

Transforming Small Business Credit

Technology and Data Adoption in Mission-Based Lending



About FinRegLab

FinRegLab is a nonprofit, nonpartisan innovation center that tests new technologies and data to inform public policy and drive the financial sector toward a responsible and inclusive financial marketplace. With our research insights, we facilitate discourse across the financial ecosystem to inform public policy and market practices.

Acknowledgments

Support for this publication and other aspects of FinRegLab's research on innovations for underwriting minority business enterprises and other underserved small businesses was provided by the US Department of Commerce, Minority Business Development Agency, Visa, and Plaid. Detailed information can be found on the inside back cover.

This report is part of a broader research project to evaluate ways to improve credit access through the use of non-traditional data sources and mission-based lenders. We are working with Sabrina Howell of New York University and Emmanuel Yimfor of Columbia University on related empirical analyses.

Many of the insights in this report were derived from interviews with mission-based lenders, intermediaries, vendors, and other stakeholders in the financial services, technology, and civil society sectors. FinRegLab would like to thank stakeholders who participated in interviews and discussions, including members of our project Advisory Board.

We would also like to thank the individuals who provided valuable feedback on this report. They include:

Anthony Barr and Cheryle Thorne-Harris, National Bankers Association Foundation Robert Sears, Luz Urrutia, and Nicole Van Der Tuin, Accion Opportunity Fund Patrick Davis, Community Reinvestment Fund USA Eric Weaver, Consultant

Lastly, we would like to acknowledge the FinRegLab team for their work in writing this report:

Paula Ochiel, Tejal Patel, Karla Renschler, and Kelly Thompson Cochran



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1. EXECUTIVE SUMMARY

Small businesses play a critical role in job creation and building vibrant communities, yet they face chronic challenges in accessing credit to bridge cash-flow gaps and expand their operations. Addressing these credit market shortfalls has taken on new urgency as small business formation in the United States has reached record levels since the COVID-19 pandemic. Growth among new startups has been led by entrepreneurs of color and women who are likely to face additional obstacles to credit access due to historical disparities in assets, credit scores, and other factors.

As stakeholders consider strategies for substantially scaling credit access to this vital but underserved sector, two trends stand out: (1) the increasing use of electronic bank account data and lending platform technologies to increase speed, efficiency, and inclusion¹ relative to traditional underwriting processes; and (2) the mission-based lending sector's increasing capacity for and prioritization of small business lending to address racial wealth gaps and protect communities against the impacts of extractive lenders. While no one segment of lenders acting in isolation can be expected to meet the cumulative needs of US small businesses, mission-based lenders such as community development financial institutions (CDFIs) and minority depository institutions (MDIs) have demonstrated through the Paycheck Protection Program and other initiatives that they can build strong relationships and meet the needs of underserved entrepreneurs and smaller and younger businesses more generally. If mission-based lenders can replicate a significant portion of the scale they achieved during pandemic relief programs going forward, it could help to address long-standing market shortfalls.

This working paper explores the intersection of these two strategies by analyzing the experiences of mission-based lenders as they adopt electronic feeds of bank account information and platform technologies to increase the provision of unsecured or lightly secured loans to small businesses. It draws upon dozens of stakeholder interviews and studies of five pilot initiatives by individual CDFIs and MDIs—Allies for Community Business, Ascendus, LiftFund, Ponce Bank, and Texas National Bank. The paper is designed to speak to multiple audiences:

» Part 2 of the paper provides a practical, detailed discussion of how mission-based lenders are accessing electronic bank account data and incorporating it into their small business underwriting processes, implementing lending platforms to facilitate more efficient loan originations, and approaching internal change management with their employees. This content may be particularly helpful to mission-based lenders that are considering making data or technology upgrades to their small business loan programs, recognizing the diversity of lenders' goals, customer bases, and existing infrastructures. It may also be useful to small community banks and to lenders considering new consumer lending initiatives based on electronic cash-flow data. The discussion also provides broader insights to

- funders, policy-makers, and other stakeholders about the potential value and challenges of using data and technology improvements to help mission-based lenders better meet the needs of underserved populations.
- » Part 3 broadens the lens to explore additional factors and initiatives that could impact how mission-driven lenders can sustain and significantly grow their small business lending programs. Topics include initiatives to facilitate technology adoption across larger groups of lenders, efforts to increase customer acquisition pipelines, and programs to increase lender liquidity in order to support higher origination volumes. The discussions also highlight broader cultural and relationship questions that are emerging as mission-based lenders work to adapt their traditional "high-touch" ethos as they embrace "high-tech" processes and channels to support substantially larger lending footprints. These considerations are relevant to mission-based lenders themselves, but also the broader ecosystem of supporters and partners in this sector.

To date, our key findings with regard to the core processes of data and technology adoption include:

- » Electronic cash-flow data feeds and digital loan processing are expanding mission-based lenders' capacity to provide alternatives to high-cost online loans to minority business enterprises and smaller and younger businesses more generally. Mission-based lenders are already seeing significant inclusion and efficiency benefits from using electronic bank account data in lieu of collecting formal financial statements and tax returns. Such documentation can be burdensome and time consuming for both applicants and loan officers to generate, collect, and analyze, and is often outdated or incomplete. Pulling information directly from banks allows mission-based lenders to provide more applicants with a viable alternative to high-speed, high-cost online loans.
- » The extent to which lenders maintain manual processes as they transition to digital lending platforms increases inclusion but also impacts costs and efficiency. Many lenders maintain dual systems to allow for manual document collection even as they transition to systems built on electronic transaction data. This helps to continue meeting customers where they are, for instance if owners do not want to authorize electronic access or hold accounts with small institutions that do not provide online banking platforms or other data access. But the volume of applications that involve manual uploads and other less efficient processes over time has implications for lenders' efficiency and scale.
- » Many mission-based lenders are initially making modest changes to their underwriting criteria and small business lending programs based on electronic cashflow data feeds, but hope to expand as they gain more experience. Many lenders start by using cash-flow data to assess applicants' capacity to repay and to determine loan size, while continuing to rely on credit scores and credit reports to assess applicants' propensity to repay. Challenges with technical capacity and limited amounts of historical data make it difficult to conduct analyses to determine exactly what variables or approaches are most effective for their customer bases. Unless they are able to secure substantial loan loss reserves to facilitate faster experimentation, many lenders are taking an incremental approach as they test and learn over time.
- **» Technology options have improved but remain an obstacle for many mission-based lenders.** The range of vendors willing to work with mission-based lenders has increased substantially over the past decade. In addition, some larger CDFIs and intermediaries have built or acquired platforms with an intent to open their systems to smaller lenders.

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Nevertheless, lenders need a certain baseline level of technology and leadership capacity to select, connect with, and manage relationships with platform and data providers, and the increasing range of choices brings its own challenges. The sector is spread along a wide spectrum, ranging from small organizations that are contemplating transitioning away from manual underwriting for the first time to organizations that have been using vendor platforms for years, including a few lenders that were founded as or acquired fintech platforms.

» Effective leadership and change management strategies are critical to the success of technology adoption initiatives. Such initiatives are more likely to succeed when organizations define their needs and goals clearly at the outset, consider workflow improvements holistically to identify both technology and process components, and assist employees in adjusting to new ways of working. Clear strategic leadership can also be helpful to lay the groundwork for future improvements, given that data and technology adoption is often an incremental process that involves successive waves of improvements.

With regard to critical issues and initiatives to help mission-based lenders scale their small business lending operations more broadly, we find:

- » Group technology adoption initiatives are helping smaller lenders navigate the landscape more efficiently, but underscore the difficulty of identifying a single, broad-based "utility" solution for the sector. Intermediary organizations and some funder and investor initiatives are devoting increasing resources to helping mission-based lenders navigate choices about data and technology adoption. These initiatives can provide substantial efficiency benefits by pooling information, organizing peer cohorts, negotiating discounts, and providing subsidies. Yet mission-based lenders are so diverse in their sizes, goals, operating cultures, and technology expertise that it can be difficult to coalesce around a particular platform or initiative.
- » Improving digital marketing, working with small business loan marketplaces, and expanding referral networks are challenging but potentially important strategies for helping mission-based lenders expand their customer acquisition pipelines. A number of individual lenders and broader initiatives are focusing on expanding digital marketing capacity, participating in small business loan marketplaces, and developing technology platforms and other infrastructure to facilitate more efficient referral processes. While promising, these early initiatives also underscore some of the challenges that mission-based lenders face in moving to multi-state footprints, differentiating themselves from other types of loan providers, and establishing and maintaining strong customer relationships through largely digital communications channels.
- » Secondary market initiatives that are focused on helping mission-based lenders recycle their funds more quickly into additional lending are particularly promising for increasing liquidity. Total assets among CDFIs and MDIs have mushroomed over the past five years to over \$660 billion, making them collectively the size of a top ten bank.² However, most loans are held on lenders' balance sheets until they mature, creating liquidity challenges. A handful of initiatives are working to expand structures that would allow mission-based lenders to recycle funds more quickly to support a greater volume of small business originations.
- » Migrating to high-tech channels and substantially increasing small business lending also raises important questions about mission-based lenders' culture and relationships. Most mission-based lenders start as placed-based organizations

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that combine high levels of technical assistance, personalized outreach, and relatively flexible underwriting and servicing processes to develop deep relationships with historically underserved populations. As some lenders contemplate the prospect of originating thousands of loans per year using largely digital channels, it raises a range of fundamental questions about whether and how they can adapt their ethos and processes over much larger footprints using more standardized processes and systems. Substantially increasing the volume of mission-based small business loans also raises questions about how different types of lenders interact with each other and other ecosystem stakeholders as well as about default levels, pricing, and the need for subsidy within the mission-based system. Answering these questions will help to determine how large of a role mission-based lenders play in filling long-term shortfalls in the supply of small business credit.

FinRegLab intends to issue an updated version of this working paper in the first quarter of 2025. The final version will reflect additional insights on data and technology adoption gathered from participating pilot programs and other current initiatives, as well as broader stakeholder engagement on both data and technology adoption and the particular role that mission-based lenders can play in addressing broader market failures. Additional components of this broader project include empirical analyses of the use of electronic cash-flow data by fintechs and platforms that typically work with larger small business lenders (in conjunction with Sabrina Howell of New York University) and by the mission-based pilot programs that were studied in the course of compiling this qualitative report (in conjunction with Emmanuel Yimfor of Columbia University). FinRegLab is considering additional initiatives in 2025 and beyond to evaluate other issues at the intersection of data, technology, and financial inclusion for minority business enterprises and other underserved small businesses.

PART ONE

THE IMPORTANCE OF SMALL BUSINESS LENDING

Small businesses are a critical part of the US economy and the communities in which they are located. Independent businesses with fewer than 500 employees have generated two-thirds of net new jobs since 1995, employ half the nation's workforce, and contribute nearly half of its gross domestic product.³ They also hold significant potential for reducing the nation's long standing racial wealth gaps, which are estimated to cost the US economy up to \$1.5 trillion per year in dampened consumption and investment.⁴ Entrepreneurship is a critical pathway to building wealth for minorities, as self-employed minority households often hold 10 to 12 times more wealth and have higher economic mobility than wage workers.⁵ Minority Business Enterprises (MBEs) are also forming at rates ten times the general average and have helped to drive business formation since the pandemic to the highest levels seen in decades.⁶

Yet for all of their impact, small businesses often struggle to access credit both to cover short-term liquidity needs and to expand their operations. Lending to small businesses is more challenging than larger commercial or consumer lending due to several factors, including higher default risks, lack of standardized information, greater heterogeneity among borrowers, and unfavorable economics. The small business sector is extremely volatile, with about 20 percent of businesses closing in their first year and about 50 percent within five years. Lack of adequate cash-flow reserves is a particularly significant driver in business closures, particularly among younger companies and during economic downturns, which means that timely access to credit or other funding can determine business survival. These factors often affect not only the availability but the pricing of credit, since lenders that use risk-based pricing structures charge higher rates to borrowers that they deem more likely to default.

At the same time, standardized underwriting information for evaluating credit risk is often difficult to obtain because commercial credit reporting systems frequently lack information about smaller and younger companies. Given small businesses' tremendous diversity with regard to geography, size, age, industry, experience, growth, ownership structure, financing, and business models, lenders have historically required them to produce extensive financial statements and other documentation for underwriting. However, collecting and analyzing this information through traditional manual processes can make underwriting small business loans nearly as expensive as underwriting much larger commercial credit, which makes these smaller loans unprofitable given the much lower potential returns.8

As a result of these and other factors, banks have increasingly imposed minimum thresholds for the size and maturity of the businesses that they will lend to and the loans that they will make. For instance, many require at least three years of business history, impose minimum annual revenue thresholds of up to \$250,000, and decline to make loans below thresholds such as \$50,000 or \$100,000. This trend toward higher thresholds began in the aftermath of the 2008 recession, when banks pulled back aggressively from the market given poor loan performance, market volatility, and

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regulatory and investor pressure to stabilize their portfolios. Large banks made the biggest shifts, creating an inverse linear relationship between the size of a bank and their likelihood to lend to small businesses. This is especially true for unsecured or lightly secured "microloans," which are often defined as loans with balances under \$50,000 although there is no single universal threshold. While fintechs and some mission-based lenders have stepped into the gaps created by bank retrenchment, there continues to be a long-term misalignment between credit supply and demand, especially for younger and smaller businesses.

Businesses owned by people of color, recent immigrants, women, and other socially and economically disadvantaged individuals often face substantial additional obstacles in accessing credit beyond those described above. Historical gaps in income, assets, and credit scores are important factors, as they have impacted the ability of entrepreneurs to invest in new businesses, obtain support from friends and family, and qualify for loans.¹² Differences in personal networks, geographic access to banks, and language barriers can also make a difference for some disadvantaged groups.¹³ Even when financial factors are accounted for, applications by MBEs and female-owned businesses are more likely to be denied or only partially funded compared to their peers, and those business owners are more likely to report that they did not apply for funding in the first place out of fear of rejection.¹⁴ As a result, research shows that MBE owners and other underserved entrepreneurs often launch their businesses with substantially less capital and remain smaller over time.¹⁵ This in turn can affect the size and availability of loans, since many lenders limit loan size to twice monthly revenue, which is often under \$50,000 for minority firms.¹⁶

As the nation recovers from the COVID-19 pandemic, addressing these chronic credit access challenges is taking on a new urgency. Although small business formation and the share of gross domestic product generated by small businesses declined after the 2008-2009 Great Recession, post-pandemic trends have been markedly different.¹⁷ Research shows substantial increases in the creation of both "necessity" and "opportunity" businesses, and of businesses with a high propensity for job creation as well as among gig and side-hustle categories.¹⁸ Business formation and growth have also been particularly vibrant among MBEs and women-owned businesses.¹⁹ Although recent evidence suggests some cooling in formation and hiring as well as increases in business closures in response to higher interest rates and other economic factors, levels of entrepreneurship still remain significantly above pre-pandemic levels, particularly in high-tech sectors.²⁰

These trends are increasing hopes for long-term improvements in the nation's economy and racial wealth gaps through business ownership. Historical experience suggests that access to credit will become increasingly important over time for managing cash flows and potential growth as recent cohorts of small businesses approach the five year mark. The decisions that lenders and other stakeholders make about whether and how to increase the scale of credit access for younger and smaller businesses could thus help to determine the extent to which the post-pandemic resurgence produces long-term financial benefits for entrepreneurs, their communities, and the broader US economy.

2. BACKGROUND

In response to the market challenges of lending to younger and smaller businesses, stakeholders are focusing on technology and alternative data, as well as mission-based lenders, to increase access to credit among historically underserved entrepreneurs. This section summarizes the potential for more streamlined underwriting processes based on electronic cash-flow data and increases in the scale of small business lending by mission-based organizations. It also describes the research project and scope of this report, which explores these topics in depth.

2.1 Potential benefits of cash-flow data and supporting technologies

As stakeholders look at strategies to address the informational and economic challenges of underwriting smaller loans, expanded access to data sources and improvements in technology platforms have substantial promise. Traditionally, banks and other lenders have collected extensive documentation for underwriting, including detailed cash-flow and other financial statements, business plans and revenue projections, tax returns, and bank statements in paper or PDF formats, in addition to pulling credit reports for both businesses and their owners. Manual underwriting processes require extensive engagement by loan officers or underwriters, for instance in collecting documentation and interviewing applicants for additional context, computing key metrics, and pulling together loan packets and recommendations for final review by a senior loan committee based on both financial analyses and in some cases subjective judgment.

As bank account data have become more accessible in electronic form, however, lenders have begun to recognize the potential benefits of increasing their use of such information relative to other traditional sources for a mix of efficiency, accuracy, and inclusion reasons. Fintech lenders have gone the furthest down this path by jettisoning traditional financial statements and basing their underwriting on electronic banking account data, credit reports, and other digital information that can be collected and evaluated in a matter of hours or days rather than weeks or months. Other lenders are also evaluating the potential for such information to support greater lending to small businesses through two primary means:

» Reducing application burdens and timelines: For younger and smaller businesses, requiring detailed financial statements and other extensive documentation creates a substantial up-front obstacle to those seeking credit, in part because such businesses often have limited accounting experience and staff resources. A 2014 Federal Reserve Bank report found that it took small business owners an average of twenty-four hours to research and complete financing applications.²¹ Following up with applicants and extracting key data from paper or

PDF materials can also consume substantial time and resources for lenders, increasing costs and making it difficult for them to respond quickly to applications from small business owners that are facing cash-flow disruptions or time-sensitive opportunities for expansion.

» Providing more timely, comprehensive, and inclusive insights: Although traditional financial statements and tax returns can provide a very detailed picture of a business's operations in theory, lenders say those sources can be stale, incomplete, or inaccurate in practice. This is particularly true when the statements are produced by less established companies given their accounting limitations. Such documents often lag real-time by six to eighteen months, and research by the Internal Revenue Service shows substantial income underreporting among small businesses, especially for sole proprietorships.²²

Traditional credit reports and scores also have limitations. Because the commercial credit reporting system often lacks data on smaller and younger businesses, lenders tend to rely relatively heavily on the personal credit history of their owners. However, about 20 percent of US adults lack sufficient traditional payment history to generate credit scores under the most widely used models, and many entrepreneurs find that their personal credit scores suffer while their companies are in start-up phases. Immigrant entrepreneurs are particularly likely to lack traditional credit bureau data. There are also substantial racial disparities in traditional credit scores, with only about 33 percent of Black and 50 percent of Hispanic adults having prime or near prime scores compared to nearly two-thirds of White adults.²³

In contrast, surveys suggest that roughly 95 percent of households and 90 to 95 percent small businesses use bank or other transaction accounts.²⁴ When delivered in an electronic format to facilitate analysis, account records can provide a real-time, detailed picture of inflows and outflows for many businesses that may complement or even exceed the value of information available from other traditional sources.

Publicly available research on the use of electronic cash-flow data in small business underwriting is limited but promising. In 2019, FinRegLab published an analysis of loan performance results from several lenders using cash-flow information from bank account data and other sources, including two small business lenders.25 The findings suggested that cash-flow-based variables and scores can provide meaningful predictive power where traditional credit history is not available or reliable. In some cases, they can also differentiate credit risk among borrowers that otherwise present similar risks of default according to traditional scoring systems. The report also found evidence that the lenders were able to serve substantial numbers of borrowers who likely struggled to access traditional credit based on credit scores and other metrics. The degree to which the cash-flow data was predictive of credit risk appeared to be relatively consistent across borrowers from different demographic groups. Research published by the Bank for International Settlements comparing two fintech lenders that use alternative data sources to banks' small business credit card lending found that the fintechs' internal models produced more accurate results than traditional credit scoring approaches, particularly in areas with high unemployment. Some fintech models also facilitated lending at lower prices to business owners with credit scores below 675 compared to bank credit card lending, though fintechs were also more likely to charge rates above 25 percent than banks.²⁶

In light of these developments, other types of lenders are also looking more closely at the potential for electronic feeds of bank account data or other sources of cash-flow information to substantially improve the scale and economics of lending to smaller and younger businesses. While many banks have been slow to adjust their underwriting processes, some traditional banks and mission-based lenders began piloting and experimenting with the data in the years prior to the pandemic, often in conjunction with fintech partners or vendors.²⁷ Technology and market developments since COVID-19

have spurred further interest, as the pandemic lockdown prompted substantial technology adoption by both small business borrowers and lenders, and economic relief and racial justice initiatives called greater attention to the challenges that MBEs and other small businesses face in accessing credit.²⁸

BOX 1 FINTECH LENDERS' ROLE WITHIN SMALL BUSINESS LENDING MARKETS

Fintech lenders' early adoption of electronic data sources and digital platforms has had a profound effect on small business lending markets over the past fifteen years by increasing the speed and convenience of their lending programs, helping them to respond more quickly to the needs of cash-strapped small businesses, and capture significant market share at a time when many banks were restricting their small business lending. By 2014-2019, Federal Reserve surveys show that about 40 percent of small business borrowers were turning to fintechs and other "alternative" lenders for credit.²⁹

However, fintechs are not meeting the full spectrum of small business credit needs. The extent to which individual companies are willing to lend to applicants with substantially lower credit scores and higher risk profiles than traditional banks vary. Many also charge much higher fees and interest, in part due to their focus on smaller loan sizes, differences in risk appetites, and the fact that they rely on more expensive and impatient sources of funding than banks because they lack access to customer deposits.³⁰ Providers of merchant cash advances (MCAs)—which collect repayment either through daily withdrawals from business bank accounts as a percentage of historical revenues or by taking a percentage of each credit or debit card payment the small business receives—have been particularly criticized for high costs, opaque pricing, and extractive business practices.³¹

Fintechs have also experienced substantial turmoil and consolidation in the years since the pandemic due to significant increases in capital costs, interest rate pressures, spikes in applicant risk, and changes in loan demand. In addition to direct lending, many surviving fintechs are also partnering with banks and mission-based lenders as a way of leveraging their lending platforms and reaching additional customers.³²

2.2 The increasing importance of mission-based lenders to small business lending

A second and somewhat overlapping area of focus among stakeholders who are seeking to expand credit access for MBEs and younger and smaller businesses more generally is mission-based lenders' increased capacity and prioritization of small business lending initiatives coming out of the pandemic. Mission-based lenders have a proven track record of focusing on particularly underserved entrepreneurs, and have increased their lending activity substantially at a time when banks and fintechs have been constrained in part by broader economic and market dynamics.

This paper uses the term mission-based lender primarily to refer to community development financial institutions that are certified by the US Treasury Department and minority depository institutions, though some general community banks and credit unions are similar in size, experience, and strong place-based cultures. While mission-based lenders include a mix of bank and non-bank entities and non-profit and for-profit structures, they share a commitment to connecting historically underserved populations to the broader financial system. Traditionally, most mission-based lenders were established to serve specific geographic communities through relatively "high-touch" business models that provide substantial education and support programs for individual clients in addition to low-cost financial services. They rely on subsidies provided by government programs, philanthropic foundations, banks seeking credit under the Community Reinvestment Act for community development lending and investments, and other funding sources.³³

Although many mission-based lenders have historically concentrated on larger-scale community development projects and business loans due to some of the same lending challenges described in Part 1,34 microlending programs focusing specifically on the needs of younger and smaller businesses first started to emerge in the 1970s. The international nonprofit Accion began working to expand US microlending programs in the 1990s by licensing its brand to several lenders, and CDFI programs

further expanded their operations after traditional banks retrenched in response to the 2008 financial crisis.³⁵

FIGURE 1 HISTORY OF MICROFINANCE IN THE US



1970s-1980s

ShoreBank Corporation and Women's Economic Development offer some of the earliest examples of lending and investing in small businesses that cannot access credit from mainstream financial institutions.

The Community Reinvestment (CRA) Act passes in 1977, requiring federally regulated depository institutions to respond to the needs of their communities.

1990s

Accion launches its microlending model in the U.S. starting in New York.

In 1994 Congress establishes the CDFI Fund to support community development financial institutions.

2000s-2010s

Grameen Bank launches its first branch in New York, bringing its reputation in international microfinance to the US.

Accion becomes the largest microlending network in the US with five members.

By 2007, there are 500 micro-finance organizations in the US.

20205

The COVID pandemic drives unprecedented volumes of emergency capital through micro-finance organizations into the hands of small businesses.

In 2021 the Accion Network breaks up, prompting various member CDFIs to rebrand.

Renewed interest in supporting the work of CDFIs leads to growth in CDFI formation and funding, with nearly 1,500 CDFIs in the US as of 2024.

Data Source: Modified from Opportunity Fund and Pollinger et al.

Events since the COVID-19 pandemic have triggered substantial further expansions in missionbased lenders' focus on lending to younger and smaller businesses, as well as their profile among borrowers. Though not all mission-based lenders participated in the Paycheck Protection Program, those who did played an outsized role in helping to funnel funding to MBEs and other severely underserved segments. The share of PPP loans distributed by MDIs and CDFIs rose from 4 percent in the first phase of the program to 24 percent in the third phase, and they served substantially higher proportions of MBEs, businesses in low- to moderate-income neighborhoods, and other underserved entrepreneurs than program averages. 36 Mission-based lenders also received substantial injections of long-term capital as part of other economic stimulus programs and racial justice initiatives sparked by the killings of George Floyd and others, helping to triple the size of CDFI assets to over \$450 billion and grow MDIs assets to over \$330 billion.³⁷ For example, MDIs and CDFI banks participating in the Treasury Department's Emergency Capital Investment Program (ECIP) nearly doubled their originations to small businesses with annual revenues under \$100,000 between 2022 and 2023 alone, demonstrating their ability to scale delivery of financial services to these hardestto-serve small businesses.38 The number of CDFIs in the US has also increased substantially over the past five years, rising from about 1,100 to nearly 1,500 driven in significant part by certifications of credit unions.39

Interest in closing racial wealth gaps and helping community businesses find alternatives to high-priced online loans such as MCAs and payday loans have been particularly strong motivators in recent small business initiatives. A number of mission-based lenders that had not emphasized microlending prior to the pandemic have gone on to launch or expand small business programs, and longer-time lenders are continuing to innovate with regard to underwriting data, technology adoption, and diversifying their product offerings. Many mission-based lenders are also starting to pivot to technology-enabled lending in order to provide faster application processing and in some cases to diversify their product offerings to provide more viable alternatives to high-interest online

lending products, as they experience first hand the detrimental impacts of those products on small businesses in their communities.

BOX 2 TECH-HEAVY MISSION-BASED LENDERS

While atypical for the sector, a few mission-based lenders have either started as fintechs or acquired proprietary technology platforms. Camino Financial started in 2014 as a fintech focusing primarily on Latinx entrepreneurs, was certified as a CDFI in 2021 and merged with another fintech small business lender, Fundation, in 2023.⁴⁰ Lendistry is a minority-led neo-CDFI and SBA lender founded in 2015 that also runs Amazon's Community Lending Program.⁴¹ Accion Opportunity Fund, a large mission-based lender, partnered with Lending Club, which opened its platform to the CDFI in 2019 and then began routing all small business originations other than Small Business Administration loans to Accion Opportunity Fund in 2020.⁴²

Having their own digital platforms allows these lenders to serve broader geographic areas compared to traditional CDFIs that started with a specific brick-and-mortar presence, though they do not necessarily offer all products and programs nationally. These organizations present a promising model with regard to maintaining community-focused missions while scaling operations through technology, and there are lessons to be learned from them that could be applicable to the broader sector. However, they are not the primary focus of this report as most mission-based lenders are still in the process of building out platform capabilities.

Recent data and technology developments are playing a significant role in conversations around the future growth of mission-based lending to smaller and younger businesses. While mission-based lenders have historically faced resource constraints around technology adoption, they increasingly view it as an important tool and have accelerated digitization and use of technology in recent years. The vendor landscape available to mission-based lenders has increased in both quantity and diversity, although minority depository institutions often face particular constraints due to their reliance on core processors as discussed more in **Section 5**. The COVID-19 pandemic substantially accelerated the use of technology among mission-based lenders and their customers, driven by such factors as lockdowns, the need to expedite distribution of pandemic relief funds, and shifts in customer preferences and behaviors.⁴³ The pandemic also heightened interest among funders in supporting digital capacity building among mission-based lenders, spurring many technology-focused grant programs for CDFIs and MDIs.

However, even with the substantial improvements in capital, borrower awareness, and technology infrastructure over the past five years, mission-based lenders' overall footprint in small business lending remains relatively limited. The percentage of applicants seeking small business loans that report applying to CDFIs has tripled since 2019, but totals just six percent.⁴⁴ While some mission-based lenders originate many hundreds or thousands of loans annually, the Aspen Institute reports that even as recently as 2023, the vast majority of CDFIs that made microloans to small businesses were originating fewer than 100 loans per year.⁴⁵ While the experiences of the past five years have convinced a broad range of mission-based lenders that technology can help them better leverage resources to meet their missions and increase their impact on smaller and younger businesses, lenders differ in their aspirations as to how far and how quickly they seek to grow as discussed further in subsequent sections.

2.3 Overview of the research project

With growing attention to both the use of electronic cash-flow data and the potential for the mission-based lender sector to increase access to credit for MBEs and other small businesses, FinRegLab is evaluating the potential for data and technology innovations and new underwriting approaches to help mission-based lenders scale their lending programs. The project is funded by a grant from the Minority Business Development Agency (MBDA) and support from Visa and Plaid. Plaid is providing free account connectivity services to participating mission-based lenders to allow loan applicants to authorize their account data to be accessed for underwriting. In light of racial wealth gaps and other considerations, the project is focusing on unsecured or lightly secured loans.⁴⁶

The first report in the series, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19," surveyed the evolving market landscape of small business lending since the pandemic and identified trends that are impacting the availability of credit. This report dives deeper into the specific experiences, challenges, and considerations of mission-based lenders as they approach data and technology adoption. Our findings are based on semi-structured interviews conducted with thirty mission-based lenders and intermediaries, ten technology vendors, and several other stakeholders, as well as sustained engagement with a cohort of mission-based lenders that have launched pilot programs involving the use of electronic cash-flow data.

The pilot lenders for this research include:

- » Allies for Community Business: A non-bank CDFI based in Chicago that focuses exclusively on business lending, serving Illinois and Indiana. Allies for Community Business has considered cash-flow data as part of its underwriting process for some time, but is continuing to make refinements to its underwriting criteria as it implements a line of credit program and lending platform improvements.
- **» Ascendus:** A non-bank CDFI that is based in New York City and serves communities primarily along the Eastern Seaboard, primarily in New York, Massachusetts, and Florida, focusing exclusively on business lending. Ascendus has also long relied on bank account data as part of its underwriting but is now testing it in the context of a line of credit program.
- **» LiftFund:** A non-bank CDFI based in Texas that serves communities across fifteen states, focusing exclusively on business lending. LiftFund relies on bank account information for most lending through its website and is beginning to offer a cash-flow based lending product on national marketplace platforms.
- **» Ponce Bank:** An MDI and CDFI located in the Bronx, New York, serving the greater New York metropolitan area. Ponce is piloting smaller, shorter-term business loans based on cash-flow data with transaction account customers that have accounts at Ponce as well as other local banks. It is opening applications locally and nationally to non-customers based on the pilot's success.
- **""> Texas National Bank:** An MDI and CDFI, based in the Rio Grande Valley, Texas. Texas National Bank is also piloting smaller, short-term business loans based on cash-flow data with existing transaction account customers before opening applications to non-customers.

Although the findings in this report are heavily informed by FinRegLab's interactions with the individual pilot programs—including site visits, periodic check ins, and preparations for the empirical analyses—they also draw upon broader stakeholder interviews and a range of other data and technology adoption initiatives. In particular, FinRegLab focused on several stakeholder initiatives to scale technology adoption across large groups of lenders and to establish the infrastructure and support to facilitate significant scaling of small business lending programs.

Subsequent reports will include empirical analyses of the use of electronic cash-flow data by fintechs and platforms that typically work with larger small business lenders (in conjunction with Sabrina Howell of New York University) and by the mission-based pilot programs (in conjunction with Emmanuel Yimfor of Columbia University).

PART TWO

DATA, TECHNOLOGY, AND MISSION-BASED LENDERS

Although mission-based lenders often face resource constraints in adopting new technologies, a number of organizations have begun testing the potential of electronic cash-flow data and platform systems to increase their lending to smaller and younger businesses. Some organizations began this process in the aftermath of the 2008 financial crisis to respond to retrenchment by banks and counter the growing impact of high-cost online lenders in their communities. Although the pandemic temporarily shifted the focus to emergency relief programs, a new generation of initiatives has launched over the past few years as additional mission-based lenders have decided to offer smaller business loans and long-time actors have worked to expand their geographic footprints and improve their product offerings.

These historic and current initiatives can be a rich source of lessons learned both for mission-based and community lenders and the broader ecosystem as stakeholders consider the potential to substantially increase the scale of their small business programs. While some projects to integrate electronic cash-flow data into lenders' underwriting processes are relatively modest in scope, others are part of much broader and more ambitious efforts to launch brand new products or technology solutions that will support substantial increases in the scale of originations. And many of the lenders that are taking relatively incremental steps now have ambitions of making additional changes over time. Even where lenders are not immediately focused on changing the types of information they rely upon in their underwriting processes, many are considering the adoption of lending platforms for efficiency, user experience, and other reasons.

This part of the report provides an overview of how mission-based lenders are approaching several interrelated tasks for their small business programs, including:

- 1. Obtaining electronic feeds of bank account data—Section 3
- 2. Incorporating cash-flow data into underwriting processes and criteria—Section 4
- **3.** Implementing new platforms and contracting with vendors to support lending activities, as well as to automate other aspects of their application and origination processes—Section 5
- **4.** Managing strategic planning, staffing, and other aspects of internal change management related to technology adoption—Section 6

While Section 3 and Section 4 focus more specifically on the use of electronic cash-flow data (providing an overview of how lenders are approaching data acquisition and underwriting, the benefits they are reporting from these changes, and considerations and challenges that they are encountering and working through in each context), Section 5 focuses on platform adoption more generally. Section 6 also focuses more broadly on organizational dynamics and strategic leadership in overseeing significant process and systems changes.

Part Two: Data, Technology, and Mission-Based Lenders

FIGURE 2 ELECTRONIC CASH-FLOW DATA FEEDS AND TECHNOLOGY IN LENDING

This report explores how mission-based lenders are adopting electronic cash-flow data across three key steps: accessing digital transaction data, incorporating it in underwriting, and building it into broader loan processes and systems. Sections 3, 4, and 5 follow this framework.



DATA ACCESS

Establish a connection to applicant's digital transaction account data through an aggregator platform. Customers use a link during the application process to authorize permission for the lender to access their transaction records across one or more accounts. Amount of history provided depends on the account provider.





UNDERWRITING ANALYSIS

Categorize, interpret, and analyze digital transaction account data to assess applicant's creditworthiness and loan affordability during underwriting. As lenders build comfort with electronic cash-flow data, they can implement more flexible underwriting criteria, potentially replacing traditional financial statements and tax returns and accepting lower credit scores.



LOAN PROCESSING

Set up loan processing platforms and systems that incorporate electronic cash-flow data. Lenders are increasingly standardizing and automating lending procedures to realize benefits in efficiency and scale. This may be through a single end-to-end platform or a group of specialized systems interconnected by application programming interfaces (APIs).

Data Source: FinRegLab; visual framework based on interviews with lenders and technology vendors



3. COLLECTING ELECTRONIC CASH-FLOW DATA

In part due to the factors outlined in Part 1, many mission-based lenders have historically relied on paper financial documents and bank statements to underwrite small businesses. As they turn to electronic data collection methods, lenders are generally dependent on intermediaries called data aggregators to collect and deliver the information from other financial institutions on behalf of loan applicants, except in cases where MDIs, credit unions, and other depositories are underwriting applicants who are already transaction account customers. A growing number of mission-based lenders are establishing connections with aggregators, either directly or through lending platforms or other software vendors. Where lending platforms are providing integrations with aggregators, they may also provide access to credit report data and other electronic information sources, as well as supporting underwriting and other loan processing functions, as discussed further in Section 4 and Section 5. Although historically aggregators and lending platforms have tended to focus on offering their products to larger lenders, technology options for smaller organizations are continuing to improve.

While there can be friction with regard to connectivity and formatting of the data depending on the underlying technologies, these "open banking" systems, when working as intended, result in an almost instantaneous feed of electronic data via application programming interfaces (APIs) that can be routed directly into the lender's underwriting system. Accessing the data through electronic channels offers substantial advantages in verification, timeliness, and efficiency over paper or scanned documents for credit underwriting. Some lenders are also considering use of the data to support financial coaching, portfolio management, and outcomes measurement. Automated data feeds have quickly become the preferred method of information collection for lenders that have established open banking connections, although nearly all mission-based lenders that we have interviewed continue to allow applicants to provide information through other channels, such as sharing manually downloaded PDFs of monthly bank statements, or even bringing in paper copies.

The degree to which moving to electronic bank account data feeds impacts mission-based lenders' operations will depend on a number of factors, including the extent to which they change underwriting criteria and maintain parallel manual processes. For instance, efficiency gains tend to be smaller where lenders continue to require the submission of traditional financial statements or tax returns, and where large numbers of applicants opt out and continue to provide bank account documentation in paper or PDF formats. While mission-based lenders are making different decisions about these requirements due to risk, inclusiveness, customer relations, and other considerations, they increasingly view electronic cash-flow data as critical to their ability to provide applicants who are highly sensitive to processing timelines with a viable alternative to high-cost loans.

BOX 3 WHAT IS A FINANCIAL DATA AGGREGATOR?

Data aggregators first developed in the late 1990s to support various types of wealth advisory and personal financial management services by obtaining permission from consumers to use their log-on credentials to financial institutions' website platforms to "screen scrape" information about their credit, payments, and asset management accounts. Over time, financial institutions began using data aggregators' feeds for a range of other activities, including credit underwriting. The pandemic shutdown significantly accelerated use and awareness of aggregators such as Plaid, Finicity, Envestnet/Yodlee, and MX by both customers and financial institutions. By 2022, the Consumer Financial Protection Bureau estimates that aggregators made 50 billion to 100 billion access attempts on behalf of consumers, approximately double 2019 volumes.

Particularly where data is being collected from larger banks and other institutions, technologies for data access and collection are evolving toward more reliable and secure formats as this open banking ecosystem is maturing. For example, use of dedicated application programming interfaces (APIs) can provide cleaner feeds of information, and some institutions are beginning to use tokens that do not require applicants to provide their bank log-on credentials. As of 2022, the CFPB estimated that about 50 percent of data access attempts involved the use of dedicated APIs, and that about 25 percent involved tokenized authorizations.⁵⁰

The CFPB is engaged in rulemakings that will establish standards for accessing consumers' transaction and credit card account information and clarify the status of data aggregators under existing federal financial services laws, but has not specifically addressed to date whether and how those standards would apply to small business accounts or lending activities. The new standards may shape general industry practices and infrastructure even where they do not apply by law.⁵¹

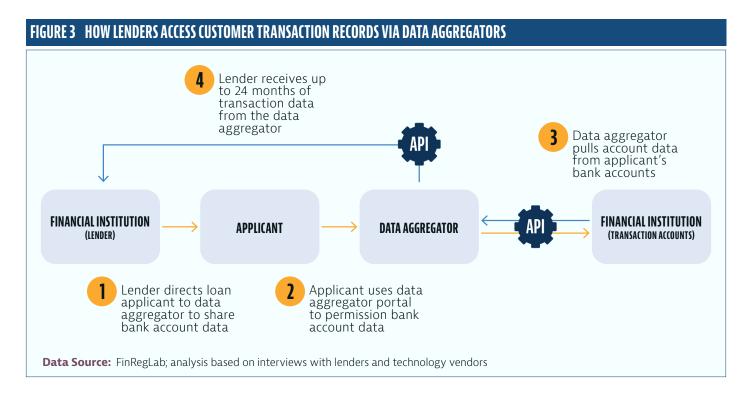
3.1 How mission-based lenders collect electronic transaction data from applicants

Where mission-based lenders have established connections with a data aggregator directly or through lending platforms or other vendors, the lenders provide applicants with a link to the aggregators' interface in the course of their application flow. The aggregators' interface typically prompts applicants to select one or more financial institutions from a list and use their login credentials to grant permission to share their financial data with the lenders.⁵² Applicants have the ability to select which accounts they want to grant access to at each institution. Aggregators then obtain the data via screen scraping or APIs, encrypt it, and transmit it to the lenders without providing access to the applicant's login information.

Lenders that choose to receive a direct feed of electronic cash-flow data from aggregators must have some technological expertise and architecture in place. Taking Plaid as an example given that it was the most widely used among the lenders we interviewed, lenders can choose between alternatives that vary in the depth of engineering and coding experience needed. The full technical implementation option requires lenders to embed Plaid's user interface widget ('Plaid Link') within their digital application and build an API integration to retrieve the cash flow data upon a successful connection. At minimum, lenders must have the coding expertise to be able to configure an API connection to Plaid's network to access, organize, and manage transaction data from applicants, as well as an application running on a server to accept and store the data. In fall 2024, Plaid released a no-code alternative designed for lenders with less technical expertise. This option provides lenders access to a browser-based dashboard from which they are able to send invitations to applicants via SMS or email to link accounts and review the permissioned cash-flow data upon successful connection.⁵³ Plaid offers many tutorials online to help lenders get set up, and may also provide direct technical support to establish the API connection.

Once the aggregator connection is established, lenders have access to the applicants' banking transaction history. Although different aggregators offer different data products that may provide varying levels of information, they typically can provide one-time "lookbacks" with three to twenty-

four months of transaction data that is generally similar to what can be seen on paper statements, though the length of history and availability of some data elements depends on the individual applicant's financial institution. Particularly where lenders are relying on bank account data as a substitute for financial statements, some lenders prefer longer history to assess trends in business finances, especially for seasonal businesses that may have large fluctuations within each year. However, some lenders we interviewed were primarily interested in the most recent few months of data because they want to get a current snapshot of the business. As discussed further in **Section 4**, mission-based lenders also vary in the extent to which they seek information about business owners' personal finances, beyond the information available in their business transaction accounts.



BOX 4 DEPOSITORIES, PREQUALIFICATION PROGRAMS, AND DATA AGGREGATOR USE

MDIs and credit unions that offer transaction accounts can potentially build underwriting models based on their existing account holders' data, rather than having to obtain it from other financial institutions for individual applicants. Some depository institutions have decided to build prequalification programs, where they reach out to transaction account holders who meet certain criteria to determine whether they have interest in a working capital loan.

Such programs depend on accessing the transaction account data that is held on the MDIs or credit unions' "core processor" platforms, which are typically used to maintain deposit accounts, produce financial records, and perform other basic functions for the bank or credit union. Such data must often be exported to other platforms that are used for underwriting functions, which can be challenging where the core processor's systems and pricing structures do not facilitate easy access. (See Section 5.1 for additional discussion.)

Some MDIs that we interviewed have established relationships with data aggregators even in stages where they are working exclusively with existing transaction account customers, in part to be able to access information at other banks where the customers may hold additional accounts. They are also using data aggregators to be able to see how the data delivered through the aggregator compares to what they can see on their own systems and to begin to prepare for later stages where they plan to accept applications from small businesses that are not already transaction account customers.

Some lenders also use aggregator services to validate the account to which loan funds will be disbursed after closing via an automated clearing house or wire transfer. Aggregators can also allow them to monitor consenting borrowers' finances over the course of time, particularly where they are offering revolving products such as lines of credit. In the latter case, maintaining connections allows lenders to process requests for additional credit draws by reviewing customers' bank account data without having to obtain supplemental documentation from the borrower.

3.2 Benefits of electronic feeds

Lenders that we interviewed that had previously relied on manual document collection were enthusiastic about the efficiency gains they saw from using aggregators to collect cash-flow data. Manual processes inevitably involve starts and stops throughout the application process as they wait for applicants to compile and share documents. For many lenders, loan officers had to individually read and type in data from the documents to loan processing systems. Although some mission-based lenders have invested in optical character recognition (OCR) technologies to extract information from digital or scanned documents, that approach still requires tracking down documents and there can be quality limitations on individual scans.⁵⁴ Removing manual steps greatly reduced the time spent chasing down and processing documents and increased the speed of decisioning. As one CDFI executive put it, this change "shifted the work of loan officers from gathering and compiling information to analyzing and thinking, giving us productivity and efficiency gains." Lenders also like the fact that they do not have access to applicants' account credentials and can rely on aggregators to manage the security of the network or connection.

Lenders also noted that being able to access real-time transaction information directly from banks reduced the chance of relying upon stale or inaccurate data in underwriting. In contrast to materials supplied by an applicant that may be altered, incomplete, or out of date, open banking integrations offer a direct connection to real time bank data at a more granular level than annual financials, providing a detailed, timely picture of small business cash flows and reserves. As one lender stated: "We want real-time data to see what is going on in the last few months of the business, not long-term balance sheets and financial statements." As discussed further in Section 4, particularly for smaller and younger businesses, lenders report that real-time data can provide a more precise understanding of whether a business is generating sufficient cash flow to cover its existing debt obligations and whether it can afford to take on additional debt.

When lenders have shifted away from relying on tax returns and traditional financial statements, they report user experience and inclusion benefits for applicants, especially among owners who do not have accounting experience. Although some mission-based lenders offer technical assistance to help applicants put together financial statements, the process can be time intensive and may prompt some applicants to turn instead to faster, higher-cost online lenders. One lender noted that with their traditional approach, they "discovered that clients have a hard time putting together financial statements. Applicants do not know what they are being asked for and provide documents in varying formats." Another lender said that with the new focus on bank account data "customers love not having to provide financial documents." Even when small businesses use tools such as QuickBooks, lenders have found that their financial reports frequently lack structure or contain errors and thus require time and experience to format and clean up for use in loan applications.

Lenders report that reducing decision-making timelines and application burdens is particularly important in trying to provide small businesses with an alternative to high-cost lending products such as merchant cash advances. Several lenders mentioned that these products are prevalent in their communities, and their negative impacts on small business's financial health were a major

driver in shifting to more digital application processes. One lender reported seeing average "real" APRs on business payday loans and MCAs as high as 500 to 600 percent, once factoring and fees are added. This can drive vulnerable small businesses to get bogged down with high-cost debt. Relying on bank account data collected via open banking integrations helps mission-based lenders to give applicants a quicker sense of whether they will qualify for a loan, even if completing origination processes and disbursing funds may take a few days longer than some online lenders.

Additionally, lenders that offer revolving products such as lines of credit can use open banking connections for ongoing customer account monitoring and proactive portfolio management. With an ongoing connection, lenders can monitor the cash flow of borrowers during the loan period and process additional draws or make other adjustments without having to request additional documents. For this reason, one lender we interviewed that offers a revolving line of credit requires maintaining an ongoing aggregator connection in the product terms, while encouraging but not mandating ongoing connections for other loan types. Lenders that have ongoing visibility into the cash flow of borrowers are also exploring ways to set up automated triggers and alerts when there are concerning trends in the cash flow of a business, such as declining revenue over several months, or average balances under a certain threshold. If a borrower shows early signs of distress or misses a payment, the lender can look deeper into their cash-flow data to help determine if it is a short-term cash crunch, a more permanent shift in their business, or a "fatal" situation. This could help them proactively reach out to customers to adjust repayments or even restructure the loan before the borrower goes delinquent or defaults. By giving the lender insight into the financial health of the business, they are empowered to work with the borrower to improve loan outcomes.

BOX 5 ONGOING ELECTRONIC CASH-FLOW DATA TO FACILITATE CLIENT COACHING AND OUTCOMES MEASUREMENT

In addition to using electronic cash-flow data in loan originations and servicing, some mission-based lenders are exploring the potential benefits of electronic bank account data for coaching and outcomes measurement.

The kinds of financial and cash-flow analyses lenders produce during loan underwriting using detailed transaction data can also enable mission-based lenders to provide tailored coaching to business owners. This can include coaching in areas such as separating personal and business accounts and transactions, understanding business revenues and expenses, conducting debt analysis to assess capacity for future loans, and identifying and addressing risky or negative financial behaviors such as overdrafts, negative balances, and use of merchant cash advances. This service is particularly beneficial for smaller and younger businesses that may lack the resources to produce their own financial statements or conduct financial analysis themselves.

Some lenders are also beginning to evaluate electronic bank account data as a means of gauging the impact of their loans and other services, for instance by evaluating growth in business revenues and payroll over time rather than focusing simply on loan repayment. As with underwriting, they hope that developing a common set of metrics with which to gauge outcomes could help to make outcomes analysis both insightful and more efficient, though it would hinge on maintaining connections to borrowers' accounts over time.

BOX 6 DIGITAL CUSTOMER PORTALS

As mission-based lenders are upgrading various aspects of their technology infrastructure some are placing increasing importance on customer-facing digital portals that can not only facilitate efficient and secure intake of application information but provide a platform for engaging with customers throughout the application process and over the life of their business loans. For example, in addition to accepting applications and document downloads, such portals can be used by both lender employees and applicants for follow up communications and to monitor application processing in real time. After origination, portals can support payments, servicing communications, and requests for additional credit extensions. While such technology may be routine at large commercial lenders, it can be a significant advancement for many mission-based organizations and a vehicle for providing "high-touch" service in new ways as their operations expand.

3.3 Considerations and challenges for establishing electronic cash-flow data connections

While the benefits can be substantial, mission-based lenders reported encountering a number of considerations and challenges in adopting electronic cash-flow integrations, including selecting aggregators and technology infrastructure to receive and organize the transaction data, customer permissioning and education, and data quality and coverage. To manage these issues, most mission-based lenders are working with loan processing systems or other vendors that can help to implement APIs and structure the information for underwriting review. They have also stepped up coaching and education initiatives to build trust and encourage applicants to authorize electronic feeds wherever possible. However, due to concerns about both customer acceptance and data coverage, mission-based lenders typically maintain back-up options to use downloaded or paper bank account records in their loan processing workflows. As lender and customer comfort levels evolve, the extent to which such back-up systems continue to be used or not could become a major driver of efficiency benefits.

Mission-based lenders faced a number of issues in evaluating which aggregators to work with, including the number of banking institutions that aggregators can link to, pricing structures, customer service, and reputation, among other considerations. No aggregators offer perfect coverage, especially when mission-based lenders' customers use very small community banks that are less likely to have online platforms and aggregator connections. Smaller lenders have found aggregators that offer "pay as you go" pricing tiers with no required minimums to be friendlier and more accessible, though aggregator costs can still be a barrier. Lenders that use lending platforms to manage multiple types of data in underwriting may also be limited in which aggregator they work with depending on preferred vendor integrations.

As described earlier, setting up a direct connection with an aggregator requires a certain base-line level of engineering, coding, and technical expertise. Lenders must generally configure an API connection to the aggregator and—if they are not working with an API-compatible loan operating system or vendor already—set up an application to ingest, manage, and store data. Many CDFIs and MDIs do not have teams of software engineers or developers on staff, and must turn to other vendors to execute this. As one intermediary described it, "Vendors essentially need to build consumer-grade interfaces for [very] small lenders to be able to use them." Although aggregator products tailored to smaller lenders are increasing, mission-based lenders who worry their servicing calls will not be prioritized due to their scale find it helpful to have an experienced vendor to help with troubleshooting and support.

As discussed further in **Section 4**, organizing transaction data to permit financial analysis requires underlying technology support. While the content of electronic cash-flow data feeds is similar to that provided by paper-based statements, digitally and even automatically categorizing and structuring the information greatly increases its utility. This is particularly relevant when lenders decide to look at longer time frames than they did when reviewing paper statements. Small businesses can have hundreds of transactions in a single month, so categorization is important to facilitate detailed analyses of income, expenses, and other patterns. Some aggregators and vendors offer transaction categorization, distillation of particular variables, and other processing services, but lenders that decide to process the full snapshots on their own must develop processes for analyzing the data.

When replacing traditional bank statement requests with an electronic cash flow connection, lenders may also run into concerns about customer data permissioning and impact. While the lenders we talked to mentioned that customers have become more familiar with and trusting of data aggregators particularly post-COVID, sometimes they must still provide substantial information and coaching. Many lenders hear concern and hesitancy from customers about giving a third

party permission to access their bank accounts, especially those that have experienced fraud. As one lender described, "It requires a tremendous amount of trust from the borrower not only in the lender but also in [the aggregator]." Being required to grant full digital access across multiple bank accounts with up to one or two years of data and/or providing continuing access over the life of a loan may also feel intrusive and impersonal to some customers. Submitting data online for the lender's interpretation and analysis constitutes a significant change from discussing transactions and business finances on paper during face to face conversations with a loan officer.

Lenders that faced skepticism from customers about authorizing data access found that clear communication and coaching were helpful in addressing these concerns. Since mission-based lenders often have a loan officer or financial coach assist small businesses in preparing their loan applications, they are able to use that personal relationship to provide information about why they are asking for electronic cash-flow data, and how it will help the borrower get access to capital. Lenders emphasized the importance of transparency in building trust, explaining clearly to applicants what transaction data they need and exactly how they will use it. They also found it helpful to explain the benefit to the customer up front—such as a higher chance of loan approval, a faster decision, a higher loan amount, or access to a revolving product such as a line of credit.

Lenders are also very intentional about when in the application process they seek permission to access account data, both to reduce paperwork burdens and to account for potential privacy sensitivities. For instance, some non-bank CDFIs have structured their programs to conduct initial screens based on information supplied by the applicant (including information about revenues and recurring obligations) and credit bureau information (usually a "soft pull," which will not affect the applicant's credit score), seeking permission to access electronic bank account information only from those applicants who pass the initial screen. Lenders also differ in the amount of cashflow information they require, depending on loan size, applicants' risk profiles, and whether they are repeat customers.

One lender found that these techniques helped to increase authorizations from under 20 percent to above 50 percent over time. Other lenders report that the percentage of loans involving electronic bank account data pulls has increased to as much as 75 percent. As open banking continues to become more ubiquitous, lenders expect that borrowers will have fewer hesitations about sharing their data to obtain a loan.

Some stakeholders have also suggested that mission-based lenders may face lower resistance to cash-flow data permissioning from loan applicants than other lenders, due to the deep relationships they develop with their customers. Additionally, underserved small business borrowers typically face denials from other financial institutions, so when mission-based lenders are willing to work with them to offer access to affordable capital, it generates goodwill and trust that may translate to willingness to share data.

Another factor for lenders to consider in implementing open banking integrations is how to ensure that full data is captured from all of the applicant's relevant accounts. Lenders sometimes have to provide additional coaching to ensure that applicants link all critical deposit accounts so that the lender can confidently assess aspects such as profits, savings, revenue, liquidity, debts, and payroll. When applicants have multiple bank accounts across multiple institutions, aggregator connections and data processing can get more complicated to navigate.

BOX 7 WORKING WITH INFORMAL, CASH-BASED BUSINESSES

Many mission-based lenders receive applications from informal, cash-based businesses—especially businesses that start as side-hustles or income supplementation—that either do not have bank accounts or tend not to run all of their inflows and outflows through their accounts. (See Section 4 for more discussion of commingling both personal and business expenses in the same account.) Lenders often view such situations as coaching opportunities and emphasize the importance of creating account and tax documentation to business owners so that those income streams can be accounted for in underwriting.

While most lenders will not consider income streams that are not documented through bank account or tax records, at least one CDFI we interviewed has experimented with offering smaller loans based on applicants' stated financial information and credit report data because it did not want to categorically deny access to credit to less formal businesses. The lender continues to require the provision of bank account data for larger loan requests. Some lenders noted that consumers' increasing adoption of new electronic payment channels is pushing more businesses to establish transaction accounts to be able to accept more types of payments.

Even when lenders establish open banking integrations and customers authorize data access, there will still be edge cases that result in poor data coverage and quality. In addition to coverage limitations for some community banks as described above, there can be sporadic issues with connection breakdowns or limitations imposed by data sources. Aggregator connections also cease to work after an applicant changes their username or password with their financial institution, which can become a concern for lenders that require an ongoing connection to customers' accounts.

Based on these considerations, most lenders we interviewed are continuing to allow borrowers to share bank statements manually for at least some loan products. While lenders discourage applicants from doing this (for instance by emphasizing that it slows down underwriting) and may limit product or loan amount eligibility accordingly, manual submission generally remains an option when applicants refuse to authorize data access, financial institutions share fewer months of data than required by the lender, or there is a temporary API issue. Lenders believe this flexibility helps to advance their financial inclusion goals, but it does have tradeoffs since maintaining multiple systems creates additional organizational costs and can lead to complications if lenders want to access information from loans underwritten based on paper documentation for backtesting and future analysis. For lenders that want to progress rapidly in digital adoption and scaling their loan volumes, these dynamics raise questions about where exceptions to their digital processes constitute a substantial efficiency drag.

Although some very small mission-based lenders have decided not to proceed with open banking integrations at this stage of their development, most of the mission-based lenders that we interviewed reported that establishing connections with data aggregators produced efficiency gains and improved experiences during the application process. They also point to positive feedback from applicants and loan officers who no longer have to manage the collection and processing of paper bank statements. Section 4 details how lenders are using electronic cash-flow data in their underwriting processes, and Section 5 and Section 6 discuss broader issues regarding working with lending platforms and other technology vendors and managing change within lenders' organizations.



4. INCORPORATING ELECTRONIC CASH-FLOW DATA INTO UNDERWRITING PROCESSES

The manner in which MDIs and CDFIs are incorporating electronic cash-flow data into their underwriting processes depends on their prior history, current capacity, and future goals. Use cases are also shifting over time as lenders progress from simpler applications of the data to more complicated ones. For instance, lenders that have long used financial statements or tax returns primarily as a means of determining loan size for small businesses may switch to using electronic bank account data for the same purpose without making substantial adjustments to their other processes or criteria. Other lenders are seeking to develop programs to serve younger, smaller businesses for the first time, with electronic cash-flow data integrated as a core part of the underwriting from the beginning in order to make the economics of the program more efficient.

Interviews suggest that most mission-based lenders that are using electronic cash-flow data feeds are working with loan processing platforms to analyze the data and manage other aspects of underwriting and originations. Some lenders may migrate to such platforms as part of an initial move away from manual underwriting processes, while others have been working with such systems for several years as discussed further in **Section 5**. While many mission-based lenders lack the data and analytical resources to build automated predictive scoring models that incorporate cash-flow information—including potentially even machine learning models—some have partnered with vendors to do so or have interest in building such models over time.

The fact that mission-based lenders are starting from different places and moving at different paces toward larger changes in underwriting inputs and processes creates a variety of practices as described further below that will likely continue to evolve over time. Even where lenders are focused on relatively small adjustments in the immediate term, it can be helpful for them to consider how best to lay the groundwork for larger future changes.

4.1 How mission-based lenders are using electronic cash-flow data in underwriting

One of the most common uses of cash flow data among lenders we interviewed was to determine borrower capacity to repay and to size loan amounts. For example, where lenders are calculating metrics such as debt to income (DTI) ratios or debt service coverage ratios (DSCR) based on tax returns, financial statements, or paper bank statements, they may begin using electronic feeds to help generate the same or similar metrics. To perform this analysis, lenders often categorize account inflows and outflows to evaluate the business's net capacity to make monthly repayments on a new loan. For instance, to determine loan affordability, some lenders calculate DSCR as a measure of the business's available cash flow to pay its debts, along with other recurring business expenses. The DSCR ratio is based on the determined revenue calculated from account records and debt amounts as reflected in credit reports or transaction account records.

Some lenders also use transaction history to create their own longitudinal picture of the business, calculating average monthly deposits and debits and average cash ending balances. Other lenders consider average daily, weekly, or monthly balance amounts to determine whether the loan product is appropriate for the cash-flow volume and size of the business. Several mission-based lenders we interviewed also evaluated longer-term trends in business revenue to determine whether the business was shrinking or growing. For example, three consecutive months of declining revenue would affect the assessment for a non-seasonal business.

A second common use of electronic bank account data among the lenders we interviewed was to evaluate whether and how applicants had managed past periods of instability or insolvency. This is similar conceptually to what lenders often look for in credit bureau data and credit scores that focus heavily on the repayment of past debts. In the cash-flow context, common metrics include a count of low or negative balance days and account overdrafts or not sufficient fund (NSF) events. However, while many mission-based lenders consider such history as part of underwriting, they vary as to how they factor it into their decision-making. Some apply a policy to decline applications if the average number of negative balance events exceeds a set threshold, which may range from 1 to 3 depending on the particular lender, while others consider such incidents as part of a broader risk model or qualitative eligibility analysis. Some lenders also consider evidence of use of merchant cash advances or other high-priced products in evaluating applicants' financial capacity and stability.

BOX 8 ABILITY VS. PROPENSITY TO REPAY AND THE FIVE C'S OF CREDIT UNDERWRITING

Lenders apply a range of approaches in determining whether to approve credit applicants, how much credit to extend, and what pricing to offer. At a minimum, the process often involves assessments of both the applicant's ability to repay (e.g., available resources to meet new loan payments in light of other obligations) and propensity to repay (e.g., character and past history of repaying debt). Other factors that can affect lenders' assessments include: whether the loan is secured by assets or guarantees that could be used to cover defaults, whether the borrower is contributing resources of their own (such as a down payment), the terms of the loan, the intended use of loan proceeds, and general economic conditions. The relevant factors are sometimes grouped together and described as the 5 C's of underwriting: capacity, character, collateral, capital, and conditions.

Information in credit reports and electronic bank account data can potentially be used to assess multiple criteria. For example, credit scores are generally thought of as predicting borrowers' propensity to repay, based largely on their past history of paying credit obligations, but credit reports can also help lenders determine the extent of applicants' current debt obligations for purposes of assessing their capacity. Electronic bank account data can provide information about capacity as reflected by income, recurring obligations, and balances/reserves, as well as the applicant's history of payments and financial stability or volatility.

Some mission-based lenders are starting to move away from the 5 C's formulation by dropping or deemphasizing elements that they are concerned may disadvantage historically underserved populations or adapting them to new data sources and alternative approaches.⁵⁶ However, they typically maintain some framework to assess applicants' ability and propensity to repay a loan.

A number of lenders have decided to rely on bank account data or tax returns in lieu of traditional financial statements for loans below certain size thresholds. With regard to credit reports and scores, some of the lenders we interviewed have decided to stop using traditional credit scores as part of their underwriting processes because of inclusion concerns. In such cases, however, they do still check credit reports for past history of bankruptcies, substantial past-due debts, or other factors that may indicate that the applicant is in financial distress and would be unlikely to repay a new loan. Other lenders consider credit scores where they are available. Some have set minimum score requirements, often in the low 600s, and in some cases have reduced the thresholds over time as they grow more confident with regard to loan performance. Some are also willing to make loans to applicants who may have so little traditional credit history that they cannot be scored

using the most common scoring models. Relying on cash-flow data and history in such cases allows lenders to extend credit to small business applicants that they would not have approved using past underwriting criteria, and lenders hope to expand loan sizes as they get more experience. In cases where applicants do not qualify for loan products under these criteria, several lenders offer smaller credit building loans with more flexible underwriting thresholds that they often partner with more hands-on technical assistance. The objective is to grow the borrowers' credit history and cash flow so that they can qualify for larger small business loan products in the future.

The processes used to conduct these analyses vary substantially based on the particular lender, product, and platform in question. Lenders that still rely substantially on manual processes often have loan officers or other employees heavily involved in reviewing the cash-flow data. Lending staff may interview applicants for additional context, compute key metrics, and then put together a loan packet that documents all of the information they have reviewed. The loan packets include a proposed decision to a senior loan committee based on both financial analyses and in some cases subjective judgments. Other lenders are increasingly moving to rules-based credit policies and more automated analytical processes. In such systems, platforms may calculate particular metrics and apply particular rules according to a scorecard, permitting faster processing for applications that clearly meet or fail core lending criteria. Employees can then focus most of their attention on applicants that fall in the "messy middle," that would require a deviation from the standard criteria, or that lack fully automated data feeds, while performing streamlined validations of more straightforward applications. For these lenders, the role of the loan committee often changes to concentrate on functions such as adjusting the standard underwriting criteria in the first instance, approving new pilot programs, reviewing applications that exceed certain size or risk thresholds, or focusing on exceptions to standing policies. Many CDFIs no longer have loan committees comprised of board members or outside experts—a past practice that used to be almost universal.

FIGURE 4 EVOLUTION OF LENDING SPEED AND VOLUME VS. RISK MANAGEMENT IN UNDERWRITING

UNDERWRITING APPROACH AND RISK MANAGEMENT

RELATIONSHIP-BASED UNDERWRITING

Manual underwriting often incorporates soft information from community knowledge. It can build trust and loyalty among borrowers, potentially increasing likelihood of repayment.

Moving to more heavy reliance on rules-based systems can increase consistency but leaves less room for soft information. Where historical data are limited or conditions are changing, there may be trial-and-error periods as lenders refine their criteria.

PREDICTIVE MODELING

FAST AND LARGE

As predictive credit risk models get more sophisticated over time and data inputs grow, their margin of error decreases. The lender learns how to manage, maintain, and update models to adjust for ongoing risk.

LENDING SPEED AND VOLUME

SLOW AND SMALL

Loan processing takes weeks with multiple manual steps. Loan volume is limited in part by the number of loan officers and underwriting staff. Sometimes a loan committee reviews and makes decisions on individual loan applications.

Loan processing uses some automated analysis but may still include some manual elements. Reviews and sign-off by lending staff may be intensive as they test and revise new systems. Where underwriting criteria are changing, lenders may constrain the size of their pilot programs as they evaluate performance.

Loan processing can be nearly instantaneous as it is based on automated credit risk analysis models. Manual underwriting is reserved for exceptional cases, and review processes are more standardized. Application pipelines and liquidity are the major constraints on loan volume.

Data Source: FinRegLab; based on analysis of interviews

While not yet common, some mission-based lenders have developed or aspire to develop sophisticated predictive models incorporating cash-flow data, credit bureau information, and other inputs to allow automated decision-making for the full range of applicants. Due to data, technology, and resource constraints, however, mission-based lenders typically must work with vendors to develop and implement such systems. While some mission-based lenders aspire to move toward such systems over time as a way to scale their programs and compete more effectively with higher-cost online lenders, other mission-based lenders are more hesitant due to capacity constraints, skepticism about the efficacy of automated systems to replicate loan officer judgment, and concerns about potential bias and exclusion risks. Part 3 further discusses broader debates about scale and automation.

4.2 Benefits of cash-flow data in underwriting

As they accrue more performance data, mission-based lenders are continuing to evaluate the extent to which using electronic feeds of bank account data can substantially improve their ability to predict loan repayment by riskier applicants relative to more traditional information sources. As discussed in Section 3, many lenders note the potential advantages of the information relative to tax returns and financial statements, given the risk that such documentation may be stale or incomplete particularly for younger and smaller businesses. However, they are continuing to assess the utility of the data relative to traditional credit reports and scores as they get more experience with new programs and initiatives. Future FinRegLab empirical analyses will probe these issues in greater detail.

Similar to the impacts discussed in Section 3 with regard to data intake, lenders also highlighted productivity and efficiency gains from moving away from manual analytical processes by adopting platforms that can process electronic feeds of bank account information, credit bureau data, and other sources. Reducing the amount of time loan officers spend on data entry and computing basic metrics allows the lenders to respond more quickly to customer applications. When integrating cash-flow data with loan processing platforms, lenders saw application to closing timelines shift from over 100 days to just two weeks or from several weeks to a few days, depending on what other data inputs the lenders required, the degree of automation, and the lenders' technological capacity throughout the rest of the lending process.

Adopting platform technologies for underwriting also allowed employees to process more applications and to shift time to "high-touch," strategic, and forward-looking activities, such as evaluating edge-case or complex applications, providing financial coaching and technical assistance, and identifying ways to better serve the existing customer base. One MDI expressed excitement about "no longer having board members reviewing stacks of paper loan files."

Cash-flow data and digitized lending workflows can also drive product innovation. For instance, mission-based lenders are relying particularly heavily on open banking connections and supporting platforms when launching revenue-based lending products and lines of credit. These products are much more difficult to manage with manual bank statement processing and less sophisticated platforms that do not easily support additional financial checks as borrowers make repeated draws over time or changes in payment amounts as revenues fluctuate. Among lenders we interviewed, we observed experimentation with various alternative credit products, including industry-specific lines of credit tailored to businesses with steadier or more predictable cash flows, customized repayment and amortization structures, and short-term lines of credit that convert into term loans. Technology and standardized processes can lower the infrastructure costs to set up new products in agile and iterative ways that allow for testing and feedback. For instance, one lender experimented with tailored DTI and DSCR thresholds for different loan size tiers. Having access to real-time cash flow

and loan performance metrics through integrated loan platforms facilitated the analysis of these adjustments on loan approvals and initial performance. Lenders can then refine requirements over time as they get feedback from application and loan outcomes.

BOX 9 LINES OF CREDIT, REVENUE-BASED FINANCING, AND OTHER PRODUCT INNOVATIONS

Mission-based lenders have historically tended to offer small business borrowers long-term installment loan products with flat monthly payments. Such loans are relatively easy to administer, but are not always appealing to businesses who want shorter-term, open-end products that allow them to make repeated credit draws as their needs evolve and/or would prefer flexibility on payment amounts as revenues ebb and flow. As mission-based lenders have seen the impact of high-cost lines of credit and revenue-based products such as MCAs on their local communities, many believe that diversifying their product offerings is a critical step toward increasing the effectiveness of their lending programs.

Access to electronic cash-flow data and more sophisticated technology platforms help to facilitate product innovation by facilitating faster information access, automating analyses, and executing payment adjustments over time. Without strong infrastructure, lines of credit and revenue based products would be burdensome to administer for both lenders and borrowers due to the need for repeated information updates and adjustments to payment amounts.

Mission-based lenders are also working to ensure that their loans' features and terms are sustainable and responsive to businesses' needs, while also managing the lenders' risks as they gain more experience with the new structures. For lines of credit, some lenders are offering grace periods or interest-only repayment periods for a specified time before repayment begins. Some lines of credit are evergreen, allowing entrepreneurs to tap into them as needed, while others convert to term loans with amortization after a specific time.

Revenue-based finance, either in the form of loans or equity, has also been gaining traction among mission-based lenders seeking to offer alternatives to structures such as merchant cash advances. While such offerings were rare among mission-based lenders prior to the pandemic, more than 20 CDFIs are now offering some form of revenue-based loans.⁵⁷ Some lenders structure payments as a percentage of revenues for a specified period (generally under 10 percent monthly) with a cap usually set at 1.5 to 2 times the loan amount. While these share structural similarities with MCAs, they are designed to be non-extractive and to support the growth of the business by capping payments at a level that is not excessively high during poor revenue months or disproportionately large during particularly good revenue months. They also typically require weekly payments, whereas many MCAs and other revenue-based or factoring products extract payments on a daily basis or even multiple times per day. By aligning repayment with business performance, these loans are designed to provide a more flexible and sustainable financing option for small businesses.

Other lenders are focusing on installment loans for relatively short terms (sometimes 12 to 24 months) that also require payment on weekly or biweekly schedules. They report that many borrowers find it easier to budget for smaller but more regular "bite sized" loan payments. Customers often select the day of the week for the payment up front, which gives them flexibility based on their specific business needs and operational cycles. Weekly payment terms also provide the lender with additional insights on loan performance, as there is an early warning signal on missed payments. While these payment terms do not constitute revenue-based financing, some mission-based lenders may still refer to these as "revenue-based" programs since they are more responsive to the weekly cash-flows of businesses.

Some of these product innovations are better suited for certain small business industries or verticals and may require new partnerships to be viable. For example, some lenders are finding that revenue-based financing is a natural fit for businesses with swipe-based payments and revenue that fluctuates over short time periods, but emphasize the importance of partnerships with payment processing platforms such as Toast to maintain visibility into payment flows as a strategy to reduce risk.

4.3 Considerations and challenges for underwriting and loan processes

Incorporating electronic cash-flow data into mission-based lenders' loan processes is often part of broader initiatives to adjust underwriting analyses and criteria. Depending on the goals and scale of the particular initiative, mission-based lenders must make major decisions about new underwriting standards along with technology selection and implementation, as discussed further in **Section 5**.

Mission-based lenders that are seeking to deepen their analysis of electronic bank account data as part of underwriting have to consider factors such as: developing new processes to categorize transactions and distill data insights; determining the extent to which lenders focus on entrepreneurs' finances in addition to their business; and managing limitations in historical data and analytical resources. Depending on how they are seeking to use the data, lenders are learning to dig more deeply into transaction records in a variety of ways:

- When lenders are relying on bank account data to assess small business revenue as a substitute for information that might otherwise be derived from tax returns or financial statements, some categorization and analysis of account deposits is required in order to separate out sales receipts from account transfers, loan proceeds, and other non-revenue sources. However, the resulting information can potentially be incorporated into metrics such as DTI or DSCR with relatively few other process or criteria changes. One potential challenge for lenders is deriving useful insights from transaction data across various small business industries, which can vary significantly in their cash-flow profiles. It may take time and experimenting to understand what different account transactions mean for different industries, and how they should factor into cash-flow analysis.
- » Bank account transactions can also provide insights on a broader range of recurring expense payments than credit bureau data can, because bureau data is often limited to payments on loans, leases, and credit cards rather than items such as rent and utilities. However, capturing these insights requires additional transaction processing, and while the bank account history can show amounts that have been paid, it does not reflect what is owed or past due. Therefore many lenders are continuing to rely on credit report data where it is available to measure debt loads via metrics such as DTI or DSCR and to evaluate applicants' repayment history at least for the short term. Over time, lenders may develop more detailed analyses of recurring and variable expense patterns in bank account data.
- » How to factor in low balance, negative balance, and overdraft or NSF events also requires careful analysis, as the data elements captured may vary depending on individual banks' information systems. In addition, the frequency of events can be affected by differing bank payment processing policies. For example, when an account balance is low and several transactions occur on the same day, applicants may have a different number of overdraft or NSF charges depending on whether their banks process the largest or smallest transactions first.

Lenders differed on how frequently loan officers follow up with individual applicants throughout these calculations and analyses. Some routinely have loan officers conduct follow up conversations with applicants. These conversations are often part of assessing what type of loan products may best meet their needs, obtaining a global view of the business owner's finance, and seeking clarity where applicants have commingled personal and business finances in a single account (see **Box 10**). Others only reach out to applicants in the case of particularly unusual patterns or commingling issues, but not on a routine basis. Some lenders expect their practices may change as they gain greater experience with electronic cash-flow data and supporting technologies.

BOX 10 COMMINGLED FINANCES AND CONSIDERATION OF GLOBAL VERSUS BUSINESS FINANCES

One consideration for mission-based lenders looking to incorporate cash-flow data into underwriting is whether and how to analyze the finances of a small business owner versus the business itself. While it is generally a good accounting practice for small business owners to separate their personal from their business finances, for smaller startups and sole proprietorships outside sources of income and personal assets may be relevant in underwriting a business loan.

Where business owners are routing both personal and business transactions through the same account, it may present a challenge for lenders working to develop more sophisticated or automated analyses of small business applicants' bank account data. Transaction data can be messy and difficult to interpret when personal and business activities are not separated. One lender stated, "Often bank accounts are a mixed bag of information across personal and business accounts, with transfers being made willy-nilly. It is hard in those instances to see what the trends are."

In such cases, some lenders work with the applicant to classify transactions manually before proceeding with underwriting. Others have a policy of not extending loans until business finances have been separated and a minimum business account history has accrued, but treat such situations as a moment for coaching and relationship building. One lender stated, "When our loan officers see a lot of commingling of personal and business finances in the [account] data, they recommend a coaching session before moving forward with the application to help them become [eligible for small business loans]." Another lender used its financial courses to teach the importance of separating personal and business banking up front, coaching participants to shift their business activities to strictly business accounts before participants might apply for funding. Most lenders also require borrowers to have a separate business checking account to disburse funds into, so coaching smaller businesses that have been using their personal accounts can help get them ready to access capital later.

While separating the two pools of finances is helpful, some lenders believe that understanding business owners' personal finances can assist in underwriting loans to smaller, younger companies. For example, having visibility into personal financial inflows and obligations may be particularly important for "side hustle" businesses where the entrepreneur has other sources of income. However, other lenders focus strictly on business transaction account data. They view teaching owners to separate their finances and building a self-sustaining business as an important best practice, and in some cases cited discomfort about consideration of income from spouses or relatives in a household who are not co-borrowers. To the extent that lenders consider a global view, they may take a variety of approaches based on personal account records, owner interviews, and other data sources, for instance by considering global debt coverage or assessing what "wages" owners need to be paid from their business to cover personal expenses.

Whether they focused on global finances or just business flows, the mission-based lenders we interviewed emphasized the importance of considering both revenues and expenses. Some emphasized that this is an important distinguishing characteristic of their underwriting approach relative to companies that provide merchant cash advances and some other revenue-based products that are underwritten based largely on income flows only.

Although many mission-based lenders rely on aggregators and vendors in their underwriting processes, they often still lack sufficient historical data to test which variables are most effective in underwriting their specific customer bases. This issue is most severe where mission-based lenders are launching a new program or product, since they may not have any historical data at all. But even in cases where lenders have historically required applicants to provide paper or PDF bank statements for more limited purposes, lenders may not have retained the information in formats that easily permit a backwards looking comparison to test the potential for new underwriting criteria to better predict loan performance.

As a result, absent special funding for loan loss reserves and particularly when starting brand new programs, many mission-based lenders start quite small and work incrementally, waiting to obtain loan performance data over time before substantially expanding the scope of their operations. To the extent that lenders are working to develop shorter-term loan products, performance data will accrue more quickly over successive generations of loans. However, for traditional installment loans that may last up to five years, full performance evaluations can take substantially more time.

BOX 11 DEVELOPING HIGHLY AUTOMATED DECISION-MAKING MODELS

As discussed in **Section 4.1**, many mission-based lenders are seeking to use automation to streamline the processing of applications that are clear cut acceptances or rejections under their lending policies, but believe that personal interaction and evaluation is critical for applications in the middle. A smaller group is focusing on developing predictive models that can be used to automate analysis and decision-making for their full spectrum of applicants, including in some cases use of machine learning models.

Developing such models can be difficult for individual mission-based lenders due to several challenges, including both limited analytical resources and the fact that many lenders do not have a large pool of historical application and performance data for use in building and testing models. Working with vendors or secondary market initiatives that pool data across lenders could help to overcome this challenge, despite some variations in customer bases

Some lenders are also hesitant due to skepticism about whether an automated system can replicate human-based interaction, judgment, and risk management for their customer segments, in addition to concerns about managing bias and other risks in automated systems.

At the same time, larger mission-based lenders are increasingly recognizing the value of their historical data and the potential benefits of being able to deploy faster and more sophisticated analytics to evaluate changes in market and loan performance and new products and parameters. A handful of lenders already use sophisticated modeling regularly in decisioning, account monitoring, and relationship management. Some are just beginning to test and deploy machine learning models, which can potentially identify more nuanced data patterns but can be more challenging to manage and explain due to complexity and other factors. Other lenders expect to make decisions about whether to invest in developing more sophisticated analytical models at later stages of their evolution, after implementing smaller changes and testing less complicated underwriting systems.

BOX 12 THIRD-PARTY CASH-FLOW SCORES AND ATTRIBUTES

One option for lenders that do not want to develop an individualized predictive cash-flow model (by themselves or in conjunction with a vendor) is to consider purchasing derived attributes or a score developed by a third party. Most of the nation's largest credit bureaus and data aggregators have started offering attributes distilled from bank account data, and a growing number of companies have created cash-flow scores to predict applicants' propensity to repay new loans. For instance, UltraFICO and VantageScore 4 Plus combine traditional credit bureau data with bank account information, while Prism's CashScore and Nova Credit's NovaScore Cash Flow (also called Cash Atlas) are based solely on bank account data.⁵⁸

However, these scoring products are focused primarily on consumer credit and have not been specifically tested to date in the small business context. In this respect they are similar in concept to personal credit scores based solely on traditional credit bureau data, which small business lenders frequently obtain for business owners and rely upon as part of their underwriting processes. Some mission-based lenders also reported the costs and pricing structures of some of these new scoring products can make them difficult to access, particularly where they are already paying for traditional credit reports and scores. The Credit Builders Alliance recently announced an initiative to pilot VantageScore 4 Plus with some of its CDFI members to study its application in consumer underwriting, especially for underserved and "thin file" consumers, providing a \$10,000 grant as well as technical assistance.⁵⁹



5. PLATFORM ADOPTION

As suggested in Section 3 and Section 4, selecting vendors is a critical step for mission-based lenders transitioning to the use of electronic cash-flow data and lending technology to increase the efficiency and scale of their underwriting processes. Platform adoption decisions can have significant implications for future lending program efficiency, transparency, and innovation. The following section outlines important considerations for lenders—both those using electronic cash-flow data and those relying on traditional data sources—as they select and implement technology platforms. Section 6 focuses on internal change management, including strategic decision making, staffing, and helping employees adjust to significant changes in processes and systems.

5.1 Technology selection and implementation

Whether mission-based lenders are moving away from manual underwriting systems for the first time or have been working with lending platforms for years, resource and information constraints increase the stakes of technology adoption decisions. While it is encouraging that the landscape of vendors and platforms available to mission-based lenders has expanded substantially in the past few years, having more choices can bring its own complications. Several research reports have profiled the landscape of technology vendors available to mission-based lenders, ⁶⁰ but the space continues to evolve and there is currently no one-stop shop where lenders can obtain up-to-the minute information to compare functionality, pricing, and technical specifications across all loan processing vendors. Some intermediary organizations have started to fill this gap by compiling vendor capabilities assessments as discussed in Section 7, though they may be limited in their ability to offer their findings broadly and to update them regularly.

The vendor search, selection, and implementation process can also be challenging for lenders with limited internal technical expertise. In the absence of dedicated technology staff, executives and loan staff typically help to conduct due diligence and evaluate potential vendors. This can be an intensive process for staff without engineering or coding skills, as vendor vetting requires outlining technical requirements and assessing vendors' claims against their capabilities. Some lenders we interviewed recalled experiencing buyer's remorse and disappointment after contracting with vendors and then finding out that the functionality or technical support was much clunkier and less sophisticated than initially described, in part because they were unable to test the technology or fully evaluate the implementation specifications at the outset.

Section 5: Platform Adoption

BOX 13 FREE PLATFORM ADOPTION DURING PPP

Following the launch of the PPP program during the pandemic shutdown, technology provider Finastra developed a special software application to facilitate faster program originations. With support from Vista Equity Partners and outreach through the National Bankers Association and Association of African-American CDFI CEOs among other channels, Finastra offered to waive all upfront costs to onboard mission-based lenders and other community institutions onto its loan origination and processing platform so that they could use the software. However, the initial cohort of lenders who expressed interest ultimately did not use the technology.

A number of factors complicated adoption, including the fact that Finastra did not yet offer a cloud-based option that could be implemented remotely during the pandemic shutdown and the need for staff training and IT infrastructure to use the new system. Although Finastra's offer to waive upfront costs was meaningful given the cost barriers to technology adoption, the experience underscores some of the broader challenges that mission-based lenders face in adopting technology, including the lack of in-house technology teams to manage technology transitions and difficulties in assessing the most suitable technology options for their needs and capabilities.

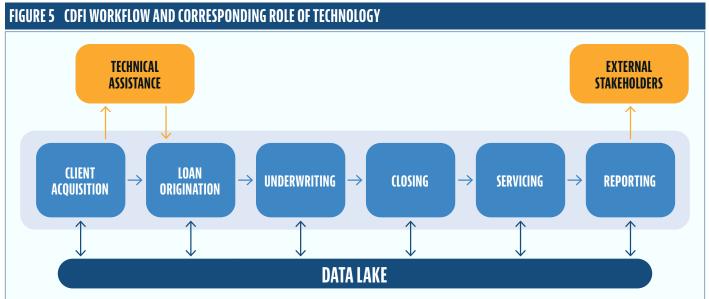
Drawing on lessons learned during the shutdown, Finastra was able to complete preparations for launching its cloud-based platform in 2021, created a subsequent initiative with Vista and the Kellogg Foundation to support broader technology adoption by a cohort of mission-based lenders, and later launched as a "Total Community Lending" program that is targeted specifically to CDFIs and MDIs.⁶² As of 2024, Finastra is actively onboarding additional mission-based lenders onto its platform. The company is continuing to consider ways to streamline onboarding and cost structures for new mission-based lenders as it deepens its work with lenders in this sector.

In addition to questions about using electronic bank account data, mission-based lenders face several key decisions in choosing technologies to support more efficient underwriting and origination processes generally. These include (1) whether to adopt a comprehensive loan origination system (LOS) designed to provide integrated support for the entire end-to-end process or to use more specialized platforms that may provide greater functionality but have to be linked together for data flows; (2) whether to work with larger vendors that are often better established but not as attuned to the needs of mission-based lenders or with newer companies that are more flexible and focused specifically on the mission-based ecosystem but may face capacity constraints; and (3) the extent to which lenders invest in customizations that may provide greater flexibility or convenience for their particular operations but require greater time and resources to build out and update.

1. Whether to adopt a comprehensive system: In a vacuum, mission-based lenders we interviewed would generally prefer a single end-to-end platform that seamlessly supports all stages of the lending process, and cite the degree of data integration and visibility offered by such systems as one of their most appealing aspects. However, lenders note there are often tradeoffs in functionality and cost. One organization representative noted, "One of the biggest challenges we face is that many of the platforms claim they can handle the process from loan originations through servicing, and often they might offer a little bit of each, but they are usually stronger in one. There's no one platform [that is equally strong] for everything." Larger, end-to-end platforms are also likely to be more expensive and complex, presenting larger onboarding challenges. While bigger platforms such as Salesforce may offer many functions, for instance, they typically require a specialist to understand how to set up, customize, and then maintain features specific to the lenders' needs.

In light of these tradeoffs, a number of lenders have decided to seek out separate platforms for a variety of functions—such as customer relationship management (CRM), finance, loan servicing, portfolio monitoring, and reporting—and build connections between them as a means of building a customized "tech stack." For such a system to work well together, however, it is critical that platforms offer the ability to integrate with each other through connections such as APIs to allow efficient data flows from one system to another. Lenders

may also find it helpful to consider creating a centralized data lake or repository to pool the information from the different systems together. Absent these kinds of data connections, combining different systems can pose significant efficiency challenges for process flows and cross-cutting analyses and planning. Lenders report that some platforms that advertise seamless integration with other tools do not play nicely together in reality, for example by having incompatible input and output data requirements. APIs and connections also may take time and resources to build out. While connections are in the process of being built or where there are glitches, data must often be manually transferred and sometimes modified to fit the next platform. This interrupts workflows and negates many of the benefits of automation and nimble data analysis that lenders are seeking to gain from the technology.



With an integrated loan origination system, data that is collected or created during each step of the loan processing workflow is available to other system users. Where lenders choose to use multiple systems, they can use APIs to move critical information between processing steps, but may also need to create a data lake to facilitate broader data access to different teams for purposes such as reporting, financial analysis, and portfolio monitoring and management.

Data Source: Modified from Urban Institute

BOX 14 CONNECTING TO CORE PROCESSORS AND OTHER LEGACY TECHNOLOGIES

MDIs and credit unions face a particular challenge in vendor selection and integration, as they also have to consider how any new digital lending platform may integrate with the core processing systems that maintain their customer deposit accounts and produce financial records. Core processor vendors first developed in the 1960s to 1980s to provide basic systems functionality for transaction accounts and other central financial institution functions. They tended to be siloed and product-specific, usually run on mainframe computers and local servers. While their systems have improved in recent decades and some new cloud-based options have emerged, many banks are still working with processors that have limited capacity for integrations with loan processing platforms and other vendors. Core processors' lack of support for API connectivity and restraints on data formatting can make implementing new lending programs more difficult, for instance by, forcing the depository institutions to either manually pull records from their core and transform them to work with the new platforms or to build custom extensions that are tailored to each vendor's needs.

Some MDIs have been so frustrated by their core processors' limitations on integrations and other functionality that they have decided to search and transition to a new provider—an intensive process that can take years—before launching small business lending programs that will rely upon electronic cash-flow data. Others are creating relationships with more technology-forward "side cores" to support new digital banking products and programs and monitoring developments among international providers as potential future options.

Section 5: Platform Adoption

Whether lenders select a single end-to-end platform or a number of tools that work together can also impact the ease of accessing data across different teams. Different steps of the lending process from customer acquisition, to underwriting, closing, repayment, and reporting, may be performed by different teams that have distinct purviews, priorities, and data requirements. Consolidating data into a system that all teams can access and use to pull customized reports that capture their necessary information saves time and touchpoints with clients. It can also generate clearer insights that were not easily visible using processes with disparate information flows. Where lenders have implemented data management systems such as universal data lakes, data can also easily flow into other platforms being used across the lending cycle.

2. Larger vs. specialized vendors: In addition to deciding what type of lending platform structure to adopt, lenders face a choice between working with vendors that serve a wide variety of sectors (such as Salesforce), vendors that serve other parts of the financial services sector (primarily banks or fintechs), or vendors focused specifically on the mission-based sector (including larger mission-based lenders that license their platforms to smaller peers). Prior vendor experience with small business versus consumer lending can also be a differentiating factor.

Established technology providers have more mature systems with robust infrastructure and testing that supports scale and a variety of use cases. However, these vendors may not be as attuned to working with smaller, non-bank organizations that often want significant flexibility and customization to better meet the needs of historically underserved customers. By contrast, vendor startups that are focusing specifically on the mission-based space are more familiar with their lending constructs and customer base, and are more willing to work on customizations. However, they can face staffing and system constraints as they work to scale their own operations.

Lenders are taking a variety of approaches to this question. Some expressed a preference for working with more established companies after seeing stories of fintech failures. In contrast, some lenders have gone out of their way to build relationships with start-up vendors. Acting as beta testers for younger vendors with new platforms can be a way to ensure they receive attention and can contribute input on the functionality to meet their specific needs. At least one lender we spoke to has gone so far as to make investments into technology vendor start-ups as a means to ensure responsiveness and attention, though not all mission-based lenders are positioned to adopt this strategy. The lenders we talked to are working with vendors across the spectrum, and have figured out what works best for their own circumstances and level of comfort.

3. Customizations: Questions about customization strategies often arise after the initial vendor selection phase as implementation plays out. Mission-based lenders that already have substantial experience with technology platforms have found customization a challenging topic. While it can help systems work more efficiently for a particular lender or its customers, there are potential tradeoffs including: additional time and expense required during initial programming, difficulties with general systems updates where a lender has substantial modifications in place, and the need to account for heightened transition challenges when moving from a customized older platform to a newer system. While approaches to this issue vary widely depending on the context, for these reasons some lenders have consciously decided to reduce customizations as they adopt newer platforms.

Section 5: Platform Adoption

The cost of vendor services is a key consideration in lenders' selection decisions and technology strategies, both the upfront investment required to make initial connections and customizations and the ongoing maintenance and subscription or service fees. Cost structures vary greatly among vendors, with some offering sliding scale or pay-as-you-go tiering that allows lenders to adapt pricing to their needs, and others that have higher base costs but may provide more sophisticated capabilities. Although the number of vendors specifically catering to CDFIs and MDIs has increased, many of the vendors operating in this space ultimately have a wider customer set than just non-profit lenders, and may not offer pricing affordable to mission-based lenders. Lenders also have to consider the tradeoffs inherent in deciding whether to sign multi-year contracts. While vendors typically offer steep discounts and price locks for customers to sign two-, three-, or even ten-year contracts, lenders sometimes face greater front-loaded costs in such arrangements and must weigh the risk that the provider may not meet their needs several years down the road. Shorter renewal periods provide greater flexibility to switch providers depending on service levels or changes in organizational finances but less certainty about future price increases.

For lenders contemplating moves from existing LOS or vendor platforms to new partners, several additional considerations come into play. New systems can potentially offer more sophisticated services that address prior pain points and position the lender to significantly improve customer experiences, scale, and data integrations. Mission-based lenders facing such choices often start with greater experience and knowledge of their needs and technological options. On the other hand, mission-based lenders and consultants that we interviewed emphasized that the challenges of migrating data and managing related process changes are often more intensive than lenders expect. For example, as part of transitioning platforms, lenders often have to run both systems concurrently for at least a few months to allow for fallbacks in case of bugs or issues, and to ensure all data and processes are transitioning correctly. Consultants who specialize in working with mission-based lenders through technology migrations report that they often urge their clients to take a hard look at whether there may be additional functionality in their existing systems that they are not fully exploiting before going down the path of changing systems. While it is important to not stick with a legacy system simply because of sunk costs, they emphasize that the organizational costs of repeated systems migrations can be substantial.

BOX 15 VENDOR RISK MANAGEMENT

While selecting technology vendors is a high-stakes decision for all mission-based lenders given the considerations described above, MDIs and credit unions face more formal regulatory expectations under the Bank Service Company Act and other regulatory guidance. The basic premise of these regulatory expectations is that regulated entities are free to outsource particular functions but are liable for ensuring that their vendors comply with the requirements that apply to the primary institution. Banks and credit unions are therefore expected to conduct both initial due diligence and ongoing oversight of all third-party relationships.

For smaller lenders outsourcing technology functions because of limited internal resources, conducting due diligence on external technology vendors can be challenging. Some depositories report that they are feeling more constrained with regard to partnerships in light of the fact that federal banking regulators have prioritized investigating "banking as a service" partnerships in the wake of issuing new guidance on third-party relationships in June 2023. Banks that partnered with fintechs made up one third of federal banking regulators' public enforcement actions in 2023, even though they only represent 3 percent of US banks as well as issuing general guidance and checklists to assist smaller institutions. Working with vendors that have contractual relationships with other banks or credit unions and maintaining clear communications with examiners can be helpful for MDIs and CDCUs in navigating these expectations.

Another consideration for vendor partnerships is the risk of cybersecurity attacks and incidents.⁶⁵ Accordingly, discussions about cybersecurity insurance have become more common in the mission-based lending sector. Regulators are also encouraging smaller lenders to set up comprehensive security programs and to ensure third-party vendors have cybersecurity controls in place and that connections are routinely monitored for suspicious activity.

Section 5: Platform Adoption

To navigate these choices and challenges, many mission-based lenders are turning to knowledge sharing and collaboration with peers across the sector. CDFIs and MDIs use both informal and formal networks (discussed more in Section 7) to build and learn from each others' experiences. Many of the executives we spoke with regularly connect with other executives about their technology stacks, sharing feedback and lessons about vendors they have interacted with. Another common informal tactic is to use reference checks while vetting vendors to interview other mission-based lenders that have worked with their platform or tools and learn about challenges they have encountered.

5.2 Developing customized platforms

Over the years, some larger mission-based lenders have built lending platforms in-house or with substantial vendor support with a specific eye toward offering the systems to smaller lenders that are at earlier stages of development. However, participants report that the dynamics can become complicated as the organizers of such initiatives have to balance how much time and resources they want to spend on technology builds and maintenance versus other mission-based activities, including their own lending programs. They also can run into challenges with the degree of standardization versus customization that smaller organizations want in their systems.

One of the earliest examples of this approach was the Microloan Management System launched by Accion Texas (now called LiftFund) in 2007 and made available to other lenders the following year, at a time when few technology vendors were willing to work with the sector. The MMS system provided a platform to allow subscribing lenders to accept online loan applications as well as underwriting support through an internally developed risk model. LiftFund found that some very small lenders did not want to standardize their processes to match the platform parameters. Meanwhile, the largest lenders wanted systems that they could customize to meet their own needs. In response, it changed some of its pricing and system parameters to focus on lenders "in between" that were looking to grow their programs over time. However, managing upgrades, fundraising and pricing decisions, and other systems administration tasks became more complicated as technologies evolved and more vendors began to enter the space. In particular, LiftFund found that the degree of customization they allowed in the platform made it too burdensome to maintain and upgrade over time. In 2023, LiftFund shut the system down so that it could focus on its core lending activities supported by platforms offered by outside technology vendors.⁶⁶

More recent initiatives have often involved lenders or intermediaries working closely with technology vendors to build platforms that are specifically calibrated to the mission-based lending space, with an intent to offer the platforms to multiple lenders. These include lending platform initiatives by the National Community Reinvestment Coalition's Community Development Fund and by Prosperity Now working with Credytu and Change Machine.⁶⁷ The Community Reinvestment Fund has also launched several platforms for purposes such as facilitating loan reporting and sales, using electronic cash-flow data for portfolio monitoring and various other purposes, though these initiatives are not focusing on underwriting at the current time.⁶⁸ However, initiatives to develop technology platforms specifically for mission-based lenders have also faced challenges meeting the needs of lenders that vary significantly in their technology sophistication, talent, and interest and openness to change lending practices. This is discussed in further detail in Section 7.

6. STRATEGIC LEADERSHIP AND CHANGE MANAGEMENT

An early focus on strategic decision-making and change management can be critical to the success of technology and data initiatives. Mission-based lenders we interviewed underscored the importance of defining organizational needs and goals clearly at the outset of initiatives, adapting internal processes to effectuate mission goals, and assisting employees in adjusting to new ways of working. Without intentionality and leadership on these topics, they cautioned there is a risk that technology solutions start to dictate lender processes and program parameters instead of the other way around. Keeping the focus on an organization's long-term goals can also be helpful in structuring smaller initiatives with an eye toward facilitating later projects.

Many of the mission-based lenders we interviewed emphasized the importance of developing a clear vision for their small business lending programs and implementation planning that extends beyond technology itself. Having a good understanding of the status quo unit economics is also critical in order for leadership to effectively determine priorities, sequence incremental changes, and gradually maximize staff focus on activities that require human judgment while automating others. Some lenders completed process mapping exercises to outline their current processes, policies, and procedures across teams and identify opportunities to optimize workflows and improve customer service, efficiency, performance, and inclusion before turning to technology needs and prioritization. These exercises also helped lenders identify internal improvements that did not necessarily require technology upgrades and sharpened their vetting and communication processes with vendors. As one lender put it, "Technology doesn't come first—it is there to help you deliver your vision, it alone is not your vision."

These approaches are also helpful for assessing whether there are ways to lay the groundwork for longer-term initiatives. Such analyses can be particularly important in thinking through how to organize and retain data that may be valuable for future initiatives. For example, where lenders are focused on calculating fairly traditional metrics in the immediate term but want to explore underwriting improvements over time, it can be helpful to develop data retention and formatting practices early on to expedite subsequent testing and analysis. As discussed in **Section 5**, some lenders are beginning to give thought to constructing data repositories that help them connect information from different systems to help with analysis, reporting, and systems improvements across a range of functions.

Managing the human side of process and technology changes is also important. This includes identifying the full range of internal stakeholders that will be affected by potential changes in data, technology, and workflows. Overhauling lending workflows, embracing automation and innovation, decentralizing decision-making, and experimenting with new underwriting policies can trigger a range of reactions among employees, from enthusiasm and excitement to skepticism and concern about overload, and even resistance or fear. Lender interviews revealed that addressing staff concerns, maintaining strong communication channels, and building buy-in are important to navigate these responses to change.

While some staff may be excited about the efficiency and productivity benefits from technology transformation, others may feel reluctant to change given the resources required to learn new systems and processes. Unless they are standing up a new lending program, lenders have existing systems and workflows that staff are accustomed to and feel comfortable operating. Implementing new technology requires investments of time and human resources for training and skill-building. Since mission-based lenders are typically lean non-profit organizations, lending staff are likely to be performing multiple roles and functions at once with high workloads. Therefore, staff may feel wary of balancing these new demands with ongoing operations and can sometimes feel overwhelmed about finding the capacity to learn and test new systems and technological tools.

Shifting to digital approaches requires changes in mindsets, workflows, and customer communication that will inevitably impact the organizational culture. If all teams are not involved in the build out of a new process or technology, some may develop concerns about whether parts of their functions will become more difficult. For example, if financial teams access certain performance metrics on a monthly or quarterly basis for reporting, they may be concerned about how new systems will impact their ability to easily compile all of the relevant data. In addition, mission-based lenders tend to have a strong customer-centric culture that prioritizes meeting customers' needs through face-to-face interactions and bespoke solutions. Migrating to more standardized and automated processes that have fewer or different touchpoints with clients and allow less room for one-off policy exceptions may lead to resistance from lending staff. The cultural shifts associated with technology adoption and scale are addressed in further detail in Section 10.

Mission-based lenders have by necessity navigated these challenges using approaches that balance technological advancement with their organizational cultures. Successful change management requires strong leadership, and the most successful cases we observed involved executives championing innovation and driving technology initiatives forward with significant personal investment. Leaders that lay out a clear strategic vision for the future of the organization can bring along other leaders, staff, funders, and boards to support organizational innovation and learning. It is important for leaders to articulate the mission impact of the initiative and the long-term payoffs. Leadership also goes beyond the initial implementation phase, when the new technology is still "shiny," to overcome the real hurdles that may come up later.

Lenders also emphasized the importance of fostering engagement and buy-in at the ground level. Rather than just the loan originations team or a central technology-focused team championing and piloting new platforms and underwriting methods, it is often critical to involve multi-disciplinary teams in implementing new technology so that all parts of the lending workflow are represented. Broader implementation across departments was particularly important for integrated platforms that have to communicate with other existing systems. It is key to build buy-in and adoption from any teams that may interact with data on either end of a platform, such as boots-on-the-ground community relationship managers or finance and accounting. Some lenders we talked to built entire staff experiences around their initiatives, fostering a culture of innovation and celebration of the new platforms. This included setting aside regular time at staff meetings to encourage staff to share stories of success and the impact of new technology across departments.

Implementing digital tools and workflows often creates a skills gap that requires training, support, and sometimes new staff to fill. Mission-based lenders have historically hired for underwriting and loan officer roles, prioritizing experience evaluating creditworthiness and building client relationships, but new technology-driven processes require different skills. Lenders may need to hire for roles such as IT managers, database or network administrators, engineers, software developers, security officers, cloud architects, business analysts, and data scientists. However, with limited resources to

hire technical roles, lenders may just hire one or two employees with technical backgrounds to manage a broad range of functions and vendors.

While this may be a practical necessity in early stages, lenders warn that it is important to consider succession risks given the potential impacts if only one person is trained on a particular platform or is charged with driving a lender's technology strategy. Attracting and retaining technical talent at multiple levels in the face of competition from for-profit entities is a critical strategic priority. Failure to retain technical talent can be a limiting factor in mission-based lenders' ability to execute on initiatives to improve data analysis, implement more efficient platforms, and launch more innovative projects. One of the most common reasons we heard for delays in implementing new initiatives was the departure of critical executive "sponsors" or the primary technical points of contact.

In order to address staff skills gaps, some lenders we talked to have implemented broader shifts to their staffing models. For example, as underwriting processes are standardized and absorbed into digital platforms and processes, some lenders have started to focus new hires more on project and product management instead of functions typically associated with loan officers. Instead of needing staff with the underwriting skills to analyze financial statements and verify documents, these lenders need staff who can manage relationships with clients, coach them through digital applications, and oversee processes and lending platforms. Some lenders have also repurposed staff from other departments to bolster the number of employees who assist with technology functions. Where resources permit some have begun to separate IT and strategic technology roles, so that routine operation and maintenance of current systems and development and implementation of new systems are separate functions. While outsourcing to vendors can be a significant force multiplier, maintaining a critical mass of internal resources is important to provide strategic oversight, maintain continuity, and execute progressive upgrades and improvements over time.

To assist mission-based lenders in building up their internal technology human resources, several large banks have launched secondment programs that lend senior bank staff specifically to MDIs for technology and innovation initiatives. Mission-based lenders have reported positive impacts from these programs, though it remains to be seen whether they will continue and even scale to non-bank lenders in the future.

* * *

As outlined above, the extent to which mission-based lenders are engaging with electronic cash-flow data and platform technologies is shaped by their unique histories, current capabilities, and future aspirations. Their objectives and adaptability in pursuing technology-enabled small business lending programs shape which considerations are most relevant to particular stages of their implementation journeys. Some lenders have experienced "hockey stick" levels of growth after making these changes over the past few years, increasing their small business lending volumes from 2-3 per month to over 100 per month, and total lending from around \$10 million to over \$60 million per year. As they adjust to such rapid growth, they are now considering next steps to continue meeting additional unmet demand.

As individual lenders and other stakeholders contemplate what it would take to produce further substantial increases in lending to younger and smaller businesses, some are focusing on group initiatives to help more lenders navigate data and technology adoption as well as complementary programs to deepen customer acquisition pipelines and lender access to liquidity to support larger origination volumes. Part 3 delves into these considerations, offering insights for lenders aiming to scale and exploring the wider implications for the mission-based sector. It also considers potential roles for supporters, funders, partners, and other stakeholders to address these challenges at scale.

PART THREE

BROADER CONSIDERATIONS AND LARGER INITIATIVES FOR SCALING MISSION-BASED SMALL BUSINESS LENDING PROGRAMS

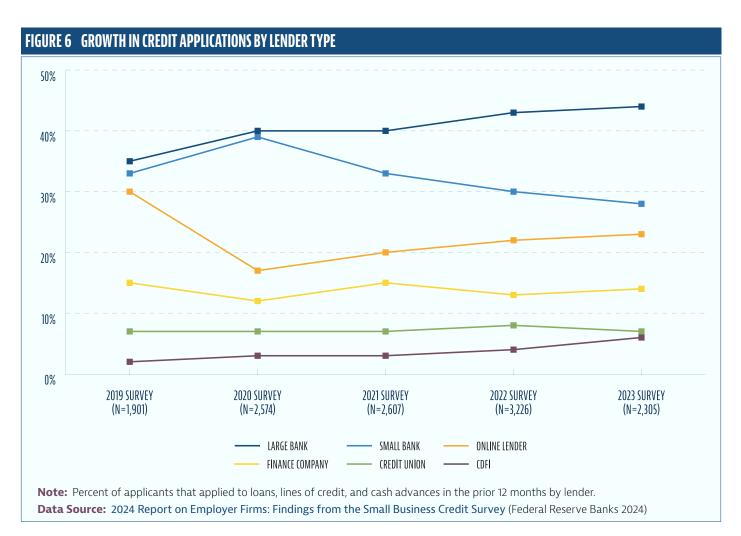
The experience of mission-based lenders punching so far above their weight in distributing pandemic relief funding has fueled broader discussions about their potential to become a much more substantial source of funding for smaller and younger businesses in the future. Replicating the volumes of small business loans originated by mission-based lenders during PPP would be difficult, given that the program functioned more like a grant than a loan and that it had unique visibility and liquidity components that made it far easier to scale than normal lending. Nevertheless, the program gave many mission-based lenders a sense of what would be involved in operating at a much larger scale, and its structure helps to highlight several key components needed for the sector to sustain a substantially larger footprint and impact.

Demand for mission-based small business lending is also likely to expand, as the significant surge in entrepreneurship since the pandemic has created a large number of startups that will need external funding to survive and grow their operations but may not yet meet banks' minimum thresholds. According to the Small Business Credit Survey conducted in 2023, nearly 60 percent of employer firms sought out some form of financing in the previous 12 months, and 60 percent of those were looking for less than \$100,000 in funding. Women and minority business owners in particular are more likely to need small dollar loan amounts, with half of women, Black, and Hispanic entrepreneurs that applied for financing seeking out less than \$50,000. The rate of small businesses seeking funding through loans, lines of credit, and merchant cash advances specifically is also significantly higher among minority-owned firms than their White counterparts.

Mission-based lenders' profile in small business lending markets has continued to expand since the pandemic. The percentage of small business applicants who reported applying to CDFIs in annual surveys has roughly doubled since 2021 and now approximates the volume of applications to general credit unions. However, applications to CDFIs remain far smaller than to any category of for-profit lender, with only 6 percent of respondents having applied to them for some form of credit.⁷²

Although not all 1,500 of the nation's CDFIs would need to substantially increase their small business lending for the sector to have a significant impact on the market, such growth will likely require both changes by individual lenders and broader sectoral initiatives to reach critical mass. While the number of initiatives to facilitate technology adoption or build capacity among lenders is continuing to grow, large-scale technology adoption by the sector as a whole would require significant collective action. For growth-oriented lenders, alternative data and technology adoption are also only one aspect of the financial, operational, and cultural changes implicated in substantially scaling their small business lending programs. At a practical level, these changes will require significant shifts in approaches to customer acquisition, communications, and funding. But they

also raise broader questions about how the customer-centric ethos of mission-based lending can be translated to new digital channels and balanced against the potential economic and efficiency benefits of moving toward more standardized lending approaches. While "high-tech" infrastructure can improve connections between lenders and borrowers and help mission-based lenders serve borrowers who are not looking for "high-touch" approaches, operating at a significantly larger scale would have important implications for mission-based lenders' relationships with their customers and other stakeholders.



The following sections explore these issues in more depth, starting in Section 7 with efforts to assist larger groups of mission-based lenders through the technology adoption process. Section 8 highlights the importance and challenges of expanding customer acquisition in tandem with data and technology infrastructure to support a greater volume of loan originations. Section 9 focuses on the importance of liquidity access and subsidy in enabling lenders to scale lending, including promising recent initiatives. Finally, Section 10 lays out forward-looking questions for mission-based lenders about the cultural and relationships implications of operating at greater scale. Each of these sections considers the role of other stakeholders and partners in helping these lenders fill critical gaps in the existing market.

7. SCALED LEARNING AND TECHNOLOGY ADOPTION

Given the challenges that individual mission-based lenders face in navigating data and technology adoption as detailed in Part 2, intermediary organizations—usually networks of CDFI and MDI members—have stepped in to provide resources, capacity building, and training to groups of mission-based lenders to push the industry forward. However, they have encountered their own challenges in standardizing approaches to technology adoption across diverse groups of lenders. These experiences underscore the potential need for additional broader efforts and mechanisms to help the mission-based sector move up the technology curve.

7.1 Collectivized technology adoption

Intermediary organizations such as CDFI and MDI networks and industry trade associations are devoting increasing resources to building the internal capacity of their members through support services and capital. Some intermediaries have set an explicit goal of fostering growth among their members in order to maximize their impact and reach. Many are negotiating discounts and providing subsidies as well as offering various informational services to help their members navigate data and technology adoption.

Intermediaries evolved to help mission-based lenders in furthering their collective missions and to provide critical financial and organizational support that individual organizations may have difficulty accessing on their own. They are typically structured as membership-based organizations and trade associations (see **Box 16** for more details). Historically they have helped members build operational capacity in a broad range of functions, including strategic leadership, talent development, capital access, lending programs, CDFI certification, access to state and federal government programs, and in some cases policy advocacy.

Intermediary organizations report that both members and philanthropic funders have recently increased their focus on technology adoption, accelerated by the pandemic lockdown and other developments. For example, the National Bankers Association, which represents MDIs, launched the MDI ConnectTech digitization program in 2022 to support their members in technology modernization.⁷³ Some intermediaries we interviewed noted that even when they set out to develop initiatives or programming on other topics such as capital access, they have ended up spending substantial resources on the use of platforms and tools, as technology has become so integral across many aspects of lending operations (see Box 17 for details). This growing momentum around intermediary technology initiatives offers a potentially promising opportunity to address some of the challenges that individual small lenders face in digitization.

BOX 16 TYPES OF INTERMEDIARY ORGANIZATIONS

National organizations such as Opportunity Finance Network (OFN) provide services to a broad range of lenders across the US, while other affinit groups and networks cater to lenders serving specific geographies or communities, such as the California Association for Micro Enterprise Opportunity (CAMEO) or the National Association for Latino Community Asset Builders (NALCAB). Trade groups typically represent specific categories of lenders, such as credit unions for Inclusiv (formerly the National Federation of Community Development Credit Unions), and community banks through the Community Development Bankers Association (CDBA).

Intermediaries also vary in their structure and financials. Some organizations are membership-based, with lenders paying annual fees to receive services, though they often still raise external funding from donors and investors to support their initiatives and programming. Some intermediary organizations—such as NALCAB, Community Reinvestment Fund, and National Community Reinvestment Coalition—also operate their own CDFIs to fill gaps in capital access while providing services to help smaller peers grow.

BOX 17 LOAN PARTICIPATION PROGRAM BECOMES TECHNOLOGY COACHING INITIATIVE

The National Association for Latino Community Asset Builders (NALCAB) is a CDFI and membership organization that has developed a flexible small business loan guarantee product to provide greater liquidity to participating lenders. When NALCAB received funding from the Minority Business Development Agency to on-board several more lenders to the program as a strategy for expanding capital access to minority business enterprises, it offered capacity building grants to help the lenders with associated operational needs. The demand for assistance on technology infrastructure specifically was so high that NALCAB ended up doubling the size of the grants and bringing consultants on board to help work with each lender individually.

Different beneficiaries had different technology needs—all were microlenders with average loans ranging from under \$10,000 to \$100,000, geographically diverse with rural and urban representation, and at different stages of technology adoption. Therefore hiring a consultant helped offer individualized technology support to meet the lenders where they were. Generally, beneficiaries were looking for help on how to leverage CRM software for loan origination, platform integration and linking different systems, and mobile applications to increase approval speed to compete with online lenders.

The consultants coached beneficiaries, using technology guides to assess needs and identify core focus areas. They also worked on developing a comparative analysis of platforms to assist members with technology platform decision-making and vetting. Stakeholders say consultants can potentially be helpful in offering specific technology recommendations for lenders' individual circumstances where intermediaries may not feel comfortable doing so. With increased focus on capital access for small businesses, some intermediaries have also started offering initiatives to help their members stand up small business lending programs. These include training and resources around designing small dollar lending products, best practices in underwriting and credit policies, and approaches to financing scaled lending. As more lenders explore the use of electronic cash-flow data, intermediaries play an important role in helping establish technology integrations to allow for connections to third-party data aggregators and sharing approaches to interpreting transaction data and calculating standard metrics for use in evaluating applicants.

Intermediaries add value by leveraging their collective power and resources to lower barriers to entry for lenders to pursue technology-enabled lending programs, whether small business specific or more generally. Depending on the size and structure of the intermediary, they offer members a spectrum of different services that can help facilitate technology adoption, including:

» Generalized educational and informational services. Intermediaries frequently offer centralized training and resources to lenders, which can include digital guides, in-person learning sessions, webinars, and even extensive online academies with a variety of curriculum. These resources help lenders navigate technology and underwriting approaches, as well as emerging issues such as cybersecurity and artificial intelligence and their applications in lending.

BOX 18 INTERMEDIARY VENDOR VETTING

A few intermediary organizations provide curated lists of recommended vendors that they consider to be most relevant and friendly to smaller lenders, in some cases based on the experiences of past cohorts of members that have tested the technology. For example, CAMEO organized several cohorts of lenders over the course of a decade to test and vet a variety of lending platform options. As a result of that experience, the organization eventually identified a platform it felt comfortable recommending to their members going forward.

Even where intermediaries are not recommending one specific vendor to their members, they may still provide individual guidance and support in selecting among them. For instance, NALCAB has recently worked with external consultants to compile vendor capability guides for its members on specific systems, focusing on CRM and lending platforms. In evaluating vendors, intermediaries commonly consider factors such as: cost and infrastructure accessibility, ease of technology integrations, customer experience focus, past experience with mission-based lenders, and third-party legal, risk, and compliance management practices.

- **» Vendor screening and recommendations.** Some intermediary organizations screen and recommend vendors for their members, conducting initial due diligence activities and making introductions to vendors. Intermediaries may also secure an internal license for a platform or software, creating a sandbox environment with sample data that members can explore and test out before committing to purchasing it for themselves.
- **» Consultation services and fractional staffing.** Some intermediaries provide tailored advice and guidance to individual members about the platforms and systems best suited to their specific needs, either themselves or through consultants. Consulting engagements are often structured as coaching sessions and start with assessing the lender's current state and capacity, specifying future objectives, identifying particular needs that technology can address, and then jointly developing an implementation roadmap. Some intermediaries go as far as to loan out centralized staff to fill certain roles that lenders may not be able to support on their own, such as fractional Chief Information Officers or Chief Technology Officers.
- **» Collective implementation and learning programs.** It is also common for intermediaries to organize cohorts of five to fifteen lenders that follow a shared curriculum related to technology or small business lending. They may prescribe a specific platform for lenders to implement or let the group select a platform that best suits their collective needs.
- **» Negotiating contracts and discounted pricing.** Intermediaries can also harness the collective voice of multiple lenders as leverage to negotiate better pricing, contracts, and feature development prioritization with vendors. This helps address the lack of leverage that individual smaller lenders can sometimes face when working with larger vendors.
- **» Providing grants and other subsidies.** Some intermediaries offer free or discounted vendor pricing by paying for platform licenses or giving out technology grants to their members, significantly increasing technology accessibility. Technology subsidies and grant programs are usually covered by philanthropic funding or investments received by the intermediary.

7.2 Challenges for intermediaries

Intermediary programs are invaluable to facilitating faster and broader technology adoption across the mission-based sector, yet still face challenges with regard to standardization, individualization, and efficiency. The more lenders are involved in a particular initiative, the more difficult it can be to recommend a standard approach or subsidize a single technology solution that can meet all of the group members' needs. As a result, some intermediaries are turning to a la carte program structures and individualized consultant services that individual lenders can tailor to their needs.

BOX 19 TECHNOLOGY PROGRAMS ORGANIZED BY FUNDERS AND INVESTORS

Funders and investors of mission-based lenders sometimes also offer capacity building initiatives themselves or in partnership with intermediary organizations. These can include general operational capacity building, but recently have also started to include technology implementation.

Calvert Impact, a global nonprofit investment firm, in partnership with Elizabeth Park Capital Management and several other investors and funders, launched the Mission Driven Bank Fund (MDBF) in 2023.⁷⁵ MDBF has committed to investing in MDIs and CDFIs to contribute to closing the racial wealth gap. To complement the capital investments, MDBF has launched a technical services program to provide organizational capacity building and resource sharing for the banks. MDBF has a network of referral organizations for technical services and can provide introductions to their portfolio banks to support the banks' goals. MDBF also provides an annual subsidy to portfolio banks to support a technical services project of their choice.

Another example is the Wells Fargo Diverse Community Capital (DCC) program, which launched in 2015 a \$75 million commitment and was later expanded by an additional \$100 million to extend the program through 2020.76 Similar to MDBF, the program had a specific technical/capacity building support component in addition to providing capital, though it was not organized on a cohort model and did not focus exclusively on credit underwriting. Wells Fargo partnered with the Opportunity Finance Network to implement the program and deploy funding to CDFIs. Many of the lenders ended up developing technology platforms to originate loans, collaborating with fintechs, or buying technology platforms to strengthen or expand their lending systems. Some of these lenders, such as DreamSpring, Community Reinvestment Fund (CRF), and Metropolitan Economic Development Association (MEDA), invested in building or buying technology platforms to support various types of activities, with the goal of making them available to other CDFIs in the long-term. Several lenders were able to play a larger role in PPP due to the DCC technology investments.77

Participants in these and other programs emphasize the value of longer-term programs that may last for five or more years to give lenders time to test options and work through the implementation process. They also emphasize the importance of funding not just initial implementation but ongoing maintenance and improvements over time. For instance, MDBF has integrated technology funding for the technical services program into the structure of the fund so that as the fund's committed capital grows, so does the budget for the technical services. Lenders particularly value unrestricted funding because it provides maximum flexibility to support both program and infrastructure improvements, though such funding is relatively rare.

While intermediaries may organize around certain affinities such as lender type or geography, they still tend to be made up of a diverse set of mission-based lenders. Intermediary members vary in characteristics such as size, lending programs, underwriting processes, funding sources, and technology use, which directly impact their needs and readiness to adopt technology. It can be difficult for intermediaries to overcome this by characterizing lenders according to a single dimension such as asset size. Even in cohorts of similar-sized lenders, some still need more hands-on training and technical assistance to help with their programs based on their unique levels of infrastructure, staffing, and internal capacity. One intermediary described their decision to stop offering cohorts as driven in part by the fact that "each CDFI wants a technology solution tailored to their own needs, so having similar systems for everyone is a challenge."

These challenges have led some intermediaries to shift the timelines and approaches of their technology adoption programs. Several recent initiatives have run into delays in implementing technology platforms among members, leading intermediaries to narrow their scope or even abandon initiatives prescribing specific platforms altogether. In response to their members, some intermediaries have started moving to bottoms up and "a la carte" approaches. This gives members more autonomy in selecting the technology solutions that align with their unique needs. Some intermediaries use grassroots approaches to technology support that start with surveying their members to understand their greatest challenges and priorities and then design their initiatives around them. However, these approaches can have drawbacks when it comes to collective learning and pricing discounts, as intermediaries are not able to offer resources and discounts on a wide selection of platforms to appeal to

individual lenders. The challenges that intermediaries have faced in collective technology adoption efforts reflect the broader cultural shifts required to facilitate large-scale growth among the CDFI and MDI sector, which we will address further in **Section 10**.

These dynamics also affect individual lenders, intermediaries, and vendors that offer platforms to mission-based lenders. It is difficult for a single technical approach to meet the needs of lenders that vary significantly in their ability to process, ingest, or manage data across their lending processes. In the commercial world, software providers tend to focus on a smaller segment of the market and specialize in building for their needs to avoid the maintenance associated with serving such a broad customer group. Some lenders offering technology platforms to the mission-based space may require their own form of subsidy to serve the full spectrum of mission-based lenders, including those with lower baseline technological capacity.

7.3 Forward-looking solutions to build infrastructure

While intermediaries' efforts to expedite technology adoption by their members are yielding significant benefits, both lenders and other stakeholders emphasize the need for additional resources to support broader sectoral solutions. One approach would be for a broad-based government initiative through the Treasury Department's CDFI Fund to provide a technology adoption "moonshot" for the sector as a whole, adding significant capacity building funds to complement programmatic support. Additional ideas include regularizing the practice among all funders more generally to provide a standard set-aside for infrastructure improvements when providing grants, investments, or loans to support mission-based lenders' credit programs, and further expansion of lender-owned platforms and vendors.

Mission-based lenders typically fundraise for new technology initiatives through philanthropic or private sector supporters. Some initiatives specifically set out to build technology capacity through a specific platform or tool across a group of participating lenders. However, many lenders then later struggle to pay for the recurring maintenance, infrastructure, and platform subscription costs. Funders often prefer to support programming that will have a direct, measurable outcome in increasing lending to small businesses, even though supporting CDFI and MDI infrastructure investments can help leverage program dollars more effectively over time. Even the CDFI Fund, which offers substantial grant programs for mission-based lenders, focuses primarily on supporting direct lending activities, rather than organizational capacity building. This raises a potential tension as stakeholders continue to want mission-based lenders to expand their services to communities in need.

In addition to increasing targeted funding for initial adoption and investment, another potential structure to help address these dynamics would be for funders to align on a standard set-aside for technology. This could include allocating a set threshold of dedicated funding—such as 10 percent—in addition to direct programming and routine administrative expenses to specifically support technology and infrastructure initiatives. This funding would go towards technology platforms and tools, training, staffing, data infrastructure, and other ongoing costs. Such an approach would help to ensure that each programmatic initiative leaves the infrastructure of mission-based lenders better off than it started, so that lenders can continue to build and upgrade capacity supporting their programming on an ongoing basis.

Some stakeholders are also exploring models that would permit lenders or intermediaries to invest in and operate their own technology vendors, rather than purchasing platform services from external vendors, as a way to increase control over systems architecture and pricing. As discussed in Section 5.2, several CDFIs have experimented with building and selling their own lending platforms to other lenders. Examples include LiftFund's MMS platform (now defunct), as well as more recent

initiatives by the National Community Reinvestment Coalition's Community Development Fund and Prosperity Now that are supported by technology vendors. Experience with the unique dynamics and constraints of mission-based lending positions lenders well to design solutions tailor-made for their market. They can also support the programs through a combination of philanthropic funding and user fees to help cover platform development and ongoing operations. At the same time, such undertakings are substantial, and require ongoing resource, expertise, and technology support that organizers have to balance against other aspects of their mission and business models.

Credit unions have adopted a unique model to facilitate internal ownership over technology solutions through credit union service organizations (CUSOs). Because they are owned by one or more credit unions, CUSOs not only help to pool resources and create economies of scale, but are also familiar with applicable regulatory requirements, give lenders extensive input on their technology platforms, and ensure that any net revenues accrue to the CUSO owners (see box for more details). Inclusiv, an intermediary focused on supporting Community Development Credit Unions (CDCUs), helps its members develop small business lending programs by providing overall training on small business lending, access to a loan loss fund, a loan participation platform, and—thanks to a partnership with a CUSO—a loan origination platform and back-office support for underwriting and processing loans. The CUSO manages the technology platform, handling integrations with several digital lending tools and performing maintenance on behalf of the credit unions. Inclusiv is also offering its members an internal license to explore the CUSO's services on a trial basis before deciding whether to sign up for their own license. Inclusiv chose the CUSO in part because its initial fee was affordable for smaller members and its loan processing model could adapt to the needs of smaller credit unions.

BOX 20 CREDIT UNION SERVICE ORGANIZATIONS

Among credit unions, it is common to use CUSOs—organizations owned by credit unions wholly or in part—to provide specialized services that individual credit unions may lack the capital, resources, or expertise to deliver on their own. This can include technology, consulting, and operations support. Typically, CUSOs are owned by more than one credit union, allowing them to pool resources across institutions to handle more complex and resource-intensive challenges than any one organization could manage individually. CUSOs create economies of scale by sharing costs across lenders, so that each organization does not need to pay for services such as technology infrastructure, marketing, and back-office processes on their own. They also help foster innovation by focusing collective resources on large-scale solutions that individual lenders may not be able to fund.

The service organizations, which must primarily serve credit unions or their customers in addition to having at least one owner that is a credit union, were started originally primarily to help credit unions increase revenues by offering certain investment-related services that credit unions were prohibited by federal law from providing directly to their members. Over time, however, many of the organizations have shifted to focus on reducing operational costs and providing shared resource infrastructure. These shared resources can include general back-office and compliance related functions, customized technology and digitization services, and management of other vendors such as core processors that support the provision of credit unions' transaction accounts (see Section 5.1).

CUSOs that focus on providing shared resources are typically owned by multiple credit unions and may serve additional non-owner credit unions through contractual arrangements. Although they can potentially be a way for very small organizations to leverage common infrastructure, some research finds that smaller CUs do not always have capital to invest in such organizations and sometimes dislike having to conform to more standardized systems.⁷⁸

8. CUSTOMER ACQUISITION

Beyond adopting data and technology infrastructure, building robust customer acquisition pipelines is critical to support larger loan origination volumes. Mission-based lenders' traditional approaches relying heavily on local outreach and community partner referrals can be resource intensive and difficult to scale as they expand their geographic footprints. While the unique circumstances of the pandemic and government relief programs raised the profile of mission-based lenders and drove large loan volumes, lenders are now working to develop new digital growth strategies and flexing new marketing muscles in the aftermath of COVID programs.

8.1 Building robust customer acquisitions pipelines

Achieving efficiencies in lending processes is helping mission-based lenders provide alternatives to high-cost online products, but it does not automatically guarantee sustained growth in loan volumes. Beyond their existing geographic and community footprints, lenders have to consider how to raise awareness of their organization and offerings, build trust from customers, and differentiate themselves from other lenders.

Traditionally, most mission-based lenders have used a "boots-on-the-ground" approach to acquiring customers, attracting clients primarily through word of mouth, neighborhood or community-centered direct marketing, partnerships with local and state entities, and referrals. To be responsive to community needs and build strong relationships, mission-based lenders have often embedded themselves within the communities they serve. They leverage proximity to various affinity groups for outreach, and loan officers typically dedicate most of their time to cultivating new relationships and partnerships. In some cases, loan officer relationships play such a significant role in lender outreach that borrowers develop personal trust of these staff while remaining less familiar with the associated institution. Mission-based lenders have also typically relied heavily on referrals for new customers from sources such as community partners, local and state governments, and banks. In fact, for some lenders, referrals have historically accounted for the majority of their new customers.

While these localized strategies for client acquisition have been effective at serving specific geographies and communities, they are time and labor intensive and thus difficult to replicate with equal intensity as lenders expand to serve multiple markets. As lenders consider expanding to more communities and states, they are having to adapt their marketing activities as well as their approaches to establishing and maintaining relationships with both community partners and individual customers.

BOX 21 REPEAT BORROWERS AND THE MODEL OF "GRADUATING" CUSTOMERS TO BANK LOANS

Both CDFIs and their funders have historically viewed CDFIs as playing a transitional role to assist customers that have difficulty accessing traditional bank loans. CDFIs often provide financial services, technical assistance, and other support to help customers "graduate" to such loans over time.

However, making this transition has become more challenging over time as larger banks have increasingly imposed higher minimum thresholds for small business lending as to the length of time in business, minimum revenues, and loan size. A single loan from a CDFI may not be sufficient to position a small business to qualify for larger bank loans going forward, and not all businesses aspire to grow or succeed in growing to the size that is likely to qualify for loans from larger institutions. Accordingly, mission-based lenders are increasingly finding a need to extend multiple subsequent loans to the same borrower, creating higher degrees of repeat business. In some cases, they are also developing larger loan products to meet borrowers' needs as they progress beyond small loans and focus on rapid growth or expansion. Some mission-based lenders' revenue-based products are targeted to this segment, for example.

Email marketing is a common starting point, particularly for depository institutions that are focusing on their current transaction account holders and lenders of all types who have invested in CRM platforms. Many mission-based lenders have built strong community email lists over years of offering technical assistance classes, networking opportunities, and participating in local and state programs. Email marketing is a good marketing channel for lenders with less marketing experience, because it still allows some degree of internal control over the audience lenders are reaching. With limited sophistication, lenders can send simple messages to their entire listsery to provide updates on their product and service offerings. With more sophisticated tools, lenders can use their internal data to build more complex marketing journeys that target specific customers with customized outreach messaging and follow-ups. Building the systems to support this level of tailored marketing requires upfront investments in data collection, cleanup, and testing to figure out the most effective messaging approaches, but once it is stood up can be much less expensive than one-on-one outreach.

Marketing through websites and social media platforms is another potential channel for digital customer acquisition. However, many of the lenders we spoke to that are exploring this method expressed concern about building the expertise to be effective in reaching broader audiences. Lenders report varying degrees of success with various social media strategies such as YouTube videos and Facebook marketing. Larger advertising platforms offer a variety of complex functionalities to customize campaign content for different audience segments and specifically target and retarget certain populations based on factors like geography and personas. Just having access to marketing platforms does not guarantee lenders will be able to use them effectively, however. For instance, Google once offered its advertising services to mission-based lenders as part of a capacity-building initiative, but participating lenders could not utilize the offer due to a lack of experience working with the Google Ad suite. Additionally, while some lenders have seen an increase in the volume of inquiries as a result of social media marketing, they often report a decline in conversion rates and the quality of clients relative to other channels. Lenders believe that many of these potential customers are merely "window shopping" and are not necessarily committed to getting a loan.

As they experiment with digital marketing, lenders are encountering additional challenges. First, going digital can be costly, and many mission-based lenders lack dedicated marketing budgets for investing in cutting-edge techniques. Digital channels can also be noisy, for instance where customers assume e-mail communications are spam or fraudulent or have a difficult time differentiating mission-based lenders from other market actors. Lenders also grapple with the potential loss of personal touch in customer interactions. As a result, many mission-based lenders we spoke to believe it is critical to continue with on-the-ground non-digitized communication channels and to invest in educating borrowers about their technology infrastructure improvements to gain and maintain

their trust. Similarly, some lenders believe it is important to maintain direct customer acquisition channels as a complement to specialty programs and referrals, which can drive high digital application volumes in some periods but may fall off as particular programs conclude. Word of mouth, community partnerships, and customer education thus continue to be important tools for client acquisition in small business lending, even if the lending process itself is digitized.

Several lenders also emphasized the importance of sharpening the positioning of their techoriented products as alternatives to high-cost online products. As described above, many mission-based lenders have developed new products and programs with a specific goal of providing more sustainable alternatives to customers who often turn to high-cost online loans. However, it can be challenging for mission-based lenders to develop the right messaging for their products that clearly explains why their offerings are different and better. Merchant cash advance providers and some other online lenders do not report the APRs their products carry. Instead they present the costs in ways that make them seem less unfavorable or even less expensive than loans offered by CDFIs and MDIs.⁷⁹ Due to regulatory expectations and mission considerations, mission-based lenders emphasize the importance of presenting their costs clearly and transparently using traditional metrics and terms. This means applicants that make a cursory comparison of advertised rates may not fully understand the underlying differences in cost and product structures. Some lenders are starting to rethink approaches to position themselves more effectively vis-a-vis high-cost online lenders, but have not yet found a surefire solution to build trust in their products with new customers learning about them through online channels.

BOX 22 COMBATING FRAUD AND CLOSING THE DEAL

As lenders consider opening up online applications to borrowers from broader geographies through new marketing channels, they may be faced with an increased risk for fraud. While lenders report substantial advantages to adopting digitized processes for lending, many have reported experiencing a surge in fraudulent applications as they implemented pandemic related programs and shifted to online channels. As more applications are submitted without partner referrals or in-person loan officer contact, the lenders are having to adjust their data sources, systems, and processes to verify identities and screen for fraud risk in different ways.

Today, increased fraud risk ranks among the biggest challenges digital lenders are facing across the board as fraudsters are leveraging technology innovations and becoming more sophisticated. Some mission-based lenders we spoke with reported an increase in the submission of fraudulent financial documents. Phishing scams targeting borrowers are also on the rise, which can complicate lenders' attempts to use digital marketing to reach new customers with legitimate offers.

In some instances, mission-based lenders are able to leverage new technologies to address particular issues. For example, recent developments in identity-verification platforms make it easier for lenders to complete customer and small business verification checks to ensure applicants have real identities. Direct open banking integrations for cash flow analysis may also prevent applicants from submitting falsified bank statements.

In addition to investing in more sophisticated detection systems, some mission-based lenders are also increasing personal interaction through virtual channels prior to loan closing, even where the application process is entirely digital. As discussed in Section 10, in addition to the potential benefits for fraud reduction, they believe such meetings are important to establishing stronger customer relationships, confirming that the loan product really does meet the customer's needs, and probing whether there are other support services that could be helpful.

BOX 23 DIGITIZING AND SCALING TECHNICAL ASSISTANCE (TA)

Mission-based lenders often view technical assistance (TA) as a critical way to effectuate their broader missions by helping small businesses navigate the financial services ecosystem and building management capacity more generally. TA covers a variety of topics, including assistance with business plan development, cash flow and financial management, loan applications and debt counseling, and more generalized marketing and operational support. In addition to the potential benefits to participants, these programs can benefit lenders by creating a substantial pipeline of potential customers and by helping them to mitigate risks and prioritize resources by identifying which customers are motivated and ready for credit. As a result, many mission-based organizations have historically required participation, either prior to or after receiving a loan.

If a business does not initially qualify for a loan, lenders can offer analysis and coaching to guide the business toward qualification. Once the business is ready, the lender can then provide capital. This approach allows lenders to cultivate a pipeline of businesses preparing for future financing, while also providing a valuable service to the businesses themselves.

However, though TA is often described as the "secret sauce" that sets mission-based lenders apart from fintechs and traditional banks and has helped them build strong relationships and trust with clients, it can be time consuming, expensive, and difficult to replicate or scale. In addition, requiring TA prior to or immediately upon receiving a loan can also have tradeoffs. Small businesses that are facing cash-flow constraints may decide to seek out online lenders that do not delay or condition lending on participation in such programs. Especially when front-end TA involves an intensive time requirement of several weeks or even months, there also can be a risk that applicants will view participation as guaranteeing eventual funding, which may result in dissatisfaction or weaken trust in the institution should they end up not qualifying.

As lenders think about scaling their programs, approaches to TA are diversifying both as to channel and timing. Higher-volume lenders do not generally require TA as a step before loan application, though they offer informal assistance to help people through the application process and often offer robust coaching and educational programs for borrowers who want them or who are experiencing difficulties repaying their loans. Some higher-volume lenders are experimenting with offering TA on an as-needed basis or at critical moments, rather than requiring completion of a full program upfront. For instance, some lenders using cash-flow data in underwriting take advantage of these insights to offer personalized training on managing business finances for borrowers. Some lenders are even starting to outsource high-touch TA services to embedded community providers so that they can focus on their core lending activities.

There is also increasing interest in using technology to facilitate scale and more convenient delivery for time-crunched entrepreneurs, particularly after many programs shifted to virtual delivery during COVID. Some mission-based lenders have begun opening their TA platforms to other lenders. For example, Northern Initiatives uses its technology platform, Initiate, to provide TA to their small business clients and also offers the platform, at a cost, to other organizations.⁸¹ However, some lenders report since the pandemic that a number of participants prefer returning to in-person opportunities to network.

The label TA itself is a subject of ongoing debate within the mission-based lending sector, as there is no universally accepted definition. TA can include a wide range of activities offered at various stages of the lending process. This ambiguity makes measuring TA very challenging. Typically lenders rely on simple metrics such as staff hours spent on TA, which may not be very meaningful, or qualitative measures that are difficult to standardize or compare across the industry. Some lenders are also transitioning to terms such as "financial coaching" or "financial mastery" instead of TA. The term "technical assistance" and even "financial literacy" can sometimes be seen as reinforcing power imbalances and implying illiteracy, especially when working with underserved businesses.

8.2 Forward-looking solutions to support customer acquisition

As lenders experiment with place-based, community-embedded approaches to customer acquisition, broader partnerships may help facilitate the customer acquisition mechanisms needed for mission-based lenders to achieve scale. Establishing relationships with large-scale loan marketplaces, platforms to expedite referrals, and other networks may be able to drive a high-volume supply of new customers to mission-based lenders.

Some mission-based lenders are starting to experiment with offering their products on commercial loan marketplaces to reach broader customer audiences. Small business loan marketplaces act as a form of intermediary, connecting small businesses seeking loans with potential lenders. For small businesses, loan marketplaces can provide a convenient, one-stop shop for comparing loan options from multiple lenders and in some cases streamlining the time and effort of applying to multiple lenders. From the lenders' perspective, some marketplaces operate simply as lead generators while others help to match applications to the credit policies of the lenders upfront, facilitating better conversion rates and reducing processing costs. While marketplaces have been heavily used by fintech lenders historically, some include banks and other lenders as well.

Participating in a marketplace requires mission-based lenders to have a certain amount of capacity to process and close loans, since marketplaces vary in their ability and willingness to work with lenders that have significant geographic or technology limitations. While most marketplaces charge fees to both participating lenders and borrowers, their individual practices vary. Some lender fees are based simply on leads generated rather than loans closed, and some marketplaces have been criticized for rank ordering options displayed to applicants based on which loans would generate the most revenue for the platform. Customers who apply through marketplaces may also be substantially different in their profiles and shopping behaviors than customers who apply through mission-based lenders' websites or physical locations, meaning lenders may need time to understand which applications convert into originations and gauge new fraud and default risks. Accordingly, where some mission-based lenders and marketplaces are beginning to explore partnerships, there are a number of potential issues to work through.

Some stakeholders are developing new technologies and processes to drive referrals to mission-based lenders from banks, fintechs, and other sources. These initiatives help to funnel small businesses that would not qualify for traditional bank or fintech products to mission-based lenders that offer more flexible policies. Historically, much of this referral activity has been relatively informal and local, for instance bank branch staff let rejected applicants know that local CDFIs might be able to meet their needs. But there are naturally scaling limitations of this approach, as banks must maintain knowledge of the ecosystem of CDFIs around them that have different coverage areas and unique products and offerings. Some banks thus prefer working with larger mission-based lenders that cover most or all of their geographic footprint. Another challenge is that data-sharing and privacy limitations prevent banks from sharing applicant information with mission-based lenders, absent formal contractual partnerships to provide "second look" evaluations. Having to start a completely new application over with a mission-based lender after being denied by a bank can be frustrating and time-consuming for small business owners.

Online matching networks are a potential strategy for scaling referral programs, though a single large-scale solution has not come to fruition to date. Building automated platforms to facilitate referrals is attracting interest but can be difficult to execute in practice for a variety of reasons. In 2018, CRF launched the Connect2Capital program (now CRF Connect) as a network where banks can make applicant referrals to mission-based lenders at scale. Since then, CRF Connect has evolved into a broader platform for small businesses looking for capital, leveraging a matching algorithm to pair applicants with a network of nearly 100 lenders and TA providers. However, CRF Connect does not enable banks to consistently pass applicant data to mission-based lenders, leading small businesses to duplicate application processes with different providers. Banks may also be unwilling to participate in a formal referral program if they have not vetted the mission-based lenders' compliance and customer service programs. If the scale of referrals were to grow to a truly national network with many banks, fintechs, and mission-based lenders, individual participants would not have the ability to vet local partners.

Section 8: Customer Acquisition

Government programs could also be a viable channel to drive customers to mission-based lenders. Pandemic relief programs substantially increased many mission-based lenders' visibility and customer acquisition pipelines, illustrating what it could look like to have substantial volumes of new customers acquired outside of CDFIs' traditional community engagement channels. Part of the success of PPP was driven by the substantial marketing efforts by city, state, and federal government of pandemic relief programs, which increased the visibility of the CDFI sector and referred small businesses to specific organizations offering funding. The gravity of the pandemic also offered a unique level of attention from the public on the various press conferences, announcements, and other communications from government officials. Follow-on programs such as the State Small Business Credit Initiative are building on some of this momentum by fostering collaboration between states, local governments, private sector actors, and mission-based organizations. However, the structure of these programs and their emphasis on marketing activities vary from state to state, and they do not have the same level of brand recognition among small businesses as PPP.

9. SUPPLYING LIQUIDITY TO SUPPORT GREATER LENDING VOLUMES

A third critical component to scaling mission-based lenders' small business programs is ensuring sufficient access to liquidity to support greater origination volumes and justify the cost of more ambitious technology investments. The unique structure of the PPP and other state-driven pandemic relief programs solved this challenge for participating lenders in the short term, but mission-based lenders and other stakeholders are now having to develop new strategies for accessing and maintaining sufficient liquidity to support scaled lending. Post-pandemic, there is greater attention on loan participation programs, guarantee programs, and other structures that would help to facilitate the development of a secondary market as vehicles to get loans off mission-based lenders' balance sheets. These initiatives are yielding promising results but are also raising questions about the degree of standardization in data collection, underwriting and servicing processes, and reporting across the industry.

9.1 Liquidity needs

As in other respects, the PPP experience provided a glimpse into the potential impact that greater liquidity could have on the scale of the mission-based lending sector's small business originations. The Federal Reserve's PPP Liquidity Facility (PPPLF) made \$10 billion in liquidity available to SBA-qualified mission-based lenders as long as they had a relationship with a depository institution in the Reserve Bank system. Almost overnight, the PPPLF gave mission-based lenders who had the necessary technology infrastructure and partnerships in place access to the capital they needed to originate hundreds or even thousands of loans per month. As one CDFI with a large backlog of loan applications explained, "It's not that we couldn't do a higher volume of lending previously, but we just didn't have the capital to do it."

However, the PPPLF terminated in 2021 and, despite multiple government and private sector programs to inject capital into this space, small business lenders are increasingly having to return to more piecemeal strategies to expand their access to liquidity. Outside of deposits for bank CDFIs, mission-based lenders typically rely on three primary sources of capital: income from fees and interest on loans, government and philanthropic funding, and bank loans or investments to obtain CRA credit.⁸² Some lenders we spoke with reported that they had not been able to participate in subsequent small business lending initiatives because they could not line up sufficient funding through traditional capital stacks in time to meet deadlines. Several lenders reported experiencing periods during which they were not able to meet their internal goals for loan turnaround times because of delays in incoming funding. At their worst, these issues can stretch timelines out for weeks or

months and make it difficult for mission-based lenders to position their programs as an appealing alternative to high-cost online products.

In addition to investing more energy into general fundraising, mission-based lenders and other stakeholders have begun developing larger scale vehicles to recycle funds more quickly into new lending. One promising approach is to create a marketplace where mission-based lenders can sell loans to interested buyers. Banks in search of Community Reinvestment Act credit have already shown an appetite for these loans—and in many cases are willing to pay attractive premiums—and the hope is that these marketplaces will attract impact investors as well. Although mission-based lenders have traditionally held most loans on their balance sheets, these vehicles allow them to sell entire loans or portions of their loans to free up capital for further lending. Recently, several organizations have been working to implement large-scale loan participation programs and other related initiatives.

Calvert Impact has been actively involved in developing secondary market initiatives for small business loans in partnership with CDFIs and through the State Small Business Credit Initiative (SSBCI). During the pandemic, the organization, alongside its program partners, piloted five secondary market initiatives, known as the Small Business Recovery Funds, that functioned as centralized loan purchase facilities, increasing CDFI small business lending capacity by purchasing 95 percent of eligible small business loans from community lenders. Following the Recovery Funds programs, Calvert Impact has continued to build on the success of the initiative to support small businesses across the country. In July 2024, Calvert Impact launched the Access initiative, a public-private partnership that leverages funding from the SSBCI along with private investments to provide access to capital for small business owners from socially and economically disadvantaged backgrounds through CDFIs.83 The initiative aggregates business loans to be sold onto the secondary market. It was designed with support from the Citi Foundation and Wells Fargo, and was launched with a \$140 million warehouse credit facility from Goldman Sachs. To date, Calvert Impact has launched four state-wide SSBCI-supported loan participation programs in New York, New Jersey, Washington State, and Nevada, with eleven participating CDFI lenders, and is looking to expand to other states. This model addresses key historic limitations for CDFIs to scale, including access to off-balance sheet liquidity, a source of consistent lead generation to identify small businesses seeking capital, and sources of earned revenue. While the program is designed to be replicable, one obstacle that has slowed down the scaling of this approach is that states must undergo a procurement process in order to justify the selection of Calvert Impact as a partner in administering SSBCI programs.

More generally, the Aspen Institute has released detailed suggestions for states that want to increase CDFI participation through a number of different SSBCI program structures as a means of increasing loans below \$100,000 and serving more minority business enterprises, women-owned companies, and other particularly underserved groups. Scale Link is also working on an initiative to drive standardization in loan guarantee programs, which mission-based lenders view as an appealing structure to help reduce their provision expense for loan losses as well as make loans more appealing to potential secondary market investors.

Scale Link has also been focusing on opportunities for banks to purchase loans originated by CDFIs as a way to meet their obligations under the Community Reinvestment Act. Scale Link serves as an intermediary, offering a centralized technology platform to standardize transactions and aggregate loans across markets. Bundling microloans from different lenders and pooling them together for banks to purchase allows banks to more efficiently acquire a diverse portfolio of community development loans rather than having to negotiate CRA deals individually with each lender. Scale Link has also built in additional incentives for participating community lenders. It charges a premium on the loans sold to banks with 75 percent going back to CDFIs in retained earnings.

These initiatives are helping to address liquidity and balance sheet constraints for mission-based lenders. One lender reported a threefold increase in volumes from joining loan participation programs. To make sure that participating lenders can continue to work with distressed borrowers after loans are sold, both initiatives have been designed so that the mission-based lenders retain the servicing rights and maintain relationships with their borrowers. Additionally, the programs are starting to provide the infrastructure and incentives to pool information across multiple mission-based lenders and to standardize some aspects of origination, servicing, and reporting. These efforts are aimed at making it easier for potential investors and loan purchasers to compare information across different lenders, assess risk, and move closer to a conventional secondary market. However, the current programs are still quite small; while traditional capital markets would use millions of transactions to build a secondary market, the current initiatives are using data on tens of thousands of CDFI loans.

9.2 Forward-looking solutions to address liquidity

In addition to helping lenders recycle current capital more quickly, stakeholders are excited about the current initiatives' potential to scale over time into vehicles that attract substantial funding from large-scale institutional investors. The ultimate scale and nature of these initiatives will depend in significant part on how stakeholders balance investors' desire for volume, conformity, and standardization against the mission-based sector's focus on flexibility and creativity in meeting underserved borrowers where they are. Standardizing the collection and reporting of data elements is one aspect of this dynamic, but there are deeper questions about the standardization of product structures, underwriting processes, and servicing practices as well.

Existing small business secondary market initiatives have served as critical proofs of concept for establishing sector-wide practices. Calvert's post-pandemic secondary market initiatives are still early on and have not yet reported outcomes, but there are broader efforts underway to build on them. This includes efforts to pool small business loans from mission-based lenders into a portfolio to issue and sell asset-backed securities into mainstream capital markets at a larger scale, beyond SSBCI programs.⁸⁴ To this end, Calvert has also been leading efforts to obtain formal ratings for a small business CDFI secondary market, building on the precedent of establishing ratings for small business loans among fintechs and online lenders.⁸⁵ Several CDFIs have independently sought out Standard & Poor's (S&P) credit ratings in order to securitize and sell loans to outside investors, but this has primarily been concentrated in the mortgage sector.⁸⁶ Calvert is hoping that its experience can lead to an out-of-the-box solution that could be scaled to facilitate a robust secondary market for small business lending.

Mission-based lenders and intermediaries supporting these initiatives face several challenges to driving large-scale secondary market participation for small business loans: gathering transaction-level data and historical performance data across loan pools, creating sufficiently standard asset pools to attract investors while still allowing lenders to meet the needs of their diverse communities, and managing a servicing model that works for borrowers even after a loan is sold off the books of the originating lender.⁸⁷

To satisfy secondary market investors, loans typically have to be approved based on standard terms and require robust datasets that detail underwriting and performance. Some organizations are starting to work on solutions to these challenges, for example by helping mission-based lenders standardize performance reporting to provide investors with the data needed about loan pools available for sale. Calvert Impact's initiatives are relying on the Community Reinvestment Fund's CRF Connect and CRF Exchange platforms for loan intake and loan sales and data reporting, respectively. These platforms simplify reporting and loan participation and create substantial additional data to help

attract institutional lenders to the market. Calvert Impact has also contributed to the development of SSBCI programs with more standardized loan products and documentation, in an effort to facilitate capital markets access for CDFI-originated small business loans at scale. As more lenders adopt metrics built off electronic cash-flow data in underwriting, it will also be important to facilitate more robust and standardized reporting of that data as part of these broader processes.

While deeper standardization of products and underwriting practices is potentially more challenging, stakeholders that are involved in current liquidity initiatives believe that there is enough convergence to support a significant market. While mission-based lenders place a high value on meeting loan applicants where they are and may have highly bespoke programs and processes for the most high-need customers, years of shared learnings across the sector and efforts to increase greater efficiency have also encouraged some trends toward more consistent criteria, practices, and product terms. Participants in the pandemic-era loan funds also report that standardization initiatives in that context worked out better than they initially expected. These potentially provide a core for at least some mission-based loans to be grouped for purposes of investment, even if the individual lenders consider additional factors and data sources—including electronic cash-flow data, particularly where they go beyond relatively common metrics such as DTI and DSCR. While highly customized products would likely need to stay on mission-based lenders' balance sheets, focusing on these common elements and potentially identifying additional ones as lenders' practices continue to evolve could help lenders free up significant liquidity by selling their most conforming loan products.

A further consideration for establishing large-scale secondary markets is structures and norms around loan servicing. In addition to the lack of secondary market options, the current prevalence of retaining loans in portfolio gives mission-based lenders maximum flexibility in working with borrowers that encounter financial difficulties during repayment. While mission-based lenders are typically retaining servicing rights as secondary market initiatives evolve, defining those rights to preserve the same level of flexibility may be difficult given investors' desire for certainty and protecting their investments. Again, this may lead to a pattern where mission-based lenders keep higher risk loans on balance sheet, where they can take a more hands-on approach and work individually with borrowers, while having the optionality to sell a significant volume of more routine loans to create greater liquidity.

Some stakeholders are also looking to government funding programs as both a potential source of additional liquidity and a catalyst to generate the kind of data collection and reporting needed to encourage secondary market growth. While SSBCI programs are advancing these goals to some extent, the fact that each state is developing its own program creates a significant contrast to PPP, which involved a unified, nationally available program with consistent processes and documentation in addition to the dedicated liquidity fund. More fragmented or specialized programs—such as both SSBCI and the Greenhouse Gas Reduction Fund—would require significant intentionality to drive standardization in lending, data collection, and reporting requirements in order to achieve the same objective. Other potential vehicles include programs by the CDFI Fund and federal programs to support MDIs. Given the heterogeneity of the mission-based lending sector, any initiatives that have the potential to touch many lenders at once could be a mechanism to drive change at scale.

10. BROADER CULTURAL AND RELATIONSHIP CONSIDERATIONS

As mission-based lenders work to improve their technology platforms, customer acquisition strategies, and liquidity access to support further increases in small business lending, they also face substantial questions about how these changes, and significant growth in market share more generally, could affect their organizational cultures as well as their relationships with customers and other stakeholders. Historically, most mission-based lenders have built their operations around high-touch approaches to customer interaction, bespoke and flexible underwriting and servicing practices, place-based knowledge and partnerships, and funder-subsidized affordable pricing. This approach has helped them reach and serve high-need small businesses that have trouble accessing other forms of financing, but it is resource intensive and may be challenging to replicate through digital channels. Handling larger loan volumes and working on broader sectoral initiatives also creates pressures to standardize processes and data flows and may require shifts in interactions with funders, other lenders, and other stakeholders. This section highlights some of those questions about customer relationships and relationships with other stakeholders in small business lending markets.

10.1 High-tech meets high-touch customer relationships

One factor that typically differentiates mission-based lenders from mainstream lenders is their "high-touch" model of building individual relationships with borrowers. While mission-based lenders want to make sound loans, which is good for them and their clients, their primary focus is typically the mission of producing positive social and economic outcomes in their communities. This usually involves the high-touch practices discussed above, such as meeting with prospective borrowers face-to-face to get to know them and their businesses, providing extensive amounts of technical assistance to entrepreneurs even if they are not (yet) borrowers, and embedding loan officers on the ground in the community and with partner organizations. These approaches are meant to help build deep relationships and foster trust. Many of the clients that mission-based lenders serve appreciate the high-touch approach because they have faced rejection from other lenders and financial trauma in the past. As one lender described it: "Our culture is unique. Our customers call us on our mobile phones, on weekends. They know we'll pick up the phone. People gravitate to us because we take pride in helping them individually. Our reward is seeing them succeed."

Mission-based lenders' grounding in specific communities also provides them insight into applicants' circumstances and helps strengthen their relationships with borrowers and other ecosystem actors. CDFIs and MDIs typically start off serving a particular county, city, or even neighborhood.

They form deep partnerships with local government agencies, community service providers, chambers of commerce, and other organizations. These partners often refer new clients to mission-based lenders, transferring trust among organizations.

Mission-based lenders' knowledge of local markets and ecosystems may also help them manage risk. For example, lenders frequently complete site visits either in person or virtually during loan application processing. This helps them to assess the viability of the business by examining factors such as nearby competing businesses and anticipated foot traffic. Place-based lenders will know if there are other similar businesses in a particular neighborhood that may outcompete a new startup. These approaches are challenging to scale across larger geographic service areas. Mission-based lenders' community-based approaches also increase loyalty among their customers in ways that can increase the likelihood of repayment and therefore help to reduce charge-off or default rates in their portfolios.88 This may be particularly true for MDIs, which experience deep loyalty from their customer base as part of broader movements to support building minority wealth and assets, including among MDI owners.89 Several lenders we interviewed pointed out that their customers know there is a person with a name and a face on the other end of their loan, rather than just a big institution, which makes them more likely to prioritize repayment and reach out when they are facing financial challenges. Mission-based lenders are also likely to adopt customer-centric approaches if borrowers run into financial difficulties and have trouble making loan payments. Typically mission-based lenders offer more flexible restructuring and financing options for loans than mainstream lenders—including extended payment deferral—which can contribute to reduced total charge offs across their portfolios.90

As mission-based lenders seek out technology-enabled growth, they are considering whether and how various aspects of their traditional approaches and culture can translate into new channels and modes of operation. This includes experimenting with different strategies to strengthen customer relationships through digital communications and offering training and business advising virtually. They are also thinking about how to balance the efficiency benefits of standardization against the potential inclusion and relationship benefits from continuing to provide customers with a degree of flexibility concerning particular requirements and processes. To the extent that particular elements of traditional mission-based lenders' "secret sauce" cannot be replicated in largely or entirely digitized systems, lenders are also considering alternative approaches to managing risks and effectuating their broader missions.

Results to date suggest that digital channels can be quite effective in some circumstances, but that there can be value to maintaining a variety of options to meet customers' preferences despite the associated costs. Throughout the pandemic, many lenders transitioned their coaching and technical assistance programs online. Online video conferencing technology such as Zoom became critical in delivering education content and meeting with clients remotely. Many lenders found this more effective in reaching small business owners who in the past found it difficult to make time to attend in-person events and classes. One lender described the benefits of this new approach, "We can schedule weekly Zoom hours at a time that's convenient for the owner, even on weekends, and the participation rate in our programs is much higher now." Even as the pandemic waned, lenders have maintained, and in some cases expanded, these virtual TA offerings, while in some cases also adding back in-person versions for borrowers who are strongly motivated by in-person networking opportunities.

Beyond remote interactions, some mission-based lenders are offering comprehensive online financial education programs. In these cases, the content is all pre-recorded or pre-written and users can complete interactive modules that sometimes feature gamified elements. However, these high-tech financial education and coaching approaches remain largely untested. In fact,

some evidence suggests that online financial literacy content may not drive long-term behavioral changes, at least among consumers, ⁹¹ and there is some broader skepticism about the efficacy of online financial education overall. This is an area of potential future growth and experimentation for mission-based lenders. There are also other actors in the lending ecosystem experimenting with digital coaching and financial literacy initiatives from whom mission-based lenders could learn, and that they could potentially partner with. For example, in the past five years, several "mission-oriented" fintechs have emerged that build behavioral nudging into their financial coaching and credit building products for consumers. ⁹²

In the interest of digitization and scale, some mission-based lenders are experimenting with differing levels of face-to-face interactions with borrowers. One CDFI that offered online loan applications tested removing a mandatory conversation with a loan officer prior to loan closing, with the idea that they would "not make entrepreneurs spend one more second on securing capital than absolutely necessary." However, after the rate of missed payments and delinquencies increased, the lender quickly reinstated a required fifteen-minute conversation, and later extended it to thirty minutes based on feedback from both borrowers and employees. Beyond reducing early fraud and missed payments, employees believe the conversations are creating a stronger human connection that will make it more likely that borrowers will call the lender as their circumstances change for good or bad over time.

As highlighted in previous sections, another dimension of cultural change mission-based lenders are grappling with concerns the degree to which they standardize requirements and allow exceptions. This includes reexamining issues ranging from the provision of paper bank account statements to application of underwriting criteria to servicing troubled loans. One example is the extent to which lenders using more manual underwriting systems have historically allowed loan officers and loan committees to make exceptions to policy based on the circumstances of individual applicants. For instance, they might show flexibility if an applicant with a credit score below the lender's threshold explains their circumstances in a way that justifies an exception. While the same borrower would get automatically declined by a large bank that does not allow for exceptions, such processes potentially allow applicants with lower credit scores to access capital through mission-based lenders. However, as lenders implement technology and adopt the explicit goals of increasing the volume and speed of lending, they must standardize their underwriting policies or see dramatic increases in their costs and need for subsidy. Standardization through lending algorithms and models offers the greatest consistency and efficiency in processing large numbers of applications, but it creates friction with the mission-based sector's cultural norms and raises the question of how much variation individual lenders are willing to tolerate.

Some lenders are choosing to continue providing greater optionality to applicants and borrowers than mainstream lenders are willing to tolerate, for instance by providing greater flexibility in accepting paper bank statements. This has disadvantages in reducing efficiency and increasing operational costs, but many lenders are reluctant to adopt policies that would potentially narrow credit access. As the mission-based sector continues to move up the technology adoption curve, internal cultures around meeting borrowers where they are and maintaining "high-touch" relationship management practices will necessarily need to adapt.

10.2 Relationships with marketplace actors

The internal changes and broader initiatives that could support mission-based lenders in substantially scaling their small business lending programs may also have important implications for their interactions with other mission-based lenders, mainstream lenders, fintechs, funders, and other

marketplace actors. These changes potentially affect both collaborative and competitive dynamics between different organizations and may require stakeholders to recalibrate their expectations for how the mission-based sector operates. As the broader ecosystem looks for ways to address market shortfalls in small business lending, stakeholders may need to consider new ways to work together towards this joint objective.

One example of these kinds of shifts is that larger mission-based lenders moving to online lending originations are beginning to operate in significantly more states, so that their geographic footprints increasingly overlap with each other as well as with smaller and more community-focused CDFIs. Friendly competition among mission-based lenders is not new—for example, there has often been a degree of competition for funding, and some large institutions that are operating as intermediaries to support smaller lenders still maintain their own direct lending operations. Nevertheless, increasing competition fueled by geographic expansion will inevitably create more complicated inter-sector dynamics.

At the same time, the initiatives to develop stronger cross-sector technology, referral, and funding platforms are offering new opportunities and methods of collaboration within the sector. To highlight one example, stakeholders we interviewed noted that loan participation programs can help mission-based lenders smooth ebbs and flows in local loan demand by making it easier to access additional liquidity to serve borrowers when demand is strong and potentially provide liquidity to help other lenders when local business is slower. Some growth-oriented mission-based lenders are also beginning to develop partnerships with smaller, more specialized lenders and technical assistance providers to give more intensive support to applicants who need or want particularly high-touch services.

Substantial growth in mission-based lenders' small business credit programs could also have implications for their relationships with banks, fintechs, and other lenders, who have often welcomed opportunities to work with CDFIs and MDIs through investments, grants, technical assistance, and technology and referral partnerships. These larger lenders are motivated to form these partnerships because they want to be responsive to applicants who currently fall outside their credit policies and because they hope the customers may eventually return to them as their businesses mature after obtaining credit elsewhere. As discussed in **Section 8.1**, however, the likelihood of borrowers "graduating" to traditional bank loans after obtaining a single round of credit from a mission-based lender is decreasing as bank thresholds change. In response, some mission-based lenders have begun offering more sophisticated and digitally enabled lending products to a broader spectrum of borrowers.⁹³ Mission-based lenders view such changes as being responsive to unmet needs and a way to improve the economics of their programs as they work to fill market shortfalls, but they may cause larger lenders to question the borders between different market segments.

Mission-based lenders are also finding that attempts to scale their small business lending programs raise complicated questions with regard to risk levels, pricing, and subsidy for the sector. These lenders see potential for expanding their programs with the right combination of infrastructure for efficient loan processing and underwriting, customer acquisition, and liquidity vehicles. While these developments can drive greater efficiency and lower costs, they do not resolve the challenges posed by the underlying economics of making small loans to historically underserved populations. For instance, due to the challenges in underwriting smaller businesses who lack collateral, self-sufficiency ratios tend to be lower for non-bank CDFI lenders that specialize in small business lending as compared to lenders that focus on real estate lending. Additionally, loss levels among some of the nation's largest non-bank CDFI small business microlenders tend to be higher than they are for CDFIs offering other loan products.⁹⁴ Risk-based pricing is also relatively rare among mission-based lenders. Lenders and their funders are concerned that such pricing structures may have a disproportionate effect on more

financially vulnerable borrowers, even though the higher revenues can help cover the costs of extending credit to populations that have somewhat higher default rates. Thus, to the extent that funding sources have particular expectations as to what pricing and default levels are "acceptable" for mission-based lenders, those expectations shape how many customers the organizations can serve and how much subsidy their programs require.

Although changing those expectations could potentially broaden the credit box for mission-based lenders, lenders also caution that more subsidy is likely required as they strive to reach additional applicants who are progressively more difficult to underwrite using standardized approaches. Moreover, even with substantial reductions in operational costs in underwriting some populations, some sector stakeholders note that differences in relative profitability create pressure for lenders to move up market, either to increase profitability or to reduce subsidy over time. This raises important questions about how various funding sources and multiple lender segments work together to address the systemic issues that constrain small business credit access. For instance, rather than borrowers "graduating" to mainstream lenders after a loan from a mission-based program, the mission-based sector could potentially develop internal pipelines to help the highest need borrowers progress from specialized high-touch organizations to larger and more generalized lenders.

While the prospect of these kinds of changes may be uncomfortable for many stakeholders who embrace the mission-based sector's traditional emphasis on high-touch and heavily collaborative operations, they are important issues for the entire small business marketplace to grapple with. This is particularly relevant in light of chronic shortfalls in access to credit and the record levels of business formation over the past four years. As outlined in Part 1 of this report, this can be even more challenging for entrepreneurs of color and women, who face additional barriers to credit. Addressing the market inefficiencies and failures that drive these dynamics will require increased effort, collaboration, and innovation not just by mission-based lenders, but the entire small business lending ecosystem, including banks, fintechs, investors, donors, and government actors.

11. CONCLUSION

As small business formation continues at a robust pace and interest rates start to ease, surveys suggest that demand for small business loans is already increasing. Mission-based lenders are in a stronger position than they have ever been to improve credit access for small businesses and for entrepreneurs of color and other historically disadvantaged groups in particular. External open banking developments and mission-based lenders' investments in their own technology capabilities are increasing their ability to provide access to capital to the small businesses most difficult to serve by increasing lending efficiency and economics. However, despite tremendous growth in assets among mission-based lenders and significant data and technology adoption over the past five years, much more is needed to meet the needs of pandemic-era startups and chronically underserved parts of the market.

As detailed in this paper, lenders that are adopting electronic feeds of bank account data and platform technologies are already seeing substantial benefits from streamlining paperwork burdens and processing time to offer more small business borrowers viable alternatives to high-speed, high-cost online loans. But as lenders get more experience, many are hoping to make further adjustments to their lending criteria and processes to further expand credit to underserved borrowers. This test and learn process has important implications not only for individual lenders but for the mission-based sector as a whole and its future role within the broader small business lending ecosystem.

FinRegLab expects to publish a final version of this paper in early 2025 that will reflect additional lessons learned from the results of pilot initiatives using electronic cash-flow data as their lending volumes grow and loans mature. It will also share insights from deeper stakeholder engagement around the strategic questions discussed in Part 3 of the paper about the future shape and direction of the mission-based finance sector. Forthcoming empirical reports will provide an analysis of the impacts of cash-flow data on lending predictiveness and inclusion, both from fintech lenders and mission-based lenders. We are also evaluating research workstreams for 2025 and beyond to continue probing solutions to the market failures impacting access to credit among the nation's smallest businesses, particularly among minority business enterprises and other historically underserved populations.

Endnotes

- 1 Financial inclusion is defined broadly as practicable access to (1) useful, affordable financial services that meet customers' needs and are delivered in a responsible and sustainable way; and (2) meaningful market opportunities to participate as employees, consumers, entrepreneurs, community members, and leaders. It includes notions of financial health and stability. See World Bank, International Finance Corporation.
- This includes all mission-based lenders, not just those focused on small business lending. US Department of the Treasury CDFI Fund, "CDFI Fund Annual Report Fiscal Year 2023."; FDIC, "Preservation and Promotion of Minority Depository Institutions: 2022 Report to Congress." The CDFI industry holds \$452 billion in assets as of Q1 2023, of which \$118 billion is held by CDFI banks, including MDIs. MDIs hold over \$330 billion in assets as of Q4 2022.
- 3 Small Business Administration Office of Advocacy, "Small Business Data Resources."; Small Business Administration Office of Advocacy, "Frequently Asked Questions About Small Business, 2023."
- 4 Noel et al., "The Economic Impact of Closing the Racial Wealth Gap | McKinsey." For every dollar held by median White families, median Hispanic families have 19 cents and median Black families have 11 cents.; US Census Bureau, "Wealth, Asset Ownership, & Debt of Households Detailed Tables: 2019."; Kent et al., "Examining Racial Wealth Inequality." However, research shows that the wealth mobility of Black entrepreneurs whose businesses succeed is equal to that of White entrepreneurs, in contrast to the economic mobility gap that persists between Black and White wage workers.; Kroeger and Wright, "Entrepreneurship and the Racial Wealth Gap."; Klein, "Bridging the Divide: How Business Ownership Can Help Close the Racial Wealth Gap."; Albuquerque and Ifergane, "The Racial Wealth Gap: The Role of Entrepreneurship."
- 5 Gorman, "The Tapestry of Black Business Ownership in America: Untapped Opportunities for Success."; Nimmons et al., "2023 State of Hispanic Wealth Report: Part 2."; Bradford, "The 'Myth' That Black Entrepreneurship Can Reduce the Gap in Wealth Between Black and White Families."; Kroeger and Wright, "Entrepreneurship and the Racial Wealth Gap."; Klein, "Bridging the Divide: How Business Ownership Can Help Close the Racial Wealth Gap."
- 6 Morgan Stanley, "Access to Capital Survey: Investors Perceive Funding Landscape as Balanced, Despite a Substantial Gap in Their Actual Investments in Female and Multicultural Entrepreneurs." The survey findings are featured in "The Growing Market Investors Are Missing: The trillion-dollar case for investing in female and multicultural entrepreneurs". Perry et al., "Who Is Driving Black Business Growth?"; The White House, "The Small Business Boom Under the Biden-Harris Administration."
- **7** Bureau of Labor Statistics, "Entrepreneurship and the U.S. Economy."; Giunipero et al., "Small Business Survival and COVID-19—An Exploratory Analysis of Carriers."; Farrell and Wheat, "Cash Is King: Flows, Balances, and Buffer Days."
- 8 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 9 Mkhaiber and Werner, "The Relationship between Bank Size and the Propensity to Lend to Small Firms."
- 10 Small Business Administration, "Microloans." The Small Business Administration uses a threshold of under \$50,000 to classify small business microloans.
- 11 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- Augustus, "Five Reasons Minority Borrowers Can't Access Capital."; Toussaint-Comeau and Williams, "Secular Trends in Minority-Owned Businesses and Small Business Finance."; Robb, "Financing Patterns and Credit Market Experiences."; Simms et al., "Racial and Ethnic Disparities Among Low Income Families."; Fairlie et al., "Black and White: Access to Capital among Minority-Owned Startups."
- "Nonbank Lenders and Small Business Financing | Bipartisan Policy Center."; Nguyen, "Are Credit Markets Still Local?"; Mitchel et al., "Relationships Matter: Small Business and Bank Branch Locations."; Wang and Wu, "Impact of Mobile Banking on Small Business Lending After Bank Branch Closures."; Toussaint-Comeau et al., "Impact of Bank Closings on Credit Extension to Businesses in Low-Income and Minority Neighborhoods."; Augustus, "Five Reasons Minority Borrowers Can't Access Capital."
- 14 The Minority Business Development Agency, "Vital to Making America Great"; Neville et al., "'Why Even Bother Trying?"; US Census Bureau, "ABS Annual Business Survey First Look 2023 Tables."
- 15 Camara et al., "Entering Entrepreneurship: Racial Disparities in the Pathways into Business Ownership."; Toussaint-Comeau and Williams, "Secular Trends in Minority-Owned Businesses and Small Business Finance."
- 16 Dua et al., "COVID-19's Effect on Minority-Owned Small Businesses in the United States."; Perry et al., "Five-Star Reviews, One-Star Profits: The Devaluation of Businesses in Black Communities."; Gorman, "The Tapestry of Black Business Ownership in America: Untapped Opportunities for Success."; Weaver, Klein, and Ogden, "Scaling Lending to Entrepreneurs of Color: Part II."
- 17 O'Brien, "More Physical Places of Businesses Open Now than Pre-Pandemic, Led by Sun Belt Metros."; US Census Bureau, "Business Formation Statistics."; Small Business Administration, "New Business Applications Reach Record 16 Million Under Biden-Harris Administration."; Yelp Data Insights, "Entrepreneurs Opened More Businesses in 2023, Setting a New All-Time High on Yelp."
- 18 Edelberg et al., "Is the Post-Pandemic Surge in Business Dynamism Here to Stay?"; Sedláček and Shi, "Work from Home, Business Dynamism, and the Macroeconomy."; Keynes, "How Long Can the Entrepreneurship Boom Last?"; Decker et al., "Surging Business Formation in the Pandemic: Causes and Consequences?".
- 19 Small Business Administration, "New Business Applications Reach Record 16 Million Under Biden-Harris Administration."; Aladangady et al., "Greater Wealth, Greater Uncertainty."; Yelp Data Insights, "Entrepreneurs Opened More Businesses in 2023, Setting a New All-Time High on Yelp."

- 20 Casselman, Ben, and Sydney Ember, "Pandemic Start-Ups Are Thriving, and Helping to Fuel the Economy."; US Census Bureau, "2021 Business Dynamics Statistics Now Available."; Tremper, "High-Growth Covid-Era Startups Added a Bonus 336,000 Jobs to the U.S. Economy."; Decker and Haltiwanger, "Surging Business Formation in the Pandemic: A Brief Update."
- 21 Federal Reserve Banks of New York, Atlanta, Cleveland, and Philadelphia, "Joint Small Business Credit Survey Report 2014."
- 22 Auten and Langetieg, "The Distribution of Underreported Income: What We Can Learn from the Nrp,"
- Hepinstall et al., "Financial Inclusion and Access to Credit." More than 25 percent of Black and Hispanic adults lack credit scores under the most widely used models, compared to about 16 percent of White adults. As of 2022, about 40 percent of Black adults, 30 percent of Hispanic adults, and 20 percent of White adults had subprime scores.
- 24 FDIC, "2021 FDIC National Survey of Unbanked and Underbanked Households."; Federal Reserve Banks, "2024 Report on Employer Firms: Findings from the Small Business Credit Survey"; NerdWallet, "Small-Business Statistics 2024."; Some smaller surveys of businesses have found that use of separate business transaction accounts exceeds 95 percent, but others have found that between 15 and 25 percent of respondents use their personal accounts for business-related items. See also Davis, "Small Businesses Lead to Big Deposit Opportunities." (reporting that between 13 and 35 percent of banks' consumers accounts are used at least in part for business purposes, primarily among sole proprietorships).
- 25 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Empirical Research Findings."
- **26** Cornell et al., "The Impact of Fintech Lending on Credit Access for U.S. Small Businesses." The study did not describe in detail what "big data" sources the fintech used. P. 29.
- 27 Federal Reserve Banks, "2020 Report on Employer Firms: Based on the 2019 Small Business Credit Survey."
- 28 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 29 FTC, "Merchant Cash Advance Providers Banned from Industry, Ordered to Redress Small Businesses."; NCRC, "Fact Sheet on Section 1071 Small Business Loan Data."
- **30** FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 31 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Small Business Spotlight."
- 32 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 33 The CRA was enacted by Congress in 1977 to help ensure that federally insured banks meet the credit needs of the communities in which they are located. The law requires federal banking agencies to assess how well each institution fulfills its obligations to these communities. The performance of the institution on these assessments is considered when evaluating applications for future approval of bank mergers, charters, acquisitions, branch openings, and deposit facilities.
- 34 Analyses of differences in CDFIs suggest that those that focus on real estate lending (including both housing development, commercial real estate, and community facilities, but not residential mortgages) tend to have higher assets and self sufficiency ratios and lower loan loss reserves and net charge off ratios than those that focus on small business lending.; Sanchez-Moyano and Simms, "Understanding CDFI Financial Data: A Primer for New Investors."
- 35 Opportunity Fund, "Microlending in the United States: A Timeline History, 1973-2011"; FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 36 Vasiloff, "CDFIs Outperform Other Paycheck Protection Program (PPP) Lenders."; Shear, "Paycheck Protection Program: Program Changes Increased Lending to Smaller and Underserved Businesses."; Howell et al., "Lender Automation and Racial Disparities in Credit Access."; Cassell et al., "Bank Types, Inclusivity, and Payroll Protection Program Lending During COVID-19."; Barr and Romer, "Minority Depository Institutions: Paycheck Protection Program (PPP) Lending Insights."; Opportunity Finance Network, "A view of PPP from the Inside."
- **37** Finley, "These Maps Show the Growth of CDFIs."; Barr and McComas, "Minority Depository Institutions: State of Knowledge, Sector Summary, Lending Activity, and Impact, 2010–2022."
- 38 US Department of the Treasury, "Emergency Capital Investment Program. 2023 Investing for Impact Report."
- 39 Federal Reserve Bank of New York, "Sizing the CDFI Market: Understanding Industry Growth."
- 40 Camino Financial, "Fintech Leaders Camino Financial and Fundation Merge to Form Full Spectrum Small Business Lender."
- **41** Lendistry, "About Us."
- **42** Opportunity Fund, "New Report on Opportunity Fund-LendingClub Partnership."; Stone, "Lending Club Calls It Quits on Underwriting Small Business Loans."
- 43 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- 44 Federal Reserve Banks, "2024 Report on Employer Firms: Findings from the Small Business Credit Survey."
- 45 Weaver et al., "Scaling Lending to Entrepreneurs of Color: Part II."
- 46 Lenders often file a Uniform Commercial Code blanket lien when making small business loans that are not secured by specific collateral. Filing a UCC lien underscores the importance of repayment to the borrower and gives other lenders notice of the loan, but executing on the liens can be difficult in practice and lenders do not typically factor the presence of the lien into their underwriting calculus.

- 47 Alcazar and Hayashi, "Data Aggregators: The Connective Tissue for Open Banking."; FinREgLab, "The Use of Cash-Flow Data for Credit Underwriting: Market Context & Policy Analysis."
- 48 Asif et al., "Financial Services Unchained: The Ongoing Rise of Open Banking."
- 49 CFPB, "Personal Financial Data Rights."
- 50 CFPB, "Personal Financial Data Rights."
- 51 FinRegLab, "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19."
- Plaid uses tokens to access transaction data from financial institutions. Once users complete authentication of their bank account information, the process generates an authorization code that Plaid can use to request an access token from the financial institution. The access token is used to identify the user and make calls to the Plaid API, and it remains valid unless it is actively expired or removed. Plaid uses data encryption and secure connections throughout this process to maintain high levels of security.
- 53 Van Erkel, "Unlock Cash Flow Underwriting with No Code Required."
- 54 Tripathi, "The Brief History of OCR Technology."; Mission-based lenders using OCR that we interviewed mentioned challenges with OCR tools sometimes returning jumbled, inaccurate, and inconsistent information, limiting confidence in the technology and ultimately still requiring manual review processes.
- 55 FinRegLab, "Fact Sheet: Cash-Flow Data In Underwriting Small Business Loans."
- 56 "California Small Business Coalition for Racial Justice."
- 57 Katz et al, "Innovative Capital for Small Businesses: The Rise of Revenue Based Financing."
- 58 FICO, "UltraFICO The Open Banking Score."; Experian, "New Experian Tool Empowers Financial Inclusion through Open Banking Insights." For past history on the development of different attributes and scoring systems, see FinRegLab, "Data Diversification in Credit Underwriting" and FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Market Context & Policy Analysis"
- 59 VantageScore, "CBA Launches Pilot Featuring VantageScore 4plus Credit Score."
- **60** Theodos et al., "Leveraging Technology to Scale Up Small-Business Lending."; Fund CI, "CDFI Technology Landscape Scan: Key Themes from Technology Providers."
- **61** Finastra, "Finastra Helps Banks and Credit Unions Provide Critical Financial Support to Small Businesses with More Than 86,000 PPP Loans to Date."; Finastra, "Doing Well by Doing Good Together."
- **62** Finastra, "Open Finance/Lending."; Business Roundtable, "Impact Report on Business Roundtable Member Company Efforts to Expand Economic Opportunity."
- 63 Office of the Comptroller of the Currency, "Interagency Guidance on Third-Party Relationships: Risk Management."
- 64 Alt, "Are the Federal Banking Agencies Trying to Drive Banking-as-a-Service out of the Banking Industry?"
- 65 Scofield, "Cybersecurity Trends and Best Practices for Community Banks."
- **66** Klein and Okagaki, "The Promise of Shared Platforms for the Microenterprise Industry: Lessons for Funders."; Federal Reserve Bank of Minneapolis, "CDFIs Seek to Innovate to Compete with Speedy Online Lenders." Community Dividend, 2015.
- 67 Prosperity Now, "Prosperity Now Announces 'Prosperity Next'."
- **68** Community Reinvestment Fund, "CRF Technology."
- **69** Federal Reserve Banks, "2024 Report on Employer Firms." Financing includes: Loan, line of credit, or merchant cash advance, Credit card, Trade credit, Lease, Factoring.
- 70 Federal Reserve Banks, "2024 Firms in Focus: Chartbook on Firms by Gender of Ownership."; Federal Reserve Banks, "2024 Firms in Focus: Chartbook on Firms by Race and Ethnicity of Ownership."
- 71 Federal Reserve Banks, "2024 Firms in Focus: Chartbook on Firms by Race and Ethnicity of Ownership."
- 72 Federal Reserve Banks, "2024 Report on Employer Firms."
- 73 "National Bankers Community Alliance Announces Launch of MDI ConnectTech Digitization Program for Minority Banks."
- 74 Minority Business Development Agency, "Minority Business Development Agency Awards \$1.68 Million to Fund Innovative Access to Capital Projects for Minority-Owned Businesses."; NALCAB, "MBDA Grant Archives."
- 75 The Mission Driven Bank Fund is a collaborative effort Elizabeth Park Capital is the lead fund manager, and Calvert Impact and Strategic Value Bank Partners are important sub-advisors with specialist expertise. Microsoft and Truist Financial anchored the Fund as key capital and support partners.
- 76 Opportunity Finance Network, "Wells Fargo Diverse Community Capital Program."; Wells Fargo, "Wells Fargo Expands Financing for Diverse Small Businesses."
- 77 Theodos et al., "Leveraging Technology to Scale Up Small-Business Lending."

- 78 Van Dalsem, "Effects of Credit Union Service Organizations on Credit Union Performance."; Messick, "Credit Union Service Organizations ('CUSOs')."
- 79 One tactic used by the merchant cash advance industry is to compare the "total cost of capital" between a cash advance that will be repaid in six months, versus a term loan that will be repaid over five years. The merchant cash advance will involve a very hefty monthly payment (and an APR in the high double digits), while the term loan will offer an affordable monthly payment (and a far lower APR), but will be repaid over a much longer period. In this example, the total dollars repaid with the merchant cash advance will be smaller than the total repaid with the term loan, but the borrower's cash flow situation will be far healthier with the term loan.
- **80** Partida, "6 Cybersecurity Challenges Facing Digital Banking."; LexisNexis Risk Solutions, "2024 Small Business Lending Fraud Study." Small Business Lending Fraud Rose by 13.6 percent.
- 81 Initiate, "Strengthen Your Business Advising Program."
- 82 Scott et al., "What Would It Take to Create a More Robust Secondary Market for CDFI Loans?"
- 83 Calvert Impact, "Calvert Impact Announces National Program to Capitalize Small Businesses."
- 84 Fitch Ratings, "US CDFIs Seek to Diversify Funding Sources Amid Challenging Environment."; Stakeholder interviews
- 85 Fitch Ratings, "US CDFIs Seek to Diversify Funding Sources Amid Challenging Environment."
- 86 S&P Global, "What U.S. CDFI Ratios' Resilience Through Changing Economic Landscapes Means For Long-Term Credit Quality | S&P Global Ratings."
- 87 Calvert Impact, "Small Business Community Finance: Scaling with Integrity."
- 88 Hurtado and Sakong, "The Effect of Minority Bank Ownership on Minority Credit."; Fairchild and Juelfs, "Comparative Institutional Risks of Mission-Based Depository Institutions (MBDIs)."
- 89 Brooks, "Neglected Minority-Owned Banks Now Attracting Billions in Funding."
- 90 Mission-based lenders typically maintain low delinquency and charge off rates despite the perception of serving a higher-risk customer base. According to the FDIC and OFN, CDFIs maintained a median 90+ day delinquency rate of 1.30 percent between 2017 and 2021, compared to 1.06 percent for banks, and a median net-charge off rate of 0.48 percent, compared to 0.50 percent for banks during the same time period. Fitch Ratings, "Strong Financial Profiles and Loan Oversight Support CDFI Credit."
- 91 Fernandes et al., "Financial Literacy, Financial Education, and Downstream Financial Behaviors."
- 92 Dun and Johnson, "Building Consumer Savings with Fintech Innovations."; Koskelainen et al., "Financial Literacy in the Digital Age—A Research Agenda."; Goldberg, "Fintechs Offer Alternative Credit-Building Options."
- 93 US Department of the Treasury, "Community Development Financial Institutions Fund: Fiscal Year 2023 Annual Report."; Federal Deposit Insurance Corporation, "Preservation and Promotion of Minority Depository Institutions: 2022 Report to Congress."
- 94 Weaver et al., "Scaling Lending to Entrepreneurs of Color: Part II." Reporting losses of about 8 percent on a vintage basis; Sanchez-Moyano and Simms, "Understanding CDFI Financial Data: A Primer for New Investors" Comparing self sufficiency ratios, loan loss reserve ratios, and charge-off ratios. Smaller CDFIs tend to have the largest challenges with regard to self sufficiency.
- 95 Klein and Ogden, "Lessons for Global Microfinance from ... the United States?".
- **96** PNC, "Business Owners Remain Optimistic About Economy, According to PNC Survey."; Saphir and Schneider, "US Banks See Loan Demand Rising in 2024, Fed Survey Shows."

Bibliography

Accion Opportunity Fund. "New Report on Opportunity Fund-LendingClub Partnership." Accion Opportunity Fund (blog). Accessed October 9, 2024.

Aladangady, Aditya, Andrew C. Chang, and Jacob Krimmel. "Greater Wealth, Greater Uncertainty: Changes in Racial Inequality in the Survey of Consumer Finances." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, October 2023.

Albuquerque, Daniel, and Tomer Ifergane. "The Racial Wealth Gap: The Role of Entrepreneurship." March 23, 2023.

Alcazar, Julian, and Fumiko Hayashi. "Data Aggregators: The Connective Tissue for Open Banking." Payment System Research Briefing. Federal Reserve Bank of Kansas City, August 24, 2022.

Alicia Robb. "Financing Patterns and Credit Market Experiences: A Comparison by Race and Ethnicity for U.S. Employer Firms." US Small Business Administration Office of Advocacy, February 2018.

Alt, Konrad. "Are the Federal Banking Agencies Trying to Drive Banking-as-a-Service out of the Banking Industry?" April 2024.

Asif, Chandana, Tunde Olanrewaju, Hiro Sayama, and Ahalya Vijayasrinivasan. "Financial Services Unchained: The Ongoing Rise of Open Banking." McKinsey, Accessed October 10, 2024.

Augustus, Imani. "Five Reasons Minority Borrowers Can't Access Capital - Third Way." Accessed October 9, 2024.

Auten, Gerald, and Patrick Langetieg. "The Distribution of Underreported Income: What We Can Learn from the NRP." Internal Revenue Service, February 2023.

Barr, Anthony, and Mac McComas. "Minority Depository Institutions: State of Knowledge, Sector Summary, Lending Activity, and Impact, 2010–2022." 21st Century Cities Initiative (blog), May 30, 2023.

Barr, Anthony, and Carl Romer. "Minority Depository Institutions: Paycheck Protection Program (PPP) Lending Insights." National Bankers Association, Accessed October 10, 2024.

Bipartisan Policy Center. "Nonbank Lenders and Small Business Financing." Accessed October 9, 2024.

Bradford, William D. "The 'Myth' That Black Entrepreneurship Can Reduce the Gap in Wealth Between Black and White Families." Economic Development Quarterly 28, no. 3 (August 1, 2014): 254–69.

Brooks, Khristopher J. "Neglected Minority-Owned Banks Now Attracting Billions in Funding - CBS News." April 22, 2021.

Bureau of Labor Statistics. "Entrepreneurship and the U.S. Economy." Accessed October 9, 2024.

California Small Business Coalition for Racial Justice. "California Small Business Coalition for Racial Justice." Accessed October 9, 2024.

Calvert Impact. "Calvert Impact Announces National Program to Capitalize Small Businesses." Accessed October 10, 2024.

Calvert Impact. "Small Business Community Finance: Scaling with Integrity." June 2023.

Camara, M'Balou, Khaing Zaw, Darrick Hamilton, and William Darity Jr. "Entering Entrepreneurship: Racial Disparities in the Pathways into Business Ownership." October 2019.

Camino Financial Inc. "Fintech Leaders Camino Financial and Fundation Merge to Form Full Spectrum Small Business Lender." Accessed October 10, 2024.

Cassell, Mark K., Michael Schwan, and Marc Schneiberg. "Bank Types, Inclusivity, and Payroll Protection Program Lending During COVID-19." Economic Development Quarterly, March 20, 2023, 08912424231163485.

Casselman, Ben, and Sydney Ember. "Pandemic Start-Ups Are Thriving, and Helping to Fuel the Economy." The New York Times, October 4, 2024, sec. Business.

Community Reinvestment Fund, USA. "CRF Technology." Accessed October 9, 2024.

Consumer Financial Protection Bureau. "Required Rulemaking on Personal Financial Data Rights." Federal Register, October 31, 2023.

Cornelli, Giulio, Jon Frost, Leonardo Gambacorta, and Julapa Jagtiani. "The Impact of Fintech Lending on Credit Access for U.S. Small Businesses." Journal of Financial Stability 73 (June 1, 2024): 101290.

Davis, Erin. "Small Businesses Lead to Big Deposit Opportunities." Jack Henry, Accessed October 10, 2024.

Decker, Ryan A., and John Haltiwanger. "Surging Business Formation in the Pandemic: A Brief Update." Working Paper. Federal Reserve Board, National Bureau of Economic Research, September 2024.

Decker, Ryan A., John Haltiwanger, and Jorge A. Guzman. "Surging Business Formation in the Pandemic: Causes and Consequences?" Brookings, September 27, 2023.

Dua, André, Deepa Mahajan, Ingrid Millan, and Shelley Stewart. "COVID-19's Effect on Minority-Owned Small Businesses in the United States." McKinsey, May 2020.

Dunn, Andrew, and Heidi Johnson. "Building Consumer Savings with Fintech Innovations." Financial Health Network, July 2022.

Edelberg, Wendy, Jón Steinsson, Janice C. Eberly, and John Haltiwanger. "Is the Post-Pandemic Surge in Business Dynamism Here to Stay?" Policy Commons, Accessed October 9, 2024.

Edgcomb, Elaine L., and Joyce A. Klein. "Microlending in the United States: A Timeline History, 1973 - 2011." Opportunity Fund, 2011.

EIN Presswire. "National Bankers Community Alliance Announces Launch of MDI ConnectTech Digitization Program for Minority Banks." December 6, 2022.

Experian. "New Experian Tool Empowers Financial Inclusion through Open Banking Insights." Accessed October 9, 2024.

Fairchild, Gregory B., and Megan E. Juelfs. "Just How Risky? Comparative Institutional Risks of Mission-Based Depository Institutions (MBDIs)." Federal Reserve Bank of San Francisco Community Development Innovation Review 15, no. 1. May 19, 2021.

Fairlie, Robert, Alicia Robb, and David Robinson. "Black and White: Access to Capital among Minority-Owned Startups." Cambridge, MA: National Bureau of Economic Research, November 2020.

Federal Deposit Insurance Corporation. "2021 FDIC National Survey of Unbanked and Underbanked Households." Accessed October 8, 2024.

Federal Deposit Insurance Corporation. "Preservation and Promotion of Minority Depository Institutions: 2022 Report to Congress." 2022.

Federal Reserve Bank of New York. "Sizing the CDFI Market: Understanding Industry Growth." Accessed October 10, 2024.

Federal Reserve Banks of New York, Atlanta, Cleveland and Philadelphia. "Joint Small Business Credit Survey Report, 2014." Federal Reserve Bank of New York, Atlanta, Cleveland and Philadelphia, 2014.

Federal Reserve Banks. "2020 Report on Employer Firms." Small Business Credit Survey, no. 20200407 (April 7, 2020).

Federal Reserve Banks. "2024 Firms in Focus Chartbooks on Small Business Data." Small Business Credit Survey, no. 20240531 (May 31, 2024).

Federal Reserve Banks. "2024 Report on Employer Firms: Findings from the 2023 Small Business Credit Survey." Small Business Credit Survey, no. 20240307 (March 7, 2024).

Federal Trade Commission. "Merchant Cash Advance Providers Banned from Industry, Ordered to Redress Small Businesses." Federal Trade Commission, January 5, 2022.

Fernandes, Daniel, John G. Lynch, and Richard G. Netemeyer. "Financial Literacy, Financial Education, and Downstream Financial Behaviors." Management Science 60, no. 8 (August 2014): 1861–83.

FICO. "UltraFICO Score." Accessed October 9, 2024.

Finastra. "Doing Well by Doing Good - Together." June 4, 2020.

Finastra. "Finastra Helps Banks and Credit Unions Provide Critical Financial Support to Small Businesses with More than 86,000 PPP Loans to Date." May 13, 2020.

Finastra. "Open Finance/Lending." Accessed October 9, 2024.

Finley, James. "These Maps Show the Growth of CDFIs." NextCity, Accessed October 10, 2024.

FinRegLab. "Data Diversification in Credit Underwriting." Accessed October 10, 2024. \

FinRegLab. "Fact Sheet: Cash-Flow Data In Underwriting Small Business Loans." Accessed October 10, 2024.

FinRegLab. "From Crisis to Opportunity: Financing for Underserved Small Businesses Since COVID-19." Accessed October 8, 2024.

FinRegLab. "The Use of Cash-Flow Data in Underwriting Credit: Empirical Research Findings." Accessed October 10, 2024.

FinRegLab. "The Use of Cash-Flow Data in Underwriting Credit: Market Context & Policy Analysis." Accessed October 10, 2024.

FinRegLab. "The Use Of Cash-Flow Data In Underwriting Credit: Small Business Spotlight." Accessed October 10, 2024.

Fitch Ratings. "Strong Financial Profiles and Loan Oversight Support CDFI Credit." Accessed October 10, 2024.

Fitch Ratings. "US CDFIs Seek to Diversify Funding Sources Amid Challenging Environment." Accessed October 8, 2024.

Fund Community Institute. "CDFI Technology Landscape Scan: Key Themes from Technology Providers." July 2023.

Giunipero, Larry C., Diane Denslow, and Ania Izabela Rynarzewska. "Small Business Survival and COVID-19 - An Exploratory Analysis of Carriers." Research in Transportation Economics 93 (June 2022): 101087.

Goldberg, Rosalie. "Fintechs Offer Alternative Credit-Building Options." Corporate Insight Research Services (blog), November 30, 2023.

Gorman, Ron. "The Tapestry of Black Business Ownership in America: Untapped Opportunities for Success." Association for Enterprise Opportunity, 2016.

Hepinstall, Mike, Chaitra Chandrasekhar, Peter Carroll, Nick Dykstra, and Yigit Ulucay. "Financial Inclusion And Access To Credit." Oliver Wyman, Accessed October 9, 2024.

Hernández Kent, Ana, David F. Perkis, Nikki Lanier, and Claire James. "Examining Racial Wealth Inequality." Federal Reserve Bank of St. Louis, Accessed October 9, 2024.

Howell, Sabrina T., Theresa Kuchler, David Snitkof, Johannes Stroebel, and Jun Wong. "Lender Automation and Racial Disparities in Credit Access." Working Paper. Working Paper Series. National Bureau of Economic Research, October 2021.

Hurtado, Agustin, and Jung Sakong. "The Effect of Minority Bank Ownership on Minority Credit." SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, November 1, 2023.

Initiate. "Strengthen Your Business Advising Program." Accessed October 8, 2024.

Katz, Bruce, Michael Belles, and Bryan Fike. "Innovative Capital for Small Businesses: The Rise of Revenue Based Financing." LISC Strategic Investments, January 11, 2024.

Keynes, Soumaya. "How Long Can the Entrepreneurship Boom Last?" Financial Times, October 6, 2023.

Klein, Joyce. "How Business Ownership Can Help Close the Racial Wealth Gap." The Aspen Institute, January 23, 2017.

Klein, Joyce, and Alan Okagaki. "The Promise of Shared Platforms for the Microenterprise Industry: Lessons for Platform Funders." The Aspen Institute, April 2017.

Klein, Joyce, and Tim Ogden. "Lessons for Global Microfinance From... the United States?" Aspen Institute, December 2023.

Koskelainen, Tiina, Panu Kalmi, Eusebio Scornavacca, and Tero Vartiainen. "Financial Literacy in the Digital Age—A Research Agenda." Journal of Consumer Affairs 57, no. 1 (2023): 507–28.

Kroeger, Teresa, and Graham Wright. "Entrepreneurship and the Racial Wealth Gap: The Impact of Entrepreneurial Success or Failure on the Wealth Mobility of Black and White Families." Journal of Economics, Race, and Policy 4, no. 3 (2021): 183–95.

Lendistry. "About Us." June 2, 2021.

LexisNexis Risk Solutions. "2024 Small Business Lending Fraud Study." Accessed October 9, 2024.

Messick, Guy. "Credit Union Service Organizations ('CUSOs')." National Association of Credit Union Service Organizations (NACUSO), February 7, 2018.

Minority Business Development Agency. "Minority Business Development Agency Awards \$1.68 Million to Fund Innovative Access to Capital Projects for Minority-Owned Businesses." September 20, 2022.

Minority Business Development Agency. "The Minority Business Development Agency: Vital to Making America Great." Accessed October 9, 2024.

Mitchell, Bruce C., Jason Richardson, and Zo Amani. "Relationships Matter: Small Business and Bank Branch Locations." National Community Reinvestment Coalition, March 17, 2021.

Mkhaiber, Achraf, and Richard A. Werner. "The Relationship between Bank Size and the Propensity to Lend to Small Firms: New Empirical Evidence from a Large Sample." Journal of International Money and Finance 110 (February 2021): 102281.

Morgan Stanley. "Access to Capital Survey: Investors Perceive Funding Landscape as Balanced, Despite a Substantial Gap in Their Actual Investments in Female and Multicultural Entrepreneurs." Accessed October 8, 2024.

National Association for Latino Community Asset Builders. "MBDA Grant Archives." Accessed October 8, 2024.

National Community Reinvestment Coalition. "Fact Sheet on Section 1071 Small Business Loan Data » NCRC." September 1, 2021.

Neville, François, Juanita Kimiyo Forrester, Jay O'Toole, and Allan Riding. "'Why Even Bother Trying?' Examining Discouragement among Racial-Minority Entrepreneurs." Journal of Management Studies 55, no. 3 (2018): 424–56.

Nguyen, Hoai-Luu Q. "Are Credit Markets Still Local? Evidence from Bank Branch Closings." American Economic Journal: Applied Economics 11, no. 1 (January 2019): 1–32.

Nimmons, Elizabeth, Melissa Cossio, Jaimie Smeraski, and Jovana Campos. "2023 State of Hispanic Wealth Report." NAHREP, February 8, 2024.

Noel, Nick, Duwain Pinder, Shelley Stewart, and Jason Wright. "The Economic Impact of Closing the Racial Wealth Gap." McKinsey, Accessed October 9, 2024.

O'Brien, Connor. "More Physical Places of Businesses Open Now than Pre-Pandemic, Led by Sun Belt Metros." Economic Innovation Group, April 5, 2022.

Office of the Comptroller of the Currency. "Third-Party Relationships: Interagency Guidance on Risk Management." June 6, 2023.

Opportunity Finance Network. "A View of PPP from the Inside: Financing, Financial Performance, and Operations of CDFI Paycheck Protection Program Lenders." Accessed October 9, 2024.

Opportunity Finance Network. "Wells Fargo Diverse Community Capital Program." Accessed October 8, 2024.

Partida, Devin. "6 Cybersecurity Challenges Facing Digital Banking." May 7, 2024.

Perry, Andre M., Manann Donoghoe, and Hannah Stephens. "Who Is Driving Black Business Growth? Insights from the Latest Data on Black-Owned Businesses." Brookings Institution, Accessed October 8, 2024.

Perry, Andre M., Jonathan Rothwell, and David Harshbarger. "Five-Star Reviews, One-Star Profits: The Devaluation of Businesses in Black Communities." Brookings Institution, Accessed October 9, 2024.

Prosperity Now. "Prosperity Now Announces 'Prosperity Next': A Bold Tech Partnership with Change Machine and Credytu to Revolutionize Financial Inclusion." Accessed October 9, 2024.

Business Roundtable. "Racial Equity and Justice Initiative: Impact Report on Business Roundtable Member Company Efforts to Expand Economic Opportunity." October 2020.

S&P Global. "What U.S. CDFI Ratios' Resilience Through Changing Economic Landscapes Means For Long-Term Credit Quality." Accessed October 8, 2024.

Sanchez-Moyano, Rocio, and Sarah Simms. "Understanding CDFI Financial Data: A Primer for New Investors." Federal Reserve Bank of San Francisco, December 19, 2023.

Saphir, Ann, and Howard Schneider. "US Banks See Loan Demand Rising in 2024, Fed Survey Shows." Reuters, February 5, 2024.

Scofield, Dane. "Cybersecurity Trends and Best Practices for Community Banks." Federal Reserve Bank of Minneapolis, October 5, 2022.

Scott, Jacob, Maria Carmelita Recto, and Jonathan Kivell. "What Would It Take to Create a More Robust Secondary Market for CDFI Loans?" The Teller Window (blog), January 8, 2024.

Sedláček, Petr, and Chenchuan Shi. "Work from Home, Business Dynamism, and the Macroeconomy." Center for Economic Policy Research, February 6, 2024.

Sehmbi, Karrin. "Small-Business Statistics 2024." NerdWallet, February 8, 2024.

Simms, Margaret C., Karina Fortuny, and Everett Henderson. "Racial and Ethnic Disparities Among Low-Income Families." Urban Institute, August 2009.

Stone, Todd. "Lending Club Calls It Quits On Underwriting Small Business Loans." deBanked (blog). Accessed October 9, 2024.

The PNC Financial Services Group, Inc. "Business Owners Remain Optimistic About Economy, According to PNC Survey." September 4, 2024.

The White House. "The Small Business Boom Under the Biden-Harris Administration." April 2022.

Theodos, Brett, Jorge González-Hermoso, and Tola Myczkowska. "Leveraging Technology to Scale Up Small-Business Lending." Urban Institute, October 28, 2022.

Toussaint-Comeau, Maude, Yi Wang, and Robin Newberger. "Impact of Bank Closings on Credit Extension to Businesses in Low-Income and Minority Neighborhoods." The Review of Black Political Economy 47 (November 14, 2019): 003464461988534.

Toussaint-Comeau, Maude, and Victoria Williams. "Secular-Trends-Minority-Owned-Businesses-Small-Business-Finance - Federal Reserve Bank of Chicago." Federal Reserve Bank of Chicago, Accessed October 9, 2024.

Tremper, Nich. "High-Growth Covid-Era Startups Added a Bonus 336,000 Jobs to the U.S. Economy." Gusto, October 4, 2024.

Tripathi, Pankaj. "The Brief History of OCR Technology." Docsumo (blog), May 21, 2024.

US Government Accountability Office. "Paycheck Protection Program: Program Changes Increased Lending to Smaller and Underserved Businesses." Accessed October 10, 2024.

US Census Bureau. "2021 Business Dynamics Statistics Now Available." Accessed October 8, 2024.

US Census Bureau. "ABS - Annual Business Survey First Look 2023 Tables." Census.gov. Accessed October 9, 2024.

US Census Bureau. "Business Formation Statistics." Accessed October 9, 2024.

US Census Bureau. "Wealth, Asset Ownership, & Debt of Households Detailed Tables: 2019." Census.gov. Accessed October 9, 2024.

US Department of the Treasury. "Community Development Financial Institutions Fund: Fiscal Year 2023 Annual Report." March 29, 2024.

US Department of the Treasury. "Emergency Capital Investment Program. 2023 Investing for Impact Report." US Department of the Treasury, July 12, 2024.

US Government Accountability Office. "Paycheck Protection Program: Program Changes Increased Lending to Smaller and Underserved Businesses." Accessed October 9, 2024.

US Small Business Administration Office of Advocacy. "Frequently Asked Questions About Small Business, 2023." March 7, 2023.

US Small Business Administration. "Microloans." Accessed October 9, 2024.

US Small Business Administration. "New Business Applications Reach Record 16 Million Under Biden-Harris Administration." January 11, 2024.

US Small Business Administration Office of Advocacy. "Small Business Data Resources." Accessed October 9, 2024.

Van Dalsem, Shane. "Effects of Credit Union Service Organizations on Credit Union Performance." Journal of Finance Issues 15, no. 1 (June 30, 2016): 1–19.

Van Erkel, Spencer. "Unlock Cash Flow Underwriting with No Code Required." Plaid, September 5, 2024.

VantageScore. "CBA Launches Pilot Featuring VantageScore 4plus Credit Score." Accessed October 9, 2024.

Vasiloff, Jennifer A. "CDFIs Outperform Other Paycheck Protection Program (PPP) Lenders." Opportunity Finance Network, June 29, 2020.

Wang, Ye, and Shuang Wu. "Impact of Mobile Banking on Small Business Lending after Bank Branch Closures." Journal of Corporate Finance 87 (August 1, 2024): 102593.

Wascalus, Jacob. "CDFIs Seek to Innovate to Compete with Speedy Online Lenders." Federal Reserve Bank of Minneapolis, Accessed October 10, 2024.

Weaver, Eric, Joyce Klein, and Tim Ogden. "Scaling Lending to Entreprenuers of Color: Part II." Strategies and Operational Tactics for High-Volume Originations. Aspen Institute, March 2023.

Wells Fargo. "Wells Fargo Expands Financing for Diverse Small Businesses." Accessed October 8, 2024.

Wheat, Chris and Diana Farrell. "Cash Is King: Flows, Balances, and Buffer Days." JP Morgan Chase Institute, September 2016.

White, Olivia, Anu Madgavkar, Adi Kumar, Asutosh Padhi, and Kanmani Chockalingam. "America's Small Businesses: Time to Think Big." McKinsey, Accessed October 9, 2024.

Yelp Data Insights. "Entrepreneurs Opened More Businesses in 2023, Setting a New All-Time High on Yelp." Accessed October 9, 2024.



Additional Acknowledgments

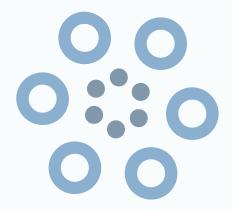
With support from:

This research initiative is funded by a grant from the US Department of Commerce, Minority Business Development Agency, and support from Visa. In addition, Plaid is providing free account connectivity services to the pilot programs to allow loan applicants to authorize their account data to be accessed for underwriting.

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Published by FinRegLab, Inc.

1701 K Street NW, Suite 1150 Washington, DC 20006 United States