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Financial Inclusion in the United States:

Measurement,
Determinants, and
Recent Developments

Matteo Crosignani, Jonathan Kivell, Daniel Mangrum, Donald Morgan, Ambika Nair, Joelle Scally, and Wilbert van der Klaauw

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FINANCIAL INCLUSION IN THE UNITED STATES: MEASUREMENT, DETERMINANTS, AND RECENT DEVELOPMENTS

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OVERVIEW

- New financial technologies and initiatives aimed at mitigating hardship during the pandemic helped expand access to banking, credit, and payment services to more consumers and small businesses.
- Despite this progress, many people and small firms still lack access to financial services that would help them better manage day-to-day finances, absorb economic shocks, and build wealth.
- This study takes a measure of the current state and evolving landscape of financial inclusion in the United States, drawing on survey evidence and a growing number of academic studies.
- The authors highlight how differences in survey questions and sampling methodologies can cause large differences in many of these measures across surveys. They also explore evidence on the relationship between a person's access to financial services and their ability to weather financial difficulties.

In recent years technological change and pandemic-related policies have helped expand access to banking, credit, and payment services to more consumers. Digital financial services in particular have opened the financial system to more households and small and medium-sized businesses. Despite this progress, many obstacles remain, especially for people with low financial security who continue to lack access to the financial tools needed to manage their day-today finances, absorb economic shocks, and build financial wealth. In this article, we review the current state and evolving landscape of financial inclusion in the United States. In doing so, we draw on survey evidence and a growing number of academic studies. Our review identifies key opportunities for improving our understanding of the causes of financial exclusion and of the effectiveness of alternative efforts to expand financial inclusion. We also emphasize the need for new measures of financial inclusion

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that go beyond access and use of specific financial services to how effectively these services are used to improve financial resiliency and well-being.

The article begins with a definition of financial inclusion and a discussion of its importance. We review several studies highlighting the consequences of financial exclusion. While exclusion from the financial system may, in part, be driven by preferences, we highlight several frictions that cause involuntary and inefficient exclusion, opening the door for government interventions to improve welfare by expanding financial inclusion.

Next, Section 2 discusses the measurement of financial inclusion across several individual and household surveys. In addition to bank account ownership, it covers several other measures of financial inclusion, among them access to credit and the use of other bank and nonbank financial services. We highlight that differences in survey questions and sampling methodologies can cause large differences in many of these measures across surveys. We then explore the relationship between whether a person has access to a bank account and their use of nonbank financial services and their ability to weather financial shocks.

Section 3 examines differences in these financial inclusion measures across the population by demographics. We also investigate how the unbanked rate varies with education and income after conditioning on race and ethnicity and describe regional differences in the unbanked rate. We then explore credit exclusion using the New York Fed Consumer Credit Panel (CCP), which is a 5 percent representative sample of credit reports from Equifax. Further, we look at two measures of credit inclusion—the share of the population with a credit report and the share with a credit card—over time and across neighborhood income. Last, we consider heterogeneity in the use of nonbank financial services across race and ethnicity, age, and income.

In Section 4, we discuss several of the driving factors behind why people are financially excluded. We start by presenting survey data from the Federal Deposit Insurance Corporation (FDIC) biennial National Survey of Unbanked and Underbanked Households suggesting that some households decide to not open a checking account because of high minimum balance requirements, mistrust of banks, and high and unpredictable fees—with this latter motive being particularly important for Black and Hispanic households according to data from the Board of Governors of the Federal Reserve System's Survey of Consumer Finances (SCF). Survey data from the New York Fed's SCE Credit Access Survey also indicate significantly higher rates of rejection of credit applications for Black and Hispanic applicants relative to white applicants, with these racial gaps narrowing sharply after controlling for credit scores. Finally, we contrast government programs, such as the Community Reinvestment Act (CRA), designed expressly to improve credit access with others, such as usury limits, that can unintentionally limit access, particularly when credit may be most clearly needed, for example, after weather-related disasters.

Section 5 discusses several recent private, public, and social sector initiatives to expand financial inclusion, focusing on efforts to make banking more accessible and affordable and on programs that offer financial education, literacy, and counseling. We review the literature on their effectiveness.

Section 6 reviews recent market developments, including a tightening of underwriting standards for mortgages and the increased adoption of alternative data and advanced technology in the underwriting of fintech lending, with a particular focus on unsecured consumer loans. We discuss evidence from the literature on the impact of this development on financial

inclusion and risks. We also review new evidence from the New York Fed's Survey of Consumer Expectations (SCE) on the use of "buy now, pay later" loans. Finally, we highlight the trade-offs in nonbank financial institution lending more broadly between increased financial inclusion, consumer protection, and financial stability.

In Section 7, we briefly discuss opportunities and areas of further research that will contribute to the improvement of financial inclusion and to the broader goal of building an inclusive and well-functioning financial system that works for everyone in the United States.

Section 8 concludes the article.

1. What Is Financial Inclusion and Why Does It Matter?

Financial inclusion broadly refers to the availability of opportunities to access and participate in the financial system, but specific definitions vary somewhat across studies. The World Bank defines financial inclusion as the condition whereby "individuals and businesses have access to useful and affordable financial products and services that meet their needs—transactions, payments, savings, credit, and insurance—delivered in a responsible and sustainable way." Alternatively, financial inclusion could be defined as having access to basic payment and credit services that are offered at transparent and fair prices commensurate with the cost and risks of providing the services and that do not aim to exploit consumer naivete and behavioral biases. Similarly, financial exclusion generally refers to individuals and businesses being unable to access or being prevented from accessing financial services and products that meet the needs of the customer and are offered under conditions that reflect a fair level of risk.

Participation in the financial system facilitates making payments for goods and services, securely transferring money, safely storing funds, borrowing money at reasonable rates, and establishing a credit history. A credit history showing a successful record of repayment, in turn, implies greater access to a wider and more affordable range of loans. Meanwhile, its absence could negatively affect an individual's ability to find work or affordable housing, obtain approval for small business loans or private student loans, and access affordable insurance. Importantly, access to banking and credit services improves one's ability to build wealth through saving and investment (for example, through homeownership and debt-financed investments in education) and to weather economic difficulties (Ampudia and Ehrmann 2017; Celerier and Matray 2019; Stein and Yannelis 2020).²

Empirical evidence shows that households with at least some savings are better able to deal with income volatility and less likely to be evicted or miss mortgage or utility payments (McKernan, Ratcliffe, and Vinopal 2009; McKernan et al. 2016; Mills and Amick 2010). Enabling individuals and businesses to pursue economic gain, invest and manage risks, build wealth, and achieve economic mobility, access to the financial system is important for U.S. economic growth and resiliency. Furthermore, financial inclusion can help lift people out of poverty and reduce economic disparities (Beck et al. 2007). The inclusivity of the financial system also relates to the delivery of tax refunds, government cash transfers, and relief funds to households and small businesses, such as the Small Business Administration's Paycheck Protection Program (PPP) loans and economic impact payments during the COVID-19 pandemic.³ Furthermore, since the direct impact of changes in policy interest rates will generally

be smaller for those who are financially excluded, the extent of financial inclusion can affect the effectiveness and optimal design of monetary policy (Haughwout, Koşar, and Pinkovskiy forthcoming; Mehrotra and Yetman 2014).⁴

The extent of an individual's participation is determined by demand and supply factors. A key focus in the study of financial inclusion is the extent to which financial exclusion is due to frictions in the financial system that prevent banking and financial services from operating efficiently (Boel and Zimmerman 2022). These inefficiencies reduce overall welfare while contributing to and perpetuating existing inequalities in wealth and opportunities, because the individuals most likely affected are those with lower incomes and wealth. These frictions in the financial system could be associated with a lack of market competition, criminal behavior, discrimination, behavioral biases and misconceptions, and information asymmetries. Their presence provides an argument for federal and state government intervention, similar to the government's role in addressing inefficiencies and inequalities in the provision of education and health care. Such intervention could involve efforts to reduce these frictions and improve consumer protection. As discussed in Section 4, there is also a role for the Federal Reserve and other federal banking regulators in addressing financial inclusion through the CRA, by encouraging federally insured banks to help meet the credit needs of the communities in which they do business, especially low- and moderate-income (LMI) communities, consistent with safe and sound operations.⁵

2. Measuring Financial Inclusion

In this section we discuss the measurement of financial inclusion while drawing on four different national surveys, including the FDIC's National Survey of Unbanked and Underbanked Households, the Federal Reserve Board's SCF, FINRA's National Financial Capability Study (NFCS), and the Federal Reserve Bank of Atlanta's Survey of Consumer Payment Choice (SCPC), as well as credit report data from the New York Fed's CCP.

An important aspect of the literature on financial inclusion concerns the multidimensional nature of its measurement. Rather than a simple binary indicator for whether someone is financially excluded or not, it is common to use multiple measures to capture access to a range of financial products. In our description of these different measures, we do not take a position on their relative importance. Rather we see these measures as complementary, together providing a more holistic characterization of the extent and nature of financial inclusion. For example, while access to a bank account and its associated saving and transfer options may affect households' day-to-day living, access and use of various types of credit could affect one's ability to borrow and handle larger purchases of durable goods.

Accordingly, we focus on several dimensions of financial inclusion that have been proposed in the literature, including bank account ownership, access and use of bank credit, use of bank and nonbank payment and transfer services, and nonbank credit and insurance, as well as measures of financial resiliency.

2.1 Access and Use of Bank Accounts, Credit, and Payment Services

Owning a bank account provides a way to deposit earnings securely, to pay bills easily, to make purchases safely, and to save for the future. The FDIC defines an individual as "unbanked" if no one in the household has a checking or savings account with a bank or credit union. Other measures of bank account ownership, such as those based on the SCPC, are at the individual, rather than the household level.

Among those with a bank account, the FDIC further defines as "underbanked" those individuals who are banked but underserved by existing saving, credit, and financial products. The latter is measured by use in the past twelve months of at least one alternative high-cost nonbank transaction or a credit product or service disproportionally used by the unbanked to meet their transaction and credit needs, such as money orders, check cashing, international remittances, rent-to-own services, pawnshop or payday loans, tax refund anticipation loans, and auto title loans. Underbanked individuals usually pay high fees for accessing their money and for transactions while having few opportunities to build savings and assets.

According to the latest 2021 FDIC National Survey of Unbanked and Underbanked Households, there are about 5.9 million households (15.6 million adults) that are unbanked, while 18.7 million households (51.1 million adults) are underbanked. As shown in Table 1, those who are unbanked accounted for 4.5 percent of U.S. households in 2021, with a further 14.1 percent of households being underbanked. Similar rates for the unbanked are found in three other surveys: 5.5 percent of households in the Board of Governors' 2019 SCF, 4.7 percent of respondents in FINRA's 2021 NFCS, and 6.5 percent of adults in the 2020 Atlanta Fed's SCPC.6

TABLE 1
Measures of Financial Inclusion

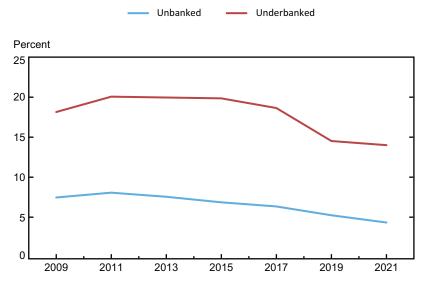
Measure (in percent)	FDIC Household	SCF Household	NFCS Household/ Individual	SCPC Individual
Have bank account	95.5	94.5	95.3	93.5
Have checking account		93.0	93.0	92.7
Have savings account		55.9	74.5	75.2
Underbanked	14.1			
Have credit card	71.5	74.5	79.6	79.1ª

Sources: FDIC, National Survey of Unbanked and Underbanked Households; Board of Governors of the Federal Reserve System, Survey of Consumer Finances (SCF); FINRA, National Financial Capability Study (NFCS); Federal Reserve Bank of Atlanta, Survey of Consumer Payment Choice (SCPC).

Notes: The SCF and FDIC measures are at the household level (anyone in the household), while the SCPC measures are at the individual level. All measures in the NFCS are at the individual level, except bank account ownership, which is at the household level. SCF data are from the 2019 wave, SCPC data are from the 2020 wave, FDIC data are from the 2021 wave, and NFCS data are from the 2021 wave. Although we cluster variables together across surveys, estimates may vary between surveys due to other differences in sample construction and variable definitions.

^a Share with credit or charge card.

CHART 1
Shares of Households That Are Unbanked and Underbanked



Source: FDIC National Survey of Unbanked and Underbanked Households, 2009-21.

The rate of unbanked households in the 2021 FDIC survey was the lowest since the survey began in 2009. Between 2019 and 2021, the unbanked rate dropped by 0.9 percentage point, contributing to an overall decline of 3.7 percentage points since 2011 (see Chart 1). Improvements in household finances and advances in online and mobile account opening technologies and bank offerings in recent years likely contributed to the decline in the share of households who are unbanked. Further, a growing number of banks and credit unions have joined a national effort to expand banking access since 2006 by offering safe and low-cost Bank On accounts that meet the Cities for Financial Empowerment Fund's national account standards. About one-third of new account openings since 2019 were associated with referrals by the federal government to Bank On certified accounts (as an alternative to spending cards) for enabling transfers of economic impact payments, advance child tax credits, and unemployment benefit payments during the pandemic. In fact, among the 77.9 percent of recently banked households that received a government benefit payment, almost half (44.8 percent, or about 1.9 million households) said that the payment contributed to opening an account.

While the pandemic created unique opportunities and challenges for promoting financial inclusion, there is some prospect that these changes may be longer lasting. For example, there are several ongoing efforts at the state level to swap out pay cards for unemployment insurance payments in favor of direct deposit into bank or credit union accounts.⁸ More broadly, the provision of safe and affordable bank accounts to consumers receiving income and other government payments appears to be an effective financial inclusion strategy that is likely to further increase bank account ownership.⁹

In parallel with the decline in the rate of unbanked households, the share of underbanked households has declined from 20.0 percent in 2011 to 14.1 percent in 2021 (see Chart 1). There

was also an increase in the share of the adult population owning a credit card, another common measure of credit access in the United States. Recent surveys yield a range of estimates for the rate of credit card ownership, varying from 70.7 percent to 79.1 percent, reflecting differences in survey timings and definitions. As shown in Table 1, 71.5 percent of households in the 2021 FDIC survey and 74.5 percent of households in the 2019 SCF have at least one member who owns a credit card. Further, 79.1 percent of individuals in the 2020 SCPC own a credit or charge card, and 79.6 percent of individuals in the 2021 NFCS report owning a credit card. Similarly, the New York Fed CCP shows that 72.3 percent of adults between ages 21 and 79 held a credit card account in 2021. We can further draw on the CCP to examine the trend over time: credit card participation fell from 64.9 percent in 2011 to 63.3 percent in 2012. By 2013, only 62.6 percent of Americans held credit card accounts. But between 2013 and 2021, the share of Americans with credit card accounts grew by nearly 1 percentage point per year. By 2021, 72.3 percent of Americans held credit card accounts.

Besides the increase in bank account and credit card ownership, the past decade has also seen a sharp decline in the use of some nonbank financial services, such as check cashing. Despite these improvements in connecting households to the banking sector and declining rates of unbanked and underbanked households, a significant number of Americans remain unbanked or underbanked, especially in some segments of the population.

2.2 Having a Credit History and Credit Score

In addition to the ownership of bank accounts and credit cards and the use of banking services, large persistent gaps in credit access and use remain, as captured by an individual's credit history. Brevoort, Grimm, and Kambara (2015) distinguishes between two measures of credit exclusion: being "credit invisible" and "credit unscorable." Credit invisible consumers are those who have no credit history with one of the major credit bureaus. Those who are credit unscorable are individuals with a credit history that is too limited to produce credit scores using traditional credit models, even in cases where the person has a long history of bill payments not traditionally reported to credit bureaus, such as for rent and utilities. Traditional credit scores are based on borrowing and repayment experiences on most loan products, including home-based loans, such as mortgages and home equity lines of credit, auto loans and student loans, and credit cards, which are the most common loan types reported on credit reports.

Brevoort, Grimm, and Kambara (2015) found that in December 2010 some 11 percent of adults, or about 26 million Americans, were credit invisible. This CFPB report found that credit invisibles were also more likely to be unbanked or underbanked. An additional 19 million consumers (8 percent) have unscorable credit files: their files are either thin with insufficient credit history (9.9 million) or stale with no recent credit history (9.6 million). So, in total there are about 45 million consumers (almost 20 percent of the U.S. adult population) who could be denied access to credit because they lack a traditional credit score.

To obtain a more recent perspective on credit inclusion, we draw again on the CCP, which constitutes a representative sample of anonymized Equifax credit reports. Here, we compute the share of the adult population without a credit file or credit score in 2011 and in 2021. For the United States overall we find that, in 2021, 10.2 percent of individuals ages 21 to 79 were credit

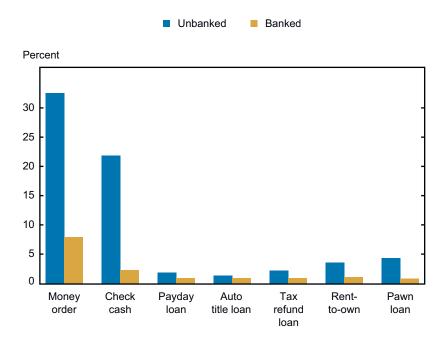
invisible or unscorable, that is, without a credit score. This is slightly higher than the 9.2 percent of adults who were in those categories in 2011; the share remained relatively stable during the intervening years. Note that we estimate a lower rate of credit exclusion compared to the CFPB report (which estimated this rate to be 19 percent in 2010) for a few key reasons. First, the CFPB's computation uses foresight and discards credit files that do not appear four years after the reference year (such that a credit record must appear in 2014 to be counted in 2010). This is a rather restrictive requirement, which likely drops a significant number of legitimate credit files; we instead use a two-year lookback window. Second, the minimum scoring criteria for a specific credit score are highly determinative, and these criteria vary between scores. For example, FICO scores will be generated with at least a six-month credit history on an open account, whereas VantageScore can be generated with less than a six-month history.¹² Our estimates use the Equifax Risk Score 3.0, which is likely able to generate more scores on credit files with less substantial borrowing histories and thus is more likely to score newer credit users or those with fewer accounts. Third, we draw our sample for ages 21 to 79, while the CFPB analysis uses ages 20 to 74. While these differences may lead to a lower estimate of credit exclusion than that of the CFPB, differences in sampling methodology (specifically the treatment of those without a Social Security number) may cause our estimates to overstate the extent of credit exclusion relative to the CFPB. 13 Due to these differences, our estimates and those from the CFPB are not directly comparable on levels, but the dynamics should move in the same direction.

2.3 Access to Nonbank Services and Financial Resiliency

As discussed earlier, the use of nonbank services is often considered an indication of exclusion from more traditional bank services. Of the households in the 2021 FDIC survey, 14.1 percent report using some nonbank financial service (for example, check cashing or a payday loan). This rate has declined over the past decade, driven in part by increased participation in the banking system, reduced demand for those services, and the increasing supply of new online and mobile nonbank products and services, such as prepaid cards and online payment services such as PayPal, Venmo, and Cash App. While banked households also use nonbank services, unbanked households may use such services as substitutes for banking services. Using data from the 2021 FDIC survey, we show in Chart 2 the share of the banked and unbanked populations that have used common nonbank products and services in the last twelve months. Those who are unbanked are more likely to have used each of the nonbank financial services than those with a bank account. Money orders and check cashing are the most-used nonbank financial services by both unbanked and banked individuals; however, unbanked individuals are roughly four times as likely to have used money orders in the past year and ten times as likely to have used check cashing services. Since these products and services typically incur higher service fees than those associated with a checking account, these unbanked individuals often pay more for the use of these services than they would with a bank account.

Additional insight into access and use of financial services by the unbanked is presented in Table 2. In addition to ownership of different payment cards and ownership of a checking account in the past, the table presents statistics on where the unbanked and the banked obtain cash, as well as several measures of financial resiliency. Note that the unbanked have much lower ownership rates of credit and store cards than the banked and are instead more likely to own prepaid

Chart 2
Use of Nonbank Financial Services



Source: 2021 FDIC National Survey of Unbanked and Underbanked Households.

Note: The chart reports the percentage using nonbank financial services in the last twelve months.

cards and government benefit rewards. Also, a little over half of those currently unbanked had a checking account in the past, pointing to the dynamic nature of the unbanked status.

Where do those without a bank account get cash most often, and how does that differ for those with a bank account? Table 2 shows a reduced reliance on ATMs and bank tellers and an increased dependence on cash wage payments, check cashing stores, and family and friends for getting cash.

Another measure of financial inclusion concerns an individual's ability to weather financial shocks. Table 2 shows that 65 percent of adults report being able to obtain financial assistance of \$3,000 from family or friends in case of an emergency. This rate drops to 30 percent for those who are unbanked, emphasizing their broader vulnerability to financial shocks. Compared with those who are banked, a larger proportion of the unbanked would rely on borrowing money (from family, friends, a credit card, a car title lender, a pawn shop, a title loan, or a payday lender), postponing payments, and working more hours or getting a second job, while fewer would rely on their savings and investments. The unbanked are also considerably less likely to have or live with someone who has life insurance.

3. Who Is Financially Excluded?

Access to and use of financial services differ dramatically across education, income, and demographic groups in the United States. To study differences in access to and use of financial

Table 2
Use of Financial Services and Financial Resiliency of the Banked and Unbanked

Shares (in percent)	Unbanked	Banked	All
Credit, cash, and payment methods			
Have a credit card	12.2	78.2	74.5
Have a store card	6.0	47.5	45.2
Have a prepaid card	43.1	7.2	9.2
Have a government benefit card	54.5	9.2	11.7
Ever had a checking account	56.2	99.3	96.9
When get cash, where get it most often?			
ATM	33.9	58.6	57.0
Bank teller	8.5	19.1	18.4
Check cashing store	5.7	0.4	0.7
Cash back at retail store	8.4	12.5	12.2
Some/All of wage in cash	13.6	2.1	2.9
Family or friend	24.4	5.1	6.3
Other	5.5	2.2	2.5
Financial resiliency			
Could get an emergency \$3,000 from friends?	30.2	67.3	65.2
How deal with financial emergency?			
Borrow money from others	15.0	10.8	11.0
Use savings/investments	12.3	42.1	40.5
Postpone payments	8.0	4.2	4.4
Cut back	7.3	5.8	5.9
Work more/get an extra job	32.7	24.7	25.2
Any household member has life insurance?	22.6	61.6	59.4

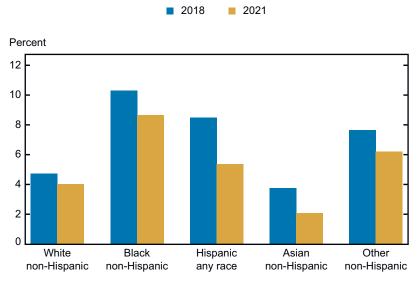
Source: Survey of Consumer Finances (2019), except for "When get cash, where get it most often" section, which is from the 2020 Survey of Consumer Payment Choice.

Notes: The "How deal with financial emergency" question was asked only of those who did not run an income deficit (that is, their spending exceeded their income). The question was worded: "If tomorrow you experienced a financial emergency that left you unable to pay all of your bills, how would you deal with it?" The remaining answer category in each column for this question is "ran income deficit." The wording of the emergency \$3,000 question was as follows: "In an emergency could you (or your {husband/wife/partner}) get financial assistance of \$3,000 or more from any friends or relatives who do not live with you?"

services, we rely on the National Financial Capability Study, which surveys more than 25,000 respondents in each wave, provides a state representative survey sample, and asks survey respondents a range of questions regarding their ownership of certain financial products and

their use of various financial services. According to the 2021 wave of the NFCS, Asian and white non-Hispanic respondents were the least likely to be unbanked at 2 percent and 4 percent, respectively, while Black non-Hispanic and Hispanic respondents were the most likely to be unbanked at 8.7 percent and 5.4 percent, respectively (Chart 3). The rate at which the share of the unbanked has fallen since 2018 also differed dramatically by race/ethnicity. Between the 2018 and 2021 waves, the unbanked rate fell by 0.7 percentage point for white non-Hispanic respondents (from 4.7 percent to 4 percent), 1.6 percentage points for Black non-Hispanic respondents (from 10.3 percent to 8.7 percent), 3.1 percentage points for Hispanic respondents (from 8.5 percent to 5.4 percent), and 1.7 percentage points for Asian non-Hispanic respondents (from 3.7 percent to 2 percent).

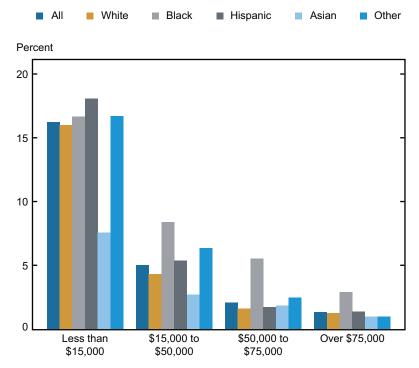
Chart 3
Share Without a Bank Account in 2018 and 2021 by Race/Ethnicity



Source: FINRA, National Financial Capability Study 2018 and 2021.

Those with lower incomes are also less likely to have a bank account. As shown in Chart 4, the unbanked rate for those with annual household income below \$15,000 is more than 15 percent, and the rate decreases dramatically over the income spectrum such that fewer than 2 percent of those with household income above \$75,000 are without a bank account. While race is correlated with income, there are stark differences across racial and ethnic categories within income bands. For instance, for those earning less than \$15,000 per year, each demographic category had an unbanked rate greater than 15 percent except for Asian non-Hispanic respondents, who were half as likely to be unbanked at a similar income. On the other end of the income spectrum, the overall unbanked rate for those with incomes of more than \$75,000 was 1.3 percent, but Black non-Hispanics in this income range were more than twice as likely to be unbanked, at 2.9 percent.

Chart 4
Share Without a Bank Account by Income



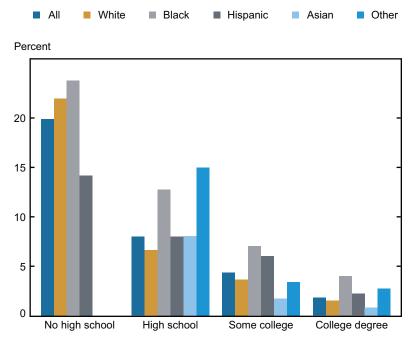
Source: FINRA, National Financial Capability Study 2021.

A similar trend emerges for educational levels (Chart 5). Those without a high school diploma are most likely to not have a bank account (nearly 20 percent), but the overall rate masks significant heterogeneity across demographic groups. Across almost every educational level, Asian non-Hispanics are the least likely to be unbanked, while Black non-Hispanics are the most likely.

The unbanked rate also varies across geography in the United States, consistent with the demographic, income, and educational trends shown above. As shown in Exhibit 1, the rate is highest in the Southern census region, which is home to the states with the six highest unbanked rates (Mississippi, Oklahoma, Arkansas, Kentucky, Louisiana, and Tennessee). Using individual-level credit report data from the CCP, we can create estimates of credit inclusion by various demographics. Here, we examine the share of the population with a credit score and with a credit card account, charted against the age (Chart 6) and median zip code income (Chart 7) of the borrower. We find credit score and credit card ownership to be strongly increasing in age, especially at younger ages. In 2021, by age 30 the share with a credit score increased to about 90 percent and the share owning a credit card climbed to over 70 percent. Comparing 2021 levels with those in 2011, we find noticeable increases in the share with a credit score among those in their early 20s and more broad-based increases in credit card ownership rates among those under age 60.

Similarly, we find that both measures increase with neighborhood median income: in the higher-income areas, more than 80 percent have a credit card and nearly everyone has a credit

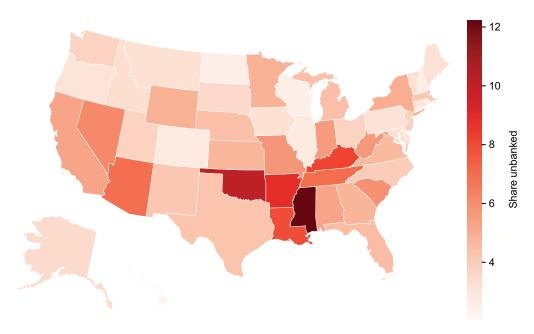
Chart 5
Share Without a Bank Account by Education



Source: FINRA, National Financial Capability Study 2021.

Note: Shares are not reported for cells with too few respondents to produce reliable estimates.

Exнівіт 1 Share Without a Bank Account by State

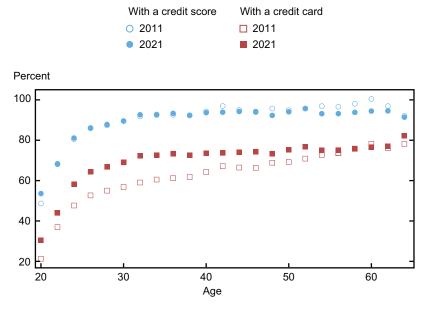


Source: FINRA, National Financial Capability Study 2021.

score. By contrast, in areas with median income under \$30,000, fewer than 50 percent of adults had access to a credit card and less than 80 percent had a credit score in 2021. Comparing the 2021 and 2011 coverage rates, we find the largest increase in credit card ownership among those in lower-income areas. This increase could reflect a general increase in risk tolerance and easing of credit standards by banks and credit card companies, for example, as suggested by the lower credit card application rejection rates reported during June 2019 to June 2020 in the SCE Credit Access Survey. Yet it may also reflect an improvement in credit scores among lower-income individuals owing to student loan and other loan forbearance programs during the pandemic (Fulford, Rush, and Wilson 2021).

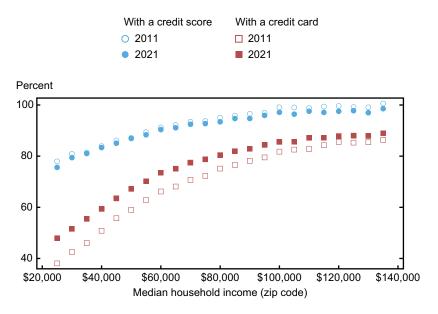
Charts 8, 9, and 10 show characteristics of households using specific nonbank financial services associated with the underbanked—services that typically are more costly than services provided to those owning a bank account. The charts show considerably greater use of money orders and check cashing services by Black and Hispanic households, as well as by lower-income and younger individuals, especially those under age 25. Further, in Table 3 we jointly control for fixed effects for each of these groups to test for statistically significant differences in the use of nonbank financial services. The patterns largely remain when controlling for other demographic characteristics. Across each of the nonbank financial services, income above \$75,000 is the largest and most precisely estimated negative predictor of use. However, age and race/ethnicity vary in their explanatory pattern across different services. Age is a (negative) predictor for money order use and check cashing after conditioning on the other factors but it does not perform well

Chart 6
Share of the 2011 and 2021 Adult Population with a Credit Score or a Credit Card, by Age



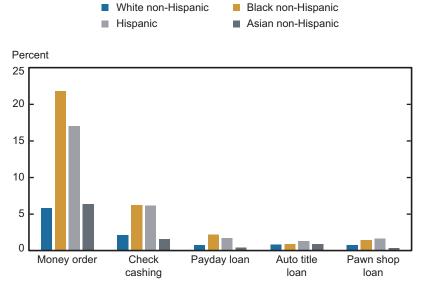
Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey. Note: Credit score is Equifax Risk Score 3.0.

CHART 7
Share of the 2011 and 2021 Adult Population with a Credit Score or a Credit Card, by Median Zip Code Income



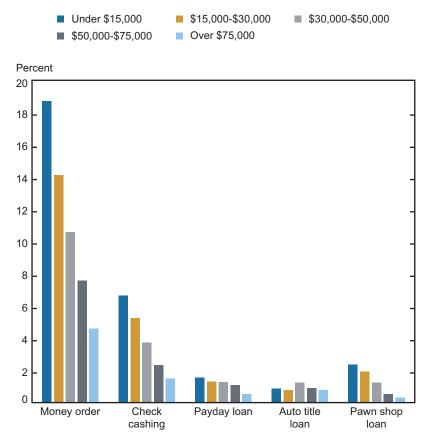
Source: New York Fed Consumer Credit Panel/Equifax; American Community Survey. Note: Credit score is Equifax Risk Score 3.0.

CHART 8
Use of Nonbank Financial Services by Race/Ethnicity



Source: 2021 FDIC National Survey of Unbanked and Underbanked Households.

Chart 9
Use of Nonbank Financial Services by Income



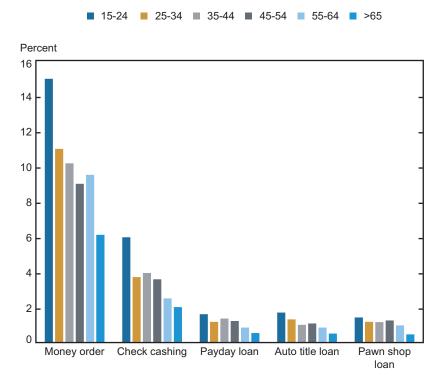
Source: 2021 FDIC National Survey of Unbanked and Underbanked Households.

explaining the other nonbank financial services. Even after controlling for age and income factors, Black and Hispanic individuals were still more likely to use most of these services.

4. Why Are Households Financially Excluded?

This section explores the reasons households are unbanked or credit constrained/excluded. The services we are discussing, and their prices, and quantities, are ultimately (or in large measure) market determined so we naturally frame the discussion in market terms: demand and supply. In some cases, the distinction is fairly clear. For example, a sizable fraction of unbanked households cite distrust of banks or a desire for privacy as important reasons why they go without (that is, do not demand) a bank account. In other cases, the distinction is less clear. For example, individuals may be discouraged from opening a bank account or applying for a loan because they expect to be rejected. Similarly, the limited presence of nearby bank

CHART 10
Use of Nonbank Financial Services by Age



Source: 2021 FDIC National Survey of Unbanked and Underbanked Households.

branches may be due to a lack of sufficient local demand. The supply forces we consider include the providers' decisions (or algorithms) and government policies and programs such as the Community Reinvestment Act and, lately, state usury limits.

4.1 Demand- and Supply-Side Factors

The FDIC's biennial survey of unbanked and underbanked households provides a glimpse into the reasons why some households operate without a checking account. Chart 11 reports the share of respondents who listed each reason and the share who listed a given reason as their main one. High minimum balance requirements rank at the top, followed by a desire for privacy and a mistrust of banks. The latter two are strictly demand-side, while the former is partly supply-side as well (since banks set minimum balance requirements and the maintenance fees incurred when balances fall below the minimum). High and unpredictable fees also rank near the top. This reason may reflect overdraft fees, although, surprisingly, the FDIC report never mentions overdrafts. Bank location ranks relatively low as a main reason for being unbanked, although some 15 percent of respondents listed it as a factor.

Table 3
Multivariate Regressions on the Household Use of Nonbank Financial Services

Variable	Money Order	Check Cashing	Payday Loan	Auto Title Loan	Pawn Shop Loan
25 to 34 years old	-1.486	-1.124	-0.262	-0.397	0.113
	(1.431)	(0.911)	(0.571)	(0.494)	(0.489)
35 to 44 years old	-1.318	-0.219	-0.228	-0.718	0.088
	(1.410)	(0.913)	(0.560)	(0.478)	(0.475)
45 to 54 years old	-2.704*	-0.815	-0.369	-0.502	0.456
	(1.395)	(0.900)	(0.553)	(0.484)	(0.499)
55 to 64 years old	-2.448*	-1.963**	-0.836	-0.732	-0.110
	(1.380)	(0.875)	(0.530)	(0.471)	(0.474)
65 years or more	-6.133***	-2.967***	-1.170**	-1.046**	-0.696
	(1.332)	(0.848)	(0.520)	(0.460)	(0.457)
Black	13.308***	3.166***	1.384***	-0.023	0.218
	(0.896)	(0.515)	(0.345)	(0.209)	(0.253)
Hispanic	9.129***	2.860***	0.726***	0.325	0.640**
	(0.746)	(0.448)	(0.269)	(0.218)	(0.256)
Asian	0.975	-0.218	-0.554***	-0.116	-0.318
	(0.790)	(0.445)	(0.146)	(0.238)	(0.237)
Other	6.789***	2.777***	0.486	1.050	2.112***
	(1.561)	(1.004)	(0.519)	(0.705)	(0.781)
\$15,000 to \$30,000	-2.455**	-0.502	-0.091	0.078	0.043
	(1.103)	(0.739)	(0.364)	(0.250)	(0.416)
\$30,000 to \$50,000	-6.009***	-2.789***	-0.120	0.581**	-0.672*
	(1.021)	(0.655)	(0.357)	(0.267)	(0.370)
\$50,000 to \$75,000	-8.930***	-4.115***	-0.166	0.096	-1.466***
	(0.989)	(0.627)	(0.354)	(0.239)	(0.341)
At least \$75,000	-11.617***	-4.973***	-0.839***	-0.016	-1.824***
	(0.922)	(0.597)	(0.306)	(0.215)	(0.326)
Observations	30,434	30,434	30,434	30,434	30,434
R-squared	0.062	0.023	0.006	0.002	0.009
Baseline mean	9.720	3.181	1.091	0.897	0.957

Source: Authors' calculations, using data from the 2021 FDIC National Survey of Unbanked and Underbanked Households.

Notes: Each column in the table above presents the regression results of the dependent variable listed in the column header on a set of fixed effects for age groups, race/ethnicity, and annual household income. The dependent variable is measured as zero or 100 for ease of interpreting the coefficients in percentage point terms. The omitted groups for each category are ages 18 to 24 years, white (non-Hispanic), and income less than \$15,000, respectively. The estimates presented are the average differences in predicted use of nonbank financial services from the baseline group conditional on all included regressors. Observations are weighted using household sample weights. Robust standard errors are presented in parentheses below each estimate.

^{*} denotes p<0.10, ** denotes p<0.05, and *** denotes p<0.001.

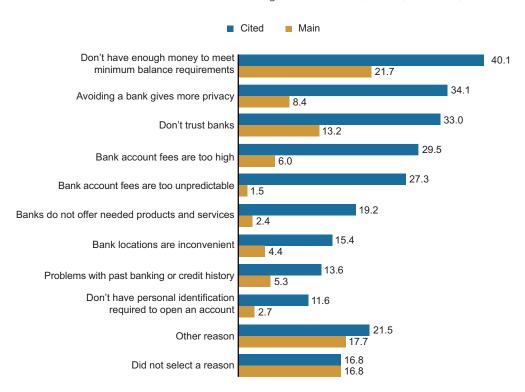


CHART 11
Unbanked Households' Reasons for Not Having a Bank Account, 2021 (in Percent)

Source: Figure ES.3 in the 2021 FDIC National Survey of Unbanked and Underbanked Households. Reproduced with permission.

"Problems with past banking or credit history" also ranks low. This is surprising given evidence that unpaid overdrafts are a primary reason for involuntary account closures (Campbell, Martínez-Jerez, and Tufano 2012). A history of unpaid overdrafts and bounced checks can lead to a low ChexSystems Consumer Score that prevents households from opening an account at any depository institution. Table 4, from the Federal Reserve's SCF, breaks out the main reasons households do not have a checking account by race of survey respondent. The first two reasons are roughly equal across racial groups, but high service charges rank higher for Black and Hispanic households than for others. Inconvenient location or hours ranks relatively low, consistent with the FDIC survey.

A study by Rhine and Greene (2013) identifies "shocks" that lead households to lose or close bank accounts. They find that families are significantly more likely to become unbanked following a decline in family income, a job loss, or the loss of health insurance. Given those factors, race and ethnicity, education, and marital or housing status also predict whether families are banked or not. Campbell, Martínez-Jerez, and Tufano (2012) use data from

Table 4
Most Important Reason for Not Having a Checking Account, 2019
Share of Households Ranking Each Reason as Most Important

	Overall	White	Black	Hispanic
Don't write enough checks to make it worthwhile	28.1	27.7	27.6	31.8
Do not like dealing with banks	22.9	21	25.7	23.8
Service charges are too high	12.6	9	16.5	14.1
Not enough money	7.9	5.5	8	10.6
Don't need/want a checking account	7.1	9.2	4.7	5.9
Minimum balance is too high	4.5	3.3	5.4	4.7
Credit problems; Bankruptcy; Don't meet depositor qualifications for checking account	3.6	4.9	3.3	0
Can't manage/balance a checking account	3.2	4.1	2.2	2.1
Inconvenient hours or location	2.2	3.8	1.1	1.5
Someone else writes checks for me	2.1	4.3	1.1	0
Concern about overdraft fees	2.1	2.8	0.8	1.6
Checkbook has been/could be lost/stolen	1.6	1.8	1.8	1.1
Haven't gotten around to it	1	1.6	0.9	0
Have other account with checking privileges	0.6	0.8	0.8	0

Source: Survey of Consumer Finances (2019).

ChexSystems, the debit bureau used by banks to track depositor behavior, to study involuntary bank account closures due to excessive overdrafts. They find that involuntary closure rates per capita are more frequent in U.S. counties with a larger fraction of single mothers, lower educational levels, lower wealth, and higher unemployment. Closures are higher in communities with high rates of property crime and low electoral participation. Financial structure also matters: counties having more competitive banking markets and more multi-market banks have higher account closure rates as do counties that allow payday lending.¹⁷

Another dimension of financial inclusion is credit access. Household credit supply has expanded dramatically in the last several decades, both in quantity and variety, yet concern remains that some households are unable to borrow at terms that accurately reflect their risk profile. Table 5 summarizes responses to this question from the SCF in 2019: "Have you been turned down for credit in the past five years?" The first three columns show that while white, Black, and Hispanic respondents were about equally likely to have applied for credit in the past five years, Blacks and Hispanics were about twice as likely to report being rejected. ¹⁸ Black respondents were also more likely to report being granted less credit than requested. The fifth and sixth columns compare responses for households in the lowest income quintile with those of higher-income groups. Low-income households were considerably less likely to apply for credit and more likely to be turned down. These disparities go only so far in identifying credit exclusion, however, because average credit scores also vary by race and income (Bhutta, Hizmo, and Ringo 2022).

Table 5
Credit Rejection Rates by Race and Income
Reponses to "Have You Been Turned Down for Credit in the Past 5 Years?" (in Percent)

	Race/Ethnicity			Low-Ir	icome	
Reason	White	Black	Hispanic	Other	No	Yes
NA, did not apply	47.5	46.6	46.6	40.3	43.4	60.9
Yes, turned down	7.6	14.5	15.2	9.5	8.7	12.1
Yes, did not receive as much credit as requested	1.4	3.1	0.9	1.6	1.6	1.5
No	43.5	35.9	37.3	48.6	46.4	25.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Survey of Consumer Finances (2019).

To investigate credit exclusion further, we draw on data from the SCE Credit Access Survey. Since 2014, this survey has been fielded every four months and collects data on the credit experiences and expectations of households. In addition to asking about rejection of applications (experienced for any type of loan), the survey also asks respondents whether they did not apply for credit because they expected their application to be rejected (so-called "discouraged borrowers"). The latter question provides a measure of latent credit demand.

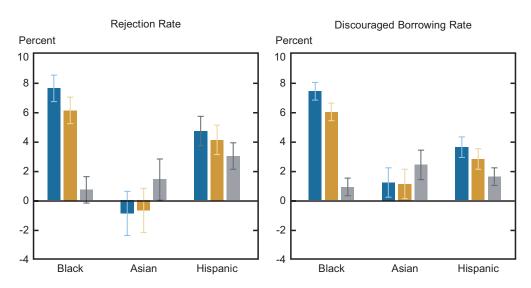
We conducted a series of regression analyses relating the rejection rates among applicants and discouraged borrowing rates among all adults to an applicant's race and household income. The analysis finds economically and statistically significant higher rates of rejection of credit applications for Black and Hispanic applicants relative to white applicants (See top left panel of Chart 12) and a monotonically declining relationship with household income (bottom left panel of Chart 12). Adding controls for employment status, homeownership, and education (gold bars) only slightly weakens these relationships. In contrast, controlling for credit scores (gray bars) causes the racial gaps to narrow sharply: only the higher rejection rate for Hispanics of 3 percentage points remains statistically significant, as indicated by the confidence intervals in the chart. While controlling for credit scores similarly reduces household income gaps (relative to those with incomes under \$20,000) in discouraged borrower rates, a strong negative income effect on discouraged borrowing remains (bottom right panel of Chart 12). These findings indicate that much, but not all, of the race and income gaps in credit access can be accounted for by differences in credit scores. 19 While the literature on financial inclusion has mostly focused on the role of household demand, a growing body of research highlights the role of supply-side factors. Next, we discuss some forces that drive credit supply away from underserved communities, focusing on the role played by discrimination and drawing on the recent evidence on the allocation of pandemic relief funds.

The U.S. Fair Housing Act and the Equal Credit Opportunity Act prohibit lenders from making credit determinations that disparately affect minority borrowers if those determinations are based on characteristics unrelated to creditworthiness. In a recent analysis of Home

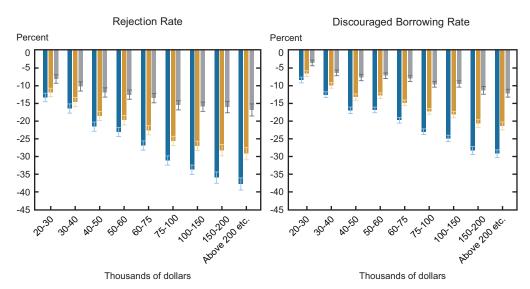
CHART 12
Race and Income Gaps in Loan Application Rejection and Discouraged Borrowing Rates (in Percent)

- No controls
- Controls for employment status, homeownership, and education
- Same controls plus credit scores

Race/Ethnicity Gaps



Household Income Gaps



Source: Authors' calculations based on data from the SCE Credit Access Survey, 2014-23.

Notes: Each bar represents the estimated rejection rate or discouraged borrowing rate for each racial/ethnic group relative to white respondents, which are the reference group, after controlling for different sets of borrower characteristics. Also shown are 95 percent confidence intervals around the estimated gaps.

Mortgage Disclosure Act data, Bhutta, Hizmo, and Ringo (2022) find little evidence of discrimination in largely automated mortgage approval decisions. However, Bartlett et al. (2022) show that risk-equivalent Hispanic and Black borrowers pay significantly higher interest rates than other borrowers on loans securitized by government-sponsored enterprises (GSE) and loans insured by the Federal Housing Administration (FHA), particularly in high-minority-share neighborhoods. Using a methodology that considers that borrowers are offered potentially different "menus" of interest rate and upfront fee options, Willen and Zhang (2023) find discrimination by race in conforming mortgage lending in the United States. ²⁰ These findings are particularly worrying for underrepresented groups, given the ongoing redistribution of mortgage credit from small and mid-size loans to large loans that started in 2011 (D'Acunto and Rossi 2022). Gerardi, Willen, and Zhang (2020) examine the extent to which the racial interest rate gap on outstanding mortgages can be explained by a lower rate of refinancing or moving during periods of falling interest rates. They find that Black and Hispanic borrowers exploit such opportunities at a much lower rate than white borrowers, in part because they face much higher obstacles to refinancing, even conditional on credit scores and income.

Lenders might be reluctant to lend to underserved communities because of barriers unrelated to the risk of these borrowers. For example, Blattner and Nelson (2021) document that underserved groups have statistically noisier (that is, less informative) credit scores, primarily because of thin credit files, which affects their access to credit. In a counterfactual exercise, the authors show that equalizing the precision of credit scores can shrink disparities in loan approval rates for underserved groups by around 50 percent. Ambrose, Conklin, and Lopez (2021) find that racial discrimination plays an important role in the context of mortgage lending. They document that minorities pay between 3 and 5 percent more in fees than similarly qualified white borrowers when obtaining a loan through the same white broker, with this premium changing based on the race of the broker. Bhutta, Fuster, and Hizmo (2020) use survey data to demonstrate the important roles of financial knowledge and shopping and negotiation behavior in explaining variation in mortgage rates across consumers, with many homebuyers overpaying for their mortgage. They find that overpayment trends decrease when market rates rise, consistent with increased shopping when rates are high.

Analysis of the allocation of PPP funds has provided more insights into supply-side factors of financial inclusion. Wang and Zhang (2020) document that minority communities have less access to programs (in this case small business loans) that rely on the financial sector to supply the funds. Those living in banking deserts lacking large lenders with an established relationship with the Small Business Administration are especially disadvantaged. The authors estimate that a 10 percentage point increase in the Black share of the population in a zip code is correlated with a 1 percent lower likelihood of that zip code having any PPP-enrolled lender and a 4.1 percent decrease in the number of branches with lenders enrolled in the PPP program (conditional on having at least one such lender). This reduced access to enrolled lenders in turn was shown to lead to significantly lower take-up of PPP loans in heavily Black neighborhoods, particularly in more rural areas where this disparity is most salient.²¹

Finally, expanding the research beyond the demand for and supply of bank accounts and credit, to financial instruments that facilitate saving, Karlan, Ratan, and Zinman (2014) in a

cross-country study document important barriers to savings experienced disproportionately by the poor. They find that market frictions, including transaction costs, lack of trust, and regulatory barriers, often hinder the supply of savings products. In addition, social constraints, information and knowledge gaps, and/or behavioral biases may lead to suboptimal saving even among those with access. The resulting undersaving can have important welfare consequences: more variable consumption, low resilience to shocks, and forgone profitable investments in human and business capital.²² We return to the importance of financial literacy and behavioral factors in Section 5 below.

4.2 Government Policy

Usury limits

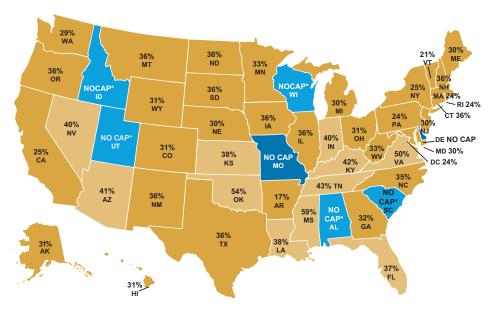
Usury limits—government caps on loan interest rates—can also limit credit access, particularly for riskier borrowers. Lenders are known to charge riskier borrowers high interest rates to compensate for expected default costs. If that "breakeven" rate exceeds the usury limit, lenders will deny ("ration") loans to riskier borrowers. This is not just an academic concern, since usury limits are increasingly common in the United States, as shown in Exhibit 2. All but seven states now cap interest rates, with limits ranging from 17 percent in Arkansas to 59 percent in Mississippi. While these double-digit limits may seem high in the context of secured loans such as mortgages, they are below the rates that payday and installment lenders charge for their unsecured loans.

Evidence confirms the credit-constraining effect of usury limits. Bolen, Elliehausen, and Miller (2023) find that after Illinois imposed a 36 percent APR cap in 2021, the number of online installment loans made to subprime borrowers declined 44 percent relative to Missouri, an adjacent state without any usury limit. Relaxing usury limits has been found to increase credit access. Using data from Prosper.com (an online lender), Rigbi (2013) finds more online installment lending in states with higher limits and increased lending when limits were raised. Dlugosz, Melzer, and Morgan (2021) find spillovers from credit access to deposit inclusion. They find that when caps on overdraft fees were lifted, banks raised fees but also allowed (covered) more overdrafts and lowered minimum balance requirements on checking accounts. The result was more credit and more low-income households with checking accounts.

While credit rationing under usury limits is borne out by theory and evidence, proponents may see reduced access to credit as precisely the point: that is, to protect borrowers from high-cost credit that may do more harm than good. For example, borrowers with behavioral biases may overborrow or overpay for credit. The evidence on whether high-cost loans benefit users is mixed. While we can say with some confidence that usury limits hinder credit inclusion, we cannot necessarily say that the excluded borrowers are worse off. By limiting access to credit, usury limits may also leave already vulnerable higher-risk households less able to cope with weather disasters (see Box 1).

EXHIBIT 2
Usury (APR) Limit on a Two-Year, \$2,000 Installment Loan

- Caps APR between 17% and 36% (32 states and D.C.)
- Caps APR between 37% and 60% (11 states)
- Caps APR at more than 60% (no states)
- No cap other than unconscionability (no cap*) (5 states)
- No cap (2 states)



Source: National Consumer Loan Center, "Predatory Installment Lending in the States: How Well Do the States Protect Consumers Against High-Cost Installment Loans?" (2024). Reproduced with permission.

Box I
Weathering the Storm: Natural Disasters and Financial Inclusion

Research shows that access to credit, even high-cost credit, helps households cope with weather disasters. A study by Morse (2011) finds that households in California with better access to payday loans are less likely to face foreclosure after weather disasters. Tiurina (2022) shows that living in "credit deserts" worsens the financial impact of weather disasters. She looks at Arkansas, where interest rates on consumer loans are capped at 17 percent, the lowest usury limit in the United States. Because of the low limit, payday lenders and consumer finance companies do not operate in Arkansas, though they operate in bordering states. She finds that Arkansas borrowers living near border states are less likely to fall behind on mortgage debt and have a lower drop in their credit scores after weather disasters compared with borrowers in the center of Arkansas. A third study by Dobridge (2018) finds that access to payday loans mitigates declines in spending on food, mortgage payments, and home repairs following periods of temporary financial distress owing to extreme weather events. These authors all point out that their findings are agnostic on whether high-cost credit is good for households in "normal" times, but collectively, they make a strong case that it can help households cope with increasingly extreme weather events.

CRA and Other Regulations

Several studies have examined the impact of government regulations and restrictions on lower-income borrowers' access to financial services. Celerier and Matray (2019) show that the Riegle-Neal Act, which deregulated interstate banking, led to an increase in bank branches, which, in turn, increased the rate of bank account ownership among low-income households. They found that having a bank account leads to higher accumulation of interest-bearing assets, more investment in durable assets, greater access to credit, and a lower likelihood of facing financial difficulties.

A large body of research analyzes the effect of the Community Reinvestment Act, a law enacted in the 1970s aimed at improving credit access for disadvantaged communities. The CRA requires depository institutions to serve the needs of the communities in which they operate by assigning a CRA-compliance grade largely based on loans extended to low- to moderate-income (LMI) census tracts. Evidence on the impact of the CRA on lending, as reviewed by Conway, Glaser, and Plosser (2023), has been somewhat mixed, and overall, the evidence of a positive impact of CRA eligibility on credit access in LMI communities appears weak. Conway, Glaser, and Plosser (2023) employ three different identification strategies to evaluate the impact of the CRA on consumers' access to credit since 1999. These methods are generally based on a comparison of outcomes for applicants in census tracts close to the CRA-eligibility threshold (with the threshold defined in terms of a census tract's median household income). They conclude that the CRA has had no meaningful effect on consumer borrowing in several debt categories or on credit outcomes such as credit scores, bankruptcy, and delinquency. They show that for mortgage debt, the overall null effect masks a substitution of mortgages in CRA-eligible areas from nonbanks to banks, with banks purchasing mortgages at a higher rate in CRA areas, which they then sell on to GSEs. The latter finding is also consistent with recent evidence by Brevoort (2022), who similarly finds evidence of banks complying with the CRA by purchasing loans originated by other lenders, rather than originating loans themselves. Thus, the CRA induces some degree of substitution in origination and purchases while not affecting overall originations and lending.

In contrast, using a different identification strategy that allows estimating the effect in areas more broadly, including areas further from the CRA-eligibility threshold, Ringo (2023) finds that the CRA was effective in increasing the availability of mortgage loans to LMI borrowers in targeted census tracts. It increased mortgage lending to LMI borrowers in those tracts by 2 to 4 percent, with the effect being even stronger among the lowest-income borrowers. He also found that there was no effect on LMI lending by nonbanks (which are not subject to the CRA).

The CRA recognizes and supports activities that promote financial inclusion of low-income people and communities through partnerships and loans and investments in Community Development Financial Institutions (CDFIs) and Minority Depository Institutions (MDIs). To help inform the overall impact of the CRA more research is needed to examine the effectiveness of different types of CDFIs and MDIs in promoting community development, economic empowerment, and financial inclusion in underserved communities.

Fuster, Plosser, and Vickery (2021) examine how regulatory oversight by the CFPB, which is dedicated to overseeing and enforcing consumer financial protection laws, affects the supply of mortgage credit and other aspects of bank behavior. They find that CFPB oversight leads to a reduction in FHA lending, a market where mortgage borrowers are typically lower income

and often first-time homebuyers. At the same time, oversight appears to have reduced mortgage foreclosures.

Agarwal et al. (2015) examine the impact of the 2009 Credit Card Accountability Responsibility and Disclosure (CARD) Act in the United States, which imposed regulations on fees (over-limit fees and late fees) on credit cards. They find that regulatory limits on credit card fees reduced overall borrowing costs for consumers by an annualized 1.7 percent of average daily balances, with a decline of more than 5.5 percent for consumers with FICO scores below 660. While the CARD Act led to a substantial reduction in borrowing costs, it did so without an offsetting increase in interest charges or a reduction in overall access to credit. In investigating the distributional impacts, Nelson (forthcoming) found that a subset of borrowers faced higher prices due to the act and exited from borrowing; this was especially true for subprime borrowers.

Debbaut, Ghent, and Kudlyak (2016) study a different aspect of the CARD Act: restrictions on credit to individuals under age 21. They find that following the passage of the law, individuals under age 21 were 8 percentage points (15 percent) less likely to have a credit card, to have fewer cards, and, conditional on having a card at all, were 35 percent more likely to have a co-signed card. They found young individuals from higher-income neighborhoods, those whose parents had higher credit scores, and those whose parents did not have a serious default to be most affected.

More recently, the CFPB has introduced new regulation that further limits credit card fees. The impact of this regulation on credit supply to subprime borrowers and on financial inclusion is an important topic for future research.

5. What Is Being Done to Increase Financial Inclusion?

In this section we first discuss recent efforts by the private, public, and social sectors to further financial inclusion. This will be followed, in Section 6, by an assessment of how financial inclusion has been affected by recent market developments, with a particular focus on fintech lending.

5.1 Initiatives to Make Banking More Accessible and Affordable

There have been several significant efforts to increase access to affordable bank accounts to unbanked and underbanked populations. Those efforts include allowing opening deposits under \$25, providing access to free online and mobile services, and limiting overdraft fees. Access to a basic and affordable transaction account at an insured institution is seen as a key first step to financial inclusion, providing a safe place to save, conduct basic financial transactions, build a credit history, access credit on favorable terms, and achieve financial security. For example, to benefit from instant payment services through FedNow requires access to a bank account. ²³

An important ongoing effort is the Cities for Financial Empowerment Fund's Bank On accounts. Since 2008, the Bank On National Account Standards (2023-24) have helped financial institutions connect consumers to safe and affordable bank accounts, centered on safety, cost, and

transactional ability.²⁴ According to the National Consumer Law Center, there are currently more than 375 Bank On nationally certified accounts. Those accounts are offered by banks and credit unions representing over 60 percent of the U.S. consumer deposit market, according to the FDIC. More than half (53 percent) of all U.S. bank branches offer a Bank On certified account.

The latest Bank On National Data Hub report by the Federal Reserve Bank of St. Louis finds that, to date, more than 14.1 million Bank On–certified accounts have been opened by consumers in 85 percent of U.S. zip codes. ²⁵ Further, in 2021 almost 80 percent of the accounts were opened by customers who were new to the financial institution, indicating that Bank On accounts are bringing new customers into financial institutions. Working through coalitions, Bank On continues to push more banks to adopt its 2023-24 national account standards and grant programs. In addition, Bank On pilot programs are focusing on helping high schoolers connect to the financial mainstream and helping unbanked individuals open bank accounts when they start a new job.

As previously discussed in Section 2, federal and state governments have recently relied on the Bank On certification to refer households to safe bank accounts as an alternative to spending cards for pandemic-related stimulus, advances on child tax credits, and unemployment insurance benefit payments. ²⁶ Such newly opened Bank On accounts represent 34.9 percent of all new account openings since March 2020. In fact, among the 77.9 percent of recently banked households that received a government benefit payment, 44.8 percent (about 1.9 million households) reported that the government payment contributed to their opening of an account. This experience illustrates the potential of further integrating account opening into large-scale government payment programs. ²⁷

Over the years an increasing number of initiatives similar to Bank On have been implemented to provide safe and affordable bank accounts. In 2011, in a one-year pilot study, the FDIC introduced Model Safe Accounts, designed to evaluate the feasibility of financial institutions offering safe, low-cost transactional and savings accounts that are responsive to the needs of underserved consumers. Nine financial institutions participated in the pilot by offering electronic deposit accounts that followed the FDIC Model Safe Accounts Template. The findings of the one-year pilot showed that such accounts offered to LMI consumers performed equally well as or better than other transaction and savings deposit accounts offered by the pilot banks. At the end of the pilot, 81 percent of transaction accounts and 95 percent of savings accounts remained open. Furthermore, most of the pilot institutions reported that the cost of offering Safe Accounts was roughly the same if not lower than other types because the pilot accounts did not involve costs related to paper checks. While the pilot program showed that opportunities exist, many participating financial institutions experienced challenges in marketing and advertising the Safe Accounts and in establishing a presence in new markets where providers of nonbank financial services compete for customers.

Credit unions, owned and controlled by their members, have also traditionally played an important role in offering more affordable financial products and services. There are a number of additional local and national initiatives led by financial institutions that focus on expanding access to banking services, including Wells Fargo's ten-year Banking Inclusion Initiative, ²⁹ JPMorgan Chase's \$30 billion Racial Equity Commitment, and the BankBlackUSA movement, which is focused on helping underserved communities and the general public connect to Black-owned financial institutions in their local community. ³⁰

Another important recent development is the increased access to online bank accounts provided by digital banks (usually the online-only division of a traditional bank or credit union), neobanks (nontraditional banks that operate online without physical locations), and other fintech firms providing mobile or online banking services, such as Aspiration, Chime, Current, SoFi, and Varo.³¹ We will discuss the role of fintechs in increasing financial inclusion through the provision of banking and credit services more broadly in the next section.

Data on Bank On and neobank account openings suggest a general increase in bank account ownership, consistent with the latest FDIC survey indicating a meaningful reduction in the shares of households that are unbanked and underbanked. However, relatively little is known about how long, how frequently, and for what purpose these accounts are used, and how access to these accounts has affected overall financial inclusion and the well-being of those previously unbanked.

5.2 Financial Education, Literacy, and Counseling

The research literature on financial literacy and financial education is extensive. Reviews of this work point to the importance of financial literacy for consumer financial behavior and individual welfare (Lusardi and Mitchell 2014). For example, evidence from the New York Fed's Survey of Consumer Expectations shows financial literacy and numeracy to be positively related to homeownership, household income, and credit scores, and negatively related to loan delinquency and loan application rejection rates (see Table 6).³²

Even conditional on demographic characteristics, including education, income, and credit scores, those with higher financial literacy and numeracy experience higher rates of loan application approval and homeownership and lower rates of loan delinquency.

While not necessarily causal, the relationship between financial knowledge and financial behavior and outcomes suggests a potential role for public support for financial education. However, there is at best conflicting evidence that financial education leads to improved economic outcomes either through increasing financial literacy directly or otherwise (Hastings, Madrian, and Skimmyhorn 2013). Some studies find financial education to be successful in increasing financial knowledge and, to a smaller extent, financial behavior, especially for school students (Kaiser and Menkhoff 2020; Consumer Financial Protection Bureau 2019; Brown et al. 2016; Urban et al. 2020; Kaiser et al. 2022; Mangrum 2022). However, others more broadly consider the evidence on the effectiveness of financial education to be weak, especially in light of the significant financial resources and time they require, and, in the case of school courses, the opportunity cost of other coursework (Fernandes, Lynch, and Netemeyer 2014; Willis 2011).

For those who see education as largely ineffective, the literature suggests several alternative approaches to improve financial outcomes, including regulations and interventions aimed at reducing biases, product information complexity, and decision-making costs, and providing incentives and nudges to steer consumers toward improved financial decision making (Thaler and Sunstein 2008). For example, Madrian and Shea (2001) and Beshears et al. (2008) show evidence of the positive impacts of default and opt-out rules on retirement savings outcomes.

In recent years, we have witnessed a proliferation of private initiatives to help improve financial well-being through financial counseling and financial education, often through online

Table 6
Financial Literacy/Numeracy and Financial Outcomes

	Low Financial Literacy/ Numeracy	High Financial Literacy/ Numeracy
Homeownership rate	62%	77%
Household income > \$75,000	20%	48%
Credit score > 720	39%	68%
Credit score > 760	25%	48%
Late payment (30+ days past due)	11%	5%
Credit application rejected in past year	11%	7%

Source: New York Fed SCE Credit Access Survey, 2014-23.

Notes: Financial literacy/numeracy is based on the number of correct answers to five questions gauging respondents' literacy and numeracy skills. Respondents are partitioned into high (four or five correct) or low literacy/numeracy (three or fewer correct answers). In the total sample, 71.8 percent of all respondents were categorized as having high numeracy. The credit application rejection data are for those with at least one credit application. Calculations are based on a total of 34,680 observations.

education tools, to learn about budgeting, online banking, and saving to build credit. Examples include Operation HOPE; Prosperity Now; America Saves; Ready, Set, Bank; World of Money; and MoneySmart.³³ The Cities for Financial Empowerment (CFE) Fund helps local governments embed financial empowerment strategies into their work, which includes the provision of professional financial counseling as a free public service to their residents.³⁴ The Financial Health Network unites entities across business, government, technology, and academia in a shared mission to improve financial health. Some organizations are also doing important work in the financial inclusion area.³⁵ For example, companies are starting to collect better data on financial inclusion to help strengthen organizational capacity, build awareness, and improve offerings.³⁶

Overall, little is known about the effectiveness of these interventions, since few have been subjected to rigorous scientific evaluation through a randomized controlled trial or quasi-experimental design.³⁷ Additional research would be valuable for determining what types of programs are most beneficial and for whom.

6. IMPACT OF RECENT MARKET DEVELOPMENTS

The market for consumer lending has seen a number of significant changes in recent years. Since the financial crisis, there has been a tightening of underwriting standards for mortgages, partly in response to regulatory changes. This trend has translated into a reduction in mortgage lending to borrowers with low credit scores, leading to an almost complete disappearance of subprime mortgage lending.³⁸ This reduction has disproportionately affected Black and Hispanic borrowers (Bhutta and Ringo 2016), with the largest banks particularly reducing their lending to LMI households (Bhutta, Laufer, and Ringo 2017).

Another significant change has been the adoption of more advanced technology in consumer lending and the rise of fintech companies.³⁹ Before assessing the impact of this market development

on financial inclusion, we first discuss what fintechs do and specifically their use of alternative data and new underwriting methods. While fintech activities span consumer, small business, and real estate loans, we focus here on unsecured consumer loans, given their greater relevance for LMI communities. By providing greater access to such loans, which are frequently used by borrowers to pay off their credit card balances or to consolidate their debt, fintech companies have the potential for increasing financial inclusion. ⁴⁰ On the one hand, the growth of fintech companies sustains the aggregate supply of financial services by providing new access to all households, including marginalized ones. On the other hand, marginalized borrowers might lack the financial sophistication needed to take advantage of these new offerings, limiting the reach of fintech companies.

6.1 The Current Market for Fintech Unsecured Personal Loans

Baker (2017) developed a framework that categorizes the existing market for a fintech products ecosystem that is most relevant to LMI individuals. These categories are:

- Digital Credit Access/Cost Improvement Lenders: Companies that lend money to consumers for short-term needs but seek to do so in a less costly/better structured manner than the traditional short-term, small-dollar credit (STSDC) system and/or lend at a lower cost to people with thin-file credit profiles.
- **Digital Credit Builders**: Companies that primarily seek to help consumers improve their credit score to be able to access lower-cost credit in the future, by lending credit to borrowers short term and/or helping lenders identify creditworthy consumers using alternative data and underwriting.
- **Digital Cash Flow Management Applications**: Companies that provide online services to guide consumers toward financially healthy behaviors and outcomes.
- Alternative Digital Banks: Companies that, although technically not banks, create mobile transaction deposit solutions for consumers through bank partners.
- Earned Wage Access/Expense Variability Management: Companies that provide employers with liquidity solutions, often called payroll loans, to help employees manage the variability of expenses through early income access or other means.
- **Digital Savings:** Companies providing mobile apps that facilitate consumer savings for liquidity management and other purposes.

6.2 Alternative Data and Underwriting for Fintech Unsecured Personal Loans

A distinctive feature of most fintechs is their use of alternative data for underwriting loans. This use is motivated by a view that traditional underwriting methods based on credit scores have not always captured the full picture of a borrower's ability to repay. Alternative data and underwriting methods can provide additional insight into a borrower's creditworthiness, enabling lenders to offer loans to borrowers who may have been rejected based on traditional underwriting methods. They may also improve default rates on loan products and allow

lenders to precisely target creditworthy borrowers while widening their consumer base more precisely to those borrowers who have a no-file or thin-file credit history.

Alternative data are defined as any data that can be used to enhance consumer lending decisions and are not traditionally included in the credit databases of the national credit reporting agencies. Examples of alternative data and underwriting methods include:

- 1. Income and employment information;
- 2. Consumer banking information;
- 3. Utilities and telecom payment history;
- 4. Rental payments;
- 5. Inquiries and payment records to specialty lenders (such as payday lenders);
- 6. Peer-to-peer (P2P) lending history; and
- 7. Social media profiles and personal information.

These additional information sources can open the door to lower-interest credit options for those who are low and moderate income as well as those who have been underserved by traditional credit options. However, it is important to consider the ways in which alternative data are being used in lending decisions, given that LMI individuals are more likely to face acute financial shocks that may be more pronounced in alternative data such as utilities, telecom, and rental payment histories and cash flow information. Some uses of alternative data may widen existing socioeconomic disparities in access to credit, by potentially amplifying the effects of the financial shocks that underserved groups are vulnerable to and making it more difficult to improve their credit standing. This potential issue raises the question of whether alternative data and underwriting in practice are used in a way that promotes inclusion for the underserved or instead widens existing gaps in access to credit.

6.3 Underwriting Based on Cash Flow and Utility, Telecom, and Rental Payments

Cash flow information focuses on borrowers' cash flow, looking at income and expenses to identify creditworthy applicants. Cash-flow-based underwriting provides a more detailed and timelier picture of how applicants manage their finances than traditional credit reports. ⁴¹ This approach to underwriting is especially useful for borrowers who may have a low credit score but a steady income stream. As discussed earlier, some 95 percent of American households have bank or prepaid accounts, and account records are increasingly easy to access electronically.

Utility, telecom, and rental (UTR) payment history provides direct information about whether consumers have the financial capacity to take on additional expenses or, in the case of rent, substitute expenses. Payment history also reflects consumers' general propensity to meet continuing obligations. These records are particularly relevant to LMI individuals because payment histories allow lenders to expand credit to renters, who are about seven times more likely than homeowners to lack sufficient credit history. This population includes disproportionate numbers of Black and Hispanic consumers, low-income households, and young adults,

as does the general population of renters. Studies suggest that a sizable number of no-file and thin-file consumers (the credit invisible and unscorable) would be able to satisfy many lenders' minimum credit score thresholds if their UTR payments were considered.

In terms of UTR data's predictive ability, research is limited at this point in time, but stake-holder interviews and studies show that UTR used in combination with other data can improve predictive accuracy and expand access. However, UTR data are not widely available in credit bureau files today and are often left unaccounted for in scoring. Newer FICO scoring models (including FICO Score 10) are testing the implementation of small samples of UTR data. 42

Another feature of fintech lending besides the use of alternative data is its reliance on greater automation of underwriting. The net effect of lenders' adoption of technology on financial inclusion is unclear. On the one hand, automation reduces processing costs, thus allowing banks to provide smaller loans and reach a population of borrowers located in a larger geographical area. The increasing prevalence of automation in lending decisions might also reduce the footprint of human bias in lending decisions. On the other hand, automation and the adoption of technology might increase the existing disparities in access to credit. For example, automation may be associated with a reduction in help provided to applicants in completing their applications. If such help was particularly valuable for minority applicants, then more use of automation may reduce lending to minority households and businesses. Some evidence to date points to an overall net positive effect of automation and technology adoption on financial inclusion for business owners (Howell et al. 2024).

6.4 Buy Now, Pay Later (BNPL)

Since the mid-2010s, there has been a steep increase in the use of buy now, pay later loans, a type of short-term financing that allows consumers to make purchases and pay for them over time, usually with no interest. BNPL loans can be a low-cost substitute for other credit products, imposing significantly lower direct financial costs on consumers than legacy credit products. While this type of lending has the potential to expand credit access through the use of alternative underwriting methods, the evidence to date indicates that BNPL loans go almost entirely to those with a bank account and usually a credit score.

BNPL lenders typically require borrowers to pay a share of the purchase price (usually 25 percent) as a down payment at checkout, usually requiring borrowers to use their existing debit or credit card for the down payment, which can also be used for autopayment of subsequent installments. This provides instantaneous verification that the applicant has sufficient checking account funds (debit card) or available credit (credit card) to cover the down payment. As part of the underwriting of new and returning applicants, several lenders also pull the applicant's credit report and review the prior repayment history with that lender.

New evidence from the June 2023 Survey of Consumer Expectations shows that about 64 percent of respondents have ever been offered a BNPL payment option, while 19 percent have used it as a payment method in the past year (29 percent of those who were ever offered the option). 43 Among users, 77 percent made installment repayments using a debit card, bank account, or bank check; 10 percent used a credit card; 6 percent used a prepaid card; and 8 percent used a payment service such as Venmo. Thus, indeed, BNPL loan users tend to be banked and usually have a credit history.

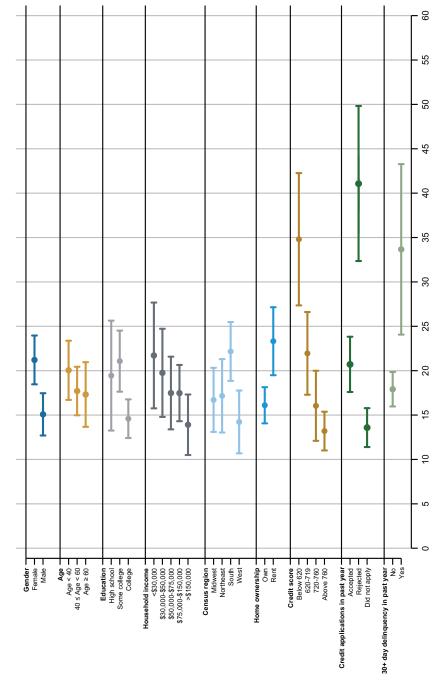
We find the use of BNPL loans in the population to be somewhat higher for females, renters, and individuals without a college degree, and to be monotonically decreasing in income (see Chart 13).⁴⁴ Overall, although 19 percent of individuals used BNPL, its usage is noticeably higher for those with credit scores below 620 (35 percent) and those who were thirty days or more delinquent at some point during the past year (33 percent). Those who applied for some other type of credit over the past year (an indicator of higher credit demand) were generally also more likely to report using BNPL in the past year, compared with those who did not apply for credit. Among those who applied for credit, BNPL use was particularly high for those who reported a credit application rejection over the past year (42 percent).⁴⁵

Despite usage being fairly broad-based, with significant take-up also among more highly educated and higher-income respondents, we find that those with lower credit scores and greater unmet credit needs make up a disproportionate share of all BNPL users. Indeed, 32.7 percent of BNPL users had either a credit score below 620 or a credit application rejected or were delinquent on a loan over the past year; however, this group makes up just 16.6 percent of the sample. Furthermore, we find that BNPL users overall are more financially fragile, as measured by the average likelihood of being able to come up with \$2,000 in the next month in case of an emergency. This likelihood is 66 percent across all respondents and for respondents ever offered the BNPL option, but it is only 52 percent among those who reported using BNPL over the past year. BNPL users are also less likely to rely on savings when facing a financial shock. While 68 percent of individuals overall would rely on savings to come up with \$2,000, only 42 percent of BNPL users would. Instead, they report that they are more likely to rely on borrowing from friends or family or through a bank or credit card. The disproportionate share of the already financially fragile among BNPL users raises questions about the resilience of BNPL lending and its performance following an adverse economic shock.

BNPL usage may reflect supply as well as demand factors. For example, those with lower incomes and credit scores may find interest-free BNPL financing more attractive and affordable but may have greater access to such loans due to where (at what retailers) and to whom BNPL is offered. BNPL usage could also capture individuals with a lower credit score and past loan delinquency that were the result of, rather than the reason for, BNPL use (debt overextension), although most BNPL loans are not reported to credit bureaus. To further examine the extent to which these patterns reflect demand, rather than "targeting," we related a respondent's background and circumstances to his or her expected year-ahead BNPL use. We again found a much higher reported average probability of using BNPL over the next year among those with lower credit scores and those who had a credit application rejected over the past year. 46 These results, therefore, suggest that while BNPL may not benefit those who are unbanked or those who are credit invisible or unscorable, BNPL loans appear particularly attractive to those with unmet credit needs and limited access to credit. Because they represent an additional attractive source of credit to help borrowers smooth consumption and manage their debt payments at lower cost, BNPL loans may thus expand financial inclusion, especially to those with low credit scores.

At the same time, our evidence substantiates to some extent a concern expressed by some BNPL critics that BNPL may attract consumers who already have financial difficulties and are struggling to pay their existing bills and debt. One concern in this regard is that the increase in retail revenue generated by adding a BNPL payment option, the higher average amount per

CHART 13 Share Using BNPL over the Past Year by Respondent Characteristics



Source: Survey of Consumer Expectations, June 2023, October 2023, and February 2024.

Note: BNPL is buy now, pay later.

transaction spent by a BNPL lender's shoppers, and a higher level of repeat usage suggest that many BNPL consumers may not be simply shifting their existing purchases to a new payment platform but may instead be spending (and borrowing) more than they otherwise would. Berg et al. (2024) find causal evidence for this, showing that when BNPL is available, customers spend 20 percent more, with low-creditworthiness customers being most responsive to the availability of BNPL.

The CFPB has raised two important potential risks associated with current BNPL lending practices. The first concerns the risk of overextension, whereby frequent BNPL usage over time may lead to excessive debt accumulation and affect a consumer's ability to meet non-BNPL obligations. Second, there is a risk that borrowers may take out several loans within a short time frame with different BNPL lenders. Because most BNPL lenders do not currently furnish data to the major credit reporting agencies, both BNPL and other lenders are unaware of the borrower's current liabilities when making a decision to originate new loans. In both cases we would expect BNPL users to exhibit greater signs of financial stress, such as higher indebtedness, higher delinquencies, and lower credit scores. We found evidence of this exact pattern above, but more data and analysis are necessary to investigate the extent to which the greater financial stress and need for credit among current BNPL users are the result of previous BNPL borrowing.

Thus, while our findings indicate that BNPL services enjoy considerable broad-based interest, appear to fill a gap in the credit market, and expand credit access and financial inclusion, as noted above, more data and analysis are needed to determine the overall effects of BNPL borrowing on financial well-being, especially over the course of the business cycle.

6.5 Existing Research on the Impacts of Fintech Products on Financial Inclusion

While much remains to be learned about the short- and longer-run impacts of fintech consumer lending on credit access, financial inclusion, loan pricing, and performance, several recent studies have begun to analyze fintech consumer lending practices. FinRegLab, a non-profit organization focused on promoting innovation in financial services, has conducted research showing that cash flow–based underwriting can significantly improve the accuracy of credit risk assessment, especially for borrowers with limited credit histories. 48

Jagtiani and Lemieux (2017) and Jagtiani and Lemieux (2018a, 2018b) using account-level data from LendingClub found that its lending served areas that may be underserved by traditional banks, such as in highly concentrated markets and areas that have fewer bank branches per capita. They also found that the portion of LendingClub loans increased in areas where the local economy is not performing well. They further explored the key roles of additional information in expanding credit access to creditworthy borrowers whom banks may not be serving and demonstrated that this credit seems to be "appropriately" risk-priced. Using alternative data appears to have allowed some borrowers who would be classified as subprime by traditional criteria to be slotted into better loan grades and to access lower-priced credit. These findings point to the potential advantages that financial technology can provide consumers. ⁴⁹

Dolson and Jagtiani (2021) used a rich data set of credit offers from Mintel, in conjunction with credit information from TransUnion and other consumer credit data from the New York Fed Consumer Credit Panel, to compare similar credit offers that were made by banks, fintech firms, and other nonbank lenders. The authors found that fintech firms were more likely than banks to offer mortgage credit to consumers with lower income and lower credit scores and those who have been denied credit in the recent past. Fintechs were also more likely than banks to offer personal loans to consumers who had filed for bankruptcy, who, as a result, were also more likely to receive credit card offers. For both personal loans and mortgage loans, fintech firms were found to be more likely than other lenders to reach out and offer credit to nonprime consumers. At the same time, they found that consumers with higher balances and more credit cards were also more likely to get fintech offers.

Di Maggio, Ratnadiwakara, and Carmichael (2022) also examined whether cash-flow-based underwriting with alternative data results in broader credit access using anonymized administrative data from Upstart. They found that using cash flow data resulted in a lower probability of rejection and lower interest rates for those who were approved while leading to better loan performance and lower default rates. They attribute these results to cash flow data providing a more comprehensive view of a borrower's financial situation, enabling lenders to identify borrowers who are likely to repay their loans.

While this research appears to indicate that using alternative data for assessing borrowers' creditworthiness results in broader credit access for those who have trouble accessing credit and lower interest rates for nonprime consumers, other evidence suggests that automation and technology adoption might maintain or even increase the existing disparities in access to credit.

Fuster et al. (2022) show that the adoption of statistical technology for credit screening creates "losers" and "winners," with the former being Black and Hispanic borrowers and the winners being non-Hispanic White and Asian borrowers. Statistical methods efficiently capture relationships between observable borrower characteristics (for example, income and credit score) and default outcomes, but they also manage to uncover characteristics such as race and gender that are not usually part of a credit application, effectively de-anonymizing borrowers and potentially further penalizing underrepresented groups. This insight is consistent with evidence of racial discrimination in algorithms (Arnold, Dobbie, and Hull 2021). Finally, in the context of GSE-securitized mortgage loans, Bartlett et al. (2022) find that the higher interest rate (unrelated to risk) paid by minority borrowers and their higher rejection rates were similar for fintech lenders and non-fintech lenders. One potential explanation for this similarity is that by using historical patterns within the data to make predictions about the future, machine learning systems risk repeating biases that were present in past lending data. Given the growing market share of fintech lenders, these forces are set to become even more important in the short to medium term. For a review of fintech lending, see Berg, Fuster, and Puri (2022).

Fintech and other nonbank financial institutions generally are subject to less stringent regulation and supervision and, as evidenced in some of the studies cited above, may pose risks to more vulnerable financial consumers. The resulting trade-offs between increased financial inclusion, consumer financial protection, and financial stability are an important area for further study.

7. WHERE ARE THE OPPORTUNITIES TO ADDRESS FINANCIAL INCLUSION?

Over the past decade we have seen significant improvements in bank account ownership and in access to various forms of credit, including credit cards. These gains not only reflect the effectiveness of various government interventions but also capture market developments through which lending to underserved communities has increased. This increased engagement by private institutions in equitable lending and in improved outreach in underserved communities is, in part, driven by their clients and stakeholders, who increasingly value these initiatives. For example, Crosignani and Le (2023) document that banks differ in their propensity to lend to minorities based on their stakeholders' aversion to inequality. Despite these improvements, a significant number of Americans remain unbanked or underbanked, especially in some segments of the population, such as lower-income and minority households. Our review of the literature suggests a number of areas that offer opportunities to help improve understanding of financial inclusion and ways to address it.

An important aspect of the current state of financial inclusion in the United States is the rapidly evolving nature of consumer lending, driven by changing technology and alternative credit products, as well as changes in consumers' need for financial services. Our review of the literature points to a general need for better data and analysis to uncover the underlying reasons for financial exclusion and to determine the effectiveness of alternative solutions. We identify five broad areas of opportunity.

First, there is a need for more qualitative research based on in-depth interviews to understand the current-day challenges faced by households in accessing financial services.⁵⁰ Much of what is known about such challenges is based on research done at a time that preceded the rise in online banking and the digital lending revolution.

Second, with respect to the more traditional measure of bank account ownership, more information and analysis are needed to determine the extent to which gains in bank account ownership through Bank On and other initiatives are sustained over time in terms of subsequent use and general bank account ownership. Furthermore, there is a need to develop broader measures of financial inclusion that go beyond being banked or having a credit score or credit card to include having access to nonbank financial services and social support networks and insurance, as well as digital access, skills, and literacy. Such measures would provide a broader assessment of the economic fragility and resiliency of households and of their financial health. Moreover, we acknowledge an ambition to move beyond expanding financial inclusion per se to optimizing the utility of financial inclusion, that is, the benefits and outcomes that financial inclusion creates for its beneficiaries (Sirtaine 2023). Of particular importance is the critical role financial services can play in helping vulnerable populations navigate the risks and shocks associated with natural disasters.

Third, despite important new academic research on this topic, important gaps remain in our understanding of the overall impact of the use of alternative data and technology, including the role of BNPL lenders and fintech lending more broadly, on the financial well-being of households. Efforts to close these gaps should include an assessment of the risks associated with the use of such new products and with the way lenders use alternative information about

households. Inconsistent reporting of loans to credit bureaus and inadequate oversight of non-traditional lenders represent potential future risks to financial stability and household well-being.

Fourth, despite a large number of federal and private initiatives to improve access to bank accounts and to improve financial literacy through financial education and financial counseling, little is known about the effectiveness of these interventions, since few of them have been subjected to rigorous scientific evaluation through a randomized controlled trial or quasi-experimental design. Additional research would be valuable for determining what types of programs are most beneficial and for whom.

Finally, there is a need for further research on the potential effectiveness of educational and financial literacy and counseling initiatives and efforts to improve the quantity and quality of credit report data in reducing inequality in access and costs due to gaps in credit scores, especially for those with a limited credit history or limited knowledge of their credit history (see, for example, Homonoff, O'Brien, and Sussman [2019]; Blattner and Nelson [2021]).

8. Conclusion

Financial inclusion matters for wealth building, for households' ability to weather income volatility and economic difficulties, consumption, employment, and for economic mobility. Broader access to and participation in the financial system is therefore important for U.S. economic growth and resiliency. Access and participation also affect the effectiveness and optimal design of monetary policy. So central banks need to understand and monitor financial inclusion. In this article, we highlighted several opportunities for advancing our understanding through more qualitative research, the development of broader measures of financial inclusion, additional research into the overall impact of the use of alternative data and technology on the financial well-being of households, and more rigorous assessments of the effectiveness of public and private initiatives to expand access to credit and to improve financial literacy through financial education and financial counseling. This knowledge in turn will improve our understanding of the potential trade-offs between increased financial inclusion, consumer financial protection, and financial stability.

Notes

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- $^{1}\ \ https://www.worldbank.org/en/topic/financialinclusion/overview.$
- An improved ability to generate and transfer wealth also enables greater financing of small businesses and entrepreneurs by friends and family.
- Jui and Volker (2020) describe the importance of a preexisting banking relationship for the successful receipt of PPP funds by small businesses, while Holtzblatt and Karpman (2020) document delays and higher nonreceipt of economic impact payments for those without a bank account and without internet access, https://libertystreeteconomics.newyorkfed.org/2020/05/where-have-the-paycheck-protection-loans-gone-so-far/.
- ⁴ A smaller effect through the interest rate transmission channel does not necessarily imply that those financially excluded will be less affected by monetary policy, after accounting for indirect effects through the labor market, inflation, and other macroeconomic conditions.
- Federal Reserve Board Community Reinvestment Act (CRA), https://www.federalreserve.gov/ consumerscommunities/cra_about.htm.
- There are some differences across surveys in the measurements of the share of unbanked and underbanked. For example, while the FDIC and SCF surveys measure access to bank accounts at the household level, the NFCS and SCPC measures are at the individual respondent level. More specifically, the NFCS measures the share of individuals where none of the adults in the household have either a checking or savings/money market account. It then defines as underbanked all those in a banked household who personally used alternative financial services more than two times in the past five years. The SCF measures the share of respondents who do not have a checking or savings/money market account, and, of those who do, it measures the share that used at least one of five financial services over the past twelve months.
- ⁷ 2021 FDIC National Survey of Unbanked and Underbanked Households. https://www.fdic.gov/analysis/household-survey/index.html.
- 8 See, for example, what the State of Maryland has done in this regard. Illinois and Connecticut are moving to implement the same types of payments. https://www.dllr.state.md.us/whatsnews/uiddtransition.shtml.
- 9 A related issue concerns the potential effectiveness of strategies to capture remittances through bank accounts for improving financial inclusion in emerging markets (see Naceur, Chami, and Trabelsi [2020]).
- ¹⁰ See "Data Point: Credit Invisibles," a CFPB report by Brevoort, Grimm, and Kambara (2015).
- As with the CFPB analysis, we divide the number of individuals with credit reports, scores, and specific accounts by the total adult population in the zip code from the 2019 American Community Survey five-year estimates.
- Information on minimum scoring criteria for FICO and VantageScore can be found here: https://assets.equifax.com/marketing/US/assets/vantagescore-40-product-sheet.pdf, https://www.myfico.com/credit-education/faq/scores/fico-score-requirements.
- ¹³ The New York Fed CCP draws the sample primarily using Social Security numbers (SSN); thus, those without an SSN do not enter our sample. However, the CFPB draws its samples from the universe of credit reports and thus can contain individuals without SSNs.
- ¹⁴ SCE Credit Access Survey, https://www.newyorkfed.org/microeconomics/sce/credit-access#/experiences-credit-applications9.

NOTES (CONTINUED)

- ¹⁵ These findings are largely consistent with those of Rhine, Greene, and Toussaint-Comeau (2006) based on a 2000 survey on the use of check-cashing establishments in the Chicago metropolitan area.
- ¹⁶ ChexSystems is a verification service and consumer reporting agency used by a large majority of commercial banks and credit unions to screen applicants for checking and savings accounts.
- As explanations for these findings, Campbell, Martínez-Jerez, and Tufano (2012) posit that: more competitive banking markets might be ones in which banks reach deeper for new customers, leading to less financially secure customers and more closure; that local banks may have better customer knowledge or may be more likely to show forbearance than a multi-market bank; and that payday lending may imply greater financial difficulties of customers due to payday loans representing a debt trap.
- ¹⁸ Crook (2001) reports similar findings showing comparable application rates, but higher rejection rates among Black respondents during the 1980s and early 1990s.
- ¹⁹ Controlling for additional loan and borrower characteristics may further reduce the race and income gaps. The importance of a borrower's credit score in denials of applications to extract home equity was similarly demonstrated by Conklin, Gerardi, and Lambie-Hanson (2022).
- ²⁰ There is also evidence of discrimination in lending outside the United States. For example, Dobbie et al. (2021) find significant bias against both immigrant and older loan applicants in the United Kingdom.
- 21 More specifically, they find that doubling the number of PPP-enrolled lenders in a zip code would increase take-up by between 11.8 and 12.6 percentage points.
- ²² Barr (2012) discusses the importance of financial slack for lower-income households in weathering shocks, in the context of the Detroit area during the 2007-09 financial crisis. The analysis considers the failure of regulators to protect consumers and investors and how households and firms took on risks they did not fully understand. The author calls for a policy of "behaviorally informed regulation" as an approach for fostering resilience.
- ²³ FedNow is a new service for instant payments launched by the Federal Reserve in July 2023 to help make everyday payments fast and convenient for American households. With FedNow, households can make last-minute or emergency payments helping them avoid late and overdraft fees and better manage their credit score. Similarly, those employed as gig workers, such as rideshare drivers, can get paid immediately for the work they perform, reducing their need for short-term and costly financing. See https://explore.fednow.org/.
- ²⁴ https://joinbankon.org; Bank-On-National-Account-Standards-2023-2024.pdf.
- $^{25}\,$ Bank On National Data Hub, available at https://www.stlouisfed.org/community-development/bank-on-national-data-hub/bank-on-report-2021.
- ²⁶ For making unemployment insurance payments, the State of Maryland has replaced pay cards with direct deposit into bank or credit union accounts, emphasizing Bank On certification status as a trusted referral (https://www.dllr.state.md.us/whatsnews/uiddtransition.shtml) Other states, including Illinois and Connecticut, are moving to do the same.
- $^{27}\,$ Recently, the Summer Jobs Connect program does the same with Summer Youth Employment Programs (SYEPs) across the country. More information is available at https://cfefund.org/project/summer-jobs-connect/.
- 28 https://www.fdic.gov/consumers/template/template.pdf.
- ²⁹ https://www.wellsfargo.com/jump/enterprise/banking-inclusion-initiative/.
- $^{30}\ \ https://www.jpmorganchase.com/news-stories/jpmorgan-chase-releases-rec-audit-report; https://bankblackusa.org/.$
- $^{31}\,$ https://www.aspiration.com/; https://www.sofi.com/; https://www.sofi.com/; https://www.varomoney.com/.

NOTES (CONTINUED)

- $^{32}\,$ SCE Credit Access Survey questionnaire, https://www.newyorkfed.org/medialibrary/Interactives/sce/sce/downloads/glossary/FRBNY-SCE-ChartGlossary.pdf.
- 33 operationhope.org; prosperitynow.org; americasaves.org; readysetbank.org; worldofmoney.org; www.fdic.gov/resources/consumers/money-smart/index.html.
- 34 cfefund.org.
- 35 finhealthnetwork.org.
- ³⁶ Courtney Davis. "Accelerating Toward Greater Financial Inclusion," *Deloitte Insights*. September 28, 2021. https://www2.deloitte.com/us/en/insights/industry/financial-services/alternative-data-innovation-financial-inclusion.html.
- ³⁷ A notable exception is the study by Theodos, Plerhoples Stacy, and Daniels (2018), which presented evidence based on randomized controlled trials in New York City and Miami showing the effectiveness of financial coaching in increasing savings and credit scores and reducing aggregate debt and debt delinquency.
- ³⁸ New York Fed, *Quarterly Report on Household Debt and Credit*, 2023:Q1. https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2023Q1.
- ³⁹ Buchak et al. (2018) find that regulatory constraints on traditional banks have contributed to the increase in the shadow bank and fintech market shares in residential mortgage origination, with technology also contributing to this shift. They find that fintech lenders charge a premium of 14 to 16 basis points and appear to provide convenience rather than cost savings to borrowers.
- ⁴⁰ In this section, the discussion of the market for unsecured personal loans, the role of fintechs, and the use of such loans by LMI individuals, is based in part on Nair and Beiseitov (2023).
- $^{41}~See~FinRegLab~(2019), https://finreglab.org/wp-content/uploads/2023/12/FinRegLab_2019-07-25_Research-Report_The-Use-of-Cash-Flow-Data-in-Underwriting-Credit_Empirical-Research-Findings.pdf.$
- ⁴² See Thompson, Cochran, and Stegman (2022) for further discussion of the use of UTR data in underwriting credit.
- ⁴³ Felix Aidala, Daniel Mangrum, and Wilbert van der Klaauw, "Who Uses 'Buy Now, Pay Later'?," Federal Reserve Bank of New York *Liberty Street Economics*, September 26, 2023. https://libertystreeteconomics.newyorkfed.org/2023/09/who-uses-buy-now-pay-later/.
- These demographic patterns in BNPL use are largely consistent with those reported in "Consumer Use of Buy Now, Pay Later: Insights from the CFPB Making Ends Meet Survey" (Shupe, Li, and Fulford 2023). https://files.consumerfinance.gov/f/documents/cfpb_consumer-use-of-buy-now-pay-later_2023-03.pdf.
- ⁴⁵ When we control for all covariates jointly in a multivariate regression, the higher rates for those with low credit scores or a recent credit application rejection remain highly statistically significant.
- ⁴⁶ Controlling for all covariates jointly in a regression does not alter these findings.
- ⁴⁷ Consumer Financial Protection Bureau. "Buy Now, Pay Later: Market Trends and Consumer Impacts," September 2022. https://s3.amazonaws.com/files.consumerfinance.gov/f/documents/cfpb_buy-now-pay-later-market-trends-consumer-impacts_report_2022-09.pdf.
- $^{48} \ \ Fin Reg Lab \ (2019), https://fin reg lab.org/research/the-use-of-cash-flow-data-in-under writing-credit-empirical-research-findings/.$
- ⁴⁹ Similarly, Danisewicz and Elard (2023) find that the availability of marketplace fintech lending of personal loans reduces personal bankruptcy filings, which they argue points to the importance of these loans as a source of external funding in the face of income shocks.
- ⁵⁰ For an example of such an approach for studying how low- and middle-income Americans earn, spend, borrow, and save, see the "U.S. Financial Diaries" discussed by Morduch and Schneider (2017).

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