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Filling the U.S. Small Business Funding Gap

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Abstract

Despite having the deepest and most diverse capital markets in the world, the United States still struggles to provide sufficient capital to many small businesses outside of major commercial centers as well as to women-owned and minority-owned businesses regardless of size or location. This paper reviews the academic literature and provides an analysis of some recent data to gain understanding of the causes of these gaps as well as the solutions for filling the gaps. Results indicate that the Small Business Administration's SBIC program is an effective mechanism for providing capital to underserved geographies as well as to businesses owned by women and underrepresented minorities.



Introduction

Capital markets in the United States are the envy of the world. The highly liquid U.S. public stock and bond markets provide trillions of dollars of capital to U.S. and global businesses. The U.S. banking system is highly developed and efficient, even if regulations introduced after the financial crisis have resulted in a reduction of lending activity to the small business sector.¹

Rapid development over the last three decades of other private capital markets including private equity (PE) buyout funds, venture capital (VC), and growth capital funds have resulted in these vehicles now regularly deploying more than \$100 billion in new capital each year.

Undoubtedly, the U.S. has the largest variety of institutional funding mechanisms in the world, resulting in the ability to provide capital to businesses of any size in all industries and geographies. However, the *ability* to provide capital is not the same as actually *providing* it. As we discuss in detail below, research documents systematic differences in access to capital for certain types of businesses, especially those located outside of major cities and those owned by women and underrepresented minorities.² This paper reviews the literature on funding gaps and provides a brief analysis of more recent data on Small Business Investment Companies (SBICs) and venture capital funds (VCs) to better understand how current funding vehicles may be effective in closing these funding gaps.

Our analysis shows that SBICs tend to provide more geographically dispersed funding and a higher percentage of funding to women-owned businesses. However, because SBICs are only a small part of the broader funding ecosystem, pronounced geographic and demographic differences in funding remain. This suggests the need to further scale the SBIC program in order to make more funds available to fill small business funding gaps.

The Role of Small Businesses in the U.S. Economy

Small businesses are a crucial segment of the U.S. economy. In addition to providing economic mobility, small businesses breed innovation, provide crucial services for communities and drive aggregate growth. Small businesses are responsible for about 45 percent of the total U.S. economic activity and contribute 41 percent of private-sector payroll (Kobe and Schwinn, 2018;

¹ See, Chen, Hanson, and Stein (2017)

² See, for example, Paglia and Robinson (2016).

SBA, 2017). Small businesses comprise more than 99 percent of all U.S. firms and created about 8.4 million new jobs from 2000 to 2017 (SBA, 2017). In 2012, 8 million—or 29.3 percent—of these firms were minority-owned businesses and 9.9 million (36.3 percent) were women-owned (SBA, 2017). To a large degree, small business owners reflect the American populace.

Small businesses range in industry and size and include sole proprietorships, light manufacturers, “Main Street” retail businesses, technology startups and wholesale distributors among others.

The majority of small business are sole proprietorships, constituting about 23 million firms, with about another 4 million “Main Street” firms in traditional industries employing fewer than 500 people. Half of these “Main Street” firms have fewer than five employees and another third have between five and 19 employees (Mills and McCarthy, 2016). In addition, the U.S. has an estimated 1 million small business supply chain firms that specialize as wholesale intermediaries or service providers to other businesses. Recent academic research has shown these supply chain firms tend to have above average growth in employment and wages (Mills and McCarthy, 2016) and provide crucial logistics support to the broader business sector (Mills, 2015; Mills and McCarthy, 2016).

The small business sector also includes nascent firms. A vast body of research has shown that most job growth occurs in newly founded businesses, and that new firm formation in response to economic shocks is a critical source of job creation in the U.S. economy (Decker, Haltiwanger, Jarmin, and Miranda, 2014; Adelino, Ma, and Robinson, 2016). Within the United States, there are about 200,000 high-growth startup firms which commonly operate in the technology and health care sectors.³

Small businesses are integral to the success of a wide range of industries across the U.S. For example, more than 80 percent of construction employees and 60 percent of accommodation and food service workers are employed by small business firms (SBA, 2018). In addition, the U.S. is home to about four million professional, scientific and technical services small businesses and 2.6 million health care small businesses operating in a variety of sub-industries (SBA, 2018).

³ High-growth startups are defined as firms with fast growing, innovation-driven businesses and above average gross job creation. Only about 3 percent of all firms qualify as high-growth startups (Mills and McCarthy, 2016).

The Landscape of Small Business Funding

Almost every business begins as a small business. Research from the Kauffman Firm Survey shows that new businesses are typically financed through a combination of personal savings, contributions from friends and family and individual borrowing in the form of home equity lines, personal loans and credit cards (Robb and Robinson, 2014). More recently, “angel investors” and networks of angel investors have become more active in helping fund new startups. Angel capital groups typically invest personal capital into young or early stage firms (Drover et al., 2017). According to National Venture Capital Association, \$7.5 billion of angel funds were invested in 2018 (National Venture Capital Association, 2019).

Bank credit remains one of the main sources of financing for small businesses and “is key to helping small firms maintain cash flow, hire new employees, purchase new inventory or equipment and grow their businesses” (Mills and McCarthy, 2016). According to the Small Business Administration, banks loaned about \$600 billion to small businesses in 2015 alone (SBA, 2016).

Apart from self-financing and bank credit, small businesses can increasingly obtain capital to grow through private investment funds. For example, certain businesses can access capital through venture capital funds. However, venture capital funds invest primarily in mid-to-late-stage rounds of young, high-growth firms with the ability to scale rapidly (Drover et al., 2017). According to the National Venture Capital Association, \$131 billion was invested in 2018 by the venture capital industry. Yet, of that total, only \$9 billion was invested in early-stage companies while \$62 billion was invested in late-stage companies (National Venture Capital Association, 2019).

Undoubtedly, the venture capital industry is a powerful force for fueling growth among U.S. companies. Akcigit, Dinlersoz, Greenwood, and Penciakova (2019) use the VentureXpert dataset to document that venture capital back firms on increased employment by approximately 475% when compared to a control sample over the same time horizon. In addition, the authors find venture capital backed firms are more likely to be in the top decile of firms in terms of employment ten years later. Babina, Ouimet, and Zarutskie (2019) use U.S. IPO data from 1992-2006 to show that small firms have a causal impact on aggregate employment growth. The authors find evidence indicating that employment increases by more than 20% annually over the

three years following an IPO.

But while the venture capital sector is responsible for a large portion of firms that go on to be publicly traded, only a tiny fraction of firms in the U.S. ever receive venture capital funding (Puri and Zarutskie, 2012). These investments are highly concentrated in firms with a specific growth profile, primarily located in the health care, technology and financial services industries.

The capital-raising challenges facing the typical small business have been known for decades and pre-date the growth in venture capital and private equity funds. In an attempt to facilitate better access to funding, the U.S. created the Small Business Administration (SBA) in 1953 with the mission of facilitating funding and providing technical assistance to support small businesses. Overall, SBA programs which facilitate traditional bank lending have been successful. Many studies document the positive impact of SBA-backed loans on small business growth and especially in underserved sectors. For example, Craig, Jackson, and Thomson (2008) use SBA loan data from 1991 to 2001 and find that SBA loans have a positive impact on business growth and household income levels in low-income communities.

In order to provide an alternative source of financing for high-risk small businesses lacking access to capital from traditional sources such as banks, the Small Business Administration (SBA) created the Small Business Investment Company (SBIC) program in 1958 (Paglia and Robinson, 2016). SBICs traditionally operate with a general partner (GP) who manages assets in a fund structure that includes passive investors who serve as limited partners (LPs). SBICs typically combine equity investments from private investors with government-guaranteed debt backed by the SBA (Paglia and Robinson, 2017). By leveraging their equity capital, SBICs are able to reduce their weighted average cost of capital and increase returns on equity. As of December 2015, SBICs have deployed more than \$80 billion in capital (two-thirds from private sector sources) into approximately 172,800 financing rounds for small businesses (Paglia and Robinson, 2017).

Of course, not all investment is good investment, so research has also examined the durability and broader impact of SBA programs and SBICs in particular. Results indicate that access to funding through SBA programs generally has a positive effect not just on short-run growth but also on long-term growth and job creation. For example, recent evidence on the effect of SBIC investments documents a positive and durable impact on job creation. Using data from the SBA,

Paglia and Robinson (2017) conclude that due to SBIC investments, 9.5 million jobs were created or sustained between October 1995 and December 2014. Of the 9.5 million, 3 million were new jobs. In addition, employment in small businesses funded by SBIC programs grew by 45.6 percent. More broadly, research shows that SBIC equity investments have a positive impact on net sales and employment growth and also accelerate broad economic gains (Link, Ruhmand and Siegel, 2014; Paglia and Harjoto, 2014).

Another source of funding overseen by the SBA is the Small Business Innovation Research (SBIR) program. The SBIR program specifically promotes investment in research and development by small businesses to generate pioneering new products and services. Link, Ruhm and Siegel (2014) use data on SBIR funding to investigate the effect of investments on innovation and commercialization. The authors find that firms which receive investments are more likely to engage in innovation strategies and exhibit accelerated commercialization of new technologies.

While the research discussed above documents the positive relationship between small business access to capital and growth, it does not address the question of whether the level of investment is sufficient, efficient or equitably allocated across the full spectrum of small businesses.

Funding Gaps

Not all small businesses that would benefit from investment are able to access external funds. This resulting inefficiency in capital access is commonly referred to as a “funding gap” (Servon, Visser, and Fairlie, 2011). According to National Small Business Association 2017 Year-end Economic Report, one in four small business is unable to access needed financing (National Small Business Association, 2017).

Broad Trends

The funding gap is most prominent for financing amounts under \$5 million because public markets and institutional fund investors are typically not interested in transactions below this threshold. Financings in the range of \$250,000 to \$5 million make up the majority of funding dollars but only 30 percent of transactions. Of the 70 percent of small businesses seeking financing in amounts under \$250,000, more than 60 percent want loans under \$100,000 (Mills and McCarthy, 2014). Only 37 percent of firms seeking \$100,000 or less received the full

amount requested, whereas 73 percent of firms requesting large amounts (\$10 million or more) received the full amount (Mills and McCarthy, 2016). The Federal Reserve Bank Small Business Credit Survey notes this trend, reporting that 53 percent of responders who sought funding for the first time received less funding than requested and only 48 percent of firms have met their financing needs (Federal Reserve Bank, 2019). Of the small businesses surveyed, 31 percent cited credit availability as a financial challenge experienced in the last 12 months, and 23 percent of firms applied for financing but experienced a shortfall (Federal Reserve Bank, 2019).

As a case study to investigate capital access gaps, Servon, Visser, and Robert (2011) measure the capital access gap for small business within New York City. Using data from the Characteristics of Business Owners Survey, Survey of Business Owners, Survey of Small Business Finance and County Business Patterns Data, the researchers compare supply and demand for small business loans and develop an estimate that in New York City alone, there exists a \$6 billion capital access gap (in New York City alone). Taken together, these results pose an important question: What is causing the funding gap?

By their very nature of most young or small businesses have few hard assets and lack extensive credit histories. A Federal Reserve study confirmed this challenge, citing that 33 percent of firms were denied credit due to insufficient credit history (Federal Reserve Bank, 2019). The lack of credit history presents a challenge for banks when small businesses seek traditional bank loans. In order to obtain information about credit worthiness, banks rely on information about the small business from other sources such as personal wealth, income, debt or home ownership to determine loan default probability (see, Craig, Jackson III, and Thomson, 2008; Berger, Frame, and Miller, 2005; Ahmed, Beck, McDaniel, and Schropp, 2015).⁴ In addition to a lack of credit history, fulfilling collateral requirement can be challenging and prohibitive for new small firms in obtaining needed funding. A recent Federal Reserve Bank survey reported that insufficient

⁴ Personal financial wealth is an important signal of credit quality for new businesses (Cavalluzzo and Wolken, 2005; Robb and Robinson, 2017). Adelino, Schoar, and Severino (2015) demonstrate this connection using county business patterns data from 1998 to 2010 obtained from the U.S. Census Bureau. The authors found that “areas with rising house prices (and increased leverage) experienced a significantly bigger increase in small business starts” (Adelino, Schoar, and Severino, 2015). Cavalluzzo and Wolken (2005) use data from 1998 Survey of Small Business Finances and find that personal wealth is a significant indicator for predicting loan denials. In particular, “home ownership is associated with approximately a 30 percent reduction in the predicted probability of loan denial.”

collateral as one of the reasons why small businesses were denied loans, finding that 35 percent of loan denials were due to insufficient collateral (Federal Reserve Bank, 2019).

Another headwind for small businesses seeking to obtain traditional bank loans has been bank consolidation. Over the last 30 years, banks have undergone substantial consolidation across the nation. In 1986, there were 14,252 commercial banks across the U.S. compared with just 4,687 by the end of 2018. When banks consolidate into a larger institution, they are less likely to lend in smaller amounts as these loans are generally more expensive and less profitable. Since the mid-1990s, small loans as a share of total loans on the balance sheets of banks have declined in nearly every year even though the overall commercial loan balances of banks have continued to rise (Mills and McCarthy, 2016; Mills and McCarthy, 2014, Ahmed, Beck, McDaniel, and Schropp, 2015).

Geography and Industry

Within these broader trends, some small businesses are more effected than others. Increasingly, institutional capital markets discussed above are focused on large firms. Most of these firms are publicly traded and headquartered in major metropolitan areas, but there is a significant geographic dispersion of public company headquarters. However, the rapid growth of private equity, venture capital, and growth capital funds has resulted in businesses avoiding public markets and accessing an ever-growing pool of institutional private capital.⁵ While there are likely many benefits to firms staying private longer, one consequence has been a shift in focus as to where capital is provided. For example, certain types of private capital such as venture fund investments are highly concentrated in a few geographies and in certain industries. In contrast, other investment vehicles such as SBICs are less concentrated by geography and industry. To demonstrate these differences, we undertake an analysis comparing recent investments made by venture capital firms and SBICs from 2014-2018.

We collect data from two sources. The first is from the SBA on SBIC funding by state and by year from 2014-2018. These data capture all SBIC financing rounds for this recent five-year period. Overall, the data show 13,576 financing rounds for 5,724 small businesses receiving \$29 billion in capital. There exists a wide dispersion in geography with at least one company in all 50

⁵ See Ewens and Farre-Mensa (2017).

states receiving an SBIC financing round during this period. Unfortunately, we do not have data from the SBA for these years by industry or by business ownership type. To better understand industry and ownership gender trends we collect information on a subset of transactions from PitchBook. We find information on transactions totaling \$5.3 billion, roughly one-fifth of all financing dollars. To compare SBIC financing with venture capital funding, we collect similar data from PitchBook on venture capital funding rounds. We obtain information on \$429 billion in VC funding from 2014-2018.

There are significant differences in the geographic dispersion of funding between SBICs and VCs. Table 1 shows total funding by state rank.⁶ A large majority (71.4 percent) of venture capital funding goes to just the top three states. In contrast, the top three states account for one-third of SBIC funding. Consequently, relative funding in remaining states is higher for SBICs than for VCs. The differences persist even to the bottom 25 funding states, which receive just 1.3 percent of VC funding compared to 8.3 percent of SBIC funding.

Table 1. Total Funding Percentages by State Rank, 2014-2018

States	Venture Capital	SBIC	Difference
Top 3 States	71.4%	33.3%	38.1%
4-10	16.2%	30.4%	-14.2%
11-20	9.1%	20.3%	-11.2%
Bottom 25 States	1.3%	8.3%	-7.0%

Data Sources: PitchBook; SBA

Figure 1 examines these differences graphically by plotting the percentage of total capital provided by VCs and SBICs by state. Panel A shows results for VCs and Panel B shows results for SBICs. The shade of blue indicates the percentage of overall funding. For example, the dark blue shading for California in Panel A indicates that more than 20 percent of funding from VC funds from 2014-2018 was in California. Panel B shows that during this time period, there was no state that received 20 percent or more of SBIC funding. The graph shows that two states (New York and Washington) received between five and 20 percent of VC funding whereas five states

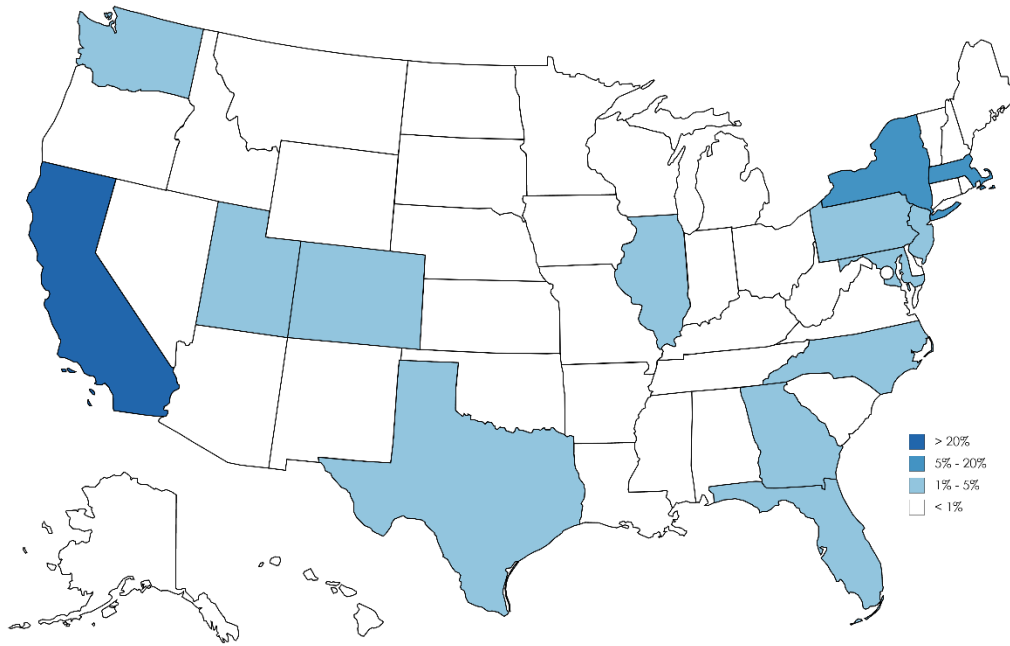
⁶ Specifically, states are ranked by total funding levels for the 2014-2018 period independently for VC and SBIC investments. For example, the top three states for VC investments are California, Massachusetts and New York and the top three states for SBIC investments are California, New York, and Texas.

received between five and 20 percent of SBIC funding. Most apparent is that only another 11 states received more than one percent of overall VC funding whereas another 22 states received one percent or more of SBIC funding. Together these results indicate that funding tends to be concentrated in more populous states for both VCs and SBICs but the dispersion in funding by SBIC is much greater than for VCs. Nonetheless, the scale of VC investing is more than an order of magnitude larger than SBIC funding, so the differences in funding amounts (as opposed to percentages) do not reflect these differences.

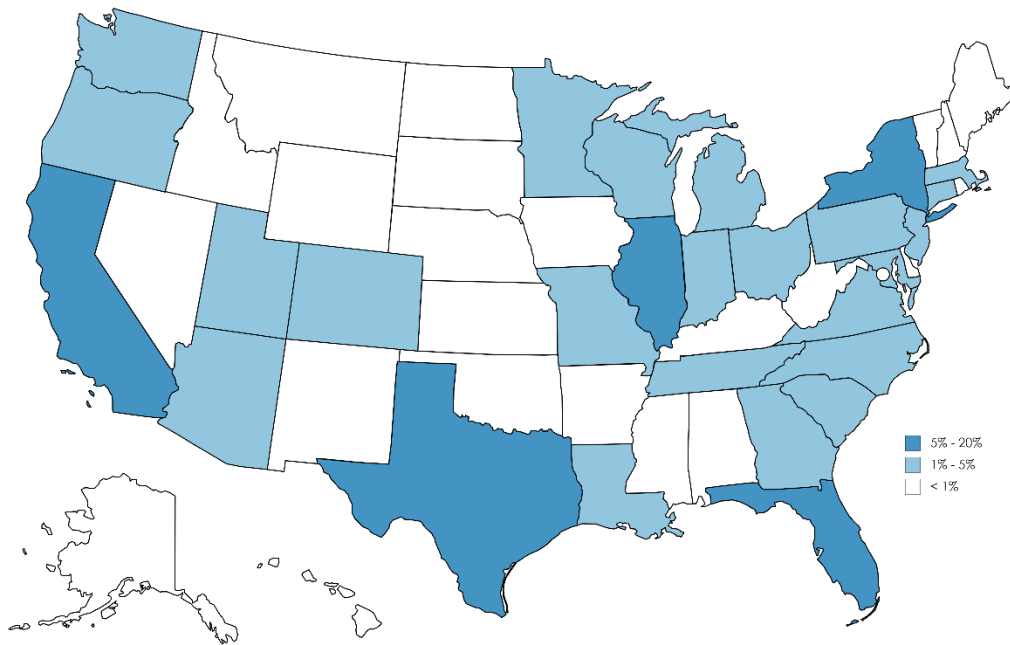
The industry-level data on SBIC and venture capital funding also indicate some important differences. As discussed previously, VC funding has historically been concentrated in just a few industries whereas SBIC funding has been more widely distributed. Table 1 shows data from 2014-2018 based on data provided by PitchBook. Between 2014 and 2018, 82.3 percent of funding was provided to the top three sectors: information technology (IT), health care and business-to-consumer. Over this same period, SBICs also provided close to 80 percent of funding to these sectors but with more of a focus on health care and less on IT. SBICs were more inclined to provide capital to the business-to-business sector than VCs, and less inclined to make investments in financial services. One possible concern about these data are that reporting in PitchBook is skewed toward certain sectors given PitchBook's focus on the venture capital industry. Again, we emphasize the differences in scale between the SBIC and VC funding levels, so even after adjusting for incomplete coverage of SBIC funding, the VC funds provide more capital to every sector.

Figure 1. Percentage of Financing to Businesses by State, 2014-2018

Panel A. Venture Capital



Panel B. SBIC Program



Data Source: PitchBook; SBA

Table 2. Total Capital Invested by Industry Sector, 2014-2018 (US\$ million)

Type of Investment	Sector							
	Business-to-Business	Business-to-Consumer	Energy	Financial Services	Health Care	Info Tech	Materials & Resources	All
Venture Capital								
Amount	40,493	85,463	10,791	20,551	101,700	166,050	4,015	429,063
Percentage	9.4%	19.9%	2.5%	4.8%	23.7%	38.7%	0.9%	
SBIC*								
Amount	996	1,030	140	20	2,141	879	113	5,318
Percentage	18.7%	19.4%	2.6%	0.4%	40.3%	16.5%	2.1%	

Data Source: PitchBook

* SBIC data represent only 18.2 percent of total SBIC financings during this period.

Women and Minorities

Gender and race influence small business owners' ability to access credit.⁷ Using data from the National Institute of Health, Gicheva and Link (2013 and 2015) find that female-owned companies are less likely to receive private investment. Similarly, Asiedu, Freeman and Nti-Addae (2012) examine data from the 1998 and 2003 Survey of Small Business Finances and find that loan denial rates for black-owned small businesses are significantly higher than for white male owners and other minority groups.

While the literature has not fully identified the reasons for these gaps, certain characteristics are consistently present among the studies including lack of credit history, fear of rejection and underrepresentation in the investment industry. Minorities, on average, have a lower household net worth than whites, which directly affects loan size and increases the rate of loan denial (Bates, Bradford, and Seamans, 2018; Fairlie, Robb and Robinson, 2016). For example, the median net worth for black households is \$12,780 compared to \$110,500 for white households (U.S. Census Bureau, 2019). Differences in lending activity are largely due to the relatively low credit scores for black business owners and not to differences in need for capital. In addition, funding discrepancies between minority and white startups persist after years of operation (Fairlie, Robb and Robinson, 2016). Cole and Sokolyk (2016) using data from the Federal Reserve Board's Surveys of Small Business Finances (SSBFs) find that between 21 and 55 percent of businesses whose owners did not apply due to fear of rejection would have been

⁷ See, Mijid and Bernasek, 2013; Bates and Robb, 2015; Gicheva and Link, 2013; Gicheva and Link, 2015; Asiedu, Freeman, and Nti-Addae, 2012; Robb 2013.

approved for credit. Recent research indicates that this fear may disproportionately affect women and minorities; for example, black entrepreneurs are about three times more likely to not apply for credit due to fear of credit denial.⁸ Nevertheless, low average credit scores among minority business owners are a major factor in explaining the average differences in access to credit across racial groups (Fairlie, Robb and Robinson, 2016; Robb and Robinson, 2017).

Several studies note a chronic underrepresentation of women and minority investment professionals in the venture capital and private equity industry. Research also documents the relationship between a lack of diverse investment professionals and investments in gender and racially diverse companies.⁹ A 2016 survey issued by the National Venture Capital Association finds that only 14 percent of VC firms surveyed had at least one female investment partner and only three percent had at least one black investment partner (NVCA-Deloitte, 2019).

While the typical private equity and venture capital fund (and portfolio investment companies) lack diversity, other types of investment vehicles appear to mitigate the problem. Using PitchBook and SBA diversity data from 2013 to 2015, Paglia and Robinson (2016) find that SBIC funds had a higher percentage of female investment professionals (11.9 percent compared to the broader venture capital and private equity investment community with just 7.9 percent). The study was unable to draw a firm conclusion about racial diversity because of a lack of diversity data available in PitchBook but found that 10.2 percent of SBIC funds have at least one minority partner. The authors also find that racially diverse investment groups are more likely to invest in minority-owned and minority-led companies as well as invest more in LMI communities.

We use the PitchBook data from 2014 to 2018 to update the results of Paglia and Robinson (2016) on financing provided to women-owned businesses. We classify a company as female-founded if any member of the founding team is a woman. Results are presented in Table 3. We confirm that in this more recent period, female-founded companies received a higher percentage of SBIC funding than VC funding. From 2014 to 2018, SBICs in our sample provided about 44 percent of total funds to female-founded businesses. In contrast, female-founder businesses received only about 10 percent of total funds invested by VCs during the same period. In some

⁸ See, Bates and Robb, 2013, 2015; Mijid and Bernasek, 2013; Fairlie, Robb, and Robinson, 2016.

⁹ See, Paglia and Robinson, 2016; Kanze, Huang, Conley, and Higgins, 2018.

specific sectors such as IT, financial services, health care, and B2B, the difference is quite large, though the sample size is very small for SBIC funding of financial services. Overall, these results are consistent with prior evidence on the ability of SBICs to provide funding to businesses identified as prone to funding gaps even though the dollar values of funding are low compared to VC funding.

Table 2. Total Capital Invested by Industry Sector, 2014-2018 (US\$ million)

Type of Investment	Sector							
	Business-to-Business	Business-to-Consumer	Energy	Financial Services	Health Care	Info Tech	Materials & Resources	All
Venture Capital								
All	40,493	85,463	10,791	20,551	101,700	166,050	4,015	429,063
Female-founded	2,310	9,614	1,535	2,461	13,479	11,784	295	41,478
Percentage	5.7%	11.2%	14.2%	12.0%	13.3%	7.1%	7.3%	9.7%
SBIC*								
All	996	1,030	140	20	2,141	879	113	5,318
Female-founded	495	38	30	20	887	760	95	2,324
Percentage	49.7%	3.6%	21.5%	100.0%	41.4%	86.4%	84.3%	43.7%

Data Source: PitchBook

* SBIC data represent only 18.2 percent of total SBIC financings during this period.

Conclusions

Significant funding gaps exist for U.S. small businesses needing capital to grow. These gaps are not uniformly spread across all businesses, but instead have a disproportionate impact on small firms in certain industries, geographies and ownership structure. A variety of initiatives and programs seek to close the gaps for all businesses but with a special focus on businesses where more institutional capital providers (e.g., large banks and venture capital funds) are less likely to provide funding. We specifically review the literature related to the role of SBICs in closing funding gaps. We also provide preliminary analysis of funding trends in recent years (2014-2018) for venture capital funds and SBICs. We find that SBICs tend to provide relatively more capital outside of the largest states, have a more well-diversified industry profile and are making investments in women-owned businesses at higher rates. However, the current smaller scale of SBICs limits the aggregate impact of these advantages. These results suggest the potential for significant reduction in small business funding gaps if SBIC activity can be scaled significantly without affecting the mix of small businesses receiving investments.

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