Industry	<25%	25-50%	50-75%	>75%
Construction	21%	18%	11%	5%
Health Care Services	5%	8%	11%	14%
High-Tech Manufacturing	0%	0%	0%	0%
High-Tech Services	1%	3%	5%	6%
Metal & Machinery	2%	1%	1%	0%
Other Professional Services	10%	15%	21%	28%
Personal Services	7%	8%	8%	8%
Real Estate	7%	10%	13%	14%
Repair & Maintenance	17%	12%	7%	3%
Restaurants	6%	6%	6%	6%
Retail	17%	13%	11%	10%
Wholesalers	6%	6%	6%	5%

Source: JPMorgan Chase Institute

Finding Five

In all majority Black or Hispanic communities, most small businesses had fewer than twenty-one cash buffer days.

In addition to measures of community financial and human capital, the racial and ethnic composition of a community may affect small business liquidity and profitability. Community racial and ethnic composition is conceptually distinct from the way that the race or ethnicity of individual small business owners affect these outcomes. At the level of individual families, there are large wealth gaps on the basis of race and ethnicity⁵—particularly for Black and Hispanic families (Hamilton and Darrity, 2017). Hispanic and Black Americans have levels of net worth that are only one-tenth of those held by White Americans. These gaps may be this large in part because of the relatively low level of business and financial assets held by Hispanic and Black families (Boshara et al., 2015; Austin, 2016; Klein, 2017). Specifically, while business and financial assets comprise a third of overall assets in White and Asian American households, they comprise only 15 and 8 percent of assets in Hispanic and Black households, respectively (Boshara, et al., 2015).

Many individuals live in communities in which their racial or ethnic group is the majority.

In turn, the racial and ethnic composition of a community has played, at times, a complex role in structuring the relationship between the sources of financial and human capital identified as correlates of small business financial health in the prior findings of this report. Policies and institutions that directly or indirectly promoted segregation played a substantial role in the current racial and ethnic composition and low levels of prosperity of many communities with a high share of non-White population (Hardy et al., 2019). In more recent years, evidence suggests not only

that home prices are responsive to ostensibly objective measures of school quality (Bogart and Cromwell, 1997) but also to changes in the racial and ethnic composition of a school district (Clapp, et al., 2008).

Notably, many individuals live in communities in which their racial or ethnic group is the majority. Using the communities in our sample, Table 4 shows the share of residents by race and ethnicity that live in communities with different racial and ethnic compositions. In our sample, the majority of White residents live in majority White communities, over a third of Black and Hispanic residents live in majority Black and Hispanic communities, respectively, and the majority of non-White residents live in majority non-White communities.⁶ Accordingly, we compare small business outcomes across these community categories as an initial approach to understanding the effects of community racial and ethnic composition.

Table 4: Most White residents live in majority White communities and most non-White residents live in majority non-White communities

ZIP code racial composition for White, Black, Hispanic, and Asian U.S. residents (25 metros)

	White	Black	Hispanic	Asian
Majority White	73%	20%	23%	38%
Majority Black	2%	34%	3%	1%
Majority Hispanic	6%	14%	45%	11%
Majority Asian	1%	0%	1%	11%
All Other Communities	19%	32%	27%	39%

Source: US Census Bureau

Small business profitability and cash liquidity vary widely across these types of communities. Figure 17 shows the distribution of median profit margin across communities classified by racial and ethnic composition. Each bar of the chart shows the share of communities at each of the four ranges of median profitability levels. Majority Black or Hispanic communities where

small businesses are very profitable are rare. In our sample, less than 1 percent of majority Black or Hispanic communities have a median profit margin above 20 percent, as compared to nearly 40 percent of majority White communities. Moreover, in over 88 percent of majority Black and Hispanic communities, the median profit margin is 15 percent or less, an outcome we

observe in only 35 percent of majority White communities. While the number of majority Asian communities is small in our sample, it is notable that small businesses in these communities were the most likely to have median profits over 20 percent, and the least likely to have median profits under 10 percent.

Figure 17: Few majority Black or Hispanic communities have very profitable small businesses

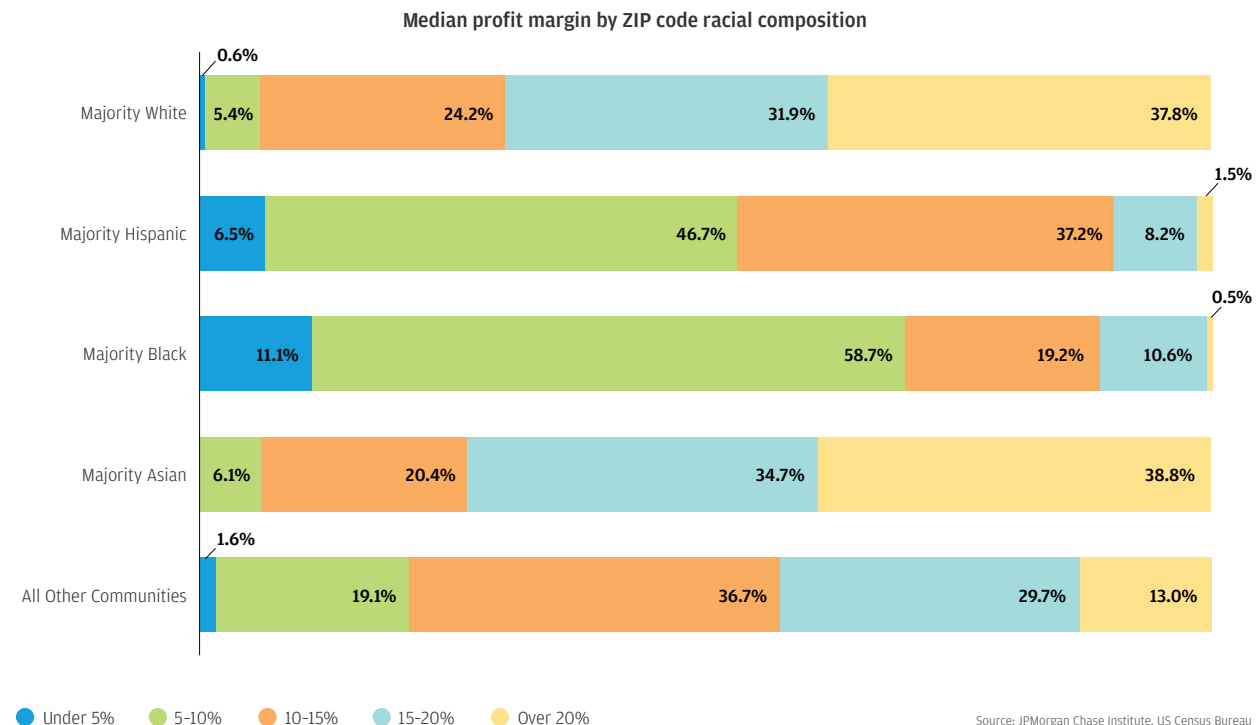
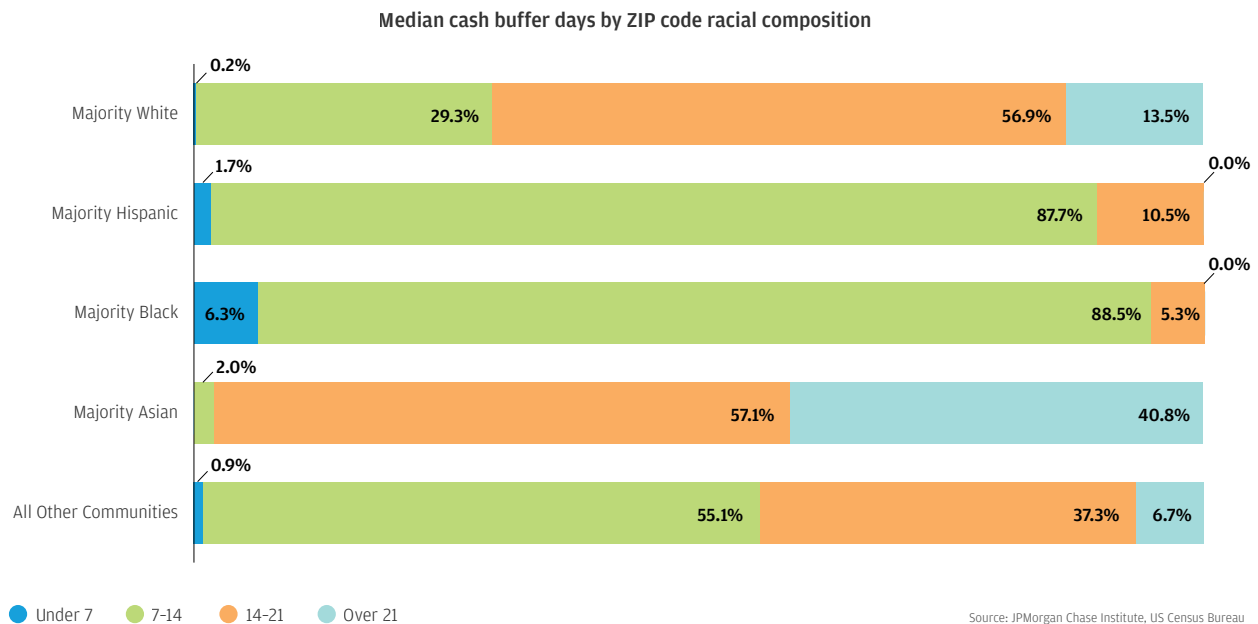


Figure 18 shows the distribution of cash liquidity across the same set of community types displayed in Table 4. High levels of cash liquidity are also rare. While communities where most small business have more than twenty-one cash buffer days are uncommon, it

is notable that no majority Black or Hispanic community reaches this threshold. Eleven percent of majority White communities and 43.2 percent of majority Asian communities had small businesses with this level of cash liquidity. In contrast, in 89 percent of

majority Hispanic communities and 95 percent of majority Black communities, most small businesses operated with a cash buffer of two weeks or less, as compared to 35.9 percent of majority White communities and only 2.3 percent of majority Asian communities.

Figure 18: Small businesses with large cash buffers are rare in majority Black and Hispanic communities



To further unpack differences in the small business environment by community racial and ethnic composition, Table 5 shows the share of small businesses for seven industries in each of these community types. For individual firms, industry is a strong correlate of outcomes. For instance, retail and repair and maintenance firms tend to have higher exits and lower growth as compared to health care and high-tech services (Farrell & Wheat, 2017). To this end, Table 5 identifies industry shares that are higher and

lower in communities of each racial or ethnic composition as compared to the overall industry shares in our sample. Differences in industry share are substantial and roughly track the liquidity and profitability differences shown in Figures 17 and 18. In majority Hispanic communities, 15.3 percent of small businesses are repair and maintenance, as opposed to 7.9 percent in majority White communities and 5.5 percent of majority Asian communities. In contrast, 6.1 percent of businesses are health care services

in majority Hispanic communities as compared to 10.3 percent and 10.4 percent in majority White and Asian communities, respectively. Notably, many industries underrepresented in majority Black and Hispanic communities were also industries associated with community-level growth in profitability as shown in Figure 8, and industries overrepresented in communities with many college graduates shown in Table 3.

Table 5: Majority Black and Hispanic communities are overrepresented in restaurants and repair and maintenance, and underrepresented in health care, high-tech, and other professional services

Industry share by ZIP code racial composition, 2018

	High-Tech Services	Health Care Services	Other Professional Services	Real Estate	Construction	Repair & Maintenance	Restaurants	Retail
Majority White	4.2%	10.3%	19.9%	12.4%	14.1%	8.0%	5.4%	11.2%
Majority Black	2.2%	7.0%	14.7%	13.0%	14.8%	11.3%	6.4%	16.1%
Majority Hispanic	1.8%	6.1%	12.7%	7.7%	18.6%	15.3%	6.3%	15.1%
Majority Asian	5.3%	10.4%	15.5%	12.9%	8.3%	5.6%	8.6%	15.0%
All Other Communities	3.6%	8.2%	16.6%	10.6%	14.9%	11.0%	6.6%	12.9%
All Communities	3.7%	9.0%	15.3%	11.4%	14.4%	9.8%	5.8%	12.9%

Source: JPMorgan Chase Institute, US Census Bureau

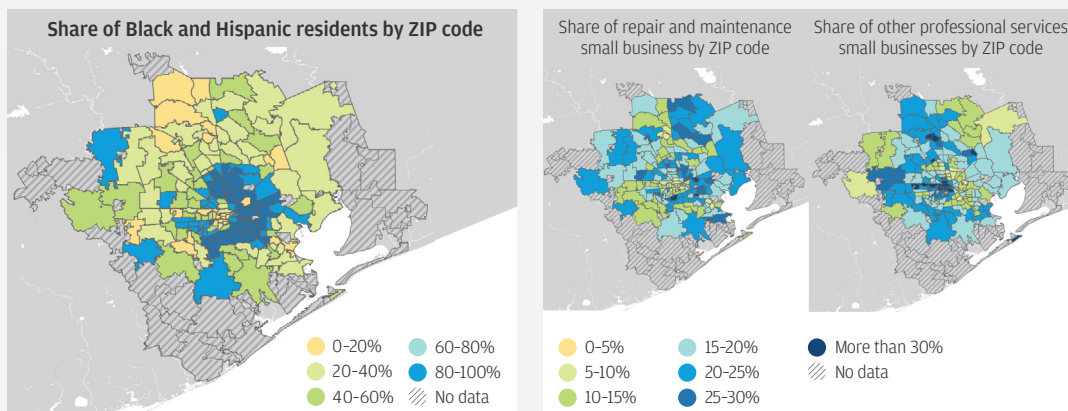
Box 3: Industry concentration by community racial and ethnic composition

In order to provide a grounded example of the correspondence between industry composition and racial and ethnic composition, Figure 19 presents three maps of the Houston metro area. The first shows the share of Black and Hispanic residents in each

community. The second shows the share of small businesses in the repair and maintenance industry, and the third shows the share of small businesses in the other professional services industry. As the maps show, there was a larger share of repair and

maintenance small businesses in northeast Houston, which has a large share of Black and Hispanic minority population. In contrast, other professional services firms had a higher share in the communities in western Houston south of Interstate 10.

Figure 19: Community-level racial and ethnic composition and small business industry shares were related in the Houston metro area



Source: JPMorgan Chase Institute, US Census Bureau

Finding Six

Communities where most small businesses had fewer than seven cash buffer days had no large high-tech or other professional services firms.

The prior findings illustrate how community characteristics—particularly characteristics of their residents—can shape small business economic outcomes. An additional feature of communities that might shape small business economic outcomes is the presence of particular kinds of large firms. Researchers and policymakers have identified two perspectives about the role of large firms in local economic development that might have implications for small businesses outcomes.

The first of these perspectives follows the success of regional economies like Silicon Valley, Route 128, and Austin, TX. With these examples in mind, researchers and policymakers have explored whether high-technology clusters and the institutions that support them can drive positive local economic outcomes (Saxenian, 1994).

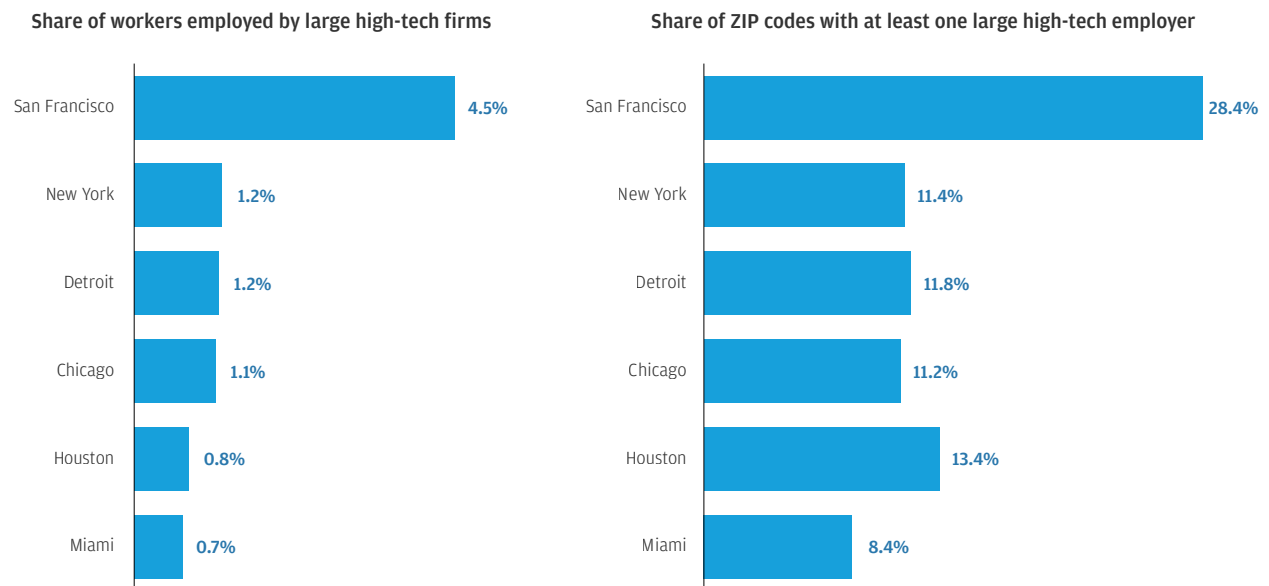
Research within this perspective has established that, for instance, job increases at high-technology tradeable sector firms in high-skilled industries can benefit local economies by leading to job increases in the non-tradeable sector (Moretti and Thulin, 2003).

An alternative perspective focuses on the contributions large organizations make to local economies by serving as anchor institutions. In contrast to high-technology firms, these anchor institutions typically produce less technology-intensive, non-tradeable goods and services, and provide large shares of employment opportunities for low-skilled workers. Perhaps as a result, anchor institutions like universities and hospitals can make especially large contributions to local employment—among the twenty largest U.S. cities, universities and hospitals accounted for

35 percent of the workforce employed by the top ten private employers (Harkavy and Zuckerman, 1999).

While both kinds of large organizations can drive local economic growth through employment, it is less clear whether the presence of either kind of large organization directly benefits local small businesses. Anecdotal evidence shows that at least some anchor institutions make purchases from local suppliers, some of which might be small businesses (Howard, 2018). However, large businesses might benefit local economies overall, while curtailing local small business outcomes. Introducing a new large firm into a community can slow the growth of existing enterprises or discourage the establishment of enterprises that would otherwise have located there (Edmiston, 2004).

Figure 20: While some cities have a high share of employees in large high-tech companies, most of the employees are concentrated in a few communities for each city



Source: County Business Patterns, 2016

As a first step to understanding whether these larger organizations are even at risk of impacting small business outcomes through very local mechanisms, we describe the extent to which these kinds of organizations are co-located with small businesses that might benefit from their presence. Notably, large high-tech firms are absent in most communities, and employ relatively few workers. Figure 20 illustrates this by showing the share of workers employed at high-tech firms with 250 or more employees in each of our six featured cities, and the share of communities that have at least one large high-tech firm. Even in a city like San Francisco where large high-tech firms employ 4.5 percent of workers, only 28 percent of communities have a large high-tech firm. In contrast, in Miami, nearly 92 percent of communities have no large high-tech firms.

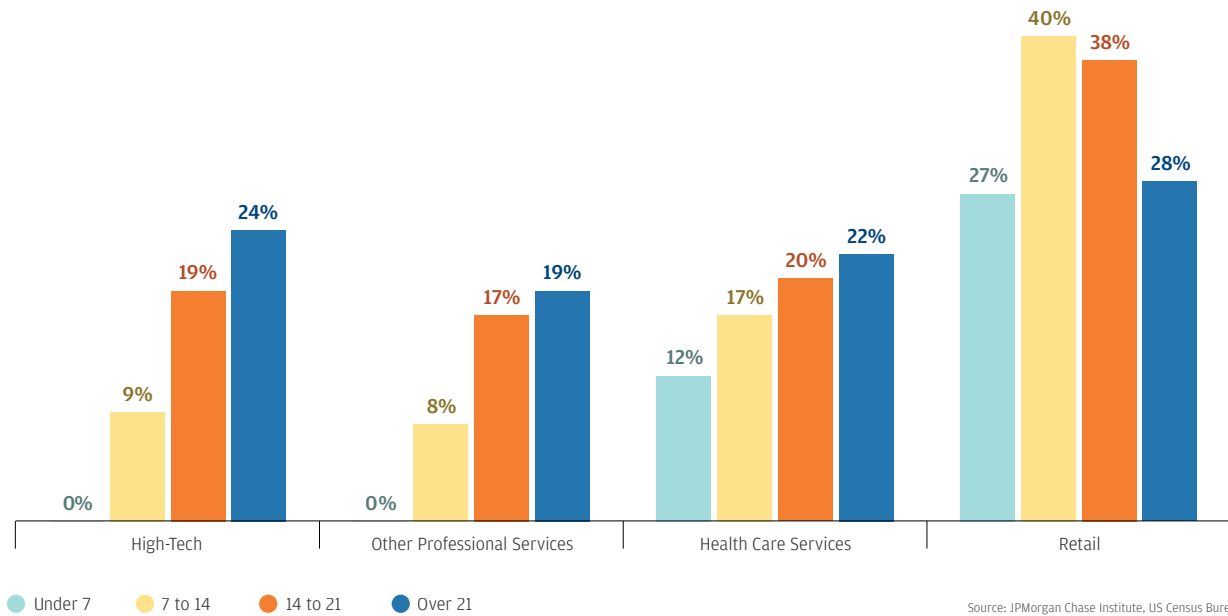
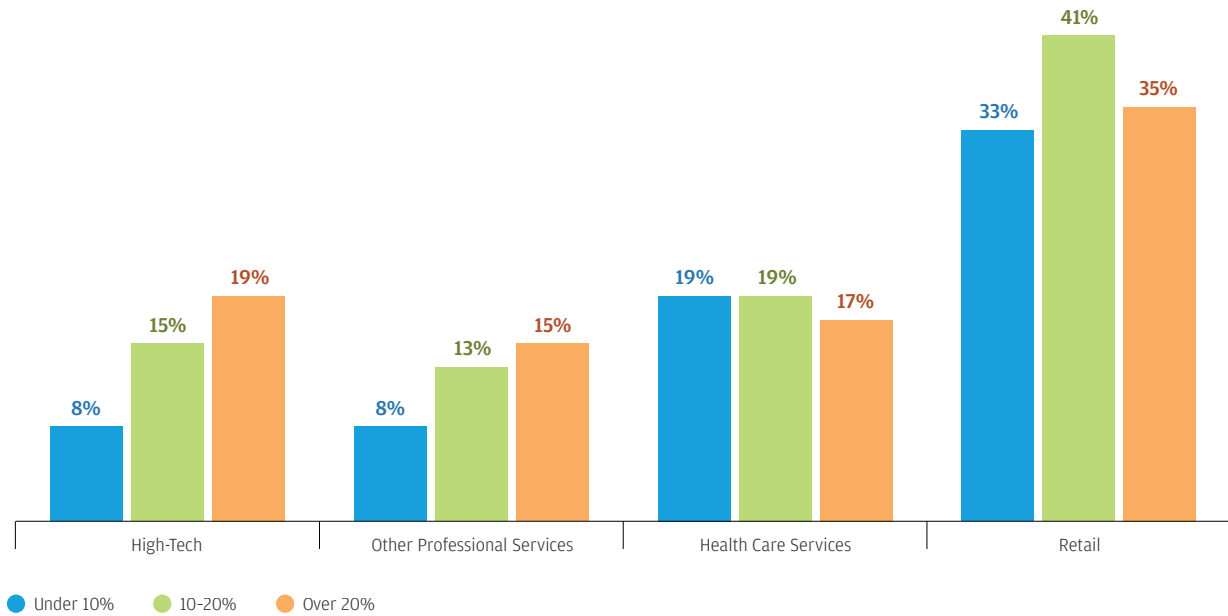
Moreover, these large high-tech firms are concentrated in communities where small businesses are profitable and have substantial levels of cash liquidity, especially as compared to large firms

in lower-tech industries more typical of anchor institutions. Figure 21 illustrates this by classifying communities in terms of the median profitability and cash liquidity of their small businesses, and then showing the share of each community type that had firms with over 250 employees from four industries—high-tech, other professional services, health care services, and retail. Notably, no large high-tech or other professional services firm was located in a community where most small businesses had seven or fewer cash buffer days. Only 9 percent of communities where the typical small businesses held seven to fourteen cash buffer days had a large high-tech employer. The presence of large high-tech and other professional services firms was also related to the profitability of local small businesses. Communities where the typical small businesses had a profit margin over 20 percent were more than twice as likely to have a large high-tech firm as those where the typical small business had a profit margin less than 10 percent.

By comparison, large retail and health care services firms were more evenly distributed across these communities. Communities where the typical small business had a profit margin over 20 percent were nearly equally likely to have a large retail or health care services firm to those where most small businesses had profit margins under 10 percent. While communities where small businesses typically had less than seven cash buffer days were 10 percentage points less likely to have a large health care services firm than those where small businesses typically held over twenty-one cash buffer days, this difference was much smaller than the difference we observed in the prevalence of large high-tech or other professional services firms. While this difference in the distribution of large firms across communities does not show which kind of large firms are impacting small business outcomes, at a minimum it shows that more technology intensive firms are rarely located in communities where small businesses might benefit from their presence.

Figure 21: Communities where high-tech companies were operating from 2012 to 2016 were twice more likely to have high profit margins

Share of communities with presence of large firms by profit margin and cash buffer day segment



Source: JPMorgan Chase Institute, US Census Bureau

Conclusions and Implications

The wide variation in profitability and liquidity of small businesses across communities highlights the potential for place-based policies that recognize the characteristics of communities and the relationship between a community and the city in which it is located. While in the typical community most businesses are profitable, profit levels vary widely, and most lack cash liquidity. Additionally, the short-run persistence of financial outcomes across communities indicates that communities with low performance will tend to remain at lower levels through time. Our analysis found that community-level measures of financial and human capital, racial composition, and the presence of different industries are all related to small businesses cash liquidity and profitability. These trends could help inform effective policies to promote small business, and contribute to local economic development, leading to the following implications for leaders and decision makers:

- **Broad-based economic growth may benefit from place-based small business economic development programs.** Small businesses are often and appropriately lauded as a potential pathway to economic growth for entrepreneurs from all walks of life. The ability of the sector to deliver on this promise in a broad-based way appears inconsistent with the substantial differences we find between communities in small business financial health. Some early attempts at place-based programs have shown mixed results given their cost, and more recent programs like Opportunity Zones are too new to assess. That said, the short-run persistence of the differences we observe across communities, coupled with the long-run persistence of the local correlates of small business financial health suggest that a failure to target programs may fail to close these gaps.
- **Programs and policies intended to help small businesses should integrate with programs and policies that address household financial wealth and education.** Access to capital and technical assistance are core pillars of the small business support ecosystem. While programs that address these pillars are critically important, many principally focus on capital provided directly to businesses, and educating owners on how to acquire and use external capital more effectively. The results in this report suggest potential benefits that may result from a more holistic engagement of the financial and human capital of current and future small business owners. Programs and policies that target local college graduation and home ownership rates may also have a positive effect on small businesses outcomes.

- **Programs that support small businesses could be more responsive to the characteristics of the businesses in communities where people of color live.** Small businesses in majority Black and Hispanic communities were especially likely to have low profits and limited cash liquidity. These communities also had materially different kinds of businesses, with many more small construction, retail, and repair and maintenance firms, and many fewer health care, high-tech, and other professional services firms. Incubators, accelerators, and other programs that target technical businesses that are less prevalent in majority Black and Hispanic communities can play a critical role by supporting the technical businesses that do exist in these communities, and potentially encourage more to open. Moreover, programs that support less technical businesses could improve the financial health of the businesses that already exist in these communities.
- **Both high-tech and lower-tech anchor institutions can play a role in strengthening small business ecosystems.** Our results do not cleanly disentangle whether the presence of large high-tech firms improves financial health prospects for nearby small businesses, or if large high-tech firms choose locations in communities that already had thriving small businesses. While high-tech anchor firms have the potential and promise to bring distinctive economic resources to a community, they are less prevalent than some lower-tech anchor institutions like hospitals and large retailers—anchor institutions that notably are more widely dispersed across all kinds of communities. Programs that facilitate engagement of lower-tech organizations with small businesses in their community might be particularly effective in driving broad-based economic growth.

Glossary

Cash buffer days	the number of days of cash outflows a business could pay out of its cash balance were its inflows to stop. Estimated by computing the ration of a firm's average daily cash balance to its average daily cash outflows.
Cash liquidity	the cash liquidity of a firm, measured in cash buffer days
Community	a geographic area defined by the Census as a ZIP Code Tabulation Area (ZCTA)
Employer	a firm that had payroll outflows in at least six out of the past twelve months
Exit	a firm's closing their deposit account, which we interpret as a firm's closure
Firm	our unit of analysis, one or more Chase Business Banking deposit accounts identified as related businesses
Metro area	a geographic area defined by the Census as a Core Based Statistical Area (CBSA)
Nonemployer	a firm that had payroll outflows in less than six out of the past twelve months
Profit margin	annual revenues less expenses as a share of revenues

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Endnotes

- 1 ZIP codes are the most geographically granular spatial identifiers in our data. ZIP codes are administrative tools used by the US Postal Service to organize their operations, and as such do not in all cases map precisely to socially meaningful communities. Nevertheless, they provide a lens into within-city variation in outcomes.
- 2 Small business profitability in other data sources is similar. Sixty-six percent of nonemployer businesses reported either being profitable or breaking even in 2017 (Federal Reserve, 2018b), as did 77 percent of employer businesses in 2017 (Federal Reserve, 2018a). While other sources of data on profit margins for small businesses are less common, small business owners in the 2003 Federal Reserve Survey of Small Business Finances reported a median profit margin of 9 percent.
- 3 While the 2003 Survey of Small Business Finances does not account for all cash outflows, we can compute a measure similar to cash buffer days by dividing the total reported balance across three checking and savings accounts by daily total costs (computed by dividing the “total cost” variable by 365). By this measure, the median business in the SSBF sample had eighteen cash buffer days, the business at the 25th percentile had six cash buffer days, and the business at the 75th percentile had fifty-three cash buffer days. Forty-four percent had less than two weeks cash buffer, and 45 percent had greater than three weeks. While these cash liquidity levels are slightly higher than what we find in our sample, this measure excludes non-operating cash flows, which will bias it higher.
- 4 Prosperous communities—as defined by the Distressed Community Index—during the 2012-2016 period fully recovered all the jobs they lost to the recession in 2013—one year ahead of the national economy. By 2016, the group contained 3.6 million more jobs than it had in 2007. On the other, half of all communities nationwide still contained fewer jobs in 2016 than they did in 2007. Prosperous communities were almost solely responsible for any of the country’s net job growth beyond that point (Economic Innovation Group, 2018)
- 5 In all of our analyses in this report, the labels “Black,” “White,” and “Asian” correspond to “non-Hispanic Black,” “non-Hispanic White,” and “non-Hispanic Asian,” respectively.
- 6 Across all U.S. ZIP codes, 87 percent of White residents lived in majority White ZIP codes, as compared to only 52 percent in our sample. In contrast, only 63 percent of Black residents and 52 percent of Asian residents lived in majority non-White ZIP codes, as compared to 88 and 71 percent in our sample, respectively. This suggests that outside of the 25 large metro areas in our sample, White, Black, and Asian residents were all substantially more likely to live in majority White communities.

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