

FINTECH, SMALL BUSINESS & THE AMERICAN DREAM

How Technology Is Transforming
Lending and Shaping a New Era
of Small Business Opportunity

KAREN G. MILLS

Fintech, Small Business & the American Dream

“The financial crisis destroyed the traditional small business lending system and left these companies with severely impaired abilities to raise capital and grow. In this book, Karen Mills brings her government and her private sector expertise to bear describing how technology may reinvent the ways small businesses operate and raise capital going forward. Economists, policymakers, and anyone interested in the future of small business will benefit from her insights on how the future of fintech and the small business economy will be inextricably linked.”

—Austan D. Goolsbee, *Professor of Economics at University of Chicago Booth School of Business and Former Chairman of the Council of Economic Advisers*

“Small businesses have been the path to economic independence for millions of Americans. Mills shows how fintech can extend that opportunity to even more.”

—Deval Patrick, *Managing Director, Bain Capital Double Impact and former Governor of Massachusetts*

“Few people have done more over the last decade to help small business owners than Karen Mills. Now, in *Fintech, Small Business & the American Dream*, Mills describes a brave new world for small businesses where technology has made capital more readily available and fintech firms use data to break down old barriers. She provides a refreshingly optimistic look at how innovation can bring about Small Business Utopia where the entire financial life of a small business is transformed in a positive way by new technology. But this is not pie in the sky thinking, Mills lays out a detailed plan as to how we can reach this new promised land.”

—Peter Renton, *Founder of Lend Academy and Chairman of LendIt Fintech*

“This book should be required reading for all policymakers with an interest in entrepreneurship, small business development and economic growth.”

—Keith Morgan, *CEO, British Business Bank*

“As we have documented with data from over a million enterprises, small businesses have low cash buffers and bumpy cash flows. Mills’ outstanding book assesses the cost of these stresses to small businesses and creates a new vision for technology-driven solutions of the future.”

—Diana Farrell, *President and CEO of JPMorgan Chase Institute*

“Small businesses are often referred to as the ‘backbone of the economy’ and they need capital to grow and succeed. Mills understands small businesses through her work at the SBA and gives us real insights into how technology will affect, as well as benefit their future.”

—Mike Cherry, *National Chairman of the U.K. Federation of Small Businesses*

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To Barry, William, Henry, and George

Preface

It was a cold day in Arkadelphia and we were shivering out in the muddy grounds of the sawmill. As part of my new role in Washington, I had gotten up at 4 AM, taken two planes to land in Little Rock, and driven two hours south to visit Richie and his wife Angela at their business, Shields Wood Products. I was not in a good mood. Then Angela, who was also the business's bookkeeper, turned to me and said the words that changed my whole perspective on the day and probably led to the writing of this book. "You know," she said, "you saved our business."

I heard these words dozens of times over the next year as we worked to get capital flowing to small businesses who were suffering because credit markets had frozen during the Great Recession of 2008. Banks that had become over-extended stopped lending, making loans guaranteed by the U.S. Small Business Administration (SBA) a lifeline for many. As the head of the SBA, I was the member of President Obama's Cabinet who was responsible for all of America's entrepreneurs and small business owners. It was a terrific job. But it sometimes required pounding the table to ensure the voice of small business did not get lost under the mass of other priorities.

I knew how important small business was to the economy. My Grandpa Jack had come to America from Russia at the turn of the last century with nothing. Starting with two machines in the back of a shoe shop in Boston, he built a textile business that not only provided for his family and extended family, but grew to employ hundreds of people. When I worked for him in the mill during my college years, he would tell me not to go to work for a big company. "Our family," he would say, "doesn't work for other businesses. We build our own."

Grandpa Jack's story was the story of the American Dream. Our country is one of the few places in the world where it is possible to lift oneself and one's family to a new set of opportunities and a new life by starting and growing a small business. This path to opportunity, however, is threatened. Access to capital for small businesses has been under pressure, not only during the recession, but for decades prior, due to consolidations in community banks and the difficulty banks have in making profits with small loans, particularly those given to the smallest businesses.

Beginning around 2010, however, fintech entrepreneurs have come on the scene. Using data and technology, they have brought a new experience to small business borrowers, massively improving a process that has essentially not changed since the time when Grandpa Jack sought a loan. Through their early success and some subsequent stumbles, these innovators are transforming the small business lending market. Large global banks and small community banks have woken up to the fact that small businesses are looking for a more responsive, more innovative set of products and services focused on their unique needs. Platforms like Amazon, Square, and PayPal are demonstrating the power of data to overcome the information opacity that has long made small businesses difficult to understand.

This book explores the current and potential future states of small business lending. It asks, "What do small businesses want? Who will be the winners and losers? And how should regulators respond?" But most of all, this is a book about the role of small business, its importance to the economy, and the prospects that technology brings to overcome some of the fundamental barriers to a better small business lending market. It seeks to define a new state—Small Business Utopia—a world of innovative solutions that will help small businesses get the capital and financial insights they need to grow and succeed.

At the center of this book is a basic premise that small businesses matter. They matter for economic growth, they are fundamental to our communities, and they are critical to the future of the American Dream. This has been my experience as a venture capitalist and a small business owner, and during my time in government. And it is confirmed by the stories of Richie and Angela, Grandpa Jack, and the owners and employees of so many of America's 30 million small businesses.

In October 2009, I was standing with President Obama in a warehouse in Landover, Maryland, filled with small business owners. The President finished his speech, looked into the faces of these entrepreneurs who were suffering in the aftermath of the financial crisis, and said:

*I know that times are tough, and I can only imagine what many of you are going through, in terms of keeping things going in the midst of a very tough economic climate. But I guarantee you this: This administration is going to stand behind small businesses. You are our highest priority because we are confident that when you are succeeding, America succeeds.*¹

Small businesses are better off today in terms of access to capital than they were in the midst of the financial crisis, but obstacles remain. The rise of technology may serve to help small businesses overcome these challenges, forging transformative new products and services and a renewed pathway to the American Dream. In this period of change, we must ensure that innovations flourish in ways that enhance the prospects and prosperity of small businesses. Because, when small businesses succeed, America succeeds.

Boston, MA, USA

Karen G. Mills

Note

1. President Barack Obama, “Remarks at Metropolitan Archives, LLC” (speech, Landover, Maryland, October 21, 2009), Government Publishing Office, <https://www.govinfo.gov/content/pkg/PPP-2009-book2/pdf/PPP-2009-book2-doc-pg1555.pdf>.

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This book had its origins in the time I spent in Washington running the SBA during the financial crisis. I want to thank the team at the SBA for their inspiration and dedication, particularly those in the field offices who spend every day getting capital into the hands of small business owners. The impact we made would never have been possible without the vision and hard work of the SBA leadership team, especially Jonathan Swain, Chief of Staff, who continues to work with me on these issues. Those that have worked in Washington know that nothing gets done without support from the White House and Congress. To this day, I am grateful to President Barack Obama and to Larry Summers, Gene Sperling, Valerie Jarrett, and Pete Rouse for their commitment

to small businesses and to me. Senators Mary Landrieu and Olympia Snowe set an example of bipartisan leadership by working together to pass critical legislation that is still helping small business owners.

At Harvard Business School, the encouragement given by Dean Nitin Nohria, Jan Rivkin, and my colleagues in the Entrepreneurial Management unit was a critical factor in the decision to write this book, and the Division of Research and Faculty Development provided significant and much appreciated support. I thank Tula Weis, Ruth Noble, and the team at Palgrave Macmillan for the opportunity and for all their help. Glenn Kaplan and Rebecca Uberti provided design and wise counsel on the book cover.

The inspiration for this book comes from watching my family, particularly my parents Ellen and Melvin Gordon, and my grandparents, go to work each day in offices just off the factory floor and build businesses. I am grateful to them, and especially to Barry and our boys, William, Henry, and George, for their support and encouragement in this book and in all endeavors.

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1

The Story of Small Business Lending

Half of the people who work in America own or work for a small business. They account for half of this country's jobs. There are more than 30 million small businesses in the United States today, underpinning our economy and the fabric of our society. These businesses operate in every corner of every state, and exist in every industry, from retail shops to oil and gas exploration. The story of the small business owner is often one of the community-minded citizen who supports the local Little League or the immigrant entrepreneur who builds a life of opportunity.

All of these small businesses are different, but they face a common challenge: it is often difficult for them to get access to the capital they need to operate and succeed. Until recently, lending to small businesses hadn't changed much over the past century. A small business owner would compile a stack of paperwork, go to their local banker, and often wait weeks for a response. If the answer was "no," they would go down the street to the next bank and try again.

While this might sound like a frustrating process, there are many who say that it is not a serious problem. They argue that many of the small businesses that have trouble accessing capital should not actually get it because they are not creditworthy, and that most small businesses don't want to grow, so have no need for external financing. They also argue that today's banks are fully meeting the needs of the creditworthy borrowers in the marketplace. These statements have some truth to them. Not every business who wants a loan should get one and many businesses don't want to grow. The lending environment is also much improved from the dark days of the Great Recession. However, these views are blind to market failures in small business lending, which have only worsened over recent decades.

Small business lending is hard. In this book, we will meet small business owners—from Miami to Manhattan to Maine—who are struggling to get the right loan in the right amount at the right cost. We will meet lenders—from New England to Texas to Silicon Valley—who are trying to figure out which small businesses are creditworthy and how to lend to them profitably. These are not just isolated anecdotes, but rather, they represent the experiences of small business borrowers and lenders in a market filled with frictions. Using the best available research and data, we will show a picture of the gaps in access to capital for creditworthy small businesses, and the barriers that have made many traditional lenders less willing or able to meet their needs. And we will track how innovations in fintech have begun to address some of these problems.

Transforming Small Business Lending

Many industries, from music to telecommunications, have been transformed by technology, but small business banking has been slow to evolve. That is changing. Financial technology, or “fintech,” is a broad category that includes innovation across the banking, insurance, and financial services sectors, as well as new activities in areas like cryptocurrencies and blockchain. This book uses a narrower fintech lens, focusing on the way technology will affect lending—specifically, small business lending.

Lending does not happen in isolation. Other fintech innovations, particularly in payments, will have a related impact as they evolve. But, for the purposes of this narrative, the innovations in lending, and in data and intelligence related to lending, provide a rich environment to explore the ways in which technology will bring changes to the market. The cycle of fintech innovation in small business lending is not yet complete, but it has ushered in promising changes.

Today, all that is visible are the “green shoots”—ideas that early fintech entrepreneurs brought to the market beginning around 2010, and the nascent activities of larger banks and technology companies. Based on analysis of the foundational elements of small business needs and current lending markets, this book describes the ways that technology can be truly transformative, opening up better prospects for both small businesses and the lenders who serve them. Such a positive future for small businesses may sound overly optimistic. But newly available and soon-to-be discovered ways that data and intelligence can change decision-making promise to alter even areas as “old school” as small business loans.

As technology opens the doors to vast troves of data, opportunities are emerging to create new insights on a small business's health and prospects. Insights from this data have the potential to resolve two defining issues that have faced lenders and borrowers in the sector: heterogeneity—the fact that all small businesses are different, making it difficult to extrapolate from one example to the next—and information opacity, the fact that it is hard to know what is really going on inside a small business.

From a lender's point of view, the smaller the business, the more difficult it is to know if the business is actually profitable and what its prospects might be. Many small business owners do not have a great sense of their cash flow, the sales they might make, when customers will pay, or what cash needs they could have based on the season or the new contract. Small businesses have low cash buffers and a miscalculation, a late payment, or even fast growth could cause a life-threatening cash crunch.

But what if technology had the power to make a small business owner significantly wiser about their cash flow, and a lender wiser as well? What if new loan products and services made it easier to create what one investor calls a “truth file”—a set of information that could quickly and accurately predict the creditworthiness of a small business, much like a consumer's personal credit score helps banks predict creditworthiness for personal loans, credit cards, and mortgages?¹ What if a small business owner had a dashboard of their business activities, including cash projections and insights on sales and cost trends that helped them weave an end-to-end picture of their business's financial health? What if this dashboard helped them understand all credit options they qualified for today and which actions they could take to improve their credit rating over time? And better yet, what if the dashboard, marshaling the predictive power of machine learning amassed from data on thousands of business owners in similar industries, could help a business owner head off perilous trends or dangers?

This future is appealing because it responds to the fundamental need of small business owners to be able to see and more clearly interpret the information that already exists, helping them navigate the uncertain world of their businesses on their own terms and plan accordingly. And it provides an opportunity for lenders to better understand the creditworthiness of their potential customers and lower lending costs as a result. We call this future state “Small Business Utopia.”

It may be that this name overpromises the outcome. Small businesses are perhaps too varied to be predictable and entrepreneurs run their businesses with so much ingenuity and peculiarity that their insights cannot be replaced or even augmented by artificial intelligence. Small business owners have a

reputation for being set in their ways, and might be resistant to technology. But they are also pragmatic. If new intelligence is developed that will help them succeed, they will find a way to adopt it. Small businesses are hungry for new solutions. They responded so positively to the early fintechs' quick turn-around times on loans and the ease of the online applications that they spurred traditional lenders to action.

In this book, we trace the progress of the fintech innovation cycle and explore what will be next and who will provide it. We build these predictions for the future on a fundamental foundation of elements we can understand today: the needs of small businesses as they access the capital they require, the challenges their current lenders face in meeting these needs, and the opportunities that technology is providing for new solutions.

Three Myths of Small Business Lending

In the course of this journey, this book takes on three commonly held misconceptions about small businesses and small business lending. There are often good reasons why countervailing narratives exist. Sometimes, they are partly true. Often, there is not enough data to know definitively what the actual situation is or to prove causality. This is often an issue with small business, as data sources are scarce. Fortunately, since the Great Recession, more research and analysis has been conducted on the importance of small business to the economy, the role of access to capital to small business, and the gaps that exist in the market. We take advantage of this new research as we explore three myths of small business lending.

The first myth is the view that small businesses aren't that important to the economy, and that most small businesses fail and probably shouldn't be financed. This narrative argues that the small businesses that succeed largely don't need external financing, and those that should get financing are already well served by the market. In contrast to this narrative, the early chapters of this book pull together the best evidence of the barriers which are preventing small businesses from getting the financing they need, and describe the underlying market gaps in small business lending.

The second myth is that traditional lenders were "dinosaurs" that fintech start-ups would soon replace. Subsequent events have shown that this initial expectation about fintech disruption was too simplistic. However, the potential remains for technology to revolutionize small business lending. The contribution of this book is to separate hype from reality—to pull apart where the disruption will occur and where it will have the most impact, both on the health and wellbeing of small businesses and their finances, and on small business lenders. Based on an understanding of the kinds of products that will

best serve small businesses and their needs, this book predicts what will determine the winners in the future small business lending environment.

The third myth is that the primary culprit for the decline in small business lending is post-crisis financial services regulations, particularly the Dodd-Frank reforms.² Some argue or imply that if these regulations were reduced or eliminated, community banks would return to their former role as the critical providers of small business loans, particularly through relationship lending.

There is truth to the claim that small banks have suffered disproportionately from the burdens of post-crisis regulation and that changes must be made to ease the regulatory burdens, particularly on small banks. But deeper analysis shows that the morass of competing and overlapping regulation is not the only problem. Structural issues that have existed for decades are largely responsible for the decline in community banking. Innovation, particularly in the use of data, is creating changes that can improve the marketplace, but will bring new regulatory questions. The answer is not simply less regulation; rather, it is the right regulation that considers and anticipates the new challenges that a technology-enabled small business lending world will face.

Taking on these three arguments requires an ambitious journey, because it means delving into the data and evidence in three distinct areas of economic work. First is the macroeconomic and microeconomic debate over the importance and role of small business, and the gaps in small business lending. Second is the innovation literature, which helps us to understand how cycles of innovation work and what outcomes we can predict for the fintech revolution. Third is the policy and regulatory arena, which requires an understanding of both the current state of financial regulation and the debates over the future of regulation as it relates to data and artificial intelligence. The constant thread in this journey is the narrow lens of small businesses and their need for capital.

Small businesses are the key actors in our narrative, but not all small businesses are the same. To define which types we are talking about, we introduce a new categorization of the country's 30 million small businesses: sole proprietors with no employees, Main Street businesses, suppliers, and high growth start-ups. This book focuses on bank-dependent small businesses that fall mostly into the first three groups. We do not cover the capital needs of the relatively small number of high-growth firms that are backed by venture capital. They are vitally important, as they are the firms that could grow to be the next Google or Amazon, but they largely operate in a different market for equity capital.

There are a few other areas that are not covered. *Fintech, Small Business & the American Dream* is the story of U.S. small businesses and their available capital markets. The United Kingdom and China play a small role as examples

of countries with different regulatory approaches, but the promising developments in global fintech, particularly in developing nations, is left for future exploration. Additionally, this book is about innovation activity in the lending markets and how technology might help these markets operate more efficiently. Government policy is covered in reference to the response to the Great Recession, and recommendations regarding the regulatory environment receive substantial attention. However, this effort does not suggest specific government interventions to further close market gaps or fully explore how technology might optimize government efforts to improve lending options to underserved segments, an area with much potential.

Book Overview

This book is organized into three parts. Part I begins with the problem: small businesses are important to the economy and access to capital is important to small businesses, but banks, which have been the traditional lenders to small businesses, face both cyclical and structural pressures. The result is a gap in access to credit, particularly for the smallest businesses who seek the smallest loans. Part II describes the rise of fintech innovations, and the new and old players who have stepped up to fill this gap. Although this fintech innovation cycle has moved in fits and starts, it has the potential to be truly transformative, for both small businesses and their lenders. Part III takes on regulation, discussing issues with the current state of regulatory oversight, and the principles on which a better future environment can be built. The book concludes with a look at eternal truths about small business lending and predictions for the future.

Part I—The Problem

Small businesses are the backbone of the U.S. economy. While most politicians and the public say they agree with this statement, small businesses are excluded from many economists' models and exert little influence in Washington policymaking circles. Yet small businesses contribute disproportionately to job creation and innovation. Moreover, the ability to start and own a small enterprise embodies the American Dream. Small businesses support a vibrant middle class and strong communities, providing a pathway for social mobility. Contrary to popular perception, not all small businesses are the same. This section describes four distinct small business segments, each of which has different needs, particularly with regard to access to capital.

Capital is the lifeblood of small businesses, who depend on credit to start, operate, and grow. Historically, small businesses relied on banks to access capital. But during the 2008 financial crisis, credit markets froze, and banks temporarily stopped lending even to businesses with good credit. This crisis hit small businesses hard and credit conditions have been slow to recover. The economic downturn significantly devalued collateral—especially home equity—that small business owners use to secure credit. Lenders and business owners became risk averse due to lost sales and the trauma from the crisis. Short-term cyclical factors made securing credit particularly hard for small businesses during the recovery, opening the door for the entry of new technologies and lenders.

After the recovery, there was still a gap in access to capital for small businesses. It is tempting to blame this on regulation or other cyclical issues, but longer-term structural factors had been putting pressure on banks for decades. Community banks, which traditionally devoted a disproportionate amount of their capital to small business lending, had been declining since the 1980s. The concentration of assets in large banks reduced the focus on small businesses. Larger banks tend to prioritize consumer banking, mortgages, and investments, often viewing small business loans as less profitable. Indeed, small business loans are riskier, have transaction costs that do not scale, and are difficult to securitize. These structural factors have reduced small business access to capital over several decades.

Against this background, we ask the crucial questions: what do small businesses want? Why do small businesses seek capital, what kind of capital do they need, and where are the market gaps? The majority of small businesses are looking for small-dollar loans, but the lending market is plagued with frictions that make it difficult for banks to deliver small loans efficiently. The gaps in the small business lending ecosystem and the capital challenges small businesses face set the scene for the potentially transformative role of fintech.

Part II—The New World of Fintech Innovation

In Part II, we explore how technology is changing the game in small business lending. Joseph Schumpeter, an influential twentieth-century economist, posited that innovation was the fuel that energized the economy through a process of “creative destruction.” In his theory, new inventions would be applied in economically useful ways that disrupted traditional industries. Later scholars built the theory of the innovation S-curve, where new innovations live for some time in a stage of ferment, as markets become accustomed to new products and services, followed by a period of acceleration and market adoption. Fintech

entrepreneurs, when first entering the market, appeared to have an opportunity to dramatically change the landscape of small business lending at the expense of banks. The process, however, proved more complicated.

The second phase of the innovation cycle, takeoff, did not occur as expected. The initial excitement around the entry of hundreds of new fintechs produced rapid growth and a loosely regulated environment that allowed for high prices and hidden fees, which caught some small business borrowers unawares. While the first fintech wave laid the foundation for greater changes later on, it soon became clear that the innovations brought by the new entrants were largely focused on the customer experience and could be replicated by traditional lenders more easily than initially anticipated. Banks and other existing lenders also had significant advantages over the newcomers, particularly in the form of large customer bases and low-cost pools of capital from deposits.

The aborted takeoff phase led to a second rich period of market development, which included the entry of a new set of platform players like Amazon, American Express, and Square. Their ability to use data foreshadowed a promising new world for small business owners. In this world, big data and artificial intelligence would be used to smooth out small business cash flows, enhance small businesses' understanding of their finances, and provide them with timely access to capital that fit their needs.

In Part II, we also develop a playbook for traditional lenders and banks to innovate in this ecosystem. Using Massachusetts-based Eastern Bank as an example, this section addresses the key question: how should banks and traditional lenders innovate in small business lending? We lay out strategic guidance for banks thinking about partnering with fintechs, innovating internally, or engaging with technology in other ways. This section also addresses the difficulties of bringing disruptive ideas and products into a traditional institution and proposes structures through which to overcome these obstacles.

Part III—The Role of Regulation

In Part III, we ask how the regulators should respond to existing and coming changes. The current U.S. regulatory system is inhibiting innovation and failing to protect small business borrowers from bad actors. While these problems have long existed, the emergence of fintech has made solving them more urgent. The fragmented “spaghetti soup” of regulators overseeing banking has meant that small business borrower protections have fallen through the cracks.

We propose new regulatory structures and principles for the future of small business lending, particularly in an era of big data and artificial intelligence—

drawing on lessons from the United Kingdom and China. A new regulatory framework should both protect small businesses and encourage innovation while recognizing that many of the new players will look different from traditional lenders. Collecting timely data on the small business loan market is a lynchpin of any new system, allowing regulators to identify market gaps and “bad actors.” The optimal regulatory structure of the future will require bold actions to streamline the overlapping and sometimes contradictory jurisdictional issues. Regulators must also confront thorny questions that will be raised by the use of big data and artificial intelligence to deliver new products and services.

* * *

This book is the story of the transformation taking place in small business lending, and the impact these changes will have on the financial sector and the small business economy. In the future, the result will not be that all small businesses get loans, but there should be a better marketplace with fewer stresses, frictions, and gaps.

With the new entrants, there will be more lenders and more lending options. Improved data and intelligence will mean that lenders are able to identify and serve more creditworthy borrowers, and that small businesses will have more insights to manage their cash and operate their companies. The right regulation will enhance borrower protections for small businesses and create a more transparent environment. If this small business lending transformation occurs, the prospects will improve for small business owners to succeed and achieve the American Dream.