

Community Development

# INNOVATION REVIEW

Fintech, Racial Equity, and an Inclusive  
Financial System



FEDERAL RESERVE BANK  
OF SAN FRANCISCO

## Community Development INNOVATION REVIEW

The *Community Development Innovation Review* focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities.

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Community Development Innovation Review

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## Foreword

*Laura Choi*  
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Our economic and financial systems are at an important crossroads, where the promises of future innovation must be considered against the potential pitfalls of past and present inequities. This issue of the Community Development Innovation Review explores how the push for racial equity in our financial systems intersects with the growing field of financial technology, or “fintech.”<sup>1</sup> We conceived of this issue well before COVID-19 hit our shores, but the topic became even more urgent as the financial devastation and health risks of the pandemic economy fell disproportionately on low-income households and households of color. Those most at risk were the hardest to reach with aid, revealing how inequities in the financial system could hamper broader relief and recovery efforts.

The leaders highlighted in this volume each bring a unique lens to fintech’s promise of new solutions to historic exclusions baked into our economy, but also the potential risk of deepening existing inequities if these solutions are not implemented with care. Published as a partnership between the Federal Reserve Bank of San Francisco and the Aspen Institute Financial Security Program, this volume aims to activate conversation and build bridges between the various organizations and innovators that will create the future of fintech to ensure we are intentionally building an inclusive financial system as we plan for a post-pandemic economy.

The authors reflect diverse perspectives and experiences with fintech, racial equity, economic inclusion, and community development. Together, they represent the breadth of leaders and organizations that need to be brought to bear to build a truly inclusive financial system. In these essays, regulatory and technological experts ask important questions about what systems must be in place to ensure those innovations truly move the needle on racial equity and do not inadvertently leave people of color further behind. These perspectives are rounded out by innovators who discuss the use of fintech innovations to expand access and improve outcomes to the growing set of tools and services understood to be necessary for financial inclusion, from savings to credit to the safety net.

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1 For this work, the SF Fed defines financial technology as anything that is digitally based, including new technologies, techniques, and business models.

We also hear from leaders working directly in community development, who provide frameworks and case studies for how partnership with fintech can help achieve their goals.

For fintech leaders, we hope these perspectives illuminate the broader ecosystem affected by their work and the societal challenges that should serve both as goals and cautionary tales as they try to live up to the promise of fintech. For those with deep experience and expertise working on issues of racial equity and financial inclusion, we hope these essays provide examples of the results that can be achieved when fintech is implemented with intention and care toward those goals.

Like many around the country, both of our organizations renewed commitments this year to addressing longstanding racial inequities. This volume represents just a piece of the research, convenings, and tools we are initiating in the coming year to spur a collective sense of what is both necessary and possible in order to make financial inclusion and financial health in the United States a reality. As your organizations build strategies to achieve these same goals, we also hope you consider where unconventional partners, perhaps highlighted in this volume, should be part of your plans. We also hope you consider us as potential partners and resources in that work. It will take all of us working together to achieve the vision of a truly inclusive financial system that delivers financial security for all.

***Laura Choi** is Vice President of Community Development at the Federal Reserve Bank of San Francisco. In this role, she provides overall strategic direction and leadership of the Community Development team and serves as Community Affairs Officer for the Twelfth Federal Reserve District. Laura is responsible for aligning the community development team's research and outreach efforts with the broader strategic goals of the Bank, in order to advance economic resilience and mobility for low- and moderate-income communities and underserved households. Prior to joining the SF Fed in 2008, she worked in affordable housing development and management consulting. Laura serves on the board of the National Coalition for Asian Pacific American Community Development. She holds a BA in Economics and a master's of Public Policy degree, both from the University of California, Berkeley.*

***Ida Rademacher** is a vice president at the Aspen Institute, executive director of the Aspen Financial Security Program and co-chair of the Aspen Partnership for an Inclusive Economy. Since joining the Institute in 2015, her work has helped catalyze a solutions-focused national discussion of how America can improve economic growth by addressing growing levels of wealth inequality, racial disparity and financial precarity among workers. Her efforts have resulted in the creation of several new cutting-edge initiatives including the Aspen Partnership for an Inclusive Economy, the Aspen Leadership Forum on Retirement Savings, Benefits21, the Consumer Insights Collaborative, the Expanding Prosperity Impact Collaborative (EPIC), nonprofit Leaders in Financial Technology (nLIFT) and the Reconnecting Work and Wealth Initiative. Previously, Rademacher served as Chief Program Officer with Prosperity Now (formerly CFED), and in senior research roles at the Center for Applied Behavioral and Evaluation Research at AED and the Aspen Institute Economic Opportunities Program. Her training is in economic anthropology, ecological economics and public policy.*

# Framing the Issue

## SECTION ONE





# The Racialized Roots of Financial Exclusion

*Rocio Sanchez-Moyano and Bina Patel Shrimali*  
*Federal Reserve Bank of San Francisco*

Access to the financial system is fundamental to full participation in the U.S. economy. The moves to limit in-person contact and the transition to online contact as a result of the COVID-19 pandemic highlighted this all the more acutely. Participation in the financial system facilitates payment for employment and the ability to purchase goods and services. Perhaps most important, it allows one to invest in the future, whether through debt-financed investments in education or homeownership, or through long-term savings. But access to quality financial services, particularly those that are immediate, low-cost, and digital, is not equal: both low-income people and people of color face barriers to seamless access to and use of these services.

Financial inclusion has long been a goal of community development. However, only recently has there been more widespread recognition that facilitating access to low-income communities and communities of color are not one and the same. Although people of color are more likely to be low-income, it is not solely their income that makes accessing financial services challenging, and people of color across the income spectrum often receive inferior access to financial services relative to their White peers. These differences persist despite the existence of anti-discrimination and fair lending laws, and systemic issues continue to hamper the ability of people of color to participate fully in the economy and save for their futures. As a result, discussion of financial inclusion benefits from being explicit about the structural barriers that continue to limit the full participation of communities of color and acknowledging that we all gain by creating a more inclusive financial system.

In this issue of the Community Development Innovation Review, we have invited authors to reflect on the ways in which financial technology (fintech)<sup>1</sup> may facilitate participation in the financial system for marginalized communities, including communities of color, as a starting place for a growing dialogue. But first, this article sets the context for the extant inequities in the financial system.

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<sup>1</sup> For this work, the SF Fed defines financial technology as anything that is digitally based, including new technologies, techniques, and business models.

## Structural Inequities Are at the Root of Financial Exclusion

To solve the problem of financial inclusion, we must first understand and acknowledge the roots of financial exclusion. Othering<sup>2</sup> on the basis of race has been persistent in U.S. history and plays a key role in financial exclusion and the racial wealth gap. As has been well documented,<sup>3</sup> various forms of institutional and interpersonal discrimination—for example, in homeownership and employment—have led to disproportionately fewer wealth-building opportunities for people of color. These disparities compound over time and are consequential, as wealth is an essential buffer against economic shocks and also enables individuals and families to plan for the future and invest in the next generation.

Homeownership, the main driver of wealth accumulation and intergenerational transfer in the United States, was encouraged by the U.S. government starting in the 1930s and 1940s through the Federal Housing Administration and Veteran's Administration, both of which extended government-backed, low-cost loans to millions of Americans. Government appraisers, however, used the Federal Home Owner's Loan Corporation rating system, which led to widespread redlining, systemically denying mortgage credit on the basis of race.<sup>4</sup> Combined with other practices, such as racially restrictive covenants, racial steering, and blockbusting,<sup>5</sup> redlining led to widespread patterns of economic and racial segregation in urban areas across the United States. At the same time, investments in highways and the development of racially exclusive suburbs and disinvestments in central-city areas at a time of major economic restructuring resulted in even greater economic and racial segregation, whereby even people of color who did own their home reaped fewer returns on their investments. In addition to discrimination in housing markets, persistent employment discrimination and segregation have resulted in many people of color having less stable jobs, lower wages, and fewer retirement benefits at work.

These inequities compound through families and generations over time, as those who lack homeownership and retirement savings receive disproportionately fewer savings advantages and tax benefits. Inheritances, gifts, and down-payment assistance enable wealth-building over time; on average Black and Hispanic families receive fewer of these types of financial supports than White

2 Othering is "a set of dynamics, processes, and structures that engender marginality and persistent inequality across any of the full range of human differences based on group identities." John A. Powell and Stephen Menéndez, "The Problem of Othering: Towards Inclusiveness and Belonging," *Othering and Belonging* (blog), June 29, 2017, <https://otheringandbelonging.org/the-problem-of-othering/>.

3 See, for example, Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing, 2017); or Mehrsa Baradaran, *The Color of Money: Black Banks and the Racial Wealth Gap* (Cambridge, MA: Harvard University Press, 2017); or Robert J. Sampson, "Neighborhood Effects: The Evolution of an Idea." Essay. In *Great American City: Chicago and the Enduring Neighborhood Effect*, 31–49. (Chicago: University of Chicago Press, 2013).

4 Color-coded maps were used to assess how secure neighborhoods were for investment. Neighborhoods deemed low-risk for investment were granted an "A" grade and noted in green on the maps, while those deemed high-risk, or "hazardous," received a "D" grade and were shaded as red on the maps, thus the name "redlining." Racial composition was a key indicator in assigning grades. For example, a neighborhood shaded red and graded "D" from Oakland, CA, describes "infiltration of Negroes and Orientals" as key "detrimental influences," which outweighs some of the favorable qualities of proximity to schools, shopping districts, and transportation. See archived redlining maps and documentation for metropolitan areas throughout the United States at the Mapping Inequality project. "Mapping Inequality: Redlining in New Deal America," accessed May 24, 2021, <https://dsl.richmond.edu/panorama/redlining/>.

5 Racially restrictive covenants are lists of obligations written on deeds by existing owners that purchasers of properties must assume, which frequently included language promising to never sell or rent to people of color. An example from a 1950 covenant on a property in Daly City, CA detailed, "The real property above described, or any portion thereof, shall never be occupied, used or resided on by any person not of the white or Caucasian race, except in the capacity of a servant or domestic employed thereon as such by a white Caucasian owner, tenant, or occupant" (Rothstein, 2017, p. 78–79). Racial steering describes practices adopted by real estate agents that steered homebuyers away from predominantly white neighborhoods (Rothstein, 2017, p. vii). Blockbusting refers to the practice of telling white homeowners that Black people are moving to induce concern about forthcoming declines in property values, which sometimes led to sales at a loss that were then sold to Black people at a profit (Rothstein, 2017, p. 95).

families.<sup>6</sup> Intergenerational wealth transfer is also critical to attainment of higher education, which subsequently shapes employment outcomes, as well as small business development. Middle-class Black and Hispanic people can be doubly impacted, as they are not only less likely to receive financial assistance from their parents, but may also need to support lower-income family members, making it more difficult to accumulate savings.

Although civil rights legislation has made explicitly race-based discrimination illegal, these and other practices have left a legacy of racialized concentrated disadvantage and neighborhood disinvestment, where people of color have had fewer opportunities to access capital and social mobility.<sup>7</sup> Under-resourced schools (which often rely on property taxes), less access to jobs and transportation, more reliance on predatory financial products, and fewer opportunities for wealth-building have led to myriad negative outcomes that go beyond financial well-being and continue to compound. In addition, current practices have been documented that continue to perpetuate these inequities, such as a disproportionate marketing or steering of subprime loans to people of color prior to the Great Recession,<sup>8</sup> and racialized scoring of municipal bonds.<sup>9</sup>

## Where Are We in 2021?

This legacy of discrimination and exclusion continues to affect communities of color today. Black and Hispanic families have lower levels of wealth, more limited asset ownership, and more debt than White families. On average, these groups also have more limited access to banking services, greater use of high-cost financial services, and more limited access to capital. This section briefly covers major sources of financial inequities beyond income and education.

### *Racial Wealth Gaps*

The racial wealth gap is large, and though its size has varied over time, it is not consistently shrinking.<sup>10</sup> Recent research from the Federal Reserve Board found that in 2019 the median net worth of Black families was \$24,100, relative to \$188,200 for White families. The disparity between

6 Signe-Mary McKernan et al., "Private Transfers, Race, and Wealth," Opportunity and Ownership Project (Washington, DC: Urban Institute, n.d.), <https://www.urban.org/sites/default/files/alfresco/publication-pdfs/412371-Private-Transfers-Race-and-Wealth.PDF>; Hyojung Lee et al., "The Role of Parental Financial Assistance in the Transition to Homeownership by Young Adults," *Journal of Housing Economics* 47 (March 1, 2020): 1–8, <https://doi.org/10.1016/j.jhe.2018.08.002>.

7 Daniel Aaronson, Daniel Hartley, and Bhash Mazumder, "The Effects of the 1930s HOLC 'Redlining' Maps." Working Paper (Chicago: Federal Reserve Bank of Chicago, 2017), <https://www.chicagofed.org/publications/working-papers/2017/wp2017-12>.

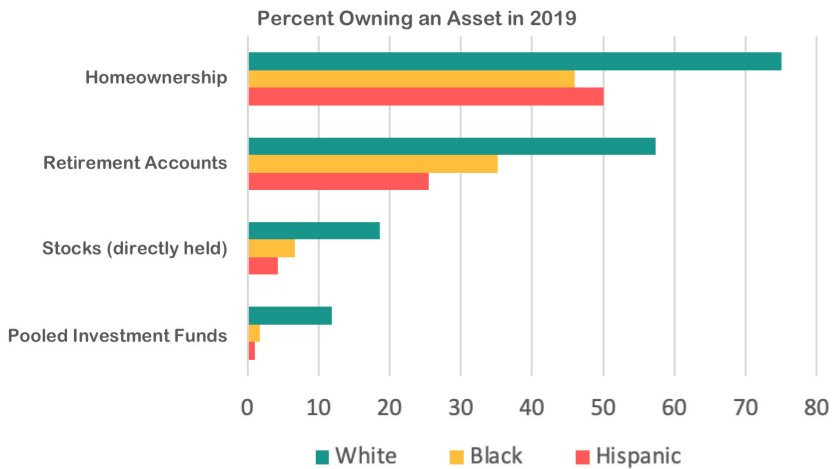
8 Jackelyn Hwang, Michael Hankinson, and Kreg Steven Brown, "Racial and Spatial Targeting: Segregation and Subprime Lending Within and Across Metropolitan Areas," *Social Forces* 93 (3) (March 1, 2015): 1081–108, <https://doi.org/10.1093/sf/sou099>; Jacob S. Rugh, Len Albright, and Douglas S. Massey, "Race, Space, and Cumulative Disadvantage: A Case Study of the Subprime Lending Collapse," *Social Problems* 62 (2) (2015): 186–218; Paul S. Calem, Jonathan E. Hershaff, and Susan M. Wachter, "Neighborhood Patterns of Subprime Lending: Evidence from Disparate Cities," *Housing Policy Debate* 15 (3) (2004): 603–22, <https://doi.org/10.1080/10511482.2004.9521515>.

9 Destin Jenkins, "The Fed Could Undo Decades of Damage to Cities. Here's How ...," *Washington Post*, April 27, 2020, <https://www.washingtonpost.com/outlook/2020/04/27/fed-could-undo-decades-damage-cities-heres-how/>.

10 In this section, we focus on Black and Hispanic racial groups because there is limited wealth data for other groups, such as Native Americans and Native Hawaiians and Pacific Islanders. Also, although mean and median wealth levels for Asian households are similar to those of White households, these statistics mask large variations in wealth by subgroups within the Asian category; lower-income Asian households have less wealth than lower-income White households, and on average, Asian American households have lower homeownership, owe more debt, and have fewer retirement benefits than White households. For more, see Christian Edlagan and Kavya Vaghul, "How Data Disaggregation Matters for Asian Americans and Pacific Islanders," Washington Center for Equitable Growth, December 14, 2016, <https://equitablegrowth.org/how-data-disaggregation-matters-for-asian-americans-and-pacific-islanders/>; or Christian E. Weller and Jeffrey Thompson, "Wealth Inequality Among Asian Americans Greater Than Among Whites," Center for American Progress, December 20, 2016, <https://www.americanprogress.org/issues/race/reports/2016/12/20/295359/wealth-inequality-among-asian-americans-greater-than-among-whites>.

Hispanics and Whites is smaller but still large, as the median Hispanic family has \$36,100 in wealth.<sup>11</sup> The same report notes that though the median wealth of Black and Hispanic families has grown more quickly than that of Whites since the Great Recession, both of these groups experienced both larger and more sustained declines between 2007 and 2013.<sup>12</sup> This wealth gap is driven, in part, by large differences in access to homeownership.<sup>13</sup> In 2020, 45.9 percent of Black households and 50.1 percent of Hispanic households owned their homes, compared with 75.0 percent of White households.<sup>14</sup> Ownership of other types of financial assets is also heavily skewed, as Black and Hispanic families are less likely to own retirement accounts, like IRAs or 401(k)s,<sup>15</sup> or have non-retirement investments in stocks, bonds, certificates of deposit, or investment funds (see Figure 1).<sup>16</sup> The U.S. government subsidizes many types of savings vehicles through the tax code, but the evidence suggests that the vast majority of these tax benefits go to the highest-income households.<sup>17</sup> These assets matter not only because they serve as a way for people to save and invest in their future, but also because they serve as a connection to the financial system and provide business relationships to financial institutions.

Figure 1  
Asset Ownership Varies Widely by Race



Source: Federal Reserve Board of Governors analysis of Survey of Consumer Finances.

11 Board of Governors of the Federal Reserve System et al., "Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances," FEDS Notes (Washington, DC: Board of Governors of the Federal Reserve System, September 28, 2020), <https://doi.org/10.17016/2380-7172.2797>.

12 Board of Governors of the Federal Reserve System et al.

13 Thomas Shapiro, Tatjana Meschede, and Sam Osoro, "The Roots of the Widening Racial Wealth Gap: Explaining the Black-White Economic Divide" (Waltham, MA: Institute on Assets and Social Policy, February 2013), <https://heller.brandeis.edu/iasp/pdfs/racial-wealth-equity/racial-wealth-gap/roots-widening-racial-wealth-gap.pdf>.

14 Housing Vacancy Survey, "Table 6. Homeownership Rates by Race and Ethnicity" (U.S. Census Bureau, 2020).

15 Board of Governors of the Federal Reserve System et al., "Disparities in Wealth."

16 "The Fed - Chart: Survey of Consumer Finances, 1989-2019," accessed April 14, 2021, <https://www.federalreserve.gov/econres/scf/dataviz/scf/chart/>.

17 C. Eugene Steuerle et al., "Who Benefits from Asset-Building Tax Subsidies?" (Washington, DC: Urban Institute, September 24, 2014), <https://www.urban.org/research/publication/who-benefits-asset-building-tax-subsidies>

### ***Barriers to Financial Services for People of Color***

Access to basic financial services is crucial to building savings; without it, consumers must pay higher costs to cash paychecks and pay bills and have no way to safely save. An estimated 7.1 million American households are unbanked. Black and Hispanic households are disproportionately likely to be unbanked: 13.8 percent of Black and 12.2 percent of Hispanic households are unbanked, relative to 2.5 percent of White households.<sup>18</sup> There are many reasons why people lack bank accounts. Though a subset of unbanked consumers does not trust banks or avoids banking for privacy reasons, large shares cite cost and access concerns.<sup>19</sup> Accounts usually require a minimum balance, minimum number of deposits, or other utilization factors to avoid paying account fees. For individuals earning low wages or with irregular incomes, it may be hard to meet these requirements, and monthly fees (including costly overdraft fees) can represent a nontrivial amount of their earnings. Evidence also suggests that fees for opening and maintaining basic checking accounts are higher in Black and Hispanic neighborhoods than White ones.<sup>20</sup> Without access to traditional banking services, consumers may rely instead on services with high transaction costs, like check cashers, money orders, or bill payment services; Black and Hispanic households are more than twice as likely to have used a check-cashing service or money order than White households.<sup>21</sup> These types of financial services are often located in low-income communities and communities of color, may have operating hours outside of traditional banking hours, and frequently make funds available quickly. And although the fees may be higher than those for traditional banking services, they can be more predictable as an upfront cost, rather than an unexpected fee, like an overdraft charge. Traditional banking services may also be literally inaccessible to consumers of color because there are fewer bank branches in their neighborhoods,<sup>22</sup> and lower-income and rural consumers are less likely to have internet access to use online or mobile banking services.<sup>23</sup>

These differing levels of wealth and access to financial services result in large differences in access to credit. Affordable and nonpredatory credit are crucial to investing in wealth-building opportunities, whether it be education, homeownership, or small business. The first barrier to credit access is thin credit files. Because low-income consumers and consumers of color are less likely to have traditional banking relationships, they are disproportionately likely to be credit invisible<sup>24</sup> or are “unscorable” by traditional credit models (see Figure 2),<sup>25</sup> despite sometimes having a long history of regular payments on bills like rent or utilities, which are not typically reported to the credit bureaus. But even when these consumers have sufficient credit history to apply for loans, their experiences can differ substantially from those of White consumers. Across mortgage, small

18 Federal Deposit Insurance Corporation (FDIC), “How America Banks: Household Use of Banking and Financial Services, 2019 FDIC Survey,” October 2020, <https://www.fdic.gov/analysis/household-survey/index.html>.

19 Federal Deposit Insurance Corporation (FDIC).

20 Jacob Faber and Terri Friedline, “The Racialized Costs of ‘Traditional’ Banking in Segregated America: Evidence from Entry-Level Checking Accounts.” *Race and Social Problems* 12, no. 4 (2020): 344-361

21 Federal Deposit Insurance Corporation (FDIC), “How America Banks.”

22 Faber and Friedline, “The Racialized Costs of ‘Traditional’ Banking.”

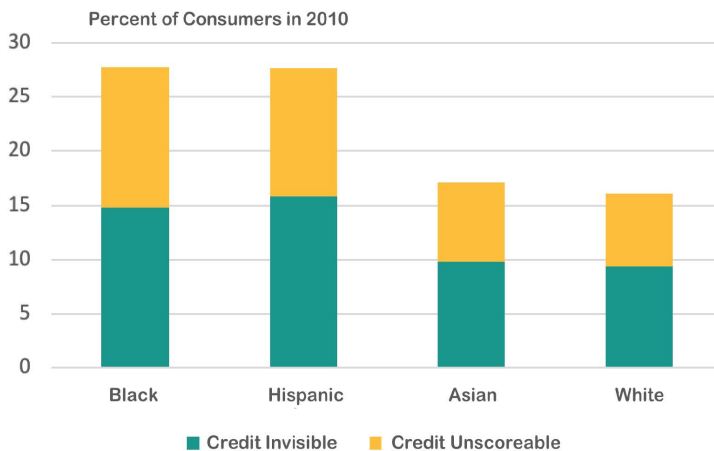
23 Monica Anderson, “Mobile Technology and Home Broadband 2019,” Pew Research Center: Internet, Science & Tech (blog), June 13, 2019, <https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/>.

24 This means they have no credit record at one of the nationwide consumer reporting agencies.

25 Kenneth Brevoort, Philipp Grimm, and Michelle Kambara, “Data Point: Credit Invisibles” (Washington, DC: Consumer Financial Protection Bureau, May 2015), [https://files.consumerfinance.gov/f/201505\\_cfpb\\_data-point-credit-invisibles.pdf](https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf).

business, and auto loans, Black and Hispanic consumers are more likely to be denied credit or receive higher interest rates when they do get a loan; sometimes this is due to financial characteristics, like credit score, but differences still often exist when compared with similar White borrowers.<sup>26</sup> Secret shopper studies have shown that Black and Hispanic consumers receive different information from bankers when applying for loans as well.<sup>27</sup> Fear of disparate treatment and discrimination may also cause some potential borrowers to opt out of applying entirely. The more limited availability of traditional, affordable credit may push these consumers into predatory products or those with very high interest rates, like payday loans, or may result in reliance on traditional—but more expensive—types of debt, like credit cards.

Figure 2  
Shares of Consumers Who Are Credit Invisible or Unscoreable Vary Widely by Race



Source: Consumer Financial Protection Bureau, “Data Point: Credit Invisibles.”

## Promises and Pitfalls of Fintech

Fintech offers an opportunity to reach many who have been excluded from the financial system by approaching financial products with a new eye. Fintech companies are disrupting traditional ways of thinking about financial services across a variety of dimensions: focus on the user experience, shifts to mobile payments, different ways of evaluating creditworthiness, and digital-first financial products, among other innovations. These companies hope to reduce costs by operating at scale and

26 Alexander W. Butler, Erik J. Mayer, and James Weston, “Racial Discrimination in the Auto Loan Market,” SSRN Scholarly Paper (Rochester, NY: Social Science Research Network, March 31, 2021), <https://doi.org/10.2139/ssrn.3301009>; Timothy Bates and Alicia Robb, “Loan Availability Among Small Businesses Operating in Urban Minority Communities.” In *Conference Paper, Federal Reserve System Community Development Research Conference*, 2013; Young Jo et al., “Data Point: 2019 Mortgage Market Activity and Trends” (Washington, DC: Consumer Financial Protection Bureau, June 2020), [https://files.consumerfinance.gov/f/documents/cfpb\\_2019-mortgage-market-activity-trends\\_report.pdf](https://files.consumerfinance.gov/f/documents/cfpb_2019-mortgage-market-activity-trends_report.pdf).

27 Anneliese Lederer et al., “Lending Discrimination Within the Paycheck Protection Program” (Washington, DC: National Community Reinvestment Coalition, July 15, 2020), <https://ncrc.org/lending-discrimination-within-the-paycheck-protection-program/>; Anneliese Lederer et al., “Lending Discrimination During Covid-19: Black and Hispanic Women-Owned Businesses” (Washington, DC: National Community Reinvestment Coalition, November 10, 2020), <https://ncrc.org/lending-discrimination-during-covid-19-black-and-hispanic-women-owned-businesses/>; Margery Austin Turner et al., “All Other Things Being Equal: A Paired Testing Study of Mortgage Lending Institutions” (Washington, DC: U.S. Department of Housing and Urban Development, 2002), <https://www.huduser.gov/Publications/PDF/aotbe.pdf>.

limiting traditional overhead, like maintaining bank branches. By offering improved products (or traditional products at lower costs), via accessible internet or mobile apps, or with nontraditional forms of underwriting, these companies may be able to serve low-income people and people of color who have been historically excluded from mainstream financial services due to cost and the legacies of historical (and lingering) inequities built into the financial system.

But with new opportunities come new risks. Depending on the specifics of a new technology and the institution doing the innovating, similar technologies may face different regulatory environments at both the state and federal level. And even the best-intentioned actors in the fintech space may be unintentionally perpetuating existing inequities or creating new ones. As more financial services move online and fewer in-person locations are available for assistance, those without internet and smartphones (or with limited data plans) may face hurdles in accessing their financial accounts. The use of algorithms in the provision of financial services may reproduce existing inequities (and potentially run afoul of fair lending laws) even when race is not explicitly part of the algorithm or training data; AI has been shown to perpetuate inequities in other contexts, such as hiring and health care.<sup>28</sup> Internet-based financial services also raise questions about data privacy. Additionally, lack of racial and ethnic diversity in the fintech ecosystem may result in fewer supports for founders of color and a lack of founders with lived experiences of poverty, discrimination, and financial exclusion, which may yield lower-impact projects.

## Moving Toward Equity

Access to quality and affordable financial services is critical to the financial security of families and their abilities to save and invest in their futures (to be discussed in more detail in the following framing article by Melford, Shaw, and Wallace). Additionally, the financial exclusion of low-income individuals and people of color—and the reductions in opportunities for savings and investment that come with it—inhibit not just wealth-building in those communities but growth in the economy overall. Recent research from the Federal Reserve Bank of San Francisco indicates that the U.S. economy could have gained \$2.6 trillion in annual output if gaps by race and gender in the labor market were eliminated.<sup>29</sup> Some of the gaps they analyzed were the result of differences in educational attainment. As has been discussed in this framing article, one of the results of limited access to financial systems is more limited savings or access to credit to finance investments in education. Another analysis, looking at Black-White differences in wages, education, housing, and business investment, suggests that \$5 trillion could be added in GDP over the next five years if the inequities between these two groups were eliminated.<sup>30</sup>

Fintech represents one way to improve economic outcomes for all American families by improving financial inclusion. But it is important that those considering the use of financial technologies

28 Ziad Obermeyer et al., "Dissecting Racial Bias in an Algorithm Used to Manage the Health of Populations," *Science* 366 (6464) (October 25, 2019): 447–53, <https://doi.org/10.1126/science.aax2342>; Jeffrey Dastin, "Amazon Scraps Secret AI Recruiting Tool That Showed Bias against Women," *Reuters*, October 10, 2018, <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G>.

29 Shelby R. Buckman et al., "The Economic Gains from Equity" (San Francisco: Federal Reserve Bank of San Francisco, 2021).

30 Dana M. Peterson and Catherine L. Mann, "Closing the Racial Inequality Gaps: The Economic Cost of Black Inequality in the U.S." Citi GPS: Global Perspectives & Solutions, 2020.

consider their impacts on racial equity and ensure that inequities do not continue to be built into our systems and institutions, as they have in the past. Players in the fintech ecosystem can begin by reflecting on their positions in organizations and consider what they can leverage to create more equitable solutions. More broadly, fintech firms and funders can create a culture of lifting up voices that have been traditionally absent in the fintech ecosystem. Fintech solutions designed by and with people from communities who have been historically excluded have more potential for building trust, as well as a more nuanced understanding of the issues.<sup>31</sup> In addition, a targeted universalism<sup>32</sup> approach may be promising, whereby approaches designed to meet the challenges facing those who have been most excluded (for example, with greater clarity, transparency, and fewer barriers to access) often work better for everyone.<sup>33</sup>

Although much work remains to achieve a vision of an inclusive and equitable financial system, we hope this issue of the Review provides frameworks and approaches to start on the path.

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31 For example, firms like Ellevest (women), Grind Banking (Black), and Daylight (LGBTQ) target specific audiences with their financial products.

32 John A. Powell, Stephen Menendian, and Wendy Ake, "Targeted Universalism: Policy & Practice: A Primer," (Berkeley, CA: Haas Institute for Oothering and Belonging, May 2019), <https://belonging.berkeley.edu/targeteduniversalism>.

33 Angela Glover Blackwell, "The Curb Cut Effect," *Stanford Social Innovation Review* (Winter 2017), [https://ssir.org/articles/entry/the\\_curb\\_cut\\_effect](https://ssir.org/articles/entry/the_curb_cut_effect).



# Fundamentals of an Inclusive Financial System

*Genevieve Melford, Tim Shaw, and Mack Wallace  
Aspen Institute Financial Security Program*

In their opening article, Sanchez-Moyano and Shrimali lay the groundwork for a more inclusive financial system by outlining the roots, and present-day consequences, of America's history of financial exclusion. We turn now to describing what must come next: a truly inclusive financial system. Below we outline what such a system entails, what it does, and the benefits—both widespread and reparative—it will bring.

## What Is an Inclusive Financial System?

First, what do we mean by an inclusive financial system? We define it as follows: **An inclusive financial system provides everyone—all people and small businesses—with the ability to access, utilize, and reap the benefits of a full suite of financial services that facilitate stability, resilience, and long-term financial security.**<sup>1</sup>

Although an inclusive financial system provides for all of society, it recognizes—as the articles in this issue describe from many different perspectives—that certain populations face higher barriers to participate and benefit from the financial system. An inclusive financial system therefore targets market gaps, previous policy choices, and the other barriers that prevent historically underserved groups from being full system participants and beneficiaries. To do so, it is designed to have a reparative effect—for example, by redirecting flows of capital to institutions who serve historically excluded communities, people, and small businesses, as described in the article by Wicks and Standaert.

A truly inclusive financial system aligns motives and rewards of financial institutions' leadership with rewards and benefits for the customer and is specifically designed for and with the input of the historically excluded, underserved, or others who have been targets of predation. As a result, financial products and services in an inclusive financial system provide value for traditionally underserved consumers. They are designed for trust, respect, and dignity from the onset, enabling customers to gain confidence and agency through usage of products and participation in the financial system. In

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

<sup>1</sup> Aspen Institute, "Why Now Is the Time for a National Strategy to Build an Inclusive Financial System" (Washington, DC: Aspen Institute, October 18, 2019), <https://www.aspeninstitute.org/publications/why-now-is-the-time-for-a-national-strategy-to-build-an-inclusive-financial-system/>.

their article, Lajewski and Sabharwal describe the need for, and approaches to, designing financial products with and for traditionally underserved consumers.

An inclusive financial system also has strong consumer protections, targeting bad actors and activities that can cause harm to people, small businesses, and the financial system overall. This includes behavior that is abusive, deceptive, or criminal. Given the digital evolution of financial services, this also includes an expanded consumer protection framework that accounts for responsible data use and data protection. These strong protections are balanced with the need to allow for responsible innovation and support market competition. Such a regulatory approach allows beneficial products and services to enter the market and improve financial outcomes for consumers. In their article, Evans and Pence describe the current state of consumer protection regulation in the United States and highlight areas that warrant further attention from regulators and policymakers.

And finally, although equitable and universal access serves as its foundation, an inclusive financial system looks beyond financial access and focuses predominantly on financial outcomes, including end-user stability, resilience, wealth creation, and economic mobility as its dominant measures of success. Asrow and Creehan provide a path to operationalizing a focus on outcomes in their framing article on regulating for financial wellness.

### **What Are the Elements of an Inclusive Financial System?**

An inclusive financial system is composed of four sets of financial infrastructure, key enabling infrastructure, and a combination of stakeholders in the public, private, and social sectors. A truly inclusive financial system also accounts for the financialized parts of nonfinancial systems in our society.

The collective and individual benefits of an inclusive financial system require four sets of financial infrastructure that together facilitate stability, resilience, and long-term financial security for households and small businesses: (1) payments, (2) credit and financing, (3) short- and long-term savings, and (4) insurance.

Authors in this issue explore various aspects of financial infrastructure in more depth. Kumar and Ehrbeck address payment infrastructure, which forms the backbone of the financial system. Cochran focuses on inclusion in credit systems, including the data and analytics methods used to make credit decisions. A robust savings infrastructure provides opportunities to build near-term resilience through emergency savings products, as well as longer-term wealth through affordable retirement savings and investing products. Phillips explores the potential for technology—and mission-minded financial technology companies—to make savings infrastructure more inclusive. Finally, an inclusive insurance system is needed to enable people and small business to pool collective risks together to protect against adverse shocks and advance longer-term financial security.

Undergirding and enabling widespread access to an inclusive financial system are two other forms of nonfinancial infrastructure. First, as discussed in depth in the articles by Carnahan and by Kumar and Ehrbeck, inclusive identification infrastructure must exist to provide individuals, government, and institutions with a simple way to verify the identity of individuals as they

participate in the financial system. Second, it is critically important in a world of increasingly digital finance for households and small businesses to have consistent, secure access to the Internet and Internet-connected devices, such as computers or smart phones.

A truly inclusive financial system must also consider its role in financializing parts of nonfinancial systems in our society. Over time, nonfinancial systems in our society whose purpose is to deliver nonfinancial goods—like health care, housing, higher education, or criminal justice—have levied costs on users with fees and penalties, using tools of the traditional financial system in ways that exacerbate existing inequality. The administrative fees, interest, financing charges, financial penalties, and intermediary products, like debt consolidation and bail bonds, in systems like health care or the courts are too costly to ignore. This is also increasingly true of actors that use data collected by credit bureaus for nonfinancial uses, such as rental or employment checks, and the debt collection methods of these financialized actors. The addition of more organizations and systems into the financial system does not, by itself, make the financial system more inclusive. Instead, it reveals the need for an inclusive financial system to account for, and be responsive to, the increased financialization of other sectors as we look ahead. As an example, this could take the form of an expanded regulatory framework that includes these new actors and systems involved in facilitating the financialized parts of nonfinancial systems.<sup>2</sup>

### **What Actors Support an Inclusive Financial System?**

In a well-functioning system, a combination of stakeholders in the public, private, and social sectors provide key financial services to an entire society. As the systems we understand to be involved in an inclusive financial system expand, so too are the stakeholders involved. At minimum, key stakeholders in an inclusive financial system include: a wide range of public-sector entities, private financial services providers of all kinds, social-sector organizations (e.g., donors, researchers, advocates, and other community-based organizations), and the technology sector broadly. Over the past decade, the types of organizations involved in an inclusive financial system have grown. As finance has become increasingly tech-enabled and digital, the breadth of actors involved in providing financial services has grown to encompass Big Tech companies, their regulators, and other actors in the digital economy.

It is a fundamental responsibility of the government to facilitate a competitive, safe, fair, and inclusive financial system that fosters responsible products and trust, and protects consumers from fraudulent, deceptive, or abusive practices. Regulators must leverage multiple mandates, including their consumer protection, fairness, financial stability, competition, responsible innovation, and other authorities to advance inclusive finance, particularly as gaps emerge between regulatory authority and service provision. Other governmental entities with a significant role in an inclusive financial system include the judicial and court system (e.g., bankruptcies, arbitration, and financial penalties), administrators of economic and social safety programs (e.g., the Departments of Treasury,

<sup>2</sup> Aspen Institute, "The State of Financial Security 2020: A Framework for Recovery and Resilience" (Washington, DC: Aspen Institute, November 9, 2020), <https://www.aspeninstitute.org/publications/the-state-of-financial-security-2020-framework/>.

Labor, Education, and Agriculture), and any government agencies that directly provide or backstop financial services to individuals or small businesses (e.g., student loans, mortgages, health or property insurance, small business credit, social insurance payments, etc.). Given the array of agencies with responsibilities in managing a well-functioning financial system, over 50 countries have implemented explicit national financial inclusion strategies or commissions to help coordinate national action, such as the United Kingdom's Financial Inclusion Commission.<sup>3,4</sup>

In the private financial sector, the breadth and diversity of financial service providers (FSPs) is growing and includes traditional banks and credit unions, community development financial institutions, a wide range of nonbank financial companies, financial technology companies, wealth and asset managers, and credit bureaus and debt collectors. Participants also include the vendors that provide services to FSPs, as well as retailers and agents that provide customer access points to financial services. As profiled in the articles by Wicks and Standaert and by Donaker, mission-driven community development organizations are developing new types of collaborations with other FSPs.

### **What Are the Benefits of an Inclusive Financial System?**

An inclusive financial system represents critical infrastructure for the national economy, facilitating commerce, economic growth, and financial stability and security for all individuals, businesses, and communities. It also facilitates access to other key economic and social safety systems crucial for financial security for all.

An inclusive financial system is an incredible tool for inclusive growth. It supports economic activity and commerce by enabling individuals and businesses to pursue economic gain, invest in themselves and their communities, manage risks, and build wealth. Direct financial benefits for individuals include access to affordable, useful financial products that facilitate financial stability and security, protection from predatory products or abusive acts, and prevention of data bias or credit invisibility.<sup>5</sup> Greater access to high-quality, consumer-friendly credit can give people the tools to successfully buy homes, pursue higher education, and start businesses. These individual benefits also drive growth for the broader economy.<sup>6</sup> Emerging research across countries has begun to tie deeper and more inclusive financial systems with stronger and more inclusive national economic growth.<sup>7</sup> Conversely, when people cannot make efficient payments or access affordable financing for goods and services, financial transactions decrease, thus reducing net economic activity.

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3 World Bank Group, "National Financial Inclusion Strategies Resource Center." Policy brief (Washington, DC: World Bank Group, January 29, 2019), <https://www.worldbank.org/en/topic/financialinclusion/brief/financial-inclusion-strategies-resource-center/>.

4 Financial Inclusion Commission, "Making Financial Inclusion a Top Political Priority in the UK" (London, England: Financial Inclusion Commission), <https://financialinclusioncommission.org.uk/>.

5 Credit data are used to inform risk-based decisioning. However, the absence of a previous credit file, or a credit file influenced by unfair or discriminatory treatment, leads to credit that is either more expensive or altogether unavailable. Historical discrimination or invisibility in credit beget further cycles of discrimination and invisibility. These issues are described in more detail in Cochran's article in this issue.

6 Rana Sahay et al., "Rethinking Financial Deepening: Stability and Growth in Emerging Markets" (Washington, DC: International Monetary Fund, May 2015), <https://www.imf.org/external/pubs/ft/sdn/2015/sdn1508.pdf>.

7 Adolfo Barajas et al., "Financial Inclusion: What Have We Learned So Far? What Do We Have to Learn?" (Washington, DC: International Monetary Fund, August 7, 2020), <https://www.imf.org/en/Publications/WP/Issues/2020/08/07/Financial-Inclusion-What-Have-We-Learned-So-Far-What-Do-We-Have-to-Learn-496660>.

An inclusive financial system also enables and supports the functioning of other important economic and social systems. As demonstrated by the COVID-19 pandemic and the response by governments globally, there is a strong intersection between the social safety net for households and small businesses and the financial system. Globally, governments' responses have included direct cash transfers to households, wage subsidy programs to keep workers employed and small businesses operating, and investment funds and loan guarantees to stabilize commercial enterprises.<sup>8</sup> In each instance, the financial system was used to deliver these benefits, and the success of those relief programs depended on the inclusivity of the financial systems that underpinned them. On the one hand, the financial system could deliver benefits to households and businesses quickly where the prerequisite infrastructure was in place. On the other hand, inequities in access to financial services hindered the speed and effectiveness of government relief efforts. These global parallels are discussed further by El-Zoghbi. The potential of a technology-enabled social safety net to boost the inclusiveness of the U.S. financial system is further explored in Cuéllar's article in this issue.

An inclusive financial system is not a silver bullet. Financial services are not a substitute for lack of income or good-paying jobs, stable housing, or affordable health care. However, when people and small businesses—especially historically marginalized and excluded people and communities—access, utilize, and benefit from a full suite of financial services, an inclusive financial system represents an incredible engine for shared prosperity. The opportunity now before us, as market and regulatory innovations continue to reshape financial services, is to frame inclusion not as an extension of existing systems, but as a fundamental principle of the future financial services ecosystem. This is a social, moral, and economic imperative. The articles in this issue give us many ways to get started.

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<sup>8</sup> International Monetary Fund (IMF), "Policy Responses to COVID-19: Policy Tracker" (Washington, DC: IMF), <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.

*opportunity, retirement security, and fiscal policy. Prior to that work, he was a tax and budget staffer at the Government Accountability Office, where he led the team that wrote GAO's first comprehensive review of the federal government's fiscal health. His work has been featured in numerous publications, including the Washington Post, Politico, and the Wall Street Journal. He holds a B.A. from Washington University in St. Louis and a master's degree in Public Policy and Management from Carnegie Mellon University.*

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# Regulation to Build a More Inclusive Financial System and Drive Financial Health

*Sean Creehan and Kaitlin Asrow  
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Technology and innovation in financial services have been essential forces in improving individual well-being and strengthening our economy for centuries. Going back to the origins of money itself, which enabled basic economic activities, like lending, trade, and investment, financial technology at its best provides tools that enable and enrich economic life.

At the same time, unchecked innovation can introduce a variety of risks to individuals and the economy. Alternative approaches to lending may provide credit access to new customers but could also lead to overborrowing and excess risk in the system. Faster payment tools can increase convenience and access to funds but may introduce new vulnerabilities to theft, fraud, or money laundering. In recognition of the potential for harm from rapid adoption of new technology, modern financial regulation and supervision has typically focused on “responsible” innovation to promote the safety and soundness of individual financial firms, protect consumers, and ensure overall systemic stability.<sup>1</sup> The result is ideally a balance between safety and innovation.

Although a mandate for responsible innovation can provide necessary speed bumps to innovators that might otherwise “move fast and break things,” it is a framework that, like much of U.S. policy, needs to expand to also consider the broader equity impacts of technology—how it can enable economic opportunity for marginalized populations or simply exclude them in new ways. For example, evidence has found that while machine learning in underwriting can provide more access to products for previously underserved groups, minority borrowers continue to experience higher rates and more expensive financial products.<sup>2</sup> Even basic practices, like using data and social media platforms for advertising, can discriminate against groups by serving them only certain ads and

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1 Historically, banking supervisors in particular have focused on three key areas of concern: 1) the safety and soundness of individual financial institutions, 2) the financial stability of the system as a whole, and 3) consumer protection.

2 Robert Bartlett et al., “Consumer-Lending Discrimination in the FinTech Era,” Conditionally Accepted, *Journal of Financial Economics* (November 2019), <https://faculty.haas.berkeley.edu/morse/research/papers/discrim.pdf>.

thereby limiting what products they may pursue.<sup>3</sup> Regulators need to start asking not only how new technologies and practices may impact a financial institution's overall risk, and compliance with existing consumer protection laws, but how that innovation interacts with underlying inequities and the financial outcomes that result from them.

As the introduction of new technology continuously changes financial services, regulators face countervailing pressures to support healthy competition and increased inclusion, while protecting individuals and the economy from new risks and existing bias and inequity. As the inevitable march of innovation pushes banking toward more digital and data-driven technologies, the Federal Reserve Bank of San Francisco is exploring this essential tension between supporting new tools and systems that can benefit individuals and inclusion, and upholding our essential mandate of creating a safe and sound financial system.<sup>4,5</sup> As part of this mission, we aim to define the concept of financial health from a regulatory perspective to help us embed it as a first principle in our assessment of new technology, considering both the benefits and costs of new innovations to individuals and small businesses.

## How Do We Define Our Role as Regulators in a Digital-First Financial System?

### *Understanding the Impact of Technological Change*

A fundamental responsibility we have as regulators is to understand evolving technology. Although regulators do not all need to be technologists, we must be technology-literate and understand potential risk, opportunity, and equity impacts. Regulators must also understand the impact of innovation to conduct forward-looking policymaking, regulation, and supervision.

As part of deepening our own understanding, we must ask such essential questions as:

- + Does financial technology that aims to include more people instead introduce alternative forms of bias, exclusion, or exploitation of marginalized communities, including communities of color?
- + Could new financial products that leverage behavioral science nudge healthier customer behavior or have detrimental outcomes for specific demographic groups?
- + Do business models that offer free services to historically excluded customers built on the mining of valuable customer activity (e.g., data or transaction flow) have a negative impact on financial health?

### *Defining and Measuring Outcomes*

Regulators also have an important role to play in defining the outcomes society wants to see for every citizen who interacts with the financial system. Historically, U.S. financial regulation

<sup>3</sup> HUD v. Facebook, Inc., Charge of Discrimination, FHEO No. 01-18-0323-8 (filed March 28, 2019), [https://www.hud.gov/sites/dfiles/Main/documents/HUD\\_v\\_Facebook.pdf](https://www.hud.gov/sites/dfiles/Main/documents/HUD_v_Facebook.pdf). Notably, HUD also alleged that Facebook's advertising platform was actively being used by lenders to advertise mortgage credit products.

<sup>4</sup> Board of Governors of the Federal Reserve System, "The Federal Reserve System Purposes & Functions," 10th edition (Washington, DC: Board of Governors of the Federal Reserve System), [https://www.federalreserve.gov/aboutthefed/files/pf\\_5.pdf](https://www.federalreserve.gov/aboutthefed/files/pf_5.pdf).

<sup>5</sup> For this work, the SF Fed defines financial technology as anything that is digitally based, including new technologies, techniques, and business models.



has focused on identifying risky or harmful activities and curtailing them, relying on disclosures and market competition to let consumers choose from there. This focus on activities rather than outcomes, and negative processes rather than potential opportunities, may overemphasize harm mitigation at the expense of incremental improvements that benefit marginalized citizens. As Federal Reserve Governor Michele Bowman noted in a December 2020 speech on encouraging beneficial innovation in the community banking system, “[W]hile it is essential to safety and soundness that banks understand, monitor, and mitigate risks associated with their third parties, [we are] sensitive to the burden that due diligence can pose. Being unsure of the questions to ask a third-party vendor, or whether a response is sufficient, should not keep community banks from accessing innovation, yet we continue to hear that these are real challenges.”<sup>6</sup>

Regulators can balance traditional risk mitigation by assessing the value of financial institutions’ seeking to use technology to promote beneficial outcomes, like racial equity and financial health. Regulation that strikes this balance can help firms align their strategies and risk management practices to use technology to build a safe, sound, and inclusive financial system. In that spirit, there is an opportunity not only to uphold traditional regulation focused on risk and harm mitigation, but also to consider long-term outcomes of products for individuals and the financial system.

To get to a place where regulators can begin to assess outcomes, the concept of financial health and well-being needs to be defined. One traditional indicator of financial inclusion is the percentage of a population that is banked or can readily access credit.<sup>7</sup> We need to think beyond those metrics and define what healthy and inclusive outcomes look like for individuals, creating a framework for measuring financial health that may evolve over time. As the SF Fed considers how to promote this outcomes-oriented mindset, we are committed to engaging with local communities and financial service providers to define what they mean today, and into the future.

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6 Governor Michele W. Bowman, “Technology and the Regulatory Agenda for Community Banking” (speech, Federal Reserve Board, Independent Community Bankers of America ThinkTECH Policy Summit [virtual event], December 4, 2020), <https://www.federalreserve.gov/newsevents/speech/bowman20201204a.htm>.

7 Financial inclusion discussions in the United States often focus on the disproportionate share of African Americans among the estimated 7 percent of households that remain unbanked. Any alternative indicator of banking inclusion should be used to track progress toward racial equity.

### What is financial health?<sup>8</sup>

The Financial Health Network (FHN) and Consumer Financial Protection Bureau (CFPB) have two working definitions of financial health that can inform what outcomes we might define as “financially healthy.”

- + FHN defines financial health as “when an individual’s daily financial systems help them build resilience and pursue opportunities over time. For individuals and households, financial health can lead to greater physical health, job and housing stability, educational success, and reduced overall stress.” FHN scores health according to eight qualitative measures of spending, saving, borrowing, and planning.
- + The CFPB defines a related concept, financial well-being, as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow them to enjoy life.”

Ideas for outcomes-oriented metrics include the ability for individuals to:

- + Transfer and receive funds (including wages and public benefits) at low cost and a cadence that works for their life.
- + Have access to safe, liquid savings that earn a market rate of interest.
- + Borrow at an affordable price to invest in their future while avoiding excessive debt.
- + Be protected from unequal treatment that negatively impacts economic activity.
- + Access new products and services based on their comprehensive history of productive economic and financial activity.
- + Understand how data tracked across their digital lives impact access to financial services; and be aware of the use of behavioral science–informed products.

Additionally, as regulators focus more on outcomes, and work with society to define what we want those to look like, it is essential to measure and track those outcomes over time. Although being more open to changing technologies and practices can hopefully benefit the country, it is also our responsibility as public servants to test and confirm whether innovations are living up to their promise.

### *Promoting Positive Change*

To promote racial equity in the financial system, regulators also need to broaden their mindset beyond simply preventing obvious harms, like discrimination, to include promoting positive behavior in the market. Harm prevention may target some of the worst impacts of overt racism in the financial system (e.g., redlining or predatory lending), but it does not guarantee the solution to

<sup>8</sup> Financial Health Network, “FinHealth Score Methodology,” accessed October 07, 2021, <https://finhealthnetwork.org/tools/financial-health-score/finhealth-score-methodology/>; CFPB, “Measuring Financial Well-Being: A Guide to Using the CFPB Financial Well-Being Scale,” accessed June 18, 2021, <https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/>

many problems of unequal financial opportunity and overall well-being. These issues are driven by systemic bias, misaligned business models, and many other unseen—and often unintentional—forces. The question that regulators are left with is how we can be more proactive in encouraging action that can address these forces, rather than using only tools to discourage bad behavior.

The papers featured in this journal recommend proactive steps that regulators and policymakers can take to build a more inclusive financial system, and it is our job to explore these ideas with all stakeholders: from pushing toward a real-time payment system, to clarifying firms' ability to use new data sources and algorithmic techniques, to understanding the need and risks associated with a shared digital identity system in the United States.

Another key area where regulators could interrogate, and potentially champion, new systems is by focusing on the business models and incentives of companies. A broad review could explore whether the incentives of a business are aligned with those of its customers, and if not, how that difference could impact outcomes, particularly for vulnerable populations.

These are big ideas that will take time and careful thought, but there is clearly a role for regulators—and government broadly—to play in supporting financial and digital infrastructure, and continually adapting supervision to innovation and change.

## Conclusion

Each of these steps that regulators can take is interdependent on the others for maximum impact. We need to understand the changing technological and social issues we are facing; we need to define and measure what good outcomes look like based on that understanding; and we must take action based on an agreed-upon, evidence-based goal.

The Federal Reserve's own evolution in creating an inclusive target for full employment in the economy is an example of this shifting approach, and the combination of these steps.<sup>9</sup> The system is dependent on data to drive decision-making. For too long we have used averages to judge employment and access. Policymakers and market participants now widely acknowledge that citizens at the margins, not the average, are being left behind. In parallel, our definitions of success are changing as we consider shortfalls across groups, rather than an average deviation, and we can take proactive steps to address these new indicators.

The Federal Reserve Bank of San Francisco's Fintech Team is grateful for the opportunity to explore these ideas. We serve the public by seeking to understand, define, and promote products and services that can create an inclusive and equitable financial system that supports the financial health and well-being of all Americans.

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<sup>9</sup> "Federal Open Market Committee announces approval of updates to its Statement on Longer-Run Goals and Monetary Policy Strategy," Federal Reserve Board, April 27, 2020, <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200827a.htm>.

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# The Ecosystem of Fintech Innovation

## SECTION TWO



# The Role of Public and Private Capital in Digital Infrastructure for Finance in the United States

*Kabir Kumar and Tilman Ehrbeck  
Flourish Ventures*

Both public and private investments are needed to upgrade the underlying digital financial infrastructure in the United States. Gaps and challenges with key infrastructure components, especially with payments, identity, and data, impede both private innovation and the delivery of government services. This, in turn, undermines progress toward a fair financial system—making it more difficult for low-income families and households of color, specifically, to overcome systemic economic barriers.

We identify five priority areas where the United States financial system faces infrastructure gaps, discuss how those gaps impede both private innovation and public service delivery of services to build a fair financial system, and provide an indicative level of both public and private investment needed to address those gaps. Public investments and engagement ensure the full “public good” benefit of those infrastructure components. Ultimately, what is most significant is not the level of capital, or even the type of capital, but a recognition by the financial industry of the quasi-public good nature of digital financial infrastructure.

## **U.S. Financial System Faces Infrastructure Gaps in Five Priority Areas**

In a recent report that laid out priorities for the new U.S. federal administration, we identified priority areas for digital infrastructure for finance: (1) payments, (2) identity, (3) credit, (4) data, and (5) regulatory.<sup>1</sup>

### ***1. Instant payments to make funds available within seconds***

The United States’ antiquated payment system lags that of other countries, including the United Kingdom, China, and India. It can still take three days or longer for customers to gain access to their own deposits. The United States needs an instant payment system, where money sent from any account or wallet to another account or wallet is available for use within seconds. A credit union

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The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.

1 Full report with policy recommendations available here: <https://flourishventures.com/diff>.

customer should be able to send money to a customer of another bank or to a customer of Venmo or CashApp or any other similar service—all within seconds. Over the past ten years, the cost of slow payments to low-income Americans was estimated to be over \$100 billion to payday lenders, check cashers, bank overdraft fees, and other costs, like late fees caused by delays, disproportionately impacting black and brown households.<sup>2</sup>

## ***2. A system for individuals and businesses to identify themselves***

The United States needs a digital identity system that allows any individual or business to identify themselves without compromising their privacy and security. The United States can achieve such a system without universal biometrics or issuing a national ID card. The ability for individuals and businesses to identify themselves—and for that identity to be verified—is fundamental across sectors to both use services effectively and to overcome fraud. Identity theft reports tracked by the Federal Trade Commission have more than doubled in the past two years, and Americans who are vulnerable because of income, age, or race and are not financially healthy are more likely to be victims of fraud.<sup>3</sup>

## ***3. A credit-scoring system based on real-time data***

America needs a credit-scoring system that is real time with decisions based on diverse sources of data. A new credit-scoring system needs to access better data and incorporate that data in models faster. The traditional credit information relies on historic credit usage and is likely to perpetuate inequities in lending. Up to 60 million American consumers lack sufficient credit history to generate “reliable” credit scores, and millions more struggle to access affordable credit because of low scores.<sup>4</sup> Data gaps in the traditional credit reporting system disproportionately impact Black, Hispanic, Native, and low-income borrowers. Those gaps also impact consumers’ ability to obtain employment, insurance, and housing, as well as credit.

## ***4. Open data for finance***

America needs an open-data-for-finance system where consumers have greater control over their data for financial services and the data can be shared across providers in a manner that requires limited effort or manipulation once a digital ecosystem is established. Such a system could emerge when the rules for access, control, movement, and utilization of data for financial services are updated and standardized across use cases. Higher degrees of standardization could result in lower costs and give consumers greater control over their data.<sup>5</sup> A wide range of financial use cases—identity, fraud, credit, insurance—could work better where consumers have control and providers have access to a wide range of data from different sources.

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2 Aaron Klein, “Re: Potential Federal Reserve Actions to Support Interbank Settlement of Faster Payments.” Comment to Docekt No. OP-1625, Board of Governors of the Federal Reserve System, December 14, 2018. <https://www.federalreserve.gov/SECRS/2018/December/20181221/OP-1625/OP-1625-121418-133277-428769914666-1.pdf>.

3 See here for an analysis of fraud, identity theft, and other reports by the Federal Trade Commission over time: <https://public.tableau.com/profile/federal.trade.commission#!/vizhome/TheBigViewAllSentinelReports/TopReports>.

4 FinRegLab, “Fact Sheet: Cash-Flow Data in Credit Underwriting,” 2019.

5 A forthcoming analysis by McKinsey & Co. and McKinsey Global Institute, in collaboration with Flourish Ventures, characterizes the U.S. system by high degrees of openness, driven by private providers, but low levels of standardization and high costs.



### ***5. Digitally native regulatory and supervisory system***

America needs a modern, digitally-native regulatory system—designed to regulate and supervise the digital financial services landscape. The key component of such a system is digital reporting—the automated, digital, and friction-less reporting of financial, operational, and suspected financial crime and fraud data to the regulator by regulated entities.<sup>6</sup> The power of effective supervisory systems to build a fair financial system cannot be overstated. Studies have shown that communities of color stand to benefit the most from financial system regulations and strong consumer protections.

### **Infrastructure Gaps Impede Private Innovation to Build a Fair Financial System**

Despite the COVID-19 pandemic, 2020 ended as the most active year ever for private investments in start-up financial technology companies (fintechs), with close to 2,000 transactions and over 100 financing rounds of \$100 million or more. There were also 21 initial public offerings (IPOs)—a record level—which cumulatively raised over \$14 billion in proceeds.<sup>7</sup>

A small subset of these venture-backed fintechs are taking meaningful steps toward building a fair financial system. For example, several fintechs have introduced low-cost checking accounts—without minimums, overdraft fees, or other fees. Studies have shown that African American account holders often face discrimination associated with a checking account, which is seen as the entry point to the broader financial system.<sup>8</sup> New customer-facing, financial technology companies—such as Chime, one of Flourish’s investments—now offer, in conjunction with their regulated bank partners, the cheapest checking account in the country with no overdraft and “gotcha” fees. At Bank of America and JP Morgan, 7–8% of share of profits is estimated to be from overdraft fees.<sup>9</sup> Most of Chime’s customers are low- and middle-income.

However, these types of venture-backed, customer-friendly innovations could go further if the underlying infrastructure worked better. Although the United States has a vibrant financial innovation sector, based on the level of start-up activity and venture financing, new solutions and services are being built on top of pre-existing digital infrastructure. Moreover, it is harder to address systemic challenges in access and use and push the frontier of product innovation without a facilitative digital infrastructure. In fact, the extraordinary growth in fintech venture activity took place against the backdrop of rising structural unemployment in certain sectors and a K-shaped recovery that exacerbates inequality along racial lines. There would likely be more effective fintech innovations addressing those persistent challenges of inclusion, financial health, and equity if the underlying digital infrastructure for finance worked better.

For now, fintechs must find ways to overcome slow movement of money on the Automated Clearing House (ACH) for payments, for example, or address limited data from the credit bureaus

<sup>6</sup> The United Kingdom’s Financial Conduct Authority originally piloted such an approach, described here: <https://www.fca.org.uk/innovation/regtech/digital-regulatory-reporting>.

<sup>7</sup> FT Partners, “FT Partners Quarterly FinTech Insights and Annual Almanac,” 2021.

<sup>8</sup> Jacob Faber and Terri Friedline, “The Racialized Costs of Banking” (Washington, DC: New America, 2018).

<sup>9</sup> Aaron Klein, “A Few Small Banks Have Become Overdraft Giants,” (Washington, DC: Brookings Institution, 2020); and see here on Chime: <https://www.nerdwallet.com/best/banking/checking-accounts>.

to make it possible to extend credit to traditionally riskier borrowers or use a patchwork system of public and private databases for identification even to open basic bank accounts.

It is common for both banks and fintechs to charge for instant availability of funds—person-to-person transfers, government transfers, salaries, or other transfers—either through fees or small-dollar credit models, which places a greater burden on families living paycheck to paycheck. Those with variable income, often disproportionately represented by households of color, are most disadvantaged by this system. The Consumer Finance Protection Bureau (CFPB) estimates that just 8 percent of customers incur nearly 75 percent of all overdraft fees.<sup>10</sup> In fact, a real-time and instant U.S. payment system would make it possible for low-income Americans to avoid paying check cashers, payday lenders, and bank overdraft fees and retain over \$10 billion annually in their own bank accounts.<sup>11</sup>

Fintech businesses and other providers need access to diverse data sources to assess risk and be in a position to extend credit to borrowers with lower traditional credit scores. Most credit extended today is still based on traditional credit reports. Consumer advocates and others have made the case that traditional credit reports are likely to reflect and perpetuate previous inequities created by historical discrimination on the basis of race, ethnicity, and gender in employment, education, housing, and lending. At the same time, because of their focus on historic credit use, traditional credit reports and credit scores provide only a partial assessment of a borrower's finances.<sup>12</sup> A credit scoring and underwriting system with a wide range of data sources beyond credit-use history could potentially help tens of millions of Black, Brown, Native American, and low-income Americans gain access to safer, more affordable credit, which, in turn, could help them access education, purchase homes, and build wealth.

Credit decisions based on a wide range of data would be easier if the United States had an open system for access to a wide variety of data sources – cash-flow data, utility payments data, income verification data, and so on—currently held in data silos. Private investment in companies like Plaid and Finicity aims to address this gap by aggregating access to a wide range of data sources via application programming interfaces (APIs). Those investments could go further if there were more public investments to open access to government data and policy actions to ensure that access to privately held data is not blocked.

Innovation in identity systems also faces bottlenecks. Fintechs are finding success by simplifying access to a patchwork of data sources through sophisticated and robust APIs. However, most still rely on the same underlying data sources, which, in turn, impacts the inclusiveness of identity verification systems and their success at mitigating fraud. Identity theft reports tracked by the Federal Trade Commission have more than doubled in the past two years.<sup>13</sup> African American survey respondents were at least twice as likely as Latinx and whites to have had someone use their name to attempt to

10 Trevor Bakker et al., "Data Point: Checking Account Overdraft." (Washington, D.C.: Consumer Financial Protection Bureau, July 2014), [https://files.consumerfinance.gov/f/201407\\_cfpb\\_report\\_data-point\\_overdrafts.pdf](https://files.consumerfinance.gov/f/201407_cfpb_report_data-point_overdrafts.pdf).

11 Mary Beech, "Strengthening the U.S. Digital Infrastructure for Fair Finance." (Washington, D.C.: Beech Center for Social Impact + Innovation, Georgetown University, November 2020), [https://beechcenter.georgetown.edu/wp-content/uploads/2020/11/US\\_DIFE.pdf](https://beechcenter.georgetown.edu/wp-content/uploads/2020/11/US_DIFE.pdf).

12 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Market Context & Policy Analysis" § 2.1 (2020).

13 See: <https://www.ftc.gov/enforcement/consumer-sentinel-network/reports>.

take out credit and three times as likely to have had someone take over their social media or email account.<sup>14</sup> As a result, it is not surprising that African Americans are more than three times as likely, and Latinx two and one-half times as likely, to have experienced debt-related fraud than whites and more than two times as likely to have been a victim of income-related fraud.<sup>15</sup>

## Infrastructure Gaps Also Impede Government Service Delivery

When the digital infrastructure for finance—payments, identity, credit, data, and regulatory—does not work well, it impacts both the private sector’s ability to innovate and the government’s ability to deliver timely and effective services.

The shortcomings of America’s digital financial infrastructure were made evident when the government responded to the economic fallout of the pandemic. A study of 12 programs across seven countries found the U.S. response more ambitious than most, as a percentage of GDP, but least effective at achieving intended outcomes, driven largely by infrastructure gaps for payments, identity, and data.<sup>16</sup> The programs did not always reach the intended beneficiaries and experienced the most fraud. Delays in stimulus payments meant that recipients of the CARES Act spent an estimated \$66 million at check cashers for timely access to money.<sup>17</sup>

In Singapore, on the other hand, public investments made prior to the pandemic—specifically, linkages established among existing government datasets—allowed pandemic stimulus payments to be distributed instantly. In addition to linking databases, investments had been made to create the “CorpPass” digital ID system, which assigns a unique ID to businesses linked to data on the tax payment and employee wages from the government’s myTax portal. As a result, under Singapore’s Job Support Scheme funds were transferred automatically and within minutes to eligible businesses in amounts calculated based on payroll, with no application process needed.

## Benchmarks Exist for the Level of Public and Private Capital to Address Infrastructure Gaps

The United States could address those infrastructure gaps with both new private and public capital investment and forward-looking digital public policy efforts. It could benchmark its investments, and potential quantifiable returns as a percentage of GDP, against those made by countries like India, Singapore, Estonia, and others.

To achieve improvements in payments infrastructure so that it is instant, from any account to any account, and low-cost, the United States could follow a private sector–led investment approach. The U.S. government could encourage and support private consortia to do what a privately backed

14 Brooke Auxier et al., “Americans and Privacy: Concerned, Confused, and Feeling Lack of Control Over Their Personal Information” (Washington, DC: Pew Research Center, 2019).

15 The FTC’s Fraud Survey defines “income-related fraud” to include work-at-home programs, business opportunities, pyramid schemes, and government job offers, and “debt-related fraud” to include credit repair, debt relief, mortgage relief, and advance-fee loans. Federal Trade Commission, “Combating Fraud in African American and Latino Communities: The FTC’s Comprehensive Strategic Plan.” Report to Congress (Washington, D.C., June 2016).

16 Olivia White, et al., “COVID-19: Making the Case for Robust Digital Financial Infrastructure,” (New York: McKinsey Global Institute, 2021).

17 Aaron Klein, “Want Your Next Stimulus Check Faster? Congress Needs to Change Just One Line of Law,” (New York: Brookings Institution, 2020).

but government supported nonprofit, the National Payments Corporation of India, was able to achieve with the Unified Payments Interface (UPI) in India. Launched in 2016, that system now has an estimated volume 50 times that of instant ACH in the United States, illustrating that a private-sector approach with government oversight and supervision could achieve widespread instant payments faster.<sup>18</sup>

Although estimates of the full cost of UPI development are unclear, studies have estimated that it could cost less than half the \$600 million the Indian government spends each year to maintain physical money systems.<sup>19</sup> The UPI system achieves the goals of instant payment while allowing private innovation from large and small players. Just prior to the emergence of the pandemic, Google, which found success with Google Pay by leveraging UPI, wrote to the U.S. government advocating for the Indian system as a model for instant money movement.<sup>20</sup> Google made specific recommendations to support real-time, low- and high-value payments, standardized messaging protocols with extended metadata, and clear standards for an API layer that enables licensed nonfinancial institutions and third parties to access and submit requests into this payment system.

India's nationwide digital identity system could also provide useful benchmarks for the level of public and private investment needed in the United States. At the upper end of the estimate range, India's digital identity system required an upfront public-sector investment of close to \$10 billion, or about \$10 per Indian resident.<sup>21</sup> With that benchmark in mind, a similar investment in the United States could be close to \$3 billion, even though India's system, which involves full biometrics of every resident above the age of five in a central database, goes a lot further than what might be needed in the United States.

Although India has already benefited from its digital identity system—for example, a three-fold increase in basic account access and a reduction in leakage and fraud in government services—a study estimates that India still stands to benefit up to 6 percent of 2018 GDP, or over \$400 billion, from its digital identity systems.<sup>22</sup> In the United States, on the other hand, an estimated impact of a U.S.-specific digital identity system could be sizable—close to 4 percent of 2018 GDP, or close to \$1 trillion, which assumes a level of private innovation and new services. However, even an investment in a basic and foundational authentication system (U.S. government-developed Login.gov or the Federal Data Services Hub) that is universally accessible by both public and private actors could result in at least 0.5 percent of favorable GDP impact.

The United States also needs meaningful investment in enabling an open-data-for-finance architecture. Here, too, both public and private investments are needed. Plaid, Finicity, and other data infrastructure, venture-backed fintechs have raised billions over the past five years to build access to a variety of data sources beyond checking account data. As a result, the United States has a higher degree of private sector-led “data openness” than the United Kingdom and other countries

18 Aaron Chaze, “India Sparks a Real-Time Payments Revolution,” *Global Finance*, March 3, 2020.

19 Ashish Das, “Deviating from the BHIM-UPI Law” (Mumbai, India: Indian Institute of Technology Bombay, 2020).

20 Mint, “Google Wants U.S. Federal Reserve to Follow India’s UPI Example and Build ‘FedNow,’” 2019.

21 Tilman Ehrbeck et al., “Inclusive Growth and Financial Security: The Benefits of e-Payments to Indian Society” (New York: McKinsey & Co., 2010).

22 Olivia White et al., “Digital Identification: A Key to Inclusive Growth” (New York: McKinsey Global Institute, 2019).

but very low degrees of standardization and therefore higher costs.<sup>23</sup> Appropriate policy actions, such as upgrading the patchwork of laws governing data access and use, as well as public investment in opening government data, could accelerate the evolution of this open data for finance system.

The United States could build a type of federated system over time, leveraging existing data held by both government and the private sector, as has been done in Estonia.<sup>24</sup> For example, government data on income, school loans, and other sources, made available via APIs to qualified fintech providers and other institutions, could help expand the frontiers of innovation. Federal regulators could also facilitate the portability of “know your customer” (KYC) data between regulated financial providers to expedite the KYC process and limit data aggregation, as demonstrated in Luxembourg and Singapore.<sup>25</sup>

Estonia’s open data system is estimated to have had an upfront cost of \$140 million and an annual maintenance cost of under \$70 million.<sup>26</sup> An open-data-for-finance system in the United States, with solutions like shared KYC systems, could result in meaningful economic value of over 1 percent of U.S. GDP by 2030.<sup>27</sup>

In addition to both public and private investments, forward-looking, digitally smart policy changes will be needed to address infrastructure gaps. For example, to enable private-sector investment in payments, Congress would need to modernize the Expedited Funds Availability Act (EFAA) to ensure real-time funds for all payments. To achieve a universal identity framework, the National Institute of Standards and Technology would need to revisit and finalize SP 800-63-3, the Digital Identity Guidelines. To support private investment in open data for finance, the CFPB, under the authority it has through section 1033 of the Dodd Frank Act, would need to clarify rights and procedures to access bank and prepaid account data and clarify whether and how such information is subject to other protections.

## Digital Infrastructure Investments as Quasi-Public Goods

Payments, identity, data, and other digital infrastructure components are not purely private goods or public goods. Those infrastructure components do not fit the definition of a pure public good in economics, which is defined as non-excludable—i.e., everyone can benefit from its use once the public good is provided—and non-rivalrous or non-depletable—i.e., one person’s enjoyment of the good does not diminish what is available to other people. Moreover, exclusive private ownership of these critical infrastructure components could lead to monopoly ownership and pricing with a sub-optimal outcome for the financial system, which would then require regulating those components as utilities.

Although not purely a public good, digital infrastructure for finance can be considered a quasi-public good—it has public good characteristics in that it generates positive, societal externalities, such as enabling the development of a fair financial system, when widely available and accessible.

23 Forthcoming analysis by McKinsey & Co. and McKinsey Global Institute

24 *Economist*, “Covid-19 Strengthens the Case for Digital ID Cards,” September 5, 2020.

25 Jamie Lee, “MAS to Reboot e-KYC Project,” *Business Times*, November 13, 2019.

26 Charles Orton-Jones, “The Inside Story of Building a Digital Nation,” CMI, 2019; Leonid Bershidsky, “Envy Estonia’s Digital Government,” Bloomberg, 2015.

27 Forthcoming analysis by McKinsey & Co. and McKinsey Global Institute

Both public and private actors need to recognize the quasi-public good characteristics of those infrastructure components and make the necessary investments with that framework in mind. As a result, both public and private capital is needed, with rules and standards established through government engagement, and policies and regulation that enable appropriate levels of private investment and usage. Similar to how these systems have evolved in other countries, those public-oriented investments are foundational and, in turn, will enable more private investment and innovation.

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**Tilman Ehrbeck** (*Managing Partner*) co-manages Flourish and works with purpose-driven founders, investing in actionable ideas that help people improve their economic prospects and financial lives. He currently serves as chair of the Advisory Council to the U.N. Special Advocate for Inclusive Finance in Development. Before Flourish, Tilman was a partner at Omidyar Network, where he built the global financial inclusion team. Prior to that, he served for five years as CEO of the Consultative Group to Assist the Poor (CGAP), a global partnership to advance financial inclusion. Before CGAP, Tilman grew from associate to partner at McKinsey & Company, where he helped build the global financial services and healthcare practices and worked with leading businesses in North America and India. Tilman started his professional journey as a journalist in Germany before earning a PhD in Economics from the EU-affiliated European University Institute in Italy and joining the International Monetary Fund in Washington, D.C.

# Global Developments in Inclusive Financial Systems

*Mayada El-Zoghbi*  
*Center for Financial Inclusion*

*Interview by Rocio Sanchez-Moyano*  
*Federal Reserve Bank of San Francisco*

Rocio Sanchez-Moyano interviewed Mayada El-Zoghbi, the managing director of the Center for Financial Inclusion, to add a global dimension to inclusive financial systems and the role of digital financial services. Developing countries were the pioneers of microfinance—an innovative, early form of inclusive finance. However, the digitization of the financial system has shifted innovation to developed countries, such as the United States and the United Kingdom, where regulatory and supervisory capacity is more advanced and innovation ecosystems, including technology firms and venture capital funding, are vastly more robust. Emerging countries, such as China, have also been hotbeds of innovation with digital transformation of the financial system. This article provides readers an update on the main trends driving inclusive finance in developing countries and draws parallels between these countries and the United States.

## **Rocio:**

How has financial inclusion changed in the global context in recent years?

## **Mayada:**

The early wave of focus on inclusive financial systems in developing countries focused predominantly on microfinance as a tool for catalyzing access to finance and alleviating poverty. Microfinance was revolutionary at that time because it allowed low-income people to use their social capital, rather than collateral, to qualify for credit. In over 30 years, approximately 140 million people globally were served by microfinance institutions (MFIs).<sup>1</sup> Notably, even in the United States, many community development finance organizations emerged in the '90s, modeled after their developing country counterparts, including providers such as Accion, Opportunity International, Grameen, among others.

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

<sup>1</sup> Microfinance Barometer (2019), [https://www.convergences.org/wp-content/uploads/2019/09/Microfinance-Barometer-2019\\_web-1.pdf](https://www.convergences.org/wp-content/uploads/2019/09/Microfinance-Barometer-2019_web-1.pdf)

In the last fifteen years, advances in financial systems have been intricately linked to the technological revolution. Additionally, data-driven solutions have unleashed new business models and product innovations that no longer require physical branches and high staff costs. These tech-driven models, often called digital financial services (DFS), have gained prominence for their potential to accelerate and broaden access and usage by more people in a faster, cheaper, and simpler manner. In the United States, DFS is often referred to as “fintech” broadly as encompassing both new technologies and new entrants to the financial system over the last decade.

**Rocio:**

What are Digital Financial Services (DFS)?

**Mayada:**

According to the World Bank, DFS are “financial services which rely on digital technologies for their delivery and use by consumers.”<sup>2</sup> These services, such as payments, remittances, and credit, are delivered digitally by a variety of service providers, including fintechs, big techs, mobile network operators, banks, microfinance institutions, or others using technology to provide services. Moreover, DFS encompass established instruments, like debit and credit cards offered primarily by banks, as well as new solutions built on cloud computing, digital platforms, and distributed ledger technologies (DLT), spanning mobile payments, crypto-assets, and peer-to-peer (P2P) applications.<sup>3</sup> Thus, DFS have a wide range of applications and include fintechs, such as Ripple, Stripe, Coinbase Square, Propel in the United States,<sup>4</sup> and Akiba in Latin America to M-PESA, the world’s largest mobile money provider in Kenya and other Sub-Saharan African countries. Mobile money plays an outsized role in the developing world and has enabled government-to-person (G2P) transfers to low-income, vulnerable households in the wake of the global pandemic. The 2021 edition of GSMA’s State of the Industry Report estimates that in 2020, 1.21 billion mobile money accounts were registered globally, and 300 million accounts were active and used for merchant payments and international remittances.<sup>5</sup>

**Rocio:**

How do DFS promote financial inclusion?

**Mayada:**

DFS present an even more compelling opportunity to reach excluded groups than microfinance for several reasons. The first, and probably most important, is the significant reduction in transaction

2 World Bank (2020), <https://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>

3 IMF (2020), “Digital Financial Services and the Pandemic: Opportunities and Risks for Emerging and Developing Economies,” [https://www.imf.org/-/media/Files/Publications/covid19-special-notes/en-special-series-on-covid-19-digital-financial-services-and-the-pandemic.ashx#:~:text=Digital%20financial%20services%20\(DFS\)%20are,channels%2C%20including%20via%20mobile%20devices](https://www.imf.org/-/media/Files/Publications/covid19-special-notes/en-special-series-on-covid-19-digital-financial-services-and-the-pandemic.ashx#:~:text=Digital%20financial%20services%20(DFS)%20are,channels%2C%20including%20via%20mobile%20devices).

4 Forbes (February 12, 2020), “The 10 Biggest Fintech Companies in America 2020,” Accessed April 9, 2021.

5 GSMA (2021), “State of the Industry Report on Mobile Money 2021,” <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/GSMA-State-of-the-Industry-Report-on-Mobile-Money-2021-Full-report.pdf>.



costs for low-income people and providers. These lower-cost-transaction business models require scale to become profitable, thus incentivizing providers to reach more people with the service. In developing countries, where the banking sectors have traditionally served high-income customers and corporates, DFS have presented opportunities for financial services to reach mass markets and cater to low-income consumers and Micro, Small and Medium Enterprises (MSMEs) that constitute the majority of customers in developing countries.

DFS have many other potential benefits, including the speed of service delivery, shifting loan approval from weeks or days to seconds, increased transparency and security, as the transactions produce a data trail, enabling providers to offer tailored solutions to customers.

The shift to DFS from traditional financial services models has been most pronounced in Sub-Saharan Africa, where, in many countries, such as Kenya, Uganda, Namibia, and Gabon, more than 40 percent of adults had a mobile money account by 2017.<sup>6</sup> Notably, in many Asian countries, where account ownership was higher than in Africa and where state banks dominate the financial system, e-commerce platforms drive fast adoption of DFS, most notably in countries like China and Indonesia.

### **Rocio:**

Have DFS been successful in narrowing gaps between demographic groups?

### **Mayada:**

Despite impressive strides in advancing financial inclusion, 1.7 billion people remain without formal financial services. Of these, 56 percent are women, representing the largest shortfall in DFS in developing countries to date.<sup>7</sup> This gender gap has been persistent since 2011, when Findex first began measurement, at seven percentage points globally and nine percentage points in developing countries.<sup>8</sup>

Some countries have seen impressive progress, including Indonesia, where financial access for women (51 percent) surpasses men (46 percent). India successfully narrowed the gender gap by 14 percentage points (from 20 to 6 percentage points) between 2014 and 2017 through its universal financial inclusion program called the Pradhan Mantri Jan Dhan Yojana.<sup>9</sup> However, despite the remarkable progress, account usage by women in India continues to be nearly half of what other markets have achieved.<sup>10</sup>

<sup>6</sup> World Bank (2017), "The Global Findex Database 2017," <https://globalfindex.worldbank.org/>.

<sup>7</sup> Ibid.

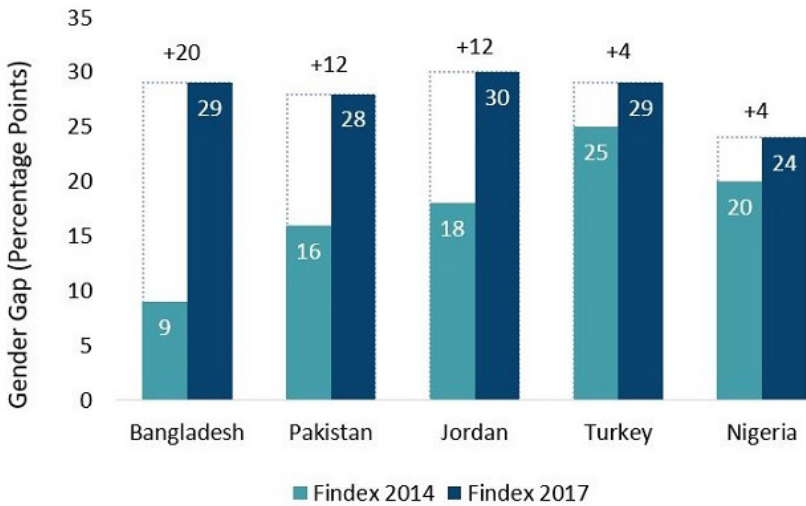
<sup>8</sup> Ibid.

<sup>9</sup> <https://pmjdy.gov.in/>

<sup>10</sup> CGAP (April 30, 2018), "Measuring Women's Financial Inclusion: The 2017 Findex Story," <https://www.cgap.org/blog/measuring-womens-financial-inclusion-2017-findex-story>, Accessed January 8, 2021.

Mobile money has helped advance women's financial inclusion in several Sub-Saharan African countries, such as Cameroon, Gabon, Kenya, Liberia, Mali, Mozambique, and Zimbabwe. However, a closer look at the 2017 Findex suggests that mobile money has also contributed to widening the gap in other countries. In both Bangladesh and Pakistan, the growing gender gap in financial access (29 and 28 percentage points, respectively)<sup>11</sup> has adversely impacted the overall levels of financial inclusion in these countries (see Figure 1).

Figure 1  
Select Markets with Growing Gender Gaps



Source: CGAP. 2018. "Measuring Women's Financial Inclusion: The 2017 Findex Story." <https://www.cgap.org/blog/measuring-womens-financial-inclusion-2017-findex-story>

These variations call for a deeper understanding of the barriers that prevent women, or any specific underserved segment, from being financially included. To begin with, men and women are not at the same starting line on this trajectory. According to the GSMA 2020 Mobile Gender Gap report, women in low- and middle-income countries are 8 percent less likely than men to own a phone and 20 percent less likely to use mobile Internet. Consequently, in low- and middle-income countries, 300 million fewer women are accessing mobile Internet than men.<sup>12</sup> The primary barrier to mobile ownership and Internet access in Africa and Latin America is affordability, followed by low digital literacy levels for both men and women. GSMA's latest data show that literacy and skills are the top barriers over affordability in Asia.<sup>13</sup> While these barriers apply to both men and women, they threaten to exacerbate the inequalities women already experience. Additionally, e-commerce platforms,

<sup>11</sup> Ibid.

<sup>12</sup> GSMA (2020), "The Mobile Gender Gap Report 2020," <https://www.gsma.com/mobileforddevelopment/wp-content/uploads/2020/02/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf>.

<sup>13</sup> Ibid.

like Jumia, which offer a suite of services to participating merchants, have requirements for legal registration and bank accounts that women-owned informal MSMEs often lack.<sup>14</sup> Other barriers impeding women's access to financial services include gender-blind policies that unintentionally favor men, apathy and harassment by male employees and agents, complex documentation requirements by providers, and reliance on male relatives for signatures. Lower workforce participation levels, restrictions on asset ownership due to unequal inheritance laws,<sup>15</sup> and unfamiliarity with English-language menus in apps also deter women from availing formal financial services.<sup>16</sup>

### **Rocio:**

What about in the United States? Can DFS advance financial inclusion?

### **Mayada:**

While women represent the largest underserved segment in developing countries, they are not the most marginalized in developed markets. Notably, the gender gap in developed countries is negligible, at only 1.2 percent in OECD countries.<sup>17</sup> In these advanced markets, financial exclusion is most visible among non-white populations, and the sources of exclusion tend to have a racial and prejudicial basis.

Research from the Boston Consulting Group (BCG) suggests that although Black and Latinx households make up a mere 32 percent of the U.S. population, they are overrepresented among the underbanked and unbanked. Evidence shows that these populations tend to rely on expensive alternatives, such as check cashers and payday lenders, to meet their financial needs.<sup>18</sup> In addition to limited and volatile incomes, rising distrust of banks and other structural barriers to opening accounts, such as “bank deserts” in non-white neighborhoods and complex paperwork with technical jargon, deter income- and language-constrained communities from engaging with banks.<sup>19</sup>

Because DFS do not rely on traditional banking infrastructure, some of the physical barriers that may have limited non-white segments from accessing financial services can be sidestepped. In fact, there is some emerging evidence that DFS are reaching people of color disproportionately. A study by Nielsen showed that Black customers were avid consumers of DFS and were 22 percent more likely to use DFS than the U.S. population average.<sup>20</sup> DFS can help bridge structural barriers, fill existing

14 Amolo Ng'weno, John Won, and Anne Gachoka (January 31, 2019), “Beyond Marketing: Generating Trust to Sell Online,” <https://medium.com/f4life/https://medium-com-f4life-beyond-marketing-generating-trust-to-sell-online-superplatforms-small-merchants-d44081c4de77>, Accessed January 8, 2021.

15 CGAP, “Measuring Women’s Financial Inclusion.”

16 CGAP (May 13, 2015), “Mind the Gap: Women and Access to Finance,” <https://www.cgap.org/blog/mind-gap-women-and-access-finance>, Accessed January 8, 2021.

17 World Bank, “The Global Findex Database 2017.”

18 BCG (February 2, 2021), “Racial Equity in Banking Starts with Busting the Myths,” <https://www.bcg.com/publications/2021/unbanked-and-underbanked-households-breaking-down-the-myths-towards-racial-equity-in-banking>, Accessed April 9, 2021.

19 Ibid.

20 FSG (2021), “Financial Services and the Competitive Advantage of Racial Equity: How Advancing Racial Equity Can Create Business Value,” <https://www.policylink.org/sites/default/files/Financial%20Services%20and%20the%20Competitive%20Advantage%20of%20Racial%20Equity.pdf>.

product gaps, and significantly improve accessibility.<sup>21</sup> However, despite the promising potential of DFS, most digital innovations utilize artificial intelligence and machine learning for decision-making. To develop the models, DFS providers rely on existing data sets and develop algorithms that predict eligibility. Because existing data trails are often reflective of historical discrimination, there are growing concerns that algorithms built on biased data that do not consider the history of oppression and discrimination within the United States will further exacerbate gaps in financial inclusion.

**Rocio:**

What is necessary to promote DFS?

**Mayada:**

The deployment of DFS varies considerably from traditional financial services. In addition to new regulations, it also requires collaboration across a broader set of government actors, most notably telecoms and financial-sector regulators. Many of the innovations at the heart of DFS would not have been possible without policy and regulatory reforms that have created environments where such innovations can thrive. While regulation continues to lag behind innovation, policymakers in developing countries must be commended for increasingly pursuing “test and learn” approaches that have shortened this lag. This test-and-learn approach builds on experiences in developed markets where regulators have been at the forefront of innovation.

The Consultative Group to Assist the Poor (CGAP) has identified four necessary regulatory enablers to support the growth of DFS in developing countries.<sup>22</sup> The regulatory enablers are non-bank E-Money Issuers who are not subject to the full range of prudential rules applicable to commercial banks; third-party agents, such as retail shops, for last-mile service delivery at a low cost; proportionate anti-money-laundering frameworks and simplified customer due diligence for lower-risk accounts and transactions such as opening and using e-money accounts and conducting over-the-counter transactions with DFS providers; and most important, sound consumer protection rules (such as transparency, privacy, data protection, and platform reliability) to help build a sustainable, inclusive market over the long term.<sup>23</sup>

In addition to the regulatory enablers listed above, an enabling environment for an inclusive DFS ecosystem requires active participation from financial service authorities, central banks, telecommunications authorities, competition authorities, consumer protection authorities, and

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21 BCG, “Racial Equity in Banking.”

22 CGAP (May 2018), “Basic Regulatory Enablers for Digital Financial Services,” <https://www.cgap.org/research/publication/basic-regulatory-enablers-digital-financial-services>, Accessed January 4, 2021.

23 CGAP (Accessed January 4, 2021), “Regulation for Inclusive Digital Finance,” <https://www.cgap.org/topics/collections/regulation-inclusive-digital-finance>.

other ministries and regulatory bodies.<sup>24</sup> Efforts to bring these actors together have begun. For example, the International Telecommunication Union's (ITU) Financial Inclusion Global Initiative (FIGI)<sup>25</sup> brought together over 60 institutions across 30 countries to propose a series of policy recommendations and thematic reports on digital liquidity, privacy, digital identity, consumer protection, interoperability, and open systems to facilitate the delivery of fully integrated DFS.

The COVID-19 pandemic has made this inter-agency dialogue even more critical. Governments worldwide have leveraged digital means (combinations of national ID, government registry, and national payments systems infrastructure)<sup>26</sup> to extend cash transfers, wage subsidies, and various social welfare payments to aid low-income, vulnerable households. These programs demanded flexible, innovative approaches and close collaboration between financial and telecommunications-sector regulators, government agencies, and the private sector (especially employers and mobile network operators [MNO]). In the context of the pandemic, given the challenges in tracing informal sector workers and other marginalized persons, various government departments had to come together, overcome administrative hurdles and data sharing restrictions to share social protection lists, and integrate databases for identifying eligible recipients, and remove duplicate and deceased persons.

In Jordan, for example, government departments, UNHCR, the Central Bank of Jordan, payment service providers, and MNOs developed a coordinated response to identify refugees, help them open e-wallets, and, by mid-May 2020, over 470,000 e-wallets were created, of which 70 percent were active.<sup>27</sup> Others, like Zimbabwe, Bangladesh, Nigeria, and the Democratic Republic of Congo, lacked a robust ID infrastructure but had high mobile phone penetration rates and consequently partnered with MNOs to track transfers and payments in real time.<sup>28</sup> Along similar lines, the Myanmar government utilized local digital platforms, such as Wave Money and OnePay, to extend credit, emergency funds, and social transfers to farmers, garment works, street vendors, and other vulnerable populations.<sup>29</sup>

These examples hold valuable learnings for the United States, whose financial sector is scattered with multiple agencies and regulators having separate missions and mandates.<sup>30</sup>

24 ITU (2017), "ITU-T Focus Group Digital Financial Services – Main Recommendations," [https://www.itu.int/en/ITU-T/focusgroups/dfs/Documents/201703/ITU\\_FGDFS\\_Main-Recommendations.pdf](https://www.itu.int/en/ITU-T/focusgroups/dfs/Documents/201703/ITU_FGDFS_Main-Recommendations.pdf).

25 FIGI is a three-year initiative funded by the Gates Foundation and led by ITU, the World Bank Group, and the Committee on Payments and Market Infrastructures that aims to promote collective action to advance research in digital finance and accelerate digital financial inclusion in developing countries. (<https://www.itu.int/en/mediacentre/backgrounders/Pages/digital-financial-inclusion.aspx>)

26 CFI (2020), "Rapid Response for Social Payments During COVID-19," <https://content-centerforfinancialinclusion.org/wp-content/uploads/sites/2/2020/12/Rapid-Response-for-Social-Payments-During-COVID-19-Center-for-Financial-Inclusion-Policy-Brief.pdf>.

27 Ibid.

28 Ibid.

29 Ibid.

30 U.S. Department of Treasury (2017), "A Financial System That Creates Economic Opportunities: Banks and Credit Unions," <https://www.treasury.gov/press-center/press-releases/documents/a%20financial%20system.pdf>.

**Rocio:**

What are some of the risks in adopting DFS?

**Mayada:**

Emerging evidence suggests that DFS are not a magic bullet and could exacerbate problems of low-income, marginalized communities. While DFS have been powered by the use of data to improve product customization and efficiency of delivery, concerns on the access to, use, storage, sharing, and protection of data, lack of clarity about effective informed consent, and the design of algorithms based on alternative data have also been raised.

Although algorithms and automation are rarely designed to be discriminatory, they are often biased and founded upon unproven assumptions. These risks are far higher in developing markets where norms and regulations do not yet exist to prohibit the inclusion of specific data on gender, religion, and ethnicity in algorithms. In addition to the risk of discriminatory algorithms, low-income individuals and persons with limited digital capabilities are also disproportionately impacted by a complex combination of choice architecture, awareness, capability, and need when it comes to data protection, privacy, and re-identification risks.<sup>31</sup> For example, In 2016, the Omidyar Network surveyed 300+ digital credit users in Kenya and Colombia and found that although an overwhelming majority of respondents considered emails, calls, texts, personal financial and medical data private, more than 60 percent of them were willing to share data on mobile phone usage, bank accounts, and social media activity to get a loan.<sup>32</sup>

A recent World Bank report identified several limitations on practices to obtain customer consent. Some of the issues outlined in the paper included lengthy and complex consent forms, incomplete and ambiguous information, and standardized, inflexible terms offered on a “take it or leave it” basis, perhaps due to the challenges in adapting to frequently changing rules in fast-paced, low-capacity environments.<sup>33</sup> The General Data Protection Regulation (GDPR), the standard now in Europe, is an apt example of a rigorous standard with clear definitions of consent and opt-out rules. Other emerging consent models limit data usage to legitimate purposes, fiduciary duty, and use of learned intermediaries and are designed to shift the onus of consent and its implications from the borrower to the provider.<sup>34</sup> However, evidence from India, Peru, and other emerging markets shows that MFIs, fintechs, and other financial institutions catering to the low-income segments with limited

31 Microsave (2012), “What Makes ServQual Distinctive Tool for Client Protection?” <https://www.microsave.net/2012/07/12/what-makes-servqual-a-distinctive-tool-for-client-protection/>; Microsave (2012), “Client Protection Lessons for the Microfinance Sector,” <https://www.microsave.net/2012/06/19/client-protection-lessons-for-the-microfinance-sector/>, Accessed January 8, 2021; GSMA (2020), “The GSMA COVID-19 Privacy Guidelines,” <https://www.gsma.com/publicpolicy/wp-content/uploads/2020/04/The-GSMA-COVID-19-Privacy-Guidelines.pdf>.

32 Arjuna Costa, Anamitra Deb, and Michael Kubzansky (2016), “Big Data, Small Credit: The Digital Revolution and Its Impact on Emerging Market Consumers,” Omidyar Network. Quoted in Financial Consumer Protection and New Forms of Data Processing Beyond Credit Reporting.

33 CFI (January 5, 2020), “Data Consent: Let’s Share the Burden for Effective Consumer Protection,” <https://www.centerforfinancialinclusion.org/data-consent-lets-share-the-burden-for-effective-consumer-protection>, Accessed January 8, 2021.

34 CGAP Webinar (June 13, 2019), “Beyond Consent: Why New Approaches to Data Protection and Privacy for the Digital Age Are Needed,” <https://www.cgap.org/events/beyond-consent-why-new-approaches-data-protection-and-privacy-digital-age-are-needed>, Accessed January 8, 2021.

literacy and digital capability need flexible rules and substantial support when defining holistic and unambiguous consent guidelines.<sup>35</sup> Given the differences in contexts and shades of privacy between the developed and developing countries,<sup>36</sup> and low-capacity environments under which financial institutions in the developing world operate, developing countries will need to adapt and create their own version of GDPR to fit their context and resource constraints.

Another concern relates to the arrival of digital multinationals, such as Facebook, Google, Apple, Alibaba, Amazon, Tencent, and others, in the fintech space to advance inclusive finance by crunching vast datasets and leveraging user networks and strong analytics to offer payments, insurance, credit, and money management at scale.<sup>37</sup> In China, Alipay launched a money market fund (MMF) called Yu'eobao, which became the biggest MMF in the world with over CNY 1 trillion in assets (about USD 150 billion) and more than 350 million customers,<sup>38</sup> while Tencent—through its two integrated payment platforms, Tenpay and WeChat Pay—controls 40 percent of the country's payments market.<sup>39</sup> Similarly, with 67 million active users as of September 2019 and \$110 billion in annualized payments volume, Google Pay has recorded phenomenal uptake in India. While the scale at which these platforms work has the potential to transform the inclusive finance landscape, in the absence of strong supervisory architecture, these tech giants can be a threat to both consumers and smaller, innovative providers. Unfortunately, the existing regulatory and supervisory bodies in most countries are ill-equipped to oversee these enormously profitable players, leading to a glaring “big data divide” between digital multinationals and financial authorities.<sup>40</sup> With the rapid acceleration of digitization, in response to lockdown restrictions and social-distancing measures, there is an urgent need for policymakers to strengthen supervision and provide adequate oversight of these big techs in finance. These risks exist in developed and developing countries, but stronger regulatory and supervisory capacity in developed markets means that they are better equipped to address the risks, provided there is political will. Recent actions in China to rein in Alipay and other technology giants are a case in point.<sup>41</sup>

### **Rocio:**

What about consumer protection risks in digital credit?

### **Mayada:**

In addition to payments, digital credit has received significant attention, given the exponential

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35 CFI, “35 CFI, “Data Consent.”

36 *The Wire* (May 17, 2018), “Should There Be a ‘Developing Country’ Template for Data Protection Legislation?” <https://thewire.in/tech/should-there-be-a-developing-country-template-for-data-protection-legislation>, Accessed April 9, 2021.

37 Annual Economic Report (June 2019), Bank for International Settlements.

38 *Ibid.*

39 CFI (September 18, 2020), “Financial Authorities’ Tools Must Evolve to Catch Up with ‘Digital Multinationals.’” <https://www.centerforfinancialinclusion.org/financial-authorities-tools-must-evolve-to-catch-up-with-digital-multinationals>, Accessed January 6, 2021.

40 *Ibid.*

41 <https://www.pymnts.com/antitrust/2021/china-clarifies-big-tech-monopoly-rules/>

growth of digital credit offerings for consumption smoothing and associated risks for vulnerable clients. Kenya's digital credit market has been well documented and shows worrying signs of rapid growth. Recent studies show that one in four Kenyans has taken out a digital loan,<sup>42</sup> with close to 50 digital credit providers crowding the market. From 2014 to 2018, the percentage of digital loans as a proportion of total loans from formal borrowers has more than doubled, increasing from slightly over 40 percent to over 90 percent.<sup>43</sup> Digital credit in Kenya is offered by a plethora of players who are not regulated uniformly and, therefore, adopt aggressive lending practices, strong-arm tactics, and deceptive marketing as a part of their customer acquisition and collection strategies. Challenges are further compounded by the high interest rates, nontransparent prices, terms and conditions listed in complex, ambiguous language, and the absence of fraud prevention policies.

The convenience afforded by digital credit has led to multiple borrowings and customers' deftly gaming the system to get more loans for sports betting, loan-stacking, and identity fraud. On the other hand, regulatory gaps and the lack of a well-established infrastructure for digital credit have led to crippling defaults and high delinquency rates, often camouflaged by clever rescheduling and refinancing policies. Customers defaulting on these loans often have outstanding balances of less than US\$10 and end up being blacklisted by the credit bureau. They need to expend considerable time and money to clear their names, not to mention the accompanying emotional stress and shame.<sup>44</sup>

Unfortunately, Kenya is not the only East African country facing serious consumer protection risks in DFS. A recent CFI study of more than 1,000 mobile money customers in Rwanda found that almost 40 percent of respondents felt fraud was a serious issue, and 10 percent had been victims of fraud themselves.<sup>45</sup> Another review of transactional and demographic data of over 20 million digital loans in Tanzania revealed that irresponsible lending and poor transparency have resulted in high default rates and late payments on digital loans,<sup>46</sup> especially those made to low-income consumers.

Developed markets, such as the United States, also had their share of predatory practices, especially in the payday lending segment. The Consumer Finance Protection Bureau (CFPB), established in 2011 as an important element of post-crisis U.S. financial regulation, is an excellent example of an institute created solely with a consumer protection mandate and having broad oversight over banks and non-banks.<sup>47</sup> In addition to settling with payday lenders and returning over US\$12 billion in relief to customers, the CFPB has examined and generated evidence on a wide range of topics related to consumer financial markets, consumer behavior and regulations, informed public discourse and has undertaken over 200 public enforcement actions.<sup>48</sup>

42 CGAP (2018), "Kenya's Digital Credit Revolution Five Years On," <https://www.cgap.org/blog/kenyas-digital-credit-revolution-five-years>.

43 Microsave, Smart Campaign at CFI, SPTF (2019), "Making Digital Credit Truly Responsible," <https://www.microsave.net/wp-content/uploads/2019/09/Digital-Credit-Kenya-Final-report.pdf>.

44 CFI (2019), "Red Flags in Kenya's Nano-Credit Market," <https://www.centerforfinancialinclusion.org/red-flags-in-kenyas-nano-credit-market>.

45 CFI (2019), "Client Voices: Rwandans Speak on Digital Financial Services," <https://www.centerforfinancialinclusion.org/client-voices-rwandans-speak-on-digital-financial-services>.

46 CGAP (September 18, 2020), "It's Time to Slow Digital Credit's Growth in East Africa," <https://www.cgap.org/blog/its-time-slow-digital-credits-growth-east-africa>, Accessed January 6, 2021.

47 Liberty Street Economics (October 9, 2018), "Analyzing the Effects of CFPB Oversight," <https://libertystreeteconomics.newyorkfed.org/2018/10/analyzing-the-effects-of-cfpb-oversight.html>, Accessed March 2, 2021.

48 Ibid.



**Rocio:**

How has the COVID-19 pandemic changed the conversation around financial inclusion?

**Mayada:**

More recently, the COVID-19 pandemic and the need for social distancing have spurred governments and the inclusive finance community to switch from cash to digital money and transactions. In addition to facilitating safe and easy access to financial services, DFS also make it easier for low-income households to accumulate and access savings and, in turn, improve resilience. It also enables them to make and receive payments at far lower transaction costs, avoid theft, and keep their financial transactions a secret.

The Economist Intelligence Unit's Global Microscope 2020 report examined the role of inclusive finance in policymakers' response to the COVID-19 crisis across 55 countries. Overall, the report finds that countries that had invested in digital financial infrastructure and had enabling policy environments were better positioned to cope with the crisis. These countries could leverage digital distribution channels for social payments and simple due diligence procedures for remote account opening. For example, 44 of the 55 participating countries implemented cash transfer programs to aid vulnerable citizens, while 50 countries had at least partially digitized national ID systems. Among them, 28 countries were distributing payments via financial or mobile money accounts. Additionally, 19 countries with well-established digital infrastructure (such as Kenya) had implemented emergency cash transfer programs.<sup>49</sup> Given that these programs usually target low-income households and informal sector workers, digital tools also paved the way for these individuals to self-register for benefits. Needless to say, the benefits of a robust digital infrastructure and identification system will continue to be reaped well beyond the aftermath of the pandemic.

The rapid digitization of cash payments linked to COVID, while laudable, also presents a set of emerging potential risks. While the number of new digital accounts being opened is unprecedented, it is unclear if governments have informed beneficiaries of their rights and obligations linked to these new accounts and educated them on what is required to maintain these accounts, how to cash out, or close accounts, or what data privacy measures have been implemented.

**Rocio:**

Where do we go from here?

**Mayada:**

The past decade has witnessed considerable progress in improving access to financial services for

<sup>49</sup> Economist Intelligence Unit (2020), "Global Microscope 2020: The Role of Financial Inclusion in COVID-19 Response," [https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/2020/11/EIU\\_Microscope\\_2020\\_161120.pdf](https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/2020/11/EIU_Microscope_2020_161120.pdf).

many of the world's underserved, and the number of excluded people declined from 2.5 billion in 2010 to 1.7 billion in 2018.<sup>50</sup> New business models have emerged that harness the power of data and digital technology to reach low-income customers. The coronavirus pandemic has reinforced the need for financial tools to help those affected remain resilient and, where necessary, recover and prosper. Countries with well-established digital infrastructure and ID systems have found it easier to form effective responses and support crisis-affected populations. To its credit, the pandemic has demonstrated the power of dialogue, innovation, flexibility, and clear, consistent communication and policy responses between government departments, financial- and telecom-sector regulators, and providers.

As the world emerges from this unprecedented crisis and the focus shifts towards “building back better,” it is equally important to pause and reflect closely on the frailties of the financial services sector that were exposed by the pandemic. Digital payments and cash transfers can benefit those who have IDs and accounts. On the other hand, millions of low-income communities in dire need of financial assistance are not digitally connected and may never be. In order to be truly inclusive and not leave anyone behind, governments and policymakers will need out-of-the-box solutions. Moreover, financial services are a means to enabling low-income, vulnerable households to access essential services, have the financial freedom and capability to make sound choices, and live a life of dignity. Accordingly, recovery strategies should adopt a longer-term vision and think beyond access to providing suitable products that catalyze use and ultimately improve consumers’ financial health. Developed countries, such as the United States, are an apt case in point.

The rapid digitization of financial services and increasingly sophisticated means of data use, fraud, and discrimination have introduced significant consumer protection and data risks. The emergence of social platforms, e-commerce giants, fintechs, and pay-as-you-go providers who embed financial services in their offerings present risks that cannot be handled by the financial sector alone. These issues call for greater coordination among different regulatory bodies, corporations, and customers to better understand these challenges, safeguard data privacy, portability, and other consumer rights, and improve overall customer experience.

To date, the path to market development has differed considerably between developed and developing markets. However, the current challenges that technology introduces to the financial system are potentially a unifying force globally. Collaboration is needed both within and between countries as governments, regulators, and providers try to balance product suitability and innovation with inclusion and responsible practices with the ultimate objective of improved financial access and financial health of consumers everywhere.

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50 Findex 2010 and 2018 data sets.

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# Americans Need a Digital Identity System, Stat!

Waldo Jaquith

State Software Collaborative, Georgetown University's Beek Center

“Can I see your ID?”

How many times have you heard that simple request? Most of us automatically pull out a driver's license. But if you don't have a driver's license, proving who you are in America can be complicated. As more of our lives and interactions move online, it'll take more than pulling out a driver's license to create an effective digital identity proofing system. Meeting that challenge is foundational for a healthy, equitable, well-functioning society and economy.

The COVID-19 pandemic shined a spotlight on the need for an effective digital identity system in the United States. As the pandemic hit, millions of desperate Americans went online to apply for public benefits—unemployment insurance, SNAP and EBT food benefits, PPP, and housing and rental assistance—and found they were delayed or denied payments because of problems verifying their identities. At the same time, criminals were successfully using stolen identity data to defraud these government programs of billions of dollars.<sup>1</sup> The urgency has never been greater to find the right balance between providing easy, equitable, and timely access to benefits to those in need and preventing fraud.

Nearly every interaction people have with government begins with proving their identity—voting, attending school, accessing public benefits, getting a vaccine, collecting Social Security, and entering or leaving the country. Countless commercial interactions also require a government-issued photo ID—opening a bank or credit card account, cashing a check, going to the emergency room, getting a job, signing a lease, renting a room, buying a beer, or riding on a plane.

Proving who you are in the United States is complicated, because there is no single, definitive way for people to prove their legal identity. The default is a state-issued driver's license, federal employee ID, military ID, passport, or green card. But for the poor—or poorly connected—going through the process to get an official ID presents significant barriers. Eleven percent of Americans lack a government-issued photo ID, a group that disproportionately includes senior citizens, African

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

1 Dena Bunis, “IRS Warns Consumers of Stimulus Check Scams,” AARP, April 2, 2020, <https://www.aarp.org/money/scams-fraud/info-2020/stimulus-checks-scams.html>.

Americans, Latinos, and people making less than \$25,000 per year.<sup>2</sup> In fact, one in four Black adults have no current government-issued photo ID.<sup>3</sup>

Given the confused and fragmented state of basic identity verification in the United States, it's no surprise that proving an individual's digital identity is even more fraught.

## Why Digital Identity Matters

When a member of the public needs to apply for public benefits, identity verification is the first, indispensable step. It confirms both that a person exists and that the applicant is that person (or is authorized to represent that person).

During the pandemic, as the majority of government and commercial services have moved online, identity verification also needed to become digital. Pre-COVID, benefits programs and financial institutions could rely on people coming into their offices and showing a government-issued photo ID, but the pandemic rendered that impossible. That meant that applying for any sort of public benefit—unemployment insurance, SNAP, emergency rental assistance, PPP loans, COVID testing, COVID vaccinations, or obtaining new commercial products—all required digital identity verification.

There is no national standard for digital identity, no common set of practices, no dominant vendor, and until spring of 2020, it was rare for agencies to have any digital identity verification tool whatsoever. The combination of these lax digital identity practices and the COVID-induced reliance on digital services meant that 2020 saw both dramatic delays in determining eligibility for benefits and growth in fraudulent benefits applications, with billions of dollars lost to crime rings. The United States has so far discovered \$36 billion in fraudulent COVID benefits claims as a result of inadequate digital identity infrastructure, and that number will only go up.<sup>4</sup> The bulk of application backlogs under COVID resulted from digital identity problems, delaying getting much-needed benefits to millions. This is, of course, a terrible waste of tax dollars, but it also undermines trust in government and the financial system, and prevents money from getting to those in need.

## How Digital Identity Works Today

The identity process in the United States is fragmented—unlike most countries, we have no national identity card, and instead leave that to states. Things are worse still for digital identity, where government agencies and commercial entities labor under a privatized, fragmented identity-verification marketplace.

<sup>2</sup> Brennan Center for Justice, "Citizens without Proof: A Survey of Americans' Possession of Documentary Proof of Citizenship and Photo Identification," Voting Rights & Elections Series (New York: Brennan Center for Justice at NYU School of Law, November 2006), [https://www.brennancenter.org/sites/default/files/legacy/d/download\\_file\\_39242.pdf](https://www.brennancenter.org/sites/default/files/legacy/d/download_file_39242.pdf).

<sup>3</sup> Ibid.

<sup>4</sup> Greg Iacurci, "Scammers Have Taken \$36 Billion in Fraudulent Unemployment Payments from American Workers," CNBC, January 5, 2021, <https://www.cnbc.com/2021/01/05/scammers-have-taken-36-billion-in-fraudulent-unemployment-payments-.html>.

Although most of the underlying documents and data needed to prove you exist (e.g., birth certificate, Social Security number) and that you are you (e.g., passport) are generated and “owned” by some government entity, those data are highly fragmented and spread among federal, state, and local agencies, and not easily shared. Compounding the problem, public agencies often augment government data sources with private data sources (banks, credit agencies, phone companies), which adds another layer of cost, complexity, and time.

In the private sector, a robust market for automated commercial digital identity proofing services has developed to support banks and financial service companies that are required to know the real identity of their customers in order to comply with “know your customer” (KYC) guidelines and anti-money laundering laws.

Like the government, most of these vendors employ a similar model, linking data about a civil identifier (such as a driver’s license or a Social Security number) with personal data, such as addresses, from credit agencies and commercial data aggregators to verify personal identity. Verification often involves multiple-choice questions about credit history (e.g., “How much was your income in 2018?”). If the verification process is successful, the vendor’s software informs the agency of that, allowing the applicant access to agency services. Sometimes this is paired with having applicants send a photo of their government-issued photo ID and a photo of themselves, with the photo of the ID serving as a sort of a crude digital ID and the selfie serving as evidence that they’re the legitimate holder of that identity card.

As with government-issued photo IDs, there are disparities in who has a sufficient data footprint to have their identities verified in this manner. These “credit invisibles,” as the Consumer Finance Protection Bureau terms those who do not appear in the nationwide credit reporting agencies’ databases, comprise 11 percent of the adult U.S. population.<sup>5</sup> As with government-issued photo IDs, some demographics are again over-represented: African Americans, Latinos, and residents of low-income neighborhoods. In fact, 30 percent of residents of low-income neighborhoods have no credit record and are consequently unidentifiable via most existing digital identity processes.<sup>6</sup>

Government’s role in this process is to act as the source of truth about what people exist within the United States, via birth and death records, driver’s licenses, passports, and related methods of uniquely identifying individuals. Agencies generally employ security, privacy, data use, and interoperability regulations and frameworks to both promulgate and protect those records. There is no national, standardized system for normalizing, matching, and deduplicating these records, and there is no agency charged with oversight of this informal national identity system.

The private sector’s role in this process is, quite simply, to intermediate the government’s own data and sell them back to the government again, as an identity-proofing process. This is because these data aren’t possessed by “government,” but instead by a series of unrelated government agencies that have no practical capacity to share or aggregate that data. Absent any incentive to do otherwise, this collective-action problem leaves agencies with no option but to buy back their own data.

5 Kenneth Brevoort, Philipp Grimm, and Michelle Kambara, “Data Point: Credit Invisibles” (Washington, DC: Consumer Financial Protection Bureau, May 2015), [https://files.consumerfinance.gov/f/201505\\_cfpb\\_data-point-credit-invisibles.pdf](https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf).

6 Ibid.

## Problems with Privatized Digital Identity

This existing system has some obvious flaws.

Government's providing data to the private sector and then buying them back again is clearly extremely inefficient. The data being purchased back aren't even improved; they've simply been turned into a service.

In relying on private vendors, government is engaging in an online practice that it would not engage in offline. An applicant coming to a physical office needs to provide a government-issued form of identification, not a private-sector-issued form of identification, and it's puzzling that government would use a lower standard for Internet-intermediated transactions. If anything, online application processes should have a higher threshold for identity verification, since they're easier to defraud at scale—one person's capacity to steal others' identities online is virtually limitless, while there is a limit to the number of disguises and fake IDs that a person can procure.

Government handles identity risks in the same way that it deals with risks around software. One reason that government agencies prefer to rely on outsourced Software as a Service (SaaS) for technical needs is that it provides an illusion of security, because the security is theoretically the vendor's problem. When government owns and operates its own technology stack, it's obliged to take it through an extensive security review process; this process is far simpler for SaaS. The security hurdles required for government to set up its own identity verification system are significant and expensive, but by leaving this work to a comparatively lax private sector, government is paying far more via the criminal exfiltration of vast sums of money from benefits programs.

Outsourcing digital identity has the effect of isolating government from the impact of false negatives. If people are denied benefits because a digital identity vendor cannot validate them, not only might they simply give up and never receive their benefits, but the vendor is likely to chalk that up as a successful block of fraudulent applicants. Given the demographics that are unlikely to have a government-issued photo ID and that are likely to be "credit invisible," the very people who are likely to have a hard time claiming benefits are the people least likely to have any other kind of safety net to fall back on. The result is a social safety net that too often fails those it claims to serve.

The government may be best positioned to run a more comprehensive system, because its incentives are more aligned with citizens. No matter how much data they collect, commercial companies can never replace the government's important role in establishing a person's legal identity, whether in person or online. Equal access for all, accountability, privacy, and security are mission-critical features. Unlike the government, commercial providers have no obligation to serve everyone or even stay in business. One of the major vendors in this space, Equifax, failed to protect the vast quantities of data it had collected about people without their permission, leading to extensive personal data of about 147 million Americans being stolen.<sup>7</sup> The only recourse available to victims was signing up to receive a settlement from a class-action payment; there was no option to vote the president of Equifax out of office, no agency secretary for Congress to call in to explain how

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<sup>7</sup> Federal Trade Commission, "Equifax Data Breach Settlement," January 2020, <https://www.ftc.gov/enforcement/cases-proceedings/refunds/equifax-data-breach-settlement>.



they allowed this to happen. So, beyond the financial inefficiencies of taxpayers' paying commercial vendors over and over again to be intermediaries of government-generated data and the increased risk of a fragmented system of data collection and transfers, the risk of outsourcing this important job opens a Pandora's box of risk to the individuals who need access to government services.

Another risk of reliance on private vendors for identity verification is the potential for government to be cut off from essential citizen data. The United Kingdom maintains a digital identity system that is federated out to private vendors. One of those vendors, Experian, declared in February 2021 that it was getting out of that business the following month, leaving 2.1 million people needing to re-register.<sup>8</sup> This left the U.K. government at a loss, since security restrictions prevent it from identifying which registrants have their identities stored on Experian's system. Experian, of course, has no obligation to remain in a particular line of business, or even to continue to exist.

Finally, market fragmentation means that people need to maintain a series of different accounts for various government services, each of which is likely to use different data sources and metrics for evaluating identities. This leaves governments paying multiple competing vendors for duplicate records, it leaves people with multiple accounts with different vendors, and it leaves applicants puzzled about why they can validate their identity for one public service but not another. Each new vendor in this space is yet another digital identity that members of the public are obliged to keep up to date, which collectively serves as a sort of cognitive tax; the more public services that somebody requires, the greater that tax. This approach places the greatest burdens on the people who are in the worst position to shoulder them.

The dream of state benefits programs is to have an integrated eligibility system, so that applicants' eligibility can be determined once and applied across benefits programs. Fragmentation of identity across vendors moves states further from that goal, which instead requires persistent, unified identity.

## Improving Digital Identity

How could we do digital identity in a better and more inclusive way?

There is, happily, a simple way to fix many of these problems: soup up Login.gov, the federal government's existing digital identity service. A product of the General Services Administration, Login.gov provides a single sign-on that can be used across government agencies and complies with the National Institute of Standard and Technology (NIST) IAL2 identity-proofing standards. The program dates to 2017 and promotes itself as "the public's one account for government." It currently licenses Equifax's data for its identity-validation process. Its customers include the Department of Defense, the Small Business Administration, and the Department of Homeland Security, for which it maintains digital identities for nearly 30 million Americans. Login.gov's customers are currently all federal agencies, because it was not permitted to sell its services to states until late 2020.

<sup>8</sup> Lis Evenstad, "Experian to Close More Than Two Million Gov.Uk Verify Accounts," ComputerWeekly.com, February 9, 2021, <https://www.computerweekly.com/news/252496069/Experian-to-close-more-than-two-million-Govuk-Verify-accounts>.

The circumstances of Login.gov's creation require it to be a cost-recoverable service—that is, it has to charge agencies for each user of the system. Given that we now know that fraudulent digital identities are a vector for stealing billions of dollars from public coffers, the logic of “cost-recoverable” indicates that it's well worth fully subsidizing Login.gov for every federal, state, and local agency that wants to use it. The program is run by fewer than 40 people—a relatively small appropriation would have a vast return on investment.

Expanding access to the Federal Data Services Hub (Federal DSH) would be another smart investment. Housed at the Centers for Medicare & Medicaid Services, the Federal DSH uses a variety of government and commercial data sources to verify identity and other information, such as address, income, and employer information for individuals applying for health insurance on a state or federal health exchange.<sup>9</sup>

By integrating and expanding access to the existing federal services offered by Login.gov and the Federal DSH, individuals would no longer need to maintain a series of accounts for each separate agency or government service and could instead create a single government login that unites all of their interactions with government. This unified identity system could be used to create efficiencies, prevent fraud, and support a broader unified public benefit system for people to access health care, food, or unemployment benefits. Login.gov's use of industry-standard authentication protocols means that private-sector companies could be permitted to validate individuals' identities using their Login.gov account, a virtual equivalent of showing a government-issued photo ID to get into a bar or buy a prescribed controlled substance from a pharmacy.

## Conclusion

Government's inability to deliver much-needed services to the public during the pandemic and disparities in access for communities of color can be traced back to its failure to adopt an effective digital identity proofing system. The lack of an effective system has also contributed to the fragmented private system of data collection and transfers to confirm identity, directly impacting financial services and financial inclusion.

The practical approach to meeting this challenge involves clear guidance and standards, cross-agency and intergovernmental coordination, close collaboration with private companies, and expanding access to existing federally owned platforms, such as Login.gov and the Federal DSH.

Reshaping the currently fragmented marketplace of digital identity tools won't happen overnight, but a government-supported centralized digital identity proofing process that provides an automated, secure, and interoperable system that is accessible to all, inclusive, and protects personal privacy is fundamental for a healthy, well-functioning society and economy. This kind of system would be fundamental for providing essential government services and has the potential to further support innovation and access in financial services.

There is no time to waste.

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<sup>9</sup> Joel Winston, “The Billion-Dollar Technology Stack Powering Obamacare,” Medium, April 21, 2017, <https://medium.com/@JoelWinston/the-billion-dollar-technology-stack-powering-obamacare-929114c3be0e>.

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# The Next Frontier: Expanding Credit Inclusion with New Data and Analytical Techniques

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Gaps and weaknesses in the traditional credit reporting and scoring system have been recognized for decades as creating barriers to accessing affordable credit, yet recent efforts to harness new data and analytical techniques have produced relatively limited improvements to date. In 2020, racial justice protests and the COVID-19 crisis renewed interest in such initiatives, as stakeholders asked what benefits they may have for addressing racial equity issues, what risks they pose, and how to accelerate progress for historically underserved populations.

Analysis of these questions does not yield easy answers, given the magnitude of underlying disparities in income and assets, continuing market obstacles, and other challenges. But with sustained engagement from all stakeholders—multiple industry segments, advocates, academics, and policymakers—there is reason to hope that the credit system can expand affordable access and reinforce efforts to increase economic inclusion in other sectors.

The importance of these efforts has never been clearer. Credit information and models directly affect households' ability to both bridge temporary financial disruptions and make long-term investments in education, housing, and small business formation. Credit reports and scores are also frequently used in insurance, employment, and tenant screening, which can further magnify their effects on households' financial health and resiliency. Thus, the credit system can substantially support or impede broader initiatives to recover from the pandemic and address longstanding societal inequities in the months and years to come.

## Limitations and Gaps in Traditional Credit Scoring and Underwriting

The initial movement to increase use of data and automated underwriting in consumer credit markets began more than 50 years ago. Early changes were spurred by several factors, including the emergence of three nationwide consumer reporting agencies (NCRAs) with payment history data on millions of consumers, the development of third-party scoring models that group consumers based

on their relative default risk, and lenders' shift from subjective decision-making toward algorithmic underwriting models.<sup>1</sup> Small business lending has not become as standardized as consumer credit, but many lenders use owners' personal credit scores as well as small business credit reports, third-party scoring models, and proprietary algorithms to help evaluate commercial applications.<sup>2</sup>

Research suggests that these changes have tended to lower underwriting costs and default losses, improve consistency of treatment, and increase competition for borrowers.<sup>3</sup> Yet for all of these benefits, traditional data and models are subject to significant limitations and create their own dependencies. Because credit reporting is voluntary and most information comes from particular categories of lenders, NCRA reports contain relatively little data about applicants who do not already have those types of credit products. There are incentives for companies to withhold information, and accuracy has been a substantial concern historically. More fundamentally, even for applicants with relatively robust, accurate credit files, traditional credit reports cannot provide a complete assessment of their finances because they do not provide direct information on incomes, balance sheets, or even a complete picture of recurring expenses.<sup>4</sup>

Lenders can fill these gaps by collecting information from applicants and other third-party sources. But gathering, verifying, and analyzing a detailed picture of applicants' financial situations can take substantial time and labor, and investors and secondary market actors often prefer relying on data and models that are easy to compare across portfolios. Thus, where underwriting information is not sufficiently easy to access, lenders may reject applicants not because they in fact pose too much default risk, but rather because operational obstacles complicate their assessment.

These dynamics are particularly likely to impact communities of color and low- to moderate-income borrowers. In particular, research has identified three specific groups of applicants who have an especially difficult time accessing credit due to information barriers:

- + **Thin- and no-file applicants:** About 50 million U.S. adults (20 percent of the population) lack sufficient credit history with the NCRA's to be scored using the most widely used third-party models. African Americans, Hispanics, recent immigrants, young borrowers, and lower-income consumers are particularly likely to be "thin file" or "no file." For example, studies indicate that nearly 30 percent of African Americans and Hispanics cannot be scored by certain models, compared with about 16 percent of whites and Asians.<sup>5</sup>

1 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Market Context & Policy Analysis" § 2.1 (2020). The three NCRA's are Equifax, Experian, and TransUnion. The Fair Isaac Corporation (FICO) and VantageScore, which is a joint venture by the three NCRA's, are the largest providers of third-party scoring models. *Id.*

2 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Small Business Spotlight" § 2.1 (2019).

3 Board of Governors of the Federal Reserve System, "Report to Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit" pp. S-2 to S-4, O-2 to O-4, 32-49 (2007) (hereinafter FRB, Credit Scoring Report); Susan Wharton Gates et al., "Automated Underwriting in Mortgage Lending: Good News for the Underserved?" 13 *Housing Policy Debate* 369 (2002); FinRegLab, "Market Context & Policy Analysis," p. 11, n. 16.

4 FinRegLab, "Market Context & Policy Analysis" §§ 2.1-2.2. The most extensive federal study of accuracy issues predates the beginning of the Consumer Financial Protection Bureau's program to examine critical actors and several other market developments. The Bureau announced in 2020 that it was planning a new study on accuracy issues. Consumer Financial Protection Bureau, "Director Kraninger's Remarks During the November 2020 Academic Research Council Meeting" (Nov. 23, 2020).

5 Consumer Financial Protection Bureau, "Data Point, Credit Invisibles," pp. 4-6, 17 (2015); FinRegLab, "Market Context & Policy Analysis" § 2.2.

- + **Non-prime applicants:** Credit scoring models group borrowers into bands based on their relative default risk, but without additional data, lenders cannot differentiate within those bands to determine which individual applicants are higher-risk. Even if most applicants within a particular band are likely to repay their loans, lenders may choose not to lend to that cohort or may impose higher prices because default risks for the group as a whole are relatively high.<sup>6</sup> For instance, depending on interest rates, consumers with scores near the typical minimums for approval may pay \$7,500 more over the life of a \$20,000 auto loan and \$86,000 more over the life of a \$250,000 mortgage than peers with high scores.<sup>7</sup> About 80 million consumers had “non-prime” scores prior to the pandemic.<sup>8</sup> Although recent demographic data are not publicly available, nationally representative samples from the early 2000s indicate that about two-thirds of African American and almost one-half of Hispanic consumers had scores in the lowest three deciles overall, compared with about one-quarter of whites.<sup>9</sup>
- + **Small business owners:** Like young borrowers, start-up companies do not have credit histories in their own right. As a result, many owners are forced to rely on their personal scores and on consumer credit products to finance their businesses. This problem is most severe with start-ups, but various other factors have also made traditional lenders reluctant to provide business credit to companies that fall below certain sales and/or maturity thresholds. Businesses owned by minorities, recent immigrants, and women tend to have particular challenges obtaining credit.<sup>10</sup>

These examples contribute to broader concerns that disparities in conventional credit reports and scoring models both reflect and perpetuate previous inequities created by historical discrimination in such fields as employment, education, housing, and lending. These historical factors have produced substantial disparities in income—where median levels for African American and Hispanic households are about 60 percent and 74 percent that of white households, respectively—and even more dramatic gaps in wealth—where median net worth for African American and Hispanic households is about 13 percent and 19 percent that of white households, respectively.<sup>11</sup> In light

6 FinRegLab, “Market Context & Policy Analysis” §§ 2.1, 2.2. Borrower advocates particularly criticize so-called risk-based pricing, arguing that higher prices may themselves increase the risk of default and that some lenders charge more than necessary to cover losses. *Id.* p. 9, n. 12.

7 Lyle Daly, “Here’s How Much Money Bad Credit Will Really Cost You,” *The Ascent* (Apr. 8, 2019).

8 FinRegLab, “Market Context & Policy Analysis” § 2.2. In the past year, average scores have risen several points in response to household efforts to shore up their finances, spending constraints created by business lockdowns, governmental relief efforts, and temporary accommodations by lenders and others. The number of consumers in the nonprime category shrunk by about 3 percent overall in 2020, but impacts among different populations have been uneven and there are concerns that delinquencies will rise rapidly as assistance programs end. FinRegLab, Research Brief, “COVID-19 Credit Reporting and Scoring Update” p. 2, nn. 7, 10 (2020); Stefan Lembo Stolba, Blog, “Experian 2020 Consumer Credit Review,” [www.experian.com](http://www.experian.com) (Jan. 4, 2021); Elisabeth Buchwald, “A Pandemic Paradox: Americans’ Credit Scores Continue to Rise as Economy Struggles—Here’s Why,” *MarketWatch* (updated Feb. 20, 2021).

9 FRB, “Credit Scoring Report,” pp. 150–53. For more recent work examining credit score gaps in the mortgage context and among consumers living in zip codes with majority Hispanic and African American zip codes, see Jaya Dey and Lariece M. Brown, “The Role of Credit Attributes in Explaining the Homeownership Gap Between Whites and Minorities Since the Financial Crisis, 2012–2018,” *Housing Policy Debate* (2020); Urban Institute, “Credit Health During the COVID-19 Pandemic” (Feb. 25, 2021).

10 FinRegLab, “Small Business Spotlight” §§ 2.1, 2.2.

11 Jessica Semega et al., “Income and Poverty in the United States: 2019,” U.S. Census Bureau (2020); Neil Bhutta et al., “Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances,” *FEDS Notes* (Sept. 28, 2020); Kriston McIntosh et al., “Examining the Black-White Wealth Gap,” Urban Institute (Feb. 27, 2020).

of these gaps, it is not surprising that African American and Hispanic households are more likely than white households to experience payment delinquencies and bankruptcies.<sup>12</sup> Although Federal Reserve Board research has found that traditional credit scoring models have substantial value in predicting loan defaults across different demographic groups, studies have struggled to disentangle the relationships between scores, income, and wealth due to data limitations.<sup>13</sup>

Concerns have also been raised that African American and Hispanic borrowers' credit histories have been disproportionately affected by lack of geographic access to banks, banks' prioritization of larger loan sizes and wealthier customers, and targeting by lenders who offer higher prices and riskier structures.<sup>14</sup> For instance, African American and Hispanic households and neighborhoods were far more likely than white counterparts to end up with subprime loans prior to the 2008 financial crisis.<sup>15</sup> In the years since, declines in homeownership among African American and Hispanic households were also more severe than white households; in fact, disparities between white and African American homeownership rates reached their highest level in more than five decades.<sup>16</sup> Recent research has also documented the severe effects of large amounts of high-cost debt among African American households.<sup>17</sup> These examples help to illustrate the strong feedback loops between credit and broader financial and economic equity, and the need for better information and tools to increase credit access and long-term financial stability.

## The State of New Initiatives

In light of these serious concerns, multiple initiatives have been launched over the past 20 years to harness digital information and other technology advances to improve credit access for underserved populations. Some efforts have refined traditional credit reports and models to distill additional insights and try to address concerns about disproportionate impacts on particular populations.<sup>18</sup> Others have worked to incorporate additional data sources and use new modeling techniques to improve predictiveness and inclusion:

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- 12 See, for example, Brown and Dey; Jonathan D. Fisher, "Who Files for Personal Bankruptcy in the United States?" 53 *Journal of Consumer Affairs* 2003 (2019); Okechukwu D. Anyamele, "Racial Ethnic Differences in Household Loan Delinquency Rate in Recent Financial Crisis: Evidence from 2007 and 2010 Survey of Consumer Finances," 8 *Journal of Applied Finance & Banking* 49 (2018).
- 13 FRB, "Credit Scoring Report"; FinRegLab, "Market Context & Policy Analysis" § 2.3.
- 14 See, for example, National Consumer Law Center, "Past Imperfect: How Credit Scores and Other Analytics 'Bake In' and Perpetuate Past Discrimination" (2016); Lisa Rice and Deidre Swesnik, "Discriminatory Effects of Credit Scoring on Communities of Color," 46 *Suffolk Law Review* 935 (2013).
- 15 See, for example, Patrick Bayer et al., "What Drives Racial and Ethnic Differences in High-Cost Mortgages? The Role of High-Risk Lenders," 31 *Review of Financial Studies* 175 (2018); Jacob S. Rugh et al., "Race, Space, and Cumulative Disadvantage: A Case Study of the Subprime Lending Collapse," 62 *Social Problems* 186 (2015); Derek S. Hyra, "Metropolitan Segregation and the Subprime Lending Crisis," 23 *Housing Policy Debate* 177 (2013).
- 16 U.S. Census Bureau, "Homeownership Rate for the United States," retrieved from FRED, Federal Reserve Bank of St. Louis (Feb. 16, 2021); Jung Hyun Choi, Blog, "Breaking Down the Black-White Homeownership Gap," Urban Institute (Feb. 21, 2020).
- 17 Prosperity Now, "Addressing Debt in Black Communities: A Comprehensive Report Exploring the Potential and Limitations of Services in the Realm of Financial Coaching" (2020); Prosperity Now, "Forced to Walk a Dangerous Line: The Causes and Consequences of Debt in Black Communities" (2018).
- 18 For instance, VantageScore estimates that its 4.0 model can score about 40 million additional consumers relative to other third-party models, including applicants who are not scored by other models because they have not had credit activity within the past six months. Barrett Burns, Blog, "You Are Not Invisible to Us," VantageScore (visited Jan. 25, 2021); VantageScore, "The Credit Card Industry & Vantage Score" (visited Feb. 16, 2021). Adjustments have also been made in the treatment of medical debt and public records, given particular concerns about those data sources, and several initiatives have been launched to identify more insights during economic downturns. FinRegLab, "Market Context & Policy Analysis" § 2.3; FinRegLab, Research Brief, "Data Diversification in Credit Underwriting," pp. 8–9 (2020).



- + **Tapping new data sources:** Early efforts to tap nontraditional data sources focused on rental, utility, and telecom payment history, given that 80 million U.S. adults live in rental housing and that an estimated 97 percent of adults own cell phones of some kind.<sup>19</sup> Newer FICO and VantageScore models will consider such data, where available, but only about 5 percent of consumers' NCRA files were estimated to include it.<sup>20</sup> Although efforts to convince landlords and other companies to report the information directly to NCRAs have not made substantial progress and some consumer groups have opposed routine reporting of certain utility information, access to the data through consumer-permissioned channels is slowly increasing.<sup>21</sup> For example, some intermediary companies will report the data to NCRAs where consumers are willing to pay a fee, and some NCRAs have launched partnerships with a new group of intermediaries called data aggregators to provide lenders with telecom or utility data where consumers specifically authorize the information to be shared. A few specialty scoring products have also been introduced that draw on other sources of telecom and utility payment history and on payment history from payday loans and other credit products that are not typically reported to NCRAs.<sup>22</sup>

Other recent initiatives are also relying on data aggregators to access information from bank and prepaid accounts, which are owned by about 96 percent of U.S. households and can provide information about income and reserves in addition to expenditures.<sup>23</sup> Some fintechs and other lenders are building proprietary underwriting models based on such cash-flow information, and NCRAs and scoring model developers are also launching cash-flow based products and services.<sup>24</sup> FinRegLab's independent evaluation of cash-flow information used by several companies to underwrite consumer and small businesses prior to the pandemic suggests that it has substantial potential to increase access to credit.<sup>25</sup>

Although research in other countries suggests that patterns in mobile phone and computer usage could be predictive of credit risk,<sup>26</sup> U.S. model builders have been reluctant to use such data for underwriting purposes, partly due to concerns that it would have a disparate

19 Pew Research Center, "Mobile Fact Sheet" (Apr. 7, 2021); FinRegLab, "Market Context & Policy Analysis" § 2.3. See also Amy Hou, Blog, "The Growing Interest in Alternative Data Sharing," Urjanet (Sept. 13, 2019) (reporting the results of a survey of U.S. adults with household incomes of at least \$25,000 in which 91 percent of respondents reported having at least one utility or telecom account in their name).

20 FICO, "Expanding Credit Access with Alternative Data" p. 6 (2021). Much of the information that is available concerns severe delinquencies, but not routine payments history. *Id.*

21 For discussions of the market barriers and policy debates, see, for example, FinRegLab, "Market Context & Policy Analysis" § 2.3; FinRegLab, Research Brief, "Utility, Telecom, and Rental Data in Underwriting Credit" (forthcoming 2021); FinRegLab, Research Brief, "Covid-19 Credit Reporting and Scoring Update," pp. 9-11.

22 FinRegLab, "Data Diversification in Credit Underwriting," p. 5.

23 Federal Deposit Insurance Corporation, 2019 FDIC Survey, How America Banks: Household Use of Banking and Financial Services 1, 6 (2020); FinRegLab, "Market Context & Policy Analysis" § 4. Data aggregators are also being used to access information from telecom and utility companies. FinRegLab, "Data Diversification in Credit Underwriting," p. 6.

24 FinRegLab, "Market Context & Policy Analysis" § 4; FinRegLab, "Small Business Spotlight" § 4; FinRegLab, "Data Diversification in Credit Underwriting," pp. 5-8.

25 FinRegLab, "The Use of Cash-Flow Data in Underwriting Credit: Empirical Research Findings" (2019). The study analyzed data from six companies to evaluate the potential effects of cash-flow information on predictiveness, inclusion, and fair lending. The results suggested that cash-flow information could not only be used to predict default risk in situations in which traditional credit report information is not available, but that it also added somewhat different insights with regard to borrowers who did have traditional credit reports and scores. The analysis also found evidence that the participating companies were extending credit to applicants who may have faced constraints in accessing credit historically, and that the degree to which the information was predictive of credit risk appeared to be relatively consistent across borrowers who likely belong to different demographic groups.

26 See, for example, Henri Ots et al., "Mobile Phone Usage Data for Credit Scoring" (Feb. 2020); Tobias Berg et al., "On the Rise of the FinTechs: Credit Scoring Using Digital Footprints," *Review of Financial Studies* (2019); Alain Shema, "Effective Credit Scoring Using Limited Mobile Phone Data" (Jan. 2019).

impact on communities of color because of underlying differences in technology adoption and usage, education, and social networks.

- + **Adopting machine learning techniques:** Model builders have also begun to evaluate the potential for machine learning techniques to improve predictiveness and inclusion relative to traditional scoring and underwriting algorithms. Machine learning techniques often rely on less direction from programmers than traditional models and use more complex mathematical analyses to identify data patterns. Such techniques can be applied to traditional data but can be particularly useful in analyzing large and diverse data sets as they evolve over time. Although machine learning has been used for years in fraud detection, its application to credit scoring and underwriting has been limited to date due to concerns about how to manage models that are more complex and less transparent than traditional algorithms.<sup>27</sup>

For instance, some companies are using machine learning models to identify new predictive variables, but then build them into traditional models that are viewed as easier to manage for purposes of model risk governance, fair lending, and disclosure compliance. Other companies restrict the operation of machine learning models and underlying data to make them easier to understand and explain and reduce risks related to their use. Both approaches may sacrifice some predictiveness, although stakeholders are debating the relative tradeoffs.<sup>28</sup>

Data limitations make it difficult to measure the scale and effect of these various efforts to tap new data and modeling techniques and of other recent changes in credit information markets. However, there is some evidence of increasing momentum within the past few years. Following the release of FinRegLab's empirical analysis of cash-flow data, regulators signaled increased openness to the use of such information in late 2019 and followed up with a number of statements and initiatives relating to credit underwriting data and models in 2020.<sup>29</sup> After the onset of the pandemic, racial justice protests and increasing concerns about traditional data and models' performance during the downturn accelerated industry interest in piloting data and modeling innovations.<sup>30</sup> In May 2021, news broke of pilots by several large banks to use bank account data to underwrite consumers without credit scores, building out of an Office of the Comptroller of the Currency initiative that had launched the year before.<sup>31</sup> The Biden administration has also signaled interest in the use of data to

27 FinRegLab, Frequently Asked Questions, "AI in Financial Services: Key Concepts" (2020); FinRegLab, Frequently Asked Questions, "AI in Financial Services: Explainability in Credit Underwriting" (2020).

28 See, for example, Cynthia Rudin and Joanna Radin, "Why Are We Using Black Box Models in AI When We Don't Need To? A Lesson from An Explainable AI Competition," *Harvard Data Science Review* (Fall 2019).

29 Board of Governors of the Federal Reserve System, Consumer Financial Protection Bureau, Federal Deposit Insurance Corporation, National Credit Union Administration, and Office of the Comptroller of the Currency, "Interagency Statement on the Use of Alternative Data in Credit Underwriting" (Dec. 3, 2019); FinRegLab, "Data Diversification in Credit Underwriting," pp. 9–10.

30 FinRegLab, "Data Diversification in Credit Underwriting"; FinRegLab, "Covid-19 Credit Reporting and Scoring Update"; FinRegLab, Research Brief, "Disaster-Related Credit Reporting Options" (2020).

31 The OCC started Project REACH (Roundtable for Economic Access and Change) in 2020 to convene national banks, civil rights organizations, fintechs, and other stakeholders in the aftermath of racial justice protests. Peter Rudegeair and AnnaMaria Andriotis, "JPMorgan, Others Plan to Issue Credit Cards to People with No Credit Scores," *Wall Street Journal* (May 13, 2021).

increase credit access, potentially following up on campaign plans calling for the creation of a public credit reporting and scoring division within the Consumer Financial Protection Bureau (CFPB) that would create a government option that seeks to minimize racial disparities—for example, by accepting nontraditional data sources, such as rental and utility payment history.<sup>32</sup>

Yet although stakeholder interest in using alternative data and modeling techniques to expand access to credit is increasing, so too is concern that innovations could exacerbate inequalities or lead to other unintended consequences. The next section provides an overview of potential pitfalls and barriers to adoption as private stakeholders and policymakers work to ensure that recent commitments to addressing longstanding disparities lead to concrete improvements for communities of color and other underserved populations.

### Potential Pitfalls and Challenges

Simply finding that new data or models appear to be predictive of credit risk is only the beginning of a complicated process that may ultimately lead to widescale adoption of changes by lenders and other model builders over time. At the outset, model builders must grapple with a number of potential pitfalls and uncertainties in deciding whether particular data or model changes are sufficiently promising to warrant making changes to existing practices:

- + **Data bias concerns:** For both traditional and machine learning models, bias can occur due to a number of flaws in the underlying data, such as a lack of information about key subgroups, use of noisy or flawed measurements, and use of training data that were affected by historical discrimination or bias.<sup>33</sup> These problems are particularly important to the extent that they impact racial equity and inclusion, but they can also affect other aspects of model performance. Thus, in considering adoption of new data sources, it is important to vet the information with regard to accuracy, reliability, potential gaps in coverage, and similar issues.<sup>34</sup>
- + **Other fairness, privacy, and transparency issues with new data sources:** For applicants, use of new data sources can raise other types of concerns about fairness, privacy, and transparency.<sup>35</sup> For example, lenders who have experimented with using information about where customers shop, whether they spend money on particular activities, and other behavioral patterns have faced substantial criticism on privacy and transparency grounds, particularly if consumers are not aware that such factors could affect credit availability and pricing. Some consumer advocates oppose broad use of energy utility data for credit

32 “The Biden Plan to Build Back Better by Advancing Racial Equity Across the American Economy,” [www.joe Biden.com](http://www.joe Biden.com) (undated); “The Biden Plan for Investing in Our Communities Through Housing,” [www.joe Biden.com](http://www.joe Biden.com) (undated).

33 FinRegLab, Frequently Asked Questions, “AI in Financial Services: Explainability in Credit Underwriting.”

34 For analyses of such issues with regard to cash-flow information from transaction accounts and other sources, see FinRegLab, “Market Context & Policy Analysis” §§ 5.1, 6.1.

35 Federal law does not specifically require disclosure of scoring or underwriting criteria to applicants, but lenders must provide certain disclosures in connection with “adverse actions” and have sometimes been subject to enforcement activity for unfair and deceptive practices where they have failed to disclose particular information. FinRegLab, “Market Context & Policy Analysis” § 6.1.1.4. More broadly, there is a desire to educate and empower consumers and small business owners so that they can manage their finances in ways that improve their ability to access affordable credit over time. *Id.* § 6.2.

underwriting, arguing that it is unfair to penalize consumers who fall moderately behind on payments during peak months, given state protections against service cutoffs. Use of payment history on payday and other high-cost loans is also controversial because of concerns about the terms of such products, marketing practices, and disparities in access to various types of financial services providers.<sup>36</sup>

- + **Concerns about management of machine learning models in particular:** The fact that machine learning models can be substantially more complex and less transparent than current automated underwriting models also creates particular concerns about managing general performance and fair lending risks. For instance, concerns about performance deterioration due to data drift and “overfitting” to training data are heightened with machine learning models.<sup>37</sup> Stakeholders have also raised concerns that machine learning models could heighten fair lending risks—for instance, by more closely mapping disparities in traditional data or by reverse-engineering race, gender, or similar characteristics based on correlations in underlying data sources, even though federal law prohibits such characteristics from being considered in credit underwriting.<sup>38</sup> At the same time, others have argued that use of adversarial models and other machine learning techniques could help lenders identify alternative models that maintain similar levels of predictiveness while producing fewer disparities among demographic groups.<sup>39</sup>

These factors underscore the importance of rigorous data and model governance practices, diverse teams, and public research in helping both individual firms and the broader marketplace to evaluate which specific data and modeling innovations are worth substantial investments for implementation. Particularly given continuing evolution in data, modeling techniques, and economic circumstances, robust procedures are needed at each step of model development, vetting, and ongoing monitoring to increase understanding of performance over time. Teams that are diverse both in demographics and disciplines are better able to spot and manage potential problems, not only with regard to technical data science issues but also to broader legal and policy questions. Public research by academics, independent research organizations, and government agencies is also critically important to educating regulators, secondary market investors, and other stakeholders about the usefulness of particular data, models, and compliance tools. Toward that end, FinRegLab has recently announced a new project with economists at the Stanford Graduate School of Business to evaluate tools and

36 FinRegLab, “Market Context & Policy Analysis” §§ 2.3, 6.1.1.1; National Consumer Law Center, “Credit Invisibility and Alternative Data: Promises and Perils” (2019).

37 FinRegLab, Frequently Asked Questions, “AI in Financial Services: Explainability in Credit Underwriting.”

38 See, for example, Talia B. Gillis, “The Input Fallacy,” *Minnesota Law Review* (forthcoming 2022); Laura Blattner and Scott Nelson, “How Costly Is Noise? Data and Disparities in the U.S. Mortgage Market” (January 2021); Andreas Fuster et al., “Predictably Unequal? The Effects of Machine Learning on Credit Markets” (October 2020); Anya E.R. Prince and Daniel Schwarcz, “Proxy Discrimination in the Age of Artificial Intelligence and Big Data,” 105 *Iowa Law Review* 1257 (2020); Mark MacCarthy, “Fairness in Algorithmic Decisionmaking,” Brookings Institution (Dec. 6, 2019).

39 See, for example, Sian Townson, “AI Can Make Bank Loans More Fair,” *Harvard Business Review* (Nov. 6, 2020). For a study of adversarial models to address racial bias concerns in other contexts, see Christina Wadsworth et al., “Achieving Fairness through Adversarial Learning: An Application to Recidivism Prediction” (2018).

techniques that are available for diagnosing and managing concerns about the explainability and fairness of machine learning models for credit underwriting.<sup>40</sup>

But answering baseline questions about the value of particular data or model changes on predictiveness, inclusion, and racial disparities is not sufficient in itself to ensure that beneficial changes can, in fact, reach substantial scale. Business model factors also play an important role in individual firms' decisions about whether they are willing to purchase specialty scores or data or make other investments to change current procedures and practices.<sup>41</sup> Investors' and secondary market actors' demand for consistent benchmarks that can be used across companies and portfolios can also complicate the adoption of innovations; in mortgage markets, it has slowed the adoption even of conventional scoring model updates.<sup>42</sup> And both market and regulatory factors have substantially complicated access to particular data sources, such as rental history, telecom payments, and bank and prepaid account records.<sup>43</sup>

Customer-side considerations can also affect the utility of particular data types and the adoption of particular innovations. Although credit applicants are not always aware of the factors that influence their credit scores or the ways that creditors make underwriting decisions, some nontraditional data sources require express consumer permission to access, and some lenders are attempting to differentiate themselves by emphasizing the fact that they look beyond traditional credit reports.<sup>44</sup> As a result, such factors as digital access and consumers' attitudes toward privacy and machine learning could potentially affect the extent to which borrowers of color seek credit from lenders who use new data or models.<sup>45</sup> To the extent that regulators are slow to clarify the application of existing regulatory protections to new data and modeling applications, this may further increase customer hesitation. Outreach, marketing, and relationship-building with potential customers who are relatively disconnected from and often distrust financial and data companies based on past experience are also critical to broader usage.<sup>46</sup>

## Questions for Private and Public Market Participants Going Forward

These pitfalls and challenges help to illustrate why it is so complicated to assess the potential benefits and risks of data and technology innovations for addressing racial equity issues. Reducing

40 FinRegLab, "FinRegLab to Evaluate the Explainability and Fairness of Machine Learning in Credit Underwriting" (April 14, 2021). As discussed above, concerns about managing the complexity and fairness risks of machine learning models are one of the primary reasons that lenders have been slow to adopt such models in credit underwriting. The project will evaluate the ability of both proprietary and open-source model diagnostic and management tools that use different explainability approaches to support lenders in three critical areas: model risk management, fair lending, and adverse action reporting.

41 For instance, large banks have been inconsistent in their willingness to serve applicants who seek smaller loans and/or are considered higher-risk due to a range of business and regulatory considerations, while smaller banks often face challenges in adopting technology changes due to resource constraints and other factors. Fintech lenders are often first adopters of data and technology innovations but face business model constraints on their access to capital that affect their pricing and ability to withstand economic downturns. FinRegLab, "Market Context & Policy Analysis" §§ 5.2.1.2, 5.2.1.3.

42 Credit scoring models that are widely used for mortgage securitization purposes are so old that they do not consider rental payment history even when it is included in consumer reports. As discussed below, the Federal Housing Finance Agency is overseeing a process to approve more recent models for use, though implementation is expected to take multiple years. *Id.* §§ 2.3, 5.2.1.4.

43 *Id.* § 5.2.2; FinRegLab, "Utility, Telecom, and Rental Data in Underwriting Credit"; FinRegLab, "Data Diversification in Credit Underwriting," p. 4, n. 23; FinRegLab, "Covid-19 Credit Reporting and Scoring Update," pp. 9–10, n. 70.

44 FinRegLab, "Market Context & Policy Analysis" § 6.2.

45 *Id.* §§ 5.1, 6.2.2.

46 The importance of building stronger connections was underscored by recent experiences with the Paycheck Protection Program. FinRegLab, Research Brief, "Technology Solutions for PPP and Beyond" (2020). See also Kedra Newsom Reeves et al., "Racial Equity in Banking Starts with Busting the Myths," BCG (Feb. 2, 2021); Robert Hackett, "Banking While Black: How a New Generation of Leaders Is Overcoming a Legacy of Discrimination and Mistrust," *Fortune* (June 19, 2020); Aria Florant et al., "The Case for Accelerating Financial Inclusion in Black Communities," McKinsey & Co. (2020).

information barriers that make it difficult to assess default risk for particular populations is possible to do if stakeholders are willing to make sufficient investments and to solve market and regulatory issues concerning model governance and data flows, but such initiatives will take significant effort from a broad array of actors. And reducing information barriers will not be sufficient by itself to generate rapid improvements in underlying disparities in income and assets, which are likely to affect other sources of financial data as well. Addressing these interwoven disparities thus requires both sustained work to address gaps and weaknesses in the traditional credit system and parallel efforts to bolster the economic resources of historically distressed populations.

With regard to the first component, a critical question is the extent to which scoring and reporting companies, lenders, and other firms will continue and expand recent work to develop, vet, and adopt more inclusive credit models. As portions of the economy start to revive from the pandemic, the business incentives that have encouraged industry interest in alternative data during the period of intense uncertainty may lessen somewhat. But simply returning to pre-pandemic practices and concentrating on lending to populations that were relatively unaffected by the pandemic risks further excluding low-income consumers, communities of color, and small business owners that have been particularly hard hit by COVID-19's health and economic impacts. Thus, the extent to which alternative data and modeling techniques will be able to improve credit access will depend, in the first instance, on whether multiple industry segments are willing to make sustained investments in working to reach historically underserved populations and to develop more nuanced mechanisms for evaluating applicants who have experienced previous periods of financial distress.<sup>47</sup>

Regulatory actions will also be critical to facilitating the adoption of more modern and inclusive credit models and clarifying and strengthening protections for the underlying data flows. For instance, the Federal Housing Finance Agency is currently overseeing a process to approve more modern conventional credit scoring models for use in mortgage securitizations, including ones that will take rental information into account when it appears in credit reports. The Federal Trade Commission is in the process of updating and strengthening information security requirements that apply to a wide variety of nonbank financial institutions, including lenders, consumer reporting agencies, and other data intermediaries. A CFPB rulemaking to develop standards for consumer-permissioned transfers of financial data could have even broader effects, given the credit system's increasing reliance on data aggregators to access both utility and telecom data and cash-flow information from transaction accounts. However, the agency has not yet signaled how it will prioritize the project relative to other potential initiatives. And congressional action would be needed to address more fundamental

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<sup>47</sup> The latter issue is critical when using both traditional and nontraditional sources of financial data, since both are likely to reflect evidence of pandemic-related hardships. Indeed, distress may actually be more evident in nontraditional data sources than in the information that is typically reported to the NCRAs. For example, Congress provided more short-term relief to homeowners with federally related mortgages than it did to renters, which may cause their consumer reports and scores to deteriorate more rapidly. National Consumer Law Center, "The Credit Score Pandemic Paradox and Credit Invisibility" (2021); FinRegLab, "Covid-19 Credit Reporting & Scoring Update," pp. 9–11. Relief programs for utility payments and small businesses were also complicated by program variations and structure issues at the local, state, and federal levels. See, for example, FinRegLab, "Utility, Telecom, and Rental Data in Underwriting Credit"; Joseph Parilla, "Washington Has Supplied the Dollars to Save Small Businesses, But Local Leaders Need to Supply the Strategy," Brookings Institution (April 5, 2021); National Governors Association, "State Initiatives for Small Business Recovery During The COVID-19 Pandemic Economic Crisis" (Dec. 16, 2020); FinRegLab, "Technology Solutions for PPP and Beyond." Thus, model builders will have to think carefully with regard to the predictive value of evidence of financial distress during the pandemic era.

aspects of the current ecosystem, such as data protections for small business owners and proposals to create a public credit bureau.<sup>48</sup>

Given that communities of color are disproportionately affected by credit information barriers, such efforts to improve data flows and credit models could make it easier for a number of households and small business owners to access more affordable credit for activities that can boost their income and assets over time. Yet it is important to recognize that the existing disparities in income and assets and the recent hardships imposed by the pandemic are also likely to result in many individual applicants being assessed as presenting relatively high levels of default risk. These factors increase the chance that progress, particularly in early stages, may be mixed and incremental. For example, when credit scores were first adopted in small business lending, research found that more applications were approved because lenders were more confident in their ability to predict default. However, because many of the new borrowers were assessed, at least initially, as being relatively high-risk, pricing disparities increased. Due to data limitations and market developments, it is unclear how pricing changed as these new borrowers built payment history over time. One research paper evaluating potential machine learning models for mortgage lending also found that increased predictiveness could lead to some improvement in approval rates but bigger differentials in pricing.<sup>49</sup>

Such dilemmas underscore the importance of using other initiatives to address the deep racial disparities in income and assets at the same time that stakeholders in the credit system continue to explore and implement promising credit and modeling technique innovations.<sup>50</sup> Although there is reason to believe that the credit system can play an important role in helping to magnify broader initiatives to address economic disparities, relying solely on that system to address these cumulative, structural issues would produce too little change too slowly. In much the same way, the credit system has a critical role to play in pandemic recovery, but relying solely on it would be inadequate to ensure a rapid and broad-based rebound, particularly for populations that have been hardest hit by COVID-19's health and economic impacts.

But these challenges also underscore the urgency of making deeper improvements within the credit system. Given the risks and obstacles outlined above, it is not surprising that adoption of data and modeling innovations has been relatively small-scale to date—for instance, through creating pilots, using machine learning only in limited ways, as described above, and using alternative data or scoring models only in “second look” situations where an applicant would otherwise be turned down based on a traditional analysis of traditional data sources. Such approaches can be helpful first steps to gain experience with new innovations in circumstances that are the most likely to have beneficial outcomes for both borrowers and lenders. Yet there may also be tradeoffs to focusing too narrowly over time. For example, restricting data usage solely to second-look and conventionally unscorable applicants may exclude other borrowers who might benefit from a particular change,

48 For further discussions of specific market and policy initiatives to leverage particular types of data, see FinRegLab, “Utility, Telecom, and Rental Data in Underwriting Credit”; FinRegLab, “Market Context & Policy Analysis” § 6.

49 Fuster; Allen N. Berger et al., “Credit Scoring and the Availability, Price, and Risk of Small Business Credit,” 37 *Journal of Money, Credit & Banking* 191 (2005); W. Scott Frame et al., “Credit Scoring and the Availability of Small Business Credit in Low- and Moderate-Income Areas,” 39 *Financial Review* 35–54 (2004).

50 And even within the credit system, data and modeling innovations are not the only improvements that could be helpful. Special-purpose credit programs, down-payment assistance for first-time homebuyers, enhanced credit guarantees and insurance, and better tools to help borrowers during short-term income and expense shocks are just some of the strategies that have been suggested to reduce racial disparities.

as well as affecting the economics of implementation for lenders because costs are spread across a smaller population. Such approaches may also tend to create less general urgency to design safeguards because the number of affected applicants is relatively small, even though there are important equity issues to consider if some applicants are effectively facing a substantial “privacy tax” that others are not required to pay.

Taken together, these factors emphasize that there is no one silver bullet with regard to increasing access to credit through data and model innovations. Although adopting new data sources or other innovations without sufficient vetting raises substantial risks, there are also potential downsides to moving so cautiously that innovations that would have substantial net benefits cannot reach scale. The depth of underlying disparities and complexity of financial and economic interactions also increase the chance that early results may be mixed and that iterative market and policy adjustments will be needed over time. Thus, sustained effort is needed both inside and outside of the credit system to ensure broader and faster progress toward meaningful change.

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# How Can Regulation Facilitate Financial Inclusion in Fintech?

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The racial gaps in wealth and financial inclusion are large and persistent. Our concept of “financial inclusion” follows that of the World Bank: “individuals and businesses have access to useful and affordable financial products and services that meet their needs... delivered in a responsible and sustainable way.”<sup>2</sup> Turning first to wealth gaps, the typical White family has eight times the wealth of the typical Black family and five times the wealth of the typical Hispanic family.<sup>3</sup> These wealth gaps emerge early in life. For example, among young families in 2019, about 46 percent of White families owned their home, compared with 17 percent of Black families and 28 percent of Hispanic families.<sup>4</sup> The racial homeownership gap was smaller for older families, but the later start in purchasing a home means that Black and Hispanic families accumulate less wealth from homeownership over their lifetimes.<sup>5</sup>

Turning next to financial inclusion, no family member in nearly 14 percent of Black households and 12 percent of Hispanic households had a checking or savings account in 2019, compared with 3 percent of White households.<sup>6</sup> Blacks and Hispanics also have less access to credit markets. In 2019, more than half of Blacks and 40 percent of Hispanics reported that they had been denied credit or approved for less credit than they requested, compared with only a quarter of Whites.<sup>7</sup> This racial gap in credit access remained large even for individuals with family income greater than \$100,000.

Can fintech help ameliorate these profound disparities? For purposes of this article, “fintech” means new algorithmic techniques, such as machine learning, and new data sources that have not been

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color.*

1 The views in this article are the authors' alone and are not necessarily those of the Federal Reserve Bank of San Francisco, Federal Reserve System, Board of Governors or its staff, the Consumer Financial Protection Bureau, or the United States. We are grateful to Kaitlin Asrow, Katrina Blodgett, Albert Chang, Scott Colgate, Patrice Ficklin, Susan Grutza, Jeremy Hochberg, Varda Hussein, Ena Koukourinis, Tim Lambert, Barbara Lipman, Stephanie Martin, Dana Miller, David Palmer, and Justin Warner for thoughtful comments.

2 See <https://www.worldbank.org/en/topic/financialinclusion/overview>, accessed March 29, 2021.

3 Neil Bhutta et al., “Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances,” FEDS Notes (September 2020), <https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-wealth-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances-20200928.htm>.

4 Ibid. Younger families are those with a household head younger than age 35.

5 Ibid. Older families are those with a household head aged 35–54.

6 Federal Deposit Insurance Corporation (FDIC), “How America Banks: Household Use of Banking and Financial Services, 2019 FDIC Survey” (Washington, DC: FDIC, October 2020), 12–13, <https://www.fdic.gov/analysis/household-survey/2019report.pdf>.

7 Board of Governors of the Federal Reserve System, “Report on the Economic Well-Being of U.S. Households in 2019 (Featuring Supplemental Data from April 2020)” (Washington, DC: Board of Governors of the Federal Reserve System, May 2020), 28, <https://www.federalreserve.gov/publications/files/2019-report-economic-well-being-us-households-202005.pdf>.

used previously in the provision of financial services. Fintech certainly has the potential to increase financial inclusion—for example, by expanding access to affordable credit. Yet, as we will discuss below, there are also ways that expanded data sources can be leveraged by sophisticated algorithms to amplify existing inequities in financial services, effectively moving analog discrimination—such as underwriting discrimination, redlining, and steering—to the digital world and compounding the legacies of structural inequity.<sup>8</sup>

In this article, we discuss how certain aspects of fintech have called into question two key assumptions that underlie consumer protection regulation: the assumption that more data make decisions more objective and that the Internet or other digital channels can equalize access to information. Then, we provide an overview of current consumer protection regulations and highlight areas that warrant further attention from regulators and policymakers. Specifically, we identify gaps in existing regulatory and legal frameworks in the United States with respect to fintech and financial inclusion, such as the lack of a federal law that prohibits discrimination in financial services outside of lending and the lack of a robust privacy framework. Finally, we will address how regulators can support financial inclusion by taking a clear-eyed approach to the benefits and risks of innovation and by recognizing that companies who may profit from new technologies may be more vocal than the consumers and communities who could ultimately be harmed.

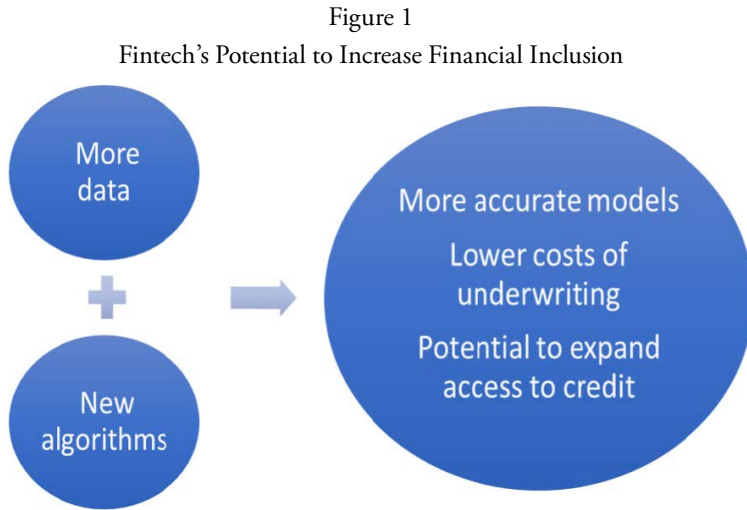
## Fintech and Financial Inclusion: What Is Different?

Many industry and advocate representatives are intrigued by the potential for fintech to promote financial inclusion. As illustrated in Figure 1, there is the tantalizing possibility that new artificial intelligence techniques, such as machine learning, can leverage newly available data to improve financial inclusion. For financial services, these expanded data include “alternative data,” which generally refer to information that is not included in consumers’ credit reports or traditionally provided by consumers in the credit application process.<sup>9</sup> Some of these new data fields have a clear link to creditworthiness. For example, for small business lending, some new underwriting models are based on enhanced financial and business data. Similarly, for consumer loans, some firms consider more detailed financial information on inflows and outflows from consumers’ bank accounts, often called cash-flow data. A recent study by FinRegLab, a nonprofit research organization, suggests that cash-flow data may have promise for expanding credit to underserved borrowers, such as “thin file” consumers without extensive traditional credit histories.<sup>10</sup>

8 For an extended discussion of how technology may introduce discrimination into financial services, see Adair Morse and Karen Pence, “Technological Innovation and Discrimination in Household Finance,” Finance and Economics Discussion Series 2020-018 (Washington, DC: Board of Governors of the Federal Reserve System, 2020), <https://doi.org/10.17016/FEDS.2020.018>.

9 See “Interagency Statement on the Use of Alternative Data in Credit Underwriting,” (December 3, 2019), note 1, <https://www.federalreserve.gov/supervisionreg/calletters/CA%2019-11%20Letter%20Attachment%20Interagency%20Statement%20on%20the%20Use%20of%20Alternative%20Data%20in%20Credit%20Underwriting.pdf>.

10 FinRegLab, “The Use of Cash-Flow Data in Underwriting Credit: Empirical Research Findings” (Washington, DC: FinRegLab, 2019), [https://finreglab.org/wp-content/uploads/2019/07/FRL\\_Research-Report\\_Final.pdf](https://finreglab.org/wp-content/uploads/2019/07/FRL_Research-Report_Final.pdf).

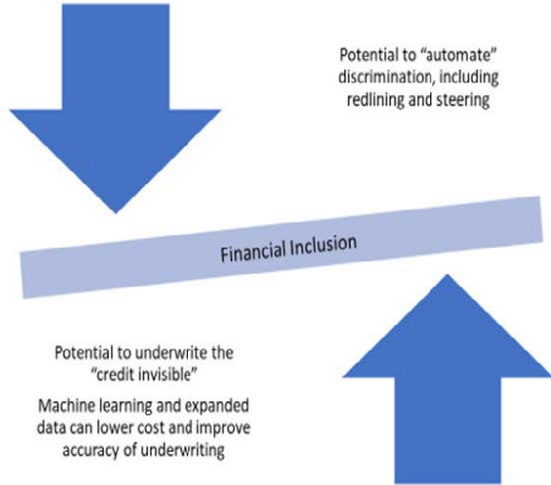


Of course, as with many promising developments, it is fair to ask whether fintech can deliver on this promise of financial inclusion. In particular, as we describe in the next sections, fintech could challenge two fundamental underpinnings of the current regulatory and policy regime and create significant pathways to discrimination. First, the proliferation of data about consumers, coupled with new algorithms, challenges the traditional concept of what it means to be data-driven. Second, the ability to customize at the level of the individual consumer what information and prices are shown about different products and services upends the bedrock principle that consumers can improve their options and decision-making by shopping around.

Figure 2 illustrates how new data sources and algorithmic methods have the potential to both enhance and undermine financial inclusion. As policymakers and stakeholders evaluate these concerns and consider potential solutions, it is important to note that the increased use of new data and algorithms is not limited to financial services but extends broadly to other areas, such as criminal justice, employment, and access to nonfinancial goods and services.<sup>11</sup> These broader areas are relevant to financial inclusion because bias in areas outside of financial services also can exact a steep cumulative price on financial and physical health and well-being. Moreover, understanding the intersection of these risks can better equip stakeholders to understand their effects and identify solutions.

<sup>11</sup> For a full discussion of the impact of algorithms, see Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (New York: Crown, 2016).

Figure 2  
Can Fintech Deliver on the Promise to Increase Financial Inclusion?



***Let’s Unpack What It Means to Be Data-Driven: How New Data May Actually Inject Bias Back Into Decision-Making***

Some fintech proponents note that data-driven algorithms can improve decision-making and reduce human bias. As we explore below, although all algorithms have the potential to be more consistent than humans, the types of data that new algorithms use have the potential to inject bias back into decision-making.

It is true that automating decisions—rather than having humans make decisions—may reduce bias and promote consistency. But this is true of both fintech algorithms and more traditional models used in credit decisioning. In fact, biased and inconsistent human decision-making has long been recognized as a risk factor for discrimination in lending and, therefore, disfavored. In one seminal study of lending discrimination, economists at the Federal Reserve Bank of Boston found significant, unexplained racial disparities in underwriting decisions.<sup>12</sup> The authors of the study suggested that the disparities might result from loan officers’ applying discretion inconsistently in cases where a loan application did not fully meet the underwriting criteria. More broadly, one might imagine loan officers offering more assistance to White borrowers or taking into account irrelevant factors that could be correlated with race, such as whether an applicant attended the same church as the loan officer, shared common hobbies, and the like.

12 Alicia H. Munnell et al., “Mortgage Lending in Boston: Interpreting HMDA Data,” *American Economic Review* 86 (1) (March 1996): 25–53.

As a result of these concerns, over the past decades, there has been considerable focus on more objective decision-making through empirically derived credit scoring and automated underwriting systems. Credit scoring models and automated underwriting systems were promoted, in part, because they could reduce the potential for discrimination, as well as improve the accuracy of decisions. These systems typically rely on information with a well-established relationship with creditworthiness, such as loan-to-value ratios and credit history, rather than using vague criteria that could be applied unevenly and subjectively. Regulators, too, have emphasized the risk involved in subjective and inconsistent decision-making.<sup>13</sup> Thus, arguing that fintech algorithms will lead to more equitable outcomes because they eliminate human bias overstates the potential of fintech because most lenders rely on some type of empirically based decision-making process or, at least, a rules-based system.

The better question is whether expanded data and more sophisticated models can improve equitable outcomes relative to the current models and decision-making methods. To evaluate the merits of new data, it is critical to unpack what data are being used and how they are being used. The fact that a model is data-driven does not necessarily make it fair or objective. When most of us think of the term “data-driven,” we assume it refers to hard, objective data that are clearly relevant to the decision at hand.<sup>14</sup> But now, algorithms may increasingly use the kind of soft behavioral data—such as shopping patterns, leisure pursuits, and where you live—that lenders, advocates, and regulators have tried to keep out of lending decisions because they are not clearly related to creditworthiness and may be strongly correlated with race and other protected characteristics.<sup>15</sup> Some of these nontraditional data also have not been vetted fully for quality and accuracy. If lenders start using models that incorporate the types of data that regulators discouraged human underwriters from using, they could automate bias, creating new pathways of discrimination that could calcify racial inequities.<sup>16</sup>

Thus, it is not enough to ask whether something is data-driven. In a prior article, one of the authors proposed a set of structured questions to evaluate the suitability of data and to guard against uses that could undermine equitable access to financial services.<sup>17</sup> The first set of questions asks what the basis is for using the data, including whether there is a nexus with creditworthiness (in the case of lending); whether the data are accurate, reliable, and representative of all consumers; and whether the predictive relationship is ephemeral or stable over time. The second set of questions asks whether the data are being used for the purpose for which they have been validated; whether consumers know how their data are being used; whether data about consumers are used to determine what content consumers see; and which consumers are evaluated with the data. Regulators have also underscored

13 See, for example, “Interagency Fair Lending Examination Procedures” (August 2009), p. 9, <https://www.ffiec.gov/PDF/fairlend.pdf>.

14 Of course, hard, objective data may also, in some cases, reflect and incorporate bias. For example, paying payday or car title loans on time generally does not help a consumer’s credit score, whereas repaying many other types of loans on time does. For a full exploration of these concerns, see Testimony of Lisa Rice, “Missing Credit: How the U.S. Credit System Restricts Access to Consumers of Color,” February 26, 2019, <https://nationalfairhousing.org/wp-content/uploads/2019/04/Missing-Credit.pdf>.

15 For example, Facebook reportedly patented technology to assist lenders in considering the creditworthiness of consumers’ online contacts when making credit decisions. Matt Vasilogambros, “Will Your Facebook Friends Make You a Credit Risk?” *The Atlantic*, August 7, 2015, <https://www.theatlantic.com/politics/archive/2015/08/will-your-facebook-friends-make-you-a-credit-risk/432504/>.

16 Fair lending laws prohibit discrimination based on numerous characteristics (often called “protected characteristics”), but in keeping with the theme of this special issue we will focus primarily on race.

17 Carol Evans, “Keeping FinTech Fair: Thinking About Fair Lending and UDAP Risks,” *Consumer Compliance Outlook*, Federal Reserve System, (Second Issue 2017), <https://www.consumercompliancetoolkit.org/2017/second-issue/keeping-fintech-fair-thinking-about-fair-lending-and-udap-risks/>.

the importance of conducting a careful analysis before using alternative data, noting that data “directly related to consumers’ finances and how consumers manage their financial commitments may present lower risks than other data.”<sup>18</sup>

***How Do We Think About Consumer Choice When There Is No Longer a Single Website Experience and We Each May See Different Information Online?***

Anonymity can be a powerful tool to promote inclusion. For example, one study found that having symphony musicians audition behind a screen increased the selection of women musicians.<sup>19</sup> Initially, the anonymous nature of the Internet was seen as an equalizing force when it came to access to information and reducing bias. One early study found that Blacks and Hispanics purchasing cars online paid about the same prices as comparable Whites, but they paid more when purchasing without using the Internet.<sup>20</sup>

Now, increasingly, consumers are no longer anonymous. Consumers can be tracked across websites, and their browsing data may be matched with other information to generate detailed profiles.<sup>21</sup> Where once marketing provided different populations with access to the same products, online marketing today is targeted to reach highly specific demographics of consumers, and even to the level of the individual consumer. The possibility that consumers may see different information online, based on information websites have about them, turns on its head a core tenet of financial well-being advice and consumer protection regulation: that consumers should shop around and compare offers. Shopping around in the digital world provides no guarantee that one consumer will be shown the same ads or offered the same prices as another online (Figure 3). For example, one academic study found evidence of digital steering and price discrimination on numerous popular e-commerce sites.<sup>22</sup>

18 See “Interagency Statement on the Use of Alternative Data in Credit Underwriting” (December 3, 2019), <https://www.federalreserve.gov/supervisionreg/caletters/CA%2019-11%20Letter%20Attachement%20Interagency%20Statement%20on%20the%20Use%20of%20Alternative%20Data%20in%20Credit%20Underwriting.pdf>.

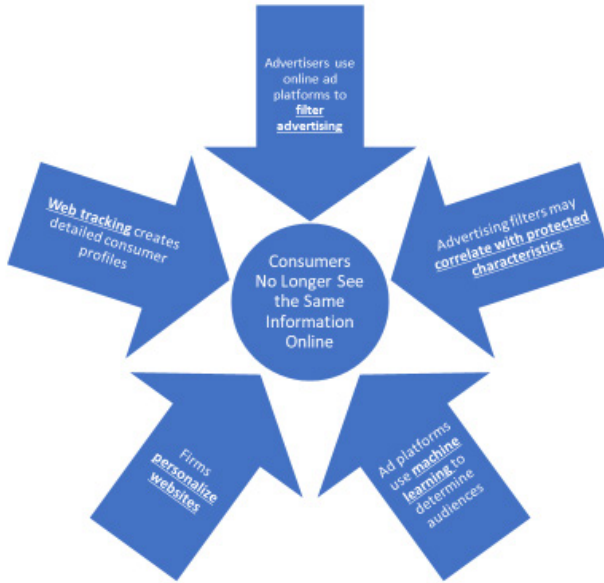
19 Claudia Goldin and Cecilia Rouse, “Orchestrating Impartiality: The Impact of ‘Blind’ Auditions on Female Musicians,” *American Economic Review* 90 (4) (September 2000): 715–41.

20 Fiona Scott Morton, Florian Zetzelmeier, and Jorge Silva-Risso, “Consumer Information and Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?” *Quantitative Marketing and Economics* 1 (2003):65–92.

21 For a fuller discussion of the implications of targeted marketing, see Carol A. Evans and Westra Miller, “From Catalogs to Clicks: The Fair Lending Implications of Targeted, Internet Marketing,” *Consumer Compliance Outlook*, Third Issue (2019), <https://www.consumercomplianceoutlook.org/2019/third-issue/from-catalogs-to-clicks-the-fair-lending-implications-of-targeted-internet-marketing/>. For a study finding that many online lending sites tracked borrowers, see also Barbara Lipman and Ann Marie Wiersch, “Uncertain Terms: What Small Business Borrowers Find When Browsing Online Lender Websites” (Washington, DC: Board of Governors of the Federal Reserve System, December 2019), <https://www.federalreserve.gov/publications/files/what-small-business-borrowers-find-when-browsing-online-lender-websites.pdf>.

22 Aniko Hannak et al., “Measuring Price Discrimination and Steering on E-commerce Web Sites” (2014), <http://www.ccs.neu.edu/home/cbw/static/pdf/ime151-hannak.pdf>.

Figure 3  
Consumers No Longer See the Same Information Online



Although targeted marketing and website personalization offer benefits by increasing the chance of showing consumers information about products of interest to them, it also creates the risk of digital redlining. Just as many of us have become increasingly aware that we may see very different news than others, we each also may see very different information about services and products. The risk is that some consumers may be digitally steered toward certain products and services based on assumptions about them, and these assumptions could be related to race or other protected characteristics.<sup>23</sup>

Facebook provides a case study of how targeted marketing can create new pathways to discrimination. In 2016, a news report revealed that when placing a housing ad on the Facebook advertising platform, it was possible to purposefully exclude Facebook users of certain “ethnic affinities” and other protected characteristics from viewing those ads.<sup>24</sup> The journalists were able to purchase ads that sought to exclude consumers with an “affinity” for “African American,” “Asian American,” or “Hispanic.” More broadly, as of 2019, Facebook permitted advertisers to select ad audiences based on more than 200,000 attributes.<sup>25</sup>

Another Facebook feature allows advertisers to target “Lookalike” audiences that have characteristics in common with the advertisers’ current customers or other groups.<sup>26</sup> Although this may seem like an efficient feature for an advertiser to use, it could magnify discrimination if the source list on which the Lookalike Audience is based is biased or skewed. Indeed, Facebook notes the following on its website

<sup>23</sup> See Evans and Miller, “From Catalogs to Clicks” for further discussion.

<sup>24</sup> Julia Angwin and Terry Parris Jr., “Facebook Lets Advertisers Exclude Users by Race” (New York: ProPublica, October 28, 2016), <https://www.propublica.org/article/facebook-lets-advertisers-exclude-users-by-race>.

<sup>25</sup> Athanasios Andreou et al., “Measuring the Facebook Advertising Ecosystem.” In *Proceedings of the Network and Distributed System Security Symposium* (NDSS 2019), <https://mislove.org/publications/Facebook-NDSS.pdf>.

<sup>26</sup> *Ibid.*, p. 3.

for advertisers: “When you create a Lookalike Audience, you choose a source audience...We identify the common qualities of the people in it (for example, demographic information or interests).”<sup>27</sup>

Unfortunately, given the underlying structure and operation of the Internet, removing bias from online advertising is more complicated to fix than it might appear. In response to civil rights litigation, Facebook entered into a settlement and created new safeguards in the areas of housing, employment, and credit, where federal civil rights laws apply.<sup>28</sup> For ads in those areas, Facebook limited the ability of advertisers to target ads based on protected characteristics. Research has shown, though, that despite these protections, the Facebook algorithms that determine which ads are shown to consumers might still skew the ad delivery. As one example, a study constructed ads that varied the text and images used to describe residential properties for rent and purchase. Although the researchers used the same audience-targeting options for each ad—and housing is an area where Facebook has limited targeting—the advertising algorithm sent some ads to an audience with more than 70 percent Black users and others to an audience of about half Black users.<sup>29</sup>

## **Guardrails for Consumer Protection: The Current Regulatory Framework and What More May Be Needed Given Fintech Trends**

Since two of the approaches that regulators have historically relied on to counter discrimination—encouraging financial service providers to base their decisions on data, and consumers to shop around—may be less effective in the fintech era, we now ask whether our current regulatory framework is well-suited to protect consumers or if Congress and policymakers should consider additional approaches. We outline first the existing fair lending laws and the laws prohibiting unfair, deceptive, or abusive practices.<sup>30</sup> We then highlight two gaps that warrant further attention—discrimination outside of lending and the lack of a robust privacy framework—and discuss whether additional new tools might be needed.

### ***Current Protections That Can Address Fintech Trends***

#### **1. The Fair Lending Laws: The Equal Credit Opportunity Act and the Fair Housing Act**

The Equal Credit Opportunity Act (ECOA) and the Fair Housing Act (FHA) are the two key federal civil rights laws in the United States that apply to financial services. ECOA prohibits credit discrimination on the basis of race, color, religion, national origin, sex, marital status, age, receipt of income from any public assistance program, or because a person has exercised certain legal

<sup>27</sup> <https://www.facebook.com/business/help/164749007013531?id=401668390442328>, accessed on April 1, 2021.

<sup>28</sup> Joint statement from Facebook, NFHA, CWA, ECBA, O&G, and ACLU, Summary of Settlements Between Civil Rights Advocates and Facebook (March 19, 2019), <https://www.aclu.org/other/summary-settlements-between-civil-rights-advocates-and-facebook>.

<sup>29</sup> Muhammad Ali et al., “Discrimination through Optimization: How Facebook’s Ad Delivery Can Lead to Biased Outcomes.” In *Proceedings of the ACM on Human-Computer Interaction* Vol. 3, CSCW, Article 199 (November 2019), p. 22, <https://ccs.neu.edu/~mali/papers/facebook-delivery-cscw.pdf>.

<sup>30</sup> Although many other consumer financial services statutes are applicable to financial innovation, our focus here will be on regulatory requirements relating to the trends we have identified.



rights under ECOA and other consumer protection statutes.<sup>31</sup> ECOA applies to both consumer and business loans. FHA applies to residential real estate–related transactions, as well as other housing-related areas, and prohibits discrimination on the basis of race or color, national origin, religion, sex, familial status, and handicap.<sup>32</sup> The Facebook litigation discussed above alleged violations of the FHA. Additionally, in 2019, the U.S. Department of Housing and Urban Development brought a charge of discrimination based on violations of the FHA that encompassed Facebook’s advertising algorithms.<sup>33</sup>

The fair lending laws broadly prohibit two kinds of discrimination: disparate treatment and disparate impact. Disparate treatment occurs when a lender treats a consumer differently because of a protected characteristic, such as race or sex. Disparate impact occurs when a lender’s policy or practice has a disproportionately negative impact on a prohibited basis, even though the lender may have no intent to discriminate and the practice appears neutral. Policies or practices that have a disparate impact may violate the law, unless the policy or practice meets a legitimate business necessity that cannot reasonably be achieved by a means that has less impact on protected classes.

In the context of fintech, if an algorithm expressly included race or another protected basis characteristic, that would be disparate treatment. If the algorithm included a variable—or complex interactions of variables—that disproportionately affected persons based on a protected basis characteristic and did not meet a legitimate business necessity, or if a less discriminatory alternative existed, that may be disparate impact. Variables that may raise disparate impact concerns include those traditionally correlated with race, such as where people live, educational background, and hobbies or interests. Additionally, seemingly neutral variables may also result in discriminatory outcomes, especially when combined with other data points in ways that may correlate with race or another protected characteristic. This risk may be heightened when models use many variables. Because neutral inputs do not necessarily result in neutral outcomes, the disparate impact framework within ECOA and FHA may be particularly important to addressing concerns about algorithmic bias and discrimination in this space.<sup>34</sup>

## **2. Unfair, Deceptive, or Abusive Acts or Practices: The Federal Trade Commission Act and the Dodd-Frank Act**

There are two federal statutes that prohibit unfair play in the financial services marketplace. Section 5 of the Federal Trade Commission Act prohibits unfair and deceptive acts and practices (UDAP). The

31 The Consumer Financial Protection Bureau recently issued an interpretive rule clarifying that ECOA’s prohibition against sex discrimination includes discrimination on the basis of sexual orientation and gender identity. See <https://www.consumerfinance.gov/about-us/newsroom/cfbp-clarifies-discrimination-by-lenders-on-basis-of-sexual-orientation-and-gender-identity-is-illegal/>.

32 The United States Department of Housing and Urban Development (HUD) also has announced that it will administer and enforce the Fair Housing Act to prohibit discrimination on the basis of sexual orientation and gender identity. See [https://www.hud.gov/press/press\\_releases\\_media\\_advisories/hud\\_no\\_21\\_021](https://www.hud.gov/press/press_releases_media_advisories/hud_no_21_021).

33 HUD Charge of Discrimination, March 28, 2019, [https://www.hud.gov/sites/dfiles/Main/documents/HUD\\_v\\_Facebook.pdf](https://www.hud.gov/sites/dfiles/Main/documents/HUD_v_Facebook.pdf).

34 In 2020, the Department of Housing and Urban Development (HUD) published a revised rule that would make it more challenging to demonstrate disparate impact under the Fair Housing Act, but the future of the rule is in question. The rule was challenged by civil rights groups, and a federal court granted a preliminary injunction. See Massachusetts Fair Housing Center and Housing Works, Inc. v. United States Dept. of Housing and Urban Development, No. 3:20-cv-11765-MGM (D. Mass., October 25, 2020) (order granting preliminary injunction) at <http://lawyersforcivilrights.org/wp-content/uploads/2020/10/Nationwide-PL-Against-HUD.pdf>. On January 26, 2021, President Biden directed HUD to review the rule. Memorandum on Redressing Our Nation’s and the Federal Government’s History of Discriminatory Housing Practices and Policies, January 26, 2021, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-redressing-our-nations-and-the-federal-governments-history-of-discriminatory-housing-practices-and-policies/>.

Dodd–Frank Wall Street Reform and Consumer Protection Act also prohibits unfair, deceptive, or abusive acts and practices (UDAAP). Many states have their own consumer protection statutes.

These statutes provide important protections against harm that could result from using consumer data in ways that are not accurately disclosed. For example, a Federal Trade Commission (FTC) complaint alleged that the lender failed to disclose to consumers that their credit limits could be reduced based on a behavioral scoring model, which penalized consumers for using their cards for certain types of transactions, such as paying for marriage counseling.<sup>35</sup> Using data about consumers in ways that could expose them to harm or steer them to disadvantageous products may also raise UDAP concerns. In another FTC case, the complaint alleged that websites promised to connect consumers with the lenders that would offer the best terms, but instead sold the consumers' data to the first willing buyer.<sup>36</sup> In another illustration of potential risk, it was reported that a leading college information website filtered search results to favor for-profit schools for students who indicated a need for financial aid.<sup>37</sup> Although this example does not involve financial services, it shows how information about consumers may be used in ways that may exploit their vulnerabilities and undermine financial inclusion.

### *What Is Missing in the Current Regulatory Landscape Given Fintech Trends?*

#### **1. Anti-Discrimination Protections That Extend Beyond Lending**

The current regulatory framework includes comprehensive federal laws prohibiting discrimination in housing (FHA), credit (ECOA and FHA), and employment (Title VII). However, there are no equivalent federal statutes prohibiting discrimination in other aspects of financial services, such as checking and savings account fees or investment advisory services.<sup>38</sup> Discrimination in these areas is covered by a patchwork of less comprehensive state public accommodation laws that were designed to prohibit businesses from treating customers differently on the basis of a protected characteristic.

The main federal public accommodation law, Title II of the 1964 Civil Rights Act, covers only certain types of businesses, such as hotels, restaurants, and theaters, and does not cover retail businesses, including banks. In contrast, state public accommodation laws typically cover retail businesses. However, these laws vary widely across states, and because they generally were enacted in the 1950s and 1960s, many have not been updated for online commerce.<sup>39</sup> Six states do not have these laws at all, and only five states have explicitly stated that their statutes apply to online

35 FTC v. CompuCredit Corp., No. 1:08-CV-1976-BBM-RGV (N.D. Ga. 2008), Complaint pp. 34–35, 39, <https://www.ftc.gov/sites/default/files/documents/cases/2008/06/080610compucreditcmplt.pdf>.

36 FTC v. Blue Global, LLC, No. 2:17-CV-021177-ESW (D. Ariz. 2017), <https://www.ftc.gov/enforcement/cases-proceedings/152-3225/blue-global-christopher-kay>.

37 O'Neil, *Weapons of Math Destruction*, p. 78.

38 It is possible that discrimination in these areas could violate the Federal Trade Commission Act. See Elisa Jillson, "Aiming for truth, fairness, and equity in your company's use of AI," Federal Trade Commission Business Blog (April 19, 2021), <https://www.ftc.gov/news-events/blogs/business-blog/2021/04/aiming-truth-fairness-equity-your-companys-use-ai> ("The FTC Act prohibits unfair or deceptive practices. That would include the sale or use of – for example – racially biased algorithms."). See also Statement of Commissioner Rohit Chopra, In the Matter of Liberty Chevrolet, Inc. d/b/a Bronx Honda, Commission File No. 1623238 (May 27, 2020), ("Using disparate impact analysis and other tools, the Commission can use its unfairness authority to attack harmful discrimination in other sectors of the economy.") [https://www.ftc.gov/system/files/documents/public\\_statements/1576002/bronx\\_honda\\_final\\_rchopra\\_bronx\\_honda\\_statement.pdf](https://www.ftc.gov/system/files/documents/public_statements/1576002/bronx_honda_final_rchopra_bronx_honda_statement.pdf).

39 See David Brody and Sean Bickford, "Discriminatory Denial of Service: Applying State Public Accommodations Laws to Online Commerce," Lawyers' Committee for Civil Rights Under Law (January 2020), <https://lawyerscommittee.org/wp-content/uploads/2019/12/Online-Public-Accommodations-Report.pdf>.

commerce.<sup>40</sup> States also vary in which protected characteristics they cover and whether individuals are allowed to sue on their own behalf.<sup>41</sup>

This lack of a comprehensive regulatory framework is jarring when juxtaposed with the large racial gaps in banking and investment services. As noted earlier, Blacks and Hispanics are less likely to have a checking or savings account at a bank or credit union. Some research suggests that banks with main branches in Black and Hispanic communities charge more for entry-level checking accounts across a range of costs and fees, including minimum opening deposit, regular maintenance or service fee, minimum balance, and overdraft fee.<sup>42</sup> Black and Hispanic workers are less likely to participate in 401(k) plans offered by their employer; if they do participate, they tend to contribute less to their accounts and are less likely to invest in the stock market.<sup>43</sup> These gaps alone are not evidence of discrimination but suggest that regulators would benefit from having more tools at their disposal in the event that discriminatory practices exist in these markets. In 2020, the Fair Access to Financial Services Act, which would prohibit discrimination in any aspect of financial services, was introduced in Congress.<sup>44</sup>

Additionally, given the ability of websites to track consumers and the potential to change terms and pricing based on information about consumers, the lack of comprehensive protections is troubling. Returning to the Facebook example, Facebook implemented additional protections for three key areas protected by federal civil rights laws: housing, employment, and credit. In the remaining areas of consumers' lives, however, advertisers are free to target consumers based on all characteristics, including those closely related to race, sex, and other protected characteristics. This gap could create a significant risk of amplifying racial inequity.

## 2. A Comprehensive Approach to Privacy

The regulatory framework around privacy—by which we mean how consumers' personal data are collected, stored, and used—has not kept pace with the explosion in fintech capabilities. Fintech has utilized “digital footprint” data, such as the consumer's IP address, browser type, web search results, social media posts, and ecommerce purchases. Fintech has also made it easier to purchase and leverage these data and combine them with other data sources in ways that most consumers would not expect.

There is no comprehensive federal privacy statute in the United States, although the Gramm-Leach-Bliley Act imposes some privacy-related restrictions on financial firms. In the European Union (EU), the General Data Protection Regulation (GDPR) provides comprehensive standards

<sup>40</sup> The six states that lack these laws entirely (except for individuals with disabilities) are Alabama, Georgia, Mississippi, North Carolina, Texas, and Virginia. The five states whose laws explicitly apply to online companies are California, Colorado, New Mexico, New York, and Oregon. See Brody and Bickford, “Discriminatory Denial of Service.”

<sup>41</sup> Brody and Bickford, “Discriminatory Denial of Service.”

<sup>42</sup> Jacob William Faber and Terri Friedline, “The Racialized Cost of Banking” (New York: New America Foundation, 2018), <https://www.newamerica.org/family-centered-social-policy/reports/racialized-costs-banking/the-racialized-costs-of-banking/>; Faber and Friedline, “The Racialized Costs of ‘Traditional’ Banking in Segregated America: Evidence from Entry-Level Checking Accounts,” *Race and Social Problems* 12 (2020): 344–61.

<sup>43</sup> Joanne K. Yoong et al., “Disparities in Minority Retirement Savings Behavior: Survey and Experimental Evidence from a Nationally-Representative Sample of US Households.” RAND Corporation Working Paper WR-1331 (October 2019), [https://www.rand.org/content/dam/rand/pubs/working\\_papers/WR1300/WR1331/RAND\\_WR1331.pdf](https://www.rand.org/content/dam/rand/pubs/working_papers/WR1300/WR1331/RAND_WR1331.pdf).

<sup>44</sup> See <https://www.congress.gov/bills/116th-congress/senate-bill/4801/text>.

on how companies collect, store, protect, use, and share their consumers' data. The law applies to U.S. companies that collect data on persons in the EU, but otherwise U.S. companies are not subject to any federal regulations similar to the GDPR in scope. In the absence of such federal legislation, some states have stepped into the void. California and Virginia have already passed laws, and other states are considering legislation. Depending on the state, either financial institutions or certain data collected by financial institutions are carved out of the law, but financial institutions may still be affected—for example, through third-party vendors.<sup>45</sup>

These privacy statutes are important because firms are increasingly using digital footprint data in their decision-making. For example, Klarna, a large Swedish fintech payments company that provides point-of-sale financing for retail purchases, uses information on the time of day that customers purchase items and the customers' IP addresses in its credit scoring model.<sup>46</sup> If these digital footprints are correlated with protected characteristics, such as race and sex, they may lead to discriminatory outcomes. The GDPR provides a window into this process: it requires firms that use algorithms to make decisions that affect humans significantly to disclose the type of data and the logic used by the algorithm. Although these disclosures may not be particularly useful for individual consumers, they have the potential to be a tool that researchers and advocates can use to gauge firms' algorithmic decision-making. Researchers inferred Klarna's use of algorithms, for example, from the GDPR-mandated disclosures.<sup>47</sup>

In the United States, it is likely that the comprehensive regulation prohibiting discrimination in the areas of lending, housing, and employment has largely kept firms from using digital footprint data in their decision-making in these markets. Outside these markets, though, U.S. consumers have neither comprehensive regulation forbidding discrimination, nor the window into algorithmic decision-making brought about by the GDPR.

### 3. Other Tools to Promote Fairness and Transparency

The fact that algorithms with significant implications for financial inclusion can be so opaque raises the question of whether the public and regulators need more information on these algorithms in order to detect and monitor bias and discrimination. When advertisements and product offers are tailored to each individual consumer, regulators and other stakeholders can no longer see if certain demographic groups, for example, are getting systematically different advertisements by monitoring the TV channels and other media that target that market.

One tool that has received attention in recent years is auditing algorithms. A 2016 report issued by the Executive Office of the President noted the importance of “promot[ing] academic research and industry

45 Penny Crosman, “State data privacy laws pose compliance headaches for banks,” *American Banker*, March 8, 2021, <https://www.americanbanker.com/news/state-data-privacy-laws-pose-compliance-headaches-for-banks>.

46 Tobias Berg et al., “On the Rise of FinTechs: Credit Scoring Using Digital Footprints,” *Review of Financial Studies* 33 (7) (2020): 2845–97, Table A6; Penny Crosman, “The high-tech, low-effort loans winning over online shoppers” *American Banker*, July 6, 2017, <https://www.americanbanker.com/news/the-high-tech-low-effort-loans-winning-over-online-shoppers>.

47 Berg et al., “On the Rise of FinTechs.”

development of algorithmic auditing...to ensure that people are being treated fairly.”<sup>48</sup> The proposed Digital Services Act in Europe, which was submitted to the European Parliament in December 2020, would require annual audits of very large online platforms.<sup>49</sup> Among other responsibilities, these audits “shall identify, analyse, and assess...any significant systemic risks...associated with the prohibition of discrimination...as enshrined in Article 21 of the [European] Charter.”<sup>50</sup> The Digital Services Act would also require very large online platforms to allow access to their data to “vetted researchers” for the purpose of conducting research on systemic risks associated with discrimination.

Although the concept of auditing algorithms is appealing, many questions are unresolved. For example, who conducts the audit, and what mechanisms ensure that the audit is truly independent? What does the audit cover, and what standards are applied? How and with whom can the results of the audit be shared? Given that concerns over algorithmic bias span so many areas of critical importance to consumers’ well-being, including voting, health care, employment, and criminal justice, the sharing of information across sectors through audits could be helpful to address the sources of bias and how the bias might be addressed. Regulators and academics are just starting to grapple with the answers to these questions.<sup>51</sup>

Finally, the role of large Internet platforms, such as Facebook and Google, raises the question of at what point a platform or activity becomes so fundamental that a higher level of regulation is required or a greater focus on platforms’ market power from an antitrust activity is warranted. Although these areas are outside the scope of this article, we think they bear watching and could have important implications for financial inclusion.<sup>52</sup>

## How Should Regulators Approach Fintech to Ensure That It Promotes Equity and Financial Inclusion?

In their regulatory stance toward financial innovation, regulators need to remain nimble enough to support new products that help consumers without relinquishing their traditional role of protecting consumers from things that are, in fact, too good to be true. Paul Volcker famously quipped in 2009, “The most important financial innovation that I have seen in the past 20 years is the automatic teller machine.”<sup>53</sup> Although financial innovation is often positive, opaque models have been associated with significant harm in the financial sector in the past. The modeling assumptions used for the collateralized debt obligations that funded the riskiest part of the subprime mortgage market, for example, turned out to be fundamentally flawed.<sup>54</sup>

48 Executive Office of the President, “Big Data: A Report on Algorithmic Systems, Opportunity, and Civil Rights” (May 2016), [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016\\_0504\\_data\\_discrimination.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf).

49 See [https://ec.europa.eu/info/sites/info/files/proposal\\_for\\_a\\_regulation\\_on\\_a\\_single\\_market\\_for\\_digital\\_services.pdf](https://ec.europa.eu/info/sites/info/files/proposal_for_a_regulation_on_a_single_market_for_digital_services.pdf).

50 See Article 26 of the proposed Digital Services Act.

51 For one example, see Christo Wilson et al., “Building and Auditing Fair Algorithms: A Case Study in Candidate Screening.” Proceedings of the Conference on Fairness, Accountability, and Transparency (FAccT’21), March 2021, <https://www.ccs.neu.edu/home/amislove/publications/Pymetrics-FAccT.pdf>.

52 Shannon Bond, “Biden Administration Gears Up For A Showdown With Big Tech,” March 10, 2021, <https://www.npr.org/2021/03/10/975545509/biden-administration-gears-up-for-a-showdown-with-big-tech>; Daisuke Wakabayashi, “The Antitrust Case Against Big Tech, Shaped by Tech Industry Exiles,” New York Times, December 20, 2020, <https://www.nytimes.com/2020/12/20/technology/antitrust-case-google-facebook.html>.

53 Mark Bourdillon, “Paul Volcker: Think More Boldly,” Wall Street Journal, December 14, 2009, <https://www.wsj.com/articles/SB10001424052748704825504574586330960597134>.

54 See, for example, FDIC Advisory Committee on Economic Inclusion, Meeting of October 22, 2019, Transcript pp. 168–69, <https://www.fdic.gov/about/comein/2019/2019-10-22-transcript.pdf>, for a discussion of the harm that these modeling failures caused consumers. See Larry Cordell, Yilin Huang, and Meredith Williams, “Collateral Damage: Sizing and Assessing the Subprime CDO Crisis,” Federal Reserve Bank of Philadelphia Working Paper No. 11-30/R (2012), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1907299](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1907299).

In addition, it may be easier for firms to promote their interests than consumers. Firms have a strong profit motive, while consumers face informational barriers that may make it difficult for them to organize to protect their interests. This dynamic suggests that regulators should rely heavily on objective data and evidence, whenever possible, in making decisions. In recent years, some regulators have expanded their capacity to gather this evidence by developing “sandboxes” that allow companies to test innovative ideas in a controlled way and minimize the potential for consumer harm. Regulators may benefit by helping to develop the tests and by receiving the results, and companies may benefit by getting early feedback from regulators. In the United Kingdom, more than 140 firms have been accepted into the Financial Conduct Authority’s sandbox program. In the United States, the Consumer Financial Protection Bureau (CFPB) has launched a multifaceted sandbox program, which includes a Compliance Assistance Sandbox, a No-Action Letter Policy, and a Trial Disclosure Sandbox. The CFPB issued its first No-Action Letter in 2017.<sup>55</sup> It has continued to refine its innovation program, finalizing the Compliance Assistance Sandbox and revising the No-Action Letter and Trial Disclosure policies in 2019.<sup>56</sup>

Sandboxes, by their nature, are collaborative with industry, and some consumer protection advocates have raised concerns about the potential for consumer harm.<sup>57</sup> As a complement to these initiatives, regulators will need to continue to build their own capacity for independent research and analysis. Regulators will want to take careful note, of course, of the outside research conducted by academics, civil rights groups, and consumer protection advocates. The investigative reporting that exposed the civil rights concerns about Facebook’s advertising, as well as the academic research that documented that housing advertisements could still be skewed along racial lines even after Facebook revamped its practices, both highlight the valuable role that independent research can provide. This research could also lead to ideas regarding effective methods of debiasing.<sup>58</sup>

However, outside research is unlikely to serve as a full counterweight to industry. These groups tend to lack the funding, access to data, and sophisticated marketing campaigns available to industry. Indeed, in order to gain access to data, many researchers have entered into collaborations with tech companies.<sup>59</sup> Although these collaborations often allow researchers to publish their findings regardless of the results, Susan Athey and Michael Luca note that “firms may choose not to sign agreements around research topics where they are concerned about what the answers might be, potentially creating a bias towards papers favorable towards firms and creating an incomplete snapshot of an issue.”<sup>60</sup> This dynamic may have influenced, for example, the research that Uber supported.<sup>61</sup>

55 Consumer Finance Protection Bureau (CFPB), “CFPB Announces First No-Action Letter to Upstart Network.” Press release (Washington, DC: CFPB, September 14, 2017), <https://www.consumerfinance.gov/about-us/newsroom/cfpb-announces-first-no-action-letter-upstart-network/>.

56 See <https://www.consumerfinance.gov/rules-policy/innovation/> for a full description of the program and policies.

57 For a statement by consumer protection advocates of potential concerns, see “CFPB to Approve Potentially Risky Fintech Products,” September 10, 2019, <https://www.nclc.org/media-center/cfpb-to-approve-potentially-risky-fintech-products.html>.

58 Some civil rights groups are exploring how to debias algorithms. See, for example, the Tech Equity Initiative, sponsored by the National Fair Housing Alliance, <https://nationalfairhousing.org/tech-equity-initiative/>.

59 Airbnb, Amazon, eBay, Facebook, Indeed, LinkedIn, Microsoft, Rover, TaskRabbit, Uber, Upwork, Yelp, and Zillow are among the companies that have entered into these collaborations. See Susan Athey and Michael Luca, “Economists (and Economists) in Tech Companies,” *Journal of Economic Perspectives* 33 (1) (2019): 209–30, p. 226, <https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.33.1.209>.

60 *Ibid.*, p. 227.

61 Luigi Zingales, “Uber and the Sherlock Holmes Principle: How Control of Data Can Lead to Biased Academic Research” (Chicago, IL: Stigler Center at the University of Chicago Booth School of Business, October 9, 2019), <https://promarket.org/2019/10/09/uber-and-the-sherlock-holmes-principle-how-control-of-data-can-lead-to-biased-academic-research/>.

Finally, regulators will need to ensure that their own staff are diverse. Involving staff from diverse backgrounds in algorithm design is a common recommendation for avoiding consumer harm.<sup>62</sup> Many commentators have emphasized the importance of diversity and inclusion in financial services and fintech to ensure that firms are equipped to appreciate the potential implications of their work on bias and equity. We agree. We also note that a recent study highlighted that Blacks hold very few top positions at federal regulatory agencies.<sup>63</sup> We believe that this sound principle of ensuring diversity for designing algorithms should apply to those who are charged with regulating them and protecting the public from potential harm.

## Conclusion

Fintech-facilitated innovations in financial services are proceeding at a dizzying pace. The combination of sophisticated algorithms and new data sources has the potential to bring more affordable and tailored financial services to a broader population. Yet, as we have described in this article, these same factors also have the potential to amplify existing inequities. The enhanced ability to curate information at the consumer level and create algorithms using vast amounts of personal data risk bringing analog forms of discrimination, such as redlining and steering, to the digital world.

The regulatory framework may need to adapt in response to ensure that it is providing effective guardrails. Gaps in the existing discrimination laws and the lack of a robust privacy framework may warrant attention. Facilitating the ability of independent research to continue to shed light on the potential harms of algorithms can serve as an important safeguard. Regulators may also need to enhance their own ability to analyze the inner workings of algorithms. Sustained attention to diversity and inclusion will better position both industry and regulators to identify the risks and benefits of fintech. These and other steps may help ensure that all consumers can benefit from the promise of fintech.

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<sup>62</sup> Nicol Turner Lee, Paul Resnick, and Genie Barton, "Algorithmic bias detection and mitigation: Best practices and policies to reduce consumer harms" (Washington, DC: Brookings Institution, 2019), <https://www.brookings.edu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/>.

<sup>63</sup> Chris Brummer, "What do the data reveal about (the absence of) Black financial regulators?" (Washington, DC: Brookings Institution, 2020), <https://www.brookings.edu/wp-content/uploads/2020/09/ES-09.02.20-Brummer.pdf>.

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# Innovations and Partnerships

## SECTION THREE



# The Tech-Enabled Social Safety Net: A Case Study of the EBT System

Julieta Cuéllar  
Propel

In 2014, Jimmy Chen,<sup>1</sup> a software engineer, set out to apply for food stamps. He visited the Human Resources Administration office in Brooklyn, NY. He joined the line of people waiting to meet a caseworker and fill out the same application. Jimmy noticed that people were doing what most of us do when we have an hour to wait—they were on their smartphones, killing time. Here was a tool that most everyone had and could do what they were waiting in line to complete with the caseworker. The problem wasn't a hardware one (most low-income Americans have a smartphone)<sup>2</sup> but a software one. Why weren't technology companies building the tools to solve this problem?

Low-income Americans face a dozen indignities and inconveniences a day—substandard housing, poor transportation options, and low-wage jobs, not to mention the fees, fines, and penalties that tax those trying to stretch their funds until the next paycheck. Unfortunately, the social safety net is often no different. With strict work requirements, severe penalties for any misstep, and multistep application and recertification processes, accessing the social safety net is far from easy. This reality is further compounded by the structural racism threaded through the social safety net, which results in Black Americans being concentrated in states with less generous welfare programs,<sup>3</sup> and more Black and Latinx Americans have not received the three Economic Impact Payments (“stimulus payments”) in a timely manner, or at all.<sup>4</sup>

Although the civic tech movement—made up of technology-oriented nonprofits, govtech companies, and the many state and local innovation teams that have sprung up around the country—is tackling the cumbersome application process, as well as making it easier for Americans in need

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

1 Jimmy Chen went on to found Propel, the makers of Providers (formerly Fresh EBT).

2 Monica Anderson and Madhumitha Kumar, “Digital divide persists even as lower-income Americans make gains in tech adoption” (Washington, DC: Pew Research Center, May 2019), <https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/>

3 Heather Hahn et al., “Why Does Cash Welfare Depend on Where You Live?” (Washington, DC: Urban Institute, June 2017), <https://www.urban.org/research/publication/why-does-cash-welfare-depend-where-you-live>.

4 Among Fresh EBT users, 19 percent of Latinx and 15 percent of Black households report not receiving a single Economic Impact Payment, while 11 percent of white users report the same. For an analysis on the racial disparities in Economic Impact Payment receipt among Fresh EBT users, see “The COVID-19 Pandemic Hit Fresh EBT Users of Color Harder,” Propel, May 6, 2021; <https://www.joinpropel.com/indepth-racial-disparity>.

to stay on benefits programs, little attention has been given to the experience of making the most of government benefits once a person has been accepted to a program.<sup>5</sup>

Customer experience matters enormously for households that face severe financial and time constraints. But while wealthier households have an array of services and products to manage their financial lives, there are few options for households with limited income managing complex financial lives that include government benefits issued through specialized cards and payment systems. However, there are tangible, practical, and achievable ways to ease this inequity.

Modernizing the experience of using government benefits does not have to require a lengthy and expensive system overhaul. The technology powering the many apps that aggregate financial data, with customer authorization, to help reach financial goals or simply provide a more specialized experience than a bank or credit card company can be applied to support low-income households. These households arguably manage more complex financial lives—crossing cash, government benefits, and limited budgets—but the practice is not widespread.

Some of the best customer service solutions come through specialization and choice. But most government benefits service systems must be one-size-fits-all—to serve everyone. By inviting innovation and new players in the government benefits system, these optional supplemental services can build on the strong foundation of government supports and layer on higher levels of customer experience through a specialization that isn't possible for a government agency or contractor. By bringing additional resources, time, funding, and expertise, these technology companies can immediately modernize the client experience of using government benefits without having to overhaul the system.

This paper will explore the potential of a tech-enabled social safety net to improve the experiences of government program beneficiaries, as well as common concerns with this approach through the example of SNAP (the Supplemental Nutrition Assistance Program, or “food stamps”) and the Fresh EBT app.<sup>6</sup>

## Bringing SNAP Customer Experience into the 21st Century

*Diana<sup>7</sup> is a mother to seven grown children and grandmother to 19. She works part-time as a housekeeper and the rest of the time provides “daycare” for her family. She and her retired husband have been receiving SNAP, in different amounts (depending on how much she’s working), for the past five or six years. One day she saw her daughter checking her SNAP benefits balance through an app called Fresh EBT. Diana was used to calling the 1-800 number on the back of her EBT card and going through an*

5 For example, nonprofit Code for America created Get Cal Fresh (<https://www.getcalfresh.org/>), an online application system for California’s SNAP program (Supplemental Nutrition Assistance Program, or “food stamps”). Get Cal Fresh is mobile and desktop-friendly, reduces a process that took approximately 45 minutes to eight minutes, and integrates text-message confirmation and reminders. Nava, a public benefits corporation, has partnered with state and federal partners to improve a number of programs (see <https://www.navapbc.com/services/case-studies/>), including Medicare and Medicaid. Individual state and local governments have also improved their own program access and delivery—for example, New Jersey’s Office of Innovation created a user-friendly unemployment benefits tool to reduce complexity in unemployment benefits during the COVID-19 pandemic (<https://getstarted.nj.gov/labor/>).

6 In July 2021, Propel launched Providers, a new app that replaced Fresh EBT. Providers builds on the core functionality of Fresh EBT, EBT card balance checking, and adds a free debit account so users can manage their whole financial lives in one place. Providers is the only app where users can manage government benefits and debit/banking side-by-side.

7 Real Fresh EBT user interview; name has been changed.

*automated phone system to hear her SNAP balance. With the app, where she could check her balance at any time, it was a relief to not have to call and “sit there and listen to all the blah blah blah and punch in all the numbers and just sit there.” Diana now uses the app at least five or six times a week. Sometimes her husband asks how much they have left, and since an accident has left her with short-term memory loss, she just opens the app to tell him. She always checks her balance before going to the store, and as she’s leaving, to make sure the transaction went through and that she’s budgeting for the month. In addition to the convenience, Diana likes that Fresh EBT doesn’t make her “feel stupid” the way other things online do. (She has tried, unsuccessfully, to use her bank’s mobile app.)*

SNAP is the country’s most important anti-hunger program, used by over 40 million households.<sup>8</sup> It is made possible by the federal government, state governments, grocery retailers, and the private companies that provide the EBT (electronic benefits transfer) system. The federal government creates the overarching program rules, states implement them, and private companies create and distribute EBT cards to individuals, who then spend those benefits at grocery retailers. The current system is successful because it brings together different parties to carry out different functions, out of a recognition that each specializes in its part of the program (e.g., grocery stores are better retailers than the government).<sup>9</sup>

In 2015, Propel,<sup>10</sup> a social enterprise that builds software products for low-income Americans, created the Fresh EBT app<sup>11</sup> to modernize the SNAP experience. Fresh EBT allows EBT cardholders to view their SNAP balance at any time, in addition to helping them manage their benefits through tracking transactions, saving via coupons, and earning money through job postings. Fresh EBT is available for free in all 50 states and has grown to reach over 5 million people every month, which is about one in five SNAP recipients. Fresh EBT generates revenue via the coupons and job postings within the app.

*It really helps to be able to quickly check my balance while I’m in the store. The phone call method is harder to do in a noisy store, and if I turn up the call volume, others can overhear my call.*

*- Trina, Wyoming*

Fresh EBT facilitates balance checking through consumer-authorized access. Much like third-party finance apps, it obtains a user’s consent to log into another system (in this case, EBT portals) and pull information, which is then displayed in the app. When users open the Fresh EBT app on their phone, the app initiates a request directly to the processor’s portal on their behalf. Authentication is conducted through the same method used by the portal, which is often a username and password passed fully encrypted to the portal and back. No personal user data used to log into the system is saved by Fresh EBT or stored on its servers.

<sup>8</sup> See the Center on Budget and Policy Priorities’ SNAP Chart Book for more details on the impact, reach, and current utilization of SNAP, <https://www.cbpp.org/research/food-assistance/chart-book-snap-helps-struggling-families-put-food-on-the-table>.

<sup>9</sup> Heather Hahn et al., “Access for All: Innovation for Equitable SNAP Delivery” (Washington, DC: Urban Institute, June 2020), [https://www.urban.org/sites/default/files/publication/102399/access-for-all-innovation-for-equitable-snap-delivery\\_0.pdf](https://www.urban.org/sites/default/files/publication/102399/access-for-all-innovation-for-equitable-snap-delivery_0.pdf).

<sup>10</sup> [www.joinpropel.com](http://www.joinpropel.com)

<sup>11</sup> [www.freshebt.com](http://www.freshebt.com)

### *How Households Use Fresh EBT*

As Diana's story illustrates, being able to view your SNAP benefits balance whenever you want, with transaction history, is a huge improvement from the existing method of calling a 1-800 number. Despite the inconvenience of the phone call method, Propel found during early research that this is likely the most called number in the country.

Because Fresh EBT makes it easier, households check their EBT balance more frequently, often before and after every shopping trip, as Diana does. And as a result, benefits last longer. Research conducted since Fresh EBT launched found that the app helps users extend the length of time their benefits last.<sup>12</sup> Even just making benefits last one or two more days is impactful when 80 percent of users spend their benefits within nine days.<sup>13</sup>

*Using this app helps people feel not so embarrassed... the app gives confidentiality, something the government strives for.*

*- Anna, Illinois*

### *An Emergency Response Tool*

Fresh EBT has also proved to be easily adapted to a variety of contingencies because it is a trusted source of information for millions of households, and households visit Fresh EBT several times each month. As a smartphone-based service, it can respond quickly and meet people where they are—to their phones—to share information and new programs, often in partnership with nonprofits and other stakeholders.

In 2019, when the government shutdown resulted in EBT cardholders receiving two months of benefits at once, Fresh EBT quickly created a “vault” that allowed users to hide a certain amount of their benefits balance, helping them make their funds last.<sup>14</sup> When the COVID-19 pandemic led to new or expanded benefits programs, Fresh EBT created a feature to communicate these changes to users directly in the app. The “Benefits Update Center” has become Fresh EBT's most used feature and expanded beyond just communicating information to connecting users to the actions necessary to access new benefits and protections. For example, over 41,000 Fresh EBT users submitted the declaration necessary to take advantage of the federal eviction moratorium via a partnership with the Kentucky Equal Justice Center, and 3.5 million connected with the non-filer tax form to access the Economic Impact Payments (“stimulus checks”).

12 Andrew Hillis, “Salience through Information Technology: The Effect of Balance Availability on the Smoothing of SNAP Benefits” Harvard Business School Working Paper, No. 18-038, October 2017, <https://www.hbs.edu/faculty/Pages/download.aspx?name=18-038.pdf>.

13 Wendy De la Rosa and Joanne Yeh, “Managing SNAP (Food Stamps) Efficiently” (Durham, NC: Center for Advanced Hindsight, 2016), [https://advanced-hindsight.com/archive/wp-content/uploads/2015/11/propel\\_case.pdf](https://advanced-hindsight.com/archive/wp-content/uploads/2015/11/propel_case.pdf).

14 The benefits “hidden” by this feature were still completely available for use at any time, just simply not reflected in the current balance displayed in the app.

Figure 1  
The “vault” tool created by Propel to help Fresh EBT users during the 2019 government shutdown.

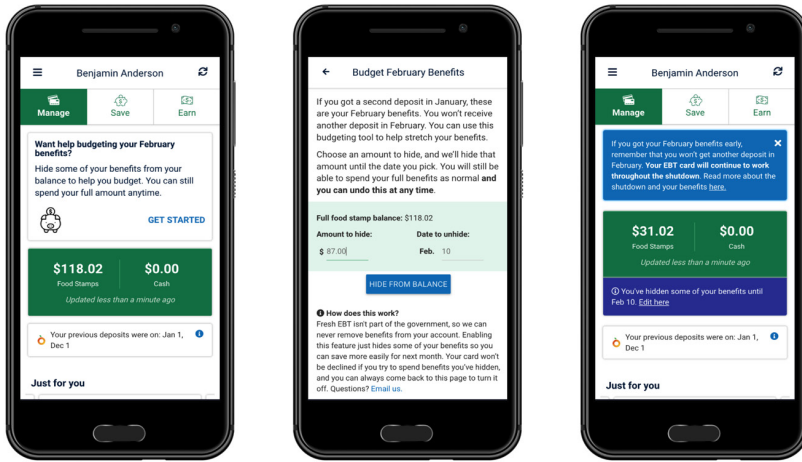
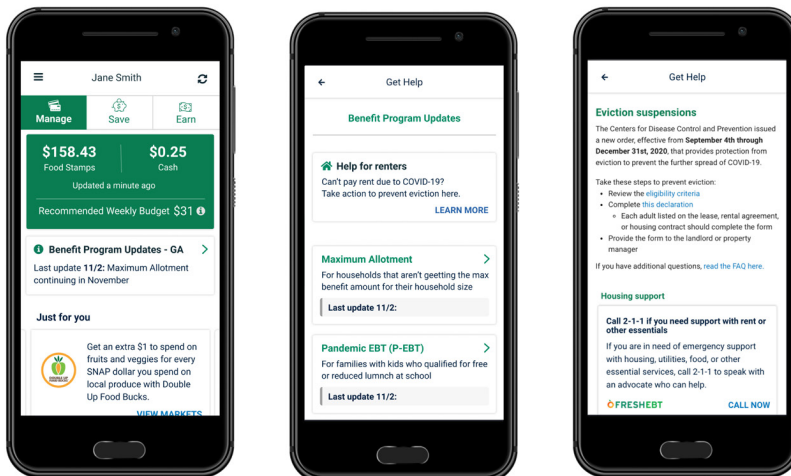
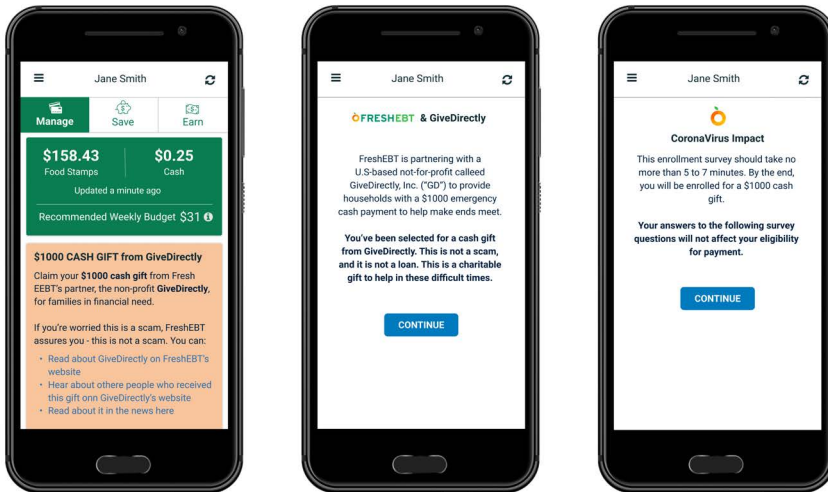


Figure 2  
The Benefits Update Center created by Propel during the COVID-19 pandemic to help Fresh EBT users understand and access new protections and benefits.



Perhaps the most powerful example is when Fresh EBT partnered with GiveDirectly, a nonprofit organization specializing in cash transfer programs, in March 2020 to distribute \$1,000 in no-strings-attached cash assistance to households across the country. Fresh EBT knew that its user base, already living in a state of constant financial precarity, needed aid fast—faster than the government could stand up a program to help. The first payments to users were disbursed on March 22. This initiative, called Project 100+, has since become the largest private cash transfer program in the United States, distributing over \$140 million in cash assistance to date.<sup>15</sup>

Figure 3  
The partnership between Propel and GiveDirectly that gives randomly selected Fresh EBT users \$1,000 cash transfers.



## The Stakes Are Higher for Social Safety Net Programs

These innovations are just a fraction of the changes that could be achieved by the entry of additional technology companies to the social safety net space. However, helping individuals manage their government benefits is fundamentally different from managing a bank account or other financial asset. The subset of individuals who receive these benefits are more financially vulnerable than the broader population. Getting their benefits balance wrong or contributing to the loss (even temporarily) of benefits constitutes an enormous loss that can have a ripple effect in their financial lives. Establishing guardrails is necessary to promote growth in this field in a responsible way.

Propel has learned lessons from its experience building out the first of these tools. First, connecting to this subset of households is a privilege. For Propel, this means that Fresh EBT is not an open

<sup>15</sup> Read more about Project 100+, including the impact on recipients in their own words, at [www.givedirectly.org/covid-19/us/](http://www.givedirectly.org/covid-19/us/).



advertising platform, unlike other tech platforms. All offers and job opportunities that appear in the Fresh EBT app must meet one requirement: they must provide a clear benefit to Fresh EBT users with minimum risk. This is not driven by paternalism—government beneficiaries are no less savvy than any other consumers—but because it is much harder for them to absorb any financial loss. It is also a mutually reinforcing approach in which Fresh EBT provides only ads and opportunities that are valuable to users, which, in turn, creates continued use and growth of the app.

Second, any product that accesses or aggregates the user's information should always do so through consumer-authorized access in real time. This means users should authorize the service through a transparent, clear, and well-designed interface that allows for real-time informed consent to pull the information.

Finally, data security and privacy must be the top priority. This doesn't just mean using best-in-class security practices, but also collecting the minimum information needed to provide the service and storing even less information.

The proliferation of consumer-authorized financial apps today is a result of the Consumer Financial Protection Bureau developing guiding principles for the financial sector in 2017.<sup>16</sup> These principles established the value of consumers' right to access their information through the platform of their choice, to best serve their financial needs. Consumer-permissioned data access is arguably even more important in government benefits programs because consumers cannot simply exit the program and move to an alternative provider. Having more access to their balance and transaction information gives consumers a choice in deciding how to experience the program.

Inviting private companies to bring more innovation to government benefits might result in valuable services, but it also carries the threat of opening the field to bad actors. Although this is a real concern, it can be mitigated by establishing good guiding principles for the field. In addition, predatory practices often arise, even with the most stringent regulations, when there are no high-quality services available to meet a need.<sup>17</sup> This is often not mitigated by building higher barriers to access, but rather by inviting and encouraging more high-quality ones. It is important to create an environment where good alternatives can thrive, giving low-income Americans many options. This can crowd out predatory behavior, not least when information about services is easily accessible through public rating and accountability systems, like those in the app stores.

## Technological Innovation Is Not a Silver Bullet

Tech-driven innovation is not a panacea for all government program shortcomings. Stakeholders have long identified, and advocated to close, the gaps in some of these programs and to overhaul others in order to create more equitable access for racial minorities across the social safety net. These are changes that need to happen at a federal government level and will take great political capital

<sup>16</sup> "Consumer Protection Principles: Consumer-Authorized Financial Data Sharing and Aggregation," Consumer Financial Protection Bureau, October 2017, [https://files.consumerfinance.gov/f/documents/cfpb\\_consumer-protection-principles\\_data-aggregation.pdf](https://files.consumerfinance.gov/f/documents/cfpb_consumer-protection-principles_data-aggregation.pdf). For more information on the ongoing challenges related to consumer-authorized financial apps, see Rebecca Ayers and Suman Bhattacharyya, "Why screen scraping still rules the roost on data connectivity," *Fin Ledger*, March 20, 2021, <https://finledger.com/2021/03/10/why-screen-scraping-still-rules-the-roost-on-data-connectivity/>.

<sup>17</sup> For more on the persistence of payday lending, see Bethany McLean, "Payday Lending: Will Anything Better Replace It?" *The Atlantic*, May 2016, <https://www.theatlantic.com/magazine/archive/2016/05/payday-lending/476403/>.

and time. However, tech-driven innovation can create small improvements to the imperfect system millions of Americans have to live with now.

Twenty years ago, the government introduced the electronic benefits transfer card (EBT card) to reduce consumer stigma by aligning the government benefits experience with private-sector payment options. Government program beneficiaries no longer had to use physical food stamps at the grocery store—they could pay with a card, like other customers. A new public-private partnership could help usher in the next leap forward in the government benefits customer experience—one in which the government provides a robust and healthy social safety net, available and accessible to all, and private companies enhance those services by offering more choice and personalized services. The proliferation of partnerships like this could make a significant difference in the day-to-day experience of managing and using benefits and the day-to-day lives for millions of Americans across the country.

**Julieta Cuéllar** is Policy Research and Communications Manager at Propel, the creators of Providers. At Propel, Julieta is responsible for measuring and communicating the impact of policies and external factors on households using Propel's products. This research --surveys and interviews--provides real-time insight into the experiences of households interacting with the Supplemental Nutrition Assistance Program (SNAP) and other government benefits programs. She has a Master in Public Affairs from Princeton University, where she conducted projects on implementing guaranteed income programs in the United States and assessing the effect of just cause ordinances on eviction rates. She previously worked as a policy advisor in the Prince George's County, Maryland Council, in economic development in Travis County, Texas, and at an international human rights organization.

# Why Mission-Minded Fintechs May Be the Key to Closing the Savings Gap

*Leigh Phillips*  
*SaverLife*

Financial technology, or “fintech,” companies present a powerful opportunity to apply emerging technologies to deep-rooted financial inequalities. I see the clear potential for fintech to create inclusive products that boost savings every day at SaverLife. SaverLife is a nonprofit fintech with a mission to help families build emergency savings and long-term financial stability. I joined the team in part because I recognized that, as new tech-driven financial products and services emerged, low-income communities were at risk of being excluded from the benefits of technology.

When I think about how we can enact real financial change for our members, I think of women like Laurynn, a single mom and small business owner whose income and ability to save was decimated by the pandemic. But, she told us in October 2020, “I’ve still been saving when I can.”

Laurynn’s commitment to saving could make a big difference for her future. The Federal Reserve reports that four out of 10 Americans have less than \$400 in savings. Millions of Americans are living paycheck to paycheck due to volatile and low incomes, but there is hope.<sup>1</sup> Our research shows that even small amounts of savings can help people build financial security and prepare for the unexpected. My experience leading SaverLife has shown me time and time again that the savings crisis is a solvable problem.

Fintechs provide advantages of speed, flexibility, and rapid experimentation. However, in order for these advantages to make an impact, the risks of security, data protection, and digital barriers must be addressed. Fintechs possess the technology to develop and distribute financial tools to the people who need them most—but only if the products are well designed, with a deep understanding of the target market and a clear commitment to advancing a more equitable financial system for all consumers.

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

<sup>1</sup> Board of Governors of the Federal Reserve System, “Report on the Economic Wellbeing of U.S. Households in 2018” (Washington, DC: Board of Governors of the Federal Reserve System, May 2019).

## Nonprofit Fintech Organizations Are Uniquely Positioned to Build Financial Security

A 2017 research paper from Harvard University estimated that fintech products could address the needs of up to 15.6 million low-income workers in need of a savings safety net.<sup>2</sup> Mainstream financial institutions are not always well equipped to meet the savings challenges people with low and volatile incomes face. Fintechs have an ability to rapidly design products that can be customized to a user's location or financial situation. A reliance on traditional financial products, bricks-and-mortar locations, and valuing profit over mission limits the ability of these institutions to drive true systemic change.

This is especially true in regards to closing the racial wealth gap. Historically, policies and financial institutions have excluded people of color from wealth-building opportunities through overt practices, such as redlining, and requiring people in lower-income areas to maintain an unrealistically high balance. The racist legacies of these long-standing policies have locked millions of Americans out of opportunities for economic security and prosperity. Today, a white family holds nearly 10<sup>3</sup> times the wealth of a Black family, partly because they are more likely to own homes and/or receive an inheritance or gift.<sup>4</sup> Fifty-nine percent of SaverLife members identify as people of color. Everything we do is aimed at closing the wealth gap these members face by meeting their specific financial needs.

Nonprofit fintech organizations are particularly well suited to meet these needs because we prioritize impact over profit and are specifically working to build solutions for populations traditionally excluded from products designed to build wealth.

## Why Technology Is Effective at Boosting Savings: Technology Allows Rapid Scaling

### *Reason #1: Speed*

*Technology allows for small teams to respond quickly and at scale.*

Fintechs have the advantage of speed, whereby small teams and relatively small investments go further to reach far more people than can be reached without innovative technology.

Nowhere was this more evident than in 2020, when the COVID-19 pandemic caused life—and incomes—to grind to a halt. Although many entrenched institutions took weeks to provide aid, fintechs were able to respond immediately to the economic consequences of the pandemic.

For example, SaverLife was able to leverage our payments technology to begin distributing one-time cash grants within three weeks of the first lockdown. Over 4,500 SaverLife members received cash grants between \$500 and \$1,000. Members used these grants to pay rent, buy groceries, and shore up their emergency savings. Those who received a grant were 104 percent more likely than

<sup>2</sup> Todd H. Baker, "FinTech Alternatives to Short-Term Small-Dollar Credit: Helping Low-Income Working Families Escape the High-Cost Lending Trap," *M-RCBG Associate Working Paper Series*, May 2017.

<sup>3</sup> Kriston McIntosh et al., "Examining the Black-White Wealth Gap" (Washington, DC: Brookings Institution, February 2020).

<sup>4</sup> Board of Governors of the Federal Reserve System, "Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances" (Washington, DC: Board of Governors of the Federal Reserve System, September 2020).

those who didn't to increase their savings balance by \$100 or more in May 2020.<sup>5</sup>

Rachel, an office manager who lost her job when the pandemic began, used the grant to shore up her savings against future disasters. "I have been a regular saver, but I didn't have six months of living saved up or anything like that," she said.

The scalability of technology means that small, agile organizations can respond quickly to changing circumstances in order to meet consumer needs, whether by encouraging savings or responding to a global pandemic.

### ***Reason #2: Flexibility***

*Technology meets people where they are and gives users flexibility.*

In 2019, the Federal Deposit Insurance Corporation (FDIC) published a paper finding that, while the majority of American adults have a bank account, there are still significant financial access gaps. The survey found that 5.4 percent of U.S. households were unbanked. This means that approximately 7.1 million households do not have access to a checking or savings account. This disparity extends to saving for emergencies. The survey found that only 26 percent of unbanked households had saved for an unexpected expense in the past year—compared with 66.4 percent of banked households.<sup>6</sup>

This lack of traditional banking products is even more prevalent among SaverLife members. Seventy-four percent of SaverLife members have a PayPal account, and 27 percent said they didn't have a traditional bank account. We committed to closing the racial wealth gap and using software that is inclusive of all financial management methods. Thus, when we learned about the financial management choices of our members, we incorporated PayPal into our onboarding process. As a result, we saw an immediate uptick in signups. Last year, we took this one step further and integrated software that allows us to offer prizes and savings matches via traditional banking methods, PayPal, Venmo, or a prepaid card.<sup>7</sup>

We also prioritize using marketing channels that will reach low-income women of color. SaverLife partnered with Fresh EBT, a mobile application that helps users manage their SNAP benefits, to advertise our program. This partnership has brought 210,000 members to our platform, many of whom are likely in need of innovative financial solutions.

Fintechs can create inclusive products that work for a range of circumstances, allowing consumers to weave together a bank-like experience even if they are unable or unwilling to access an account at a traditional bank or credit union. Technology can remove financial barriers by providing savings options to individuals, regardless of their banking choices.

5 SaverLife, "A \$500 Lifeline: Pandemic Cash Grants Help Low-Income Americans Survive a Summer of Uncertainty" (San Francisco, CA: SaverLife, October 2020).

6 Federal Deposit Insurance Corporation (FDIC), "How America Banks: Household Use of Banking and Financial Services." FDIC survey (Washington, DC: FDIC, 2019).

7 SaverLife and MetLife Foundation, "Design Matters: Testing Hypotheses Leads to Better Outcomes" (San Francisco, CA: SaverLife; New York: MetLife Foundation, September 2019).

### ***Reason #3: Product Design***

*Technology makes it possible to easily conduct customer research, experiment with solutions for target groups, and segment users.*

#### **Research**

Access to data on user behavior makes it possible for fintechs to conduct real-time research and quickly prototype new features and products that users need. For example, after discovering that members who joined SaverLife with less than \$100 in savings were far more likely to struggle to save, we conducted testing to see if automatically setting a customized, one-month savings goal would improve saving outcomes. Receiving this goal messaging improved the odds that a member would save \$100 in a month by 26 percent. As a result of these insights, we are implementing a welcome messaging program for all new SaverLife members.

This research can be conducted in a controlled environment and move faster than traditional research methods because of immediate access to data. This type of rapid research can create better financial products and services. It can also be a valuable tool in understanding the financial lives of low-income families and aid in developing policy solutions and other interventions that can effectively build financial stability.

Carrice's hours were cut at the beginning of the pandemic—right after she'd given birth to her second child. Despite her reduced income, Carrice made an effort to put money away.

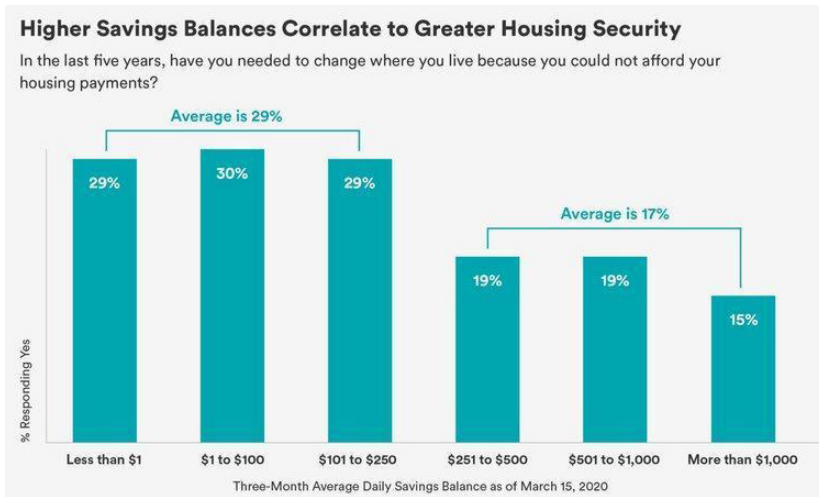
"Right now I have \$105 in savings," she said in October 2020, "which makes me feel a little bit better."

Our research suggests that this \$105 didn't just make Carrice feel better—it also provided a crucial financial safety net, as evidenced by critical research we published late last year:

SaverLife partnered with the FINRA Foundation to shed new light on the role savings plays in shaping financial well-being and stability for lower-income households in the United States. The results indicate that the positive impacts of savings are extremely impactful, even at relatively low dollar amounts. A savings balance over \$250 was correlated with keeping people in their homes, and having over \$100 in savings greatly reduced the likelihood of having utilities shut off.<sup>8</sup>

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<sup>8</sup> Financial Industry Regulatory Authority (FINRA) and SaverLife, "Savings: A Little Can Make a Big Difference" (Washington, DC: FINRA; San Francisco, CA: SaverLife, December 2020).



These results are proof that small amounts of savings can make a big difference. Yet many savings programs promote savings in much larger increments, such as three to six months of living expenses. This type of high-dollar savings is simply not an option for many people. SaverLife encourages our members to make savings a habit, regardless of the amount they are able to save.

“You guys definitely taught me that even if it’s \$5, that’s \$5 you didn’t have before,” one of our members and emergency grant recipients, Mahiyat, said. “That’s \$20 a month more than the month before. It adds up, anything you can put towards yourself.”

Studies like this provide direction for savings organizations that can help close access gaps in financial products. Tailoring financial products to incentivize small-dollar savings could help individuals quickly build \$100 in financial security. Fintechs have the technical capability to invest in this kind of research and let it guide the tools we create.

## Experimentation

Digital technology allows fintechs to test simple ways to help people build savings. Prioritizing these experiments allows fintechs to then evolve and improve their products to maximize savings.

In 2020, SaverLife partnered with the Financial Health Network’s Leaders Lab to conduct a study examining, among other things, the impact of motivational text messaging on savings rates.<sup>9</sup>

During a nine-week savings challenge, SaverLife tested three different message tones based on three different personas: supportive (inspired by Mother Teresa), empowering (inspired by Michelle Obama), and commanding (inspired by Mr. T).

<sup>9</sup> Financial Health Network Leaders Lab and SaverLife, “Boost Savings with Challenges and Empowering Messages” (Chicago, IL: Financial Health Network Leaders Lab; San Francisco, CA: SaverLife, December 2020).



The results were surprising. Messages featuring a supportive tone had a negative impact on savings behavior, messages with a commanding tone led to no change, and messages featuring an empowering tone had a positive impact. Those who received messages from the empowering Michelle Obama persona increased savings deposits by 53 percent over six months.

As a nonprofit, SaverLife is committed to publishing the results of our experiments to further advance the financial health sector. This experiment offers simple insights that any savings organization could implement to boost savings. Further experimenting and testing could lead to refinement of these findings and even more impactful results.

### Segmentation

Low- to moderate-income individuals are not a monolith. There is no one-size-fits-all savings solution. Tools that work for young mothers may not be effective for elderly veterans, but through segmentation, fintechs have the powerful ability to provide customized tools to target populations.

For example, SaverLife recently discovered that members who join the platform with a balance over \$100 are far more likely to make continuous deposits and grow their balance. We are now testing different ways to engage members with balances under \$100 to jumpstart their saving. SaverLife also found that giving people with a savings balance of under \$100 a one-month goal to save \$100 was an effective challenge to help build their savings balance. Technology enables fintechs to segment users and meet both of these needs at the same time, offering a more effective and personalized experience.

Through creating a continuous feedback loop, we strive to ensure that we are effectively meeting the needs of our members. To this end, we created the Member Panel, a group of 2,200 members representative of the gender, income, and racial makeup of the population we serve. Before building something, we test our assumptions by contacting the Member Panel to get their insights into what they need and how they use our platform.

These advantages make it possible not only for fintechs to adapt more quickly to the needs of low-income individuals, but also to produce more effective innovations that drive real results.



## **Managing the Risks of Technology**

Despite the many advantages fintechs bring, there are also potential pitfalls. New barriers caused by a digital divide or lack of trust in technology can prevent target populations from using these services or open them up to new types of risk.

### ***Addressing Potential Risks***

#### **1. Security must be a priority.**

Users of technology platforms trust developers to safeguard sensitive information. Honoring this trust requires making critical investments in data and information security to safeguard against phishing attempts, hackers, and fraudsters. In the nonprofit fintech space, this means that philanthropic organizations—the main source of investment in nonprofit fintech—must also be willing to invest in their information security needs.

#### **2. Infrastructure is essential.**

As the pandemic highlighted, it's difficult to move money efficiently to a lot of people, especially when those people may be underbanked. To execute its cash grant program, SaverLife integrated a new technology called HyperWallet, which allowed the organization to offer multiple secure payment methods via ACH, PayPal, Venmo, or a prepaid card. Building this infrastructure upfront can help fintechs ensure they are ready to meet the needs of those they serve when a disaster strikes.

#### **3. Digital barriers must be considered.**

To provide inclusive solutions, fintechs must consider digital barriers. SaverLife has addressed digital barriers by providing clear communications about the security of linking a bank account, as well as providing a mobile-friendly platform that can be joined via web browser and doesn't require access to mobile applications. Our work in communities like Johnstown, PA, and Bluefield, WV, has taught us exactly how important addressing the digital divide is to fostering savings success. Our analysis has found that less digitally literate communities need support to understand how to link their bank account to SaverLife's platform. We are continuing to experiment with ways to better break down these digital barriers.

Fintechs should design products that allow people to gain control of their financial futures with the digital resources available to them, which are often mobile.

#### **4. Bad actors can abuse consumer trust and consumer data.**

The agility of technology can attract bad actors such as lenders parading “innovative” financial products in order to subvert consumer protections. Ethical fintechs must prioritize the financial well-being of those they serve and avoid using legal loopholes for profit, and regulators must move swiftly to root out bad actors—a major challenge in a rapidly changing tech environment.

The ease with which data can be collected, bought, and sold has led to an explosion of hyper-targeted marketing of financial products to low-income consumers. These marketing tactics use the power of technology to provide near-instant underwriting and access to funds, making it easy for consumers to find themselves in an unrelenting cycle of debt.

Technology is only as beneficial for society as the people making it want it to be. By addressing these concerns up front, mission-minded fintechs can position themselves to be a trusted and ethical financial resource.

### **Conclusion: Fintechs Can Build Mission-Minded Technology to Create an Inclusive Financial Future**

Through a cycle of testing, research, and innovation, fintechs can lead the field in breaking digital barriers and using technology to close the wealth gap and help individuals build savings. By prioritizing user security and ethical data management, fintechs can minimize security risks and maximize the benefits of the products we offer.

One of our members, Zakia, credits SaverLife with helping her go from \$0 to \$3,000 saved.

“I want to be financially secure,” she said. “Using SaverLife helped me put money in my savings account so that when those emergencies happen, I’m prepared.”

Hard-working people are doing their best to build financial security with the limited resources available to them. The work fintech companies are doing to make that future a reality can support and accelerate people’s progress and ensure a more equitable financial system for all. But only if we start with that goal in mind.

***Leigh Phillips** is the President & CEO of SaverLife.org, a national nonprofit that helps working families achieve prosperity through savings. Since joining in 2015, Leigh has led the company’s transformation from a local direct service organization to a leading financial technology nonprofit. The flagship program, SaverLife, now serves 500,000 clients across all 50 states.*

# CDFIs' Mission-Driven Orientation Is Critical to Making Financial Technology Work for Deep South Communities

*Pearl Wicks and Diane Standaert*

*Hope Enterprise Corporation/Hope Credit Union/Hope Policy Institute*

**H**OPE (Hope Enterprise Corporation/Hope Credit Union/Hope Policy Institute) takes a multifaceted approach to financial technology because not all financial technology is created equally—there are helpful and harmful elements. In the intersection between the mission-driven work of community development financial institutions (CDFIs), particularly those with a strong track record of serving communities of color, and the role of financial technology, the question is often framed as how technology can strengthen the work of CDFIs. In HOPE's experience, the question is typically the opposite: how can financial technology be improved by understanding the experiences of CDFIs serving historically underserved communities?

HOPE, a Black-led, women-owned CDFI credit union, loan fund, and policy organization in the Deep South, was established to ensure that all people—regardless of where they live, gender, race, or birthplace—have the opportunity to support their families and realize the American Dream. Since 1994, HOPE has generated over \$3.1 billion in financing that has benefited nearly 2 million people throughout Alabama, Arkansas, Louisiana, Mississippi, and Tennessee.

Seventy-three percent of HOPE members have household incomes below \$50,000, with 28 percent earning less than \$19,000. Eight out of 10 members are people of color, and 60 percent are female. Our branches are located in areas often left behind by other types of investment, with 86 percent in counties where most residents are Black. One-third of our branches are located in counties that have endured deep poverty for more than three decades, and three branches are in small Delta towns with no other depository institution. Before opening an account with HOPE, 31 percent of members were unbanked, and 15 percent were underbanked.

CDFIs such as HOPE bring decades of experience in reaching the communities that financial technology companies seek to target. Although certain elements of technology improvements provide some strengths, there are elements of how CDFIs work that simply cannot be replaced and that inform how technology is deployed in places like the Deep South.

## What We Mean by Financial Technology

As CDFIs consider the role of fintech in their work, it is critical to define what the technology is and does. In some cases, fintech means software that aids in processing manual functions, much like moving from typewriters to computers, or faxes to emails. But even these developments have not meant greater access for all. Many of the borrowers and communities that HOPE serves still lack Internet or computer access, and there is still a very hands-on, front-end approach. One example: HOPE worked with local governments in the Mississippi Delta and Alabama Black Belt to gain access to CARES Act dollars. One hurdle was getting local leaders access to fundamental technology, such as an email account or a scanner, to submit the documents necessary to receive funds that would aid their response to the COVID-19 pandemic. So, although software to ease internal paperwork duties is critical, it does not mean that it should drive the outward-facing design by which people can exclusively access financial services.

In other cases, fintech means automated decision-making, using algorithms to replace underwriting decisions. This use of financial technology brings a whole different layer of concerns. For example, one of HOPE's strengths in increasing access to mortgage loans for borrowers typically unable to reach them is its ability to know the whole person through a manual underwriting process. The history and stories of the members we serve are a beautiful tapestry of barriers, hardships, and moments of resiliency by the time they reach HOPE's doors. Their intricate stories demonstrate their ability to be successful homeowners and would very likely be lost in an automated, algorithmic decision-making machine that uses traditional data points to deny or approve (and price) someone for a home loan. This is especially true, given our region's long history of exclusionary and discriminatory policies that disproportionately harm people of color. This racially-discriminatory history produces racially-biased inputs, and in turn racially-disparate outcomes. Evidence of pricing discrimination by fintech mortgage lenders provides reason for concern. In one study, Latino and African American borrowers "pay 7.9 and 3.6 basis points more in interest for home-purchase and refinance mortgages, respectively, because of discrimination," resulting in an extra \$765 million in annual interest payments.<sup>1</sup>

Finally, financial technology also refers to old practices in new forms, including predatory lenders that ensnare people into unaffordable loans. In our region, rent-a-bank arrangements—in which nonbank lenders partner with banks to make triple-digit interest rate loans<sup>1</sup>—are a particularly pernicious form of predatory lending with the fintech label. Rampant in the mid-1990s but relatively dormant since 2005 due to federal regulation, rent-a-bank arrangements have resurfaced amid recent rollbacks of federal rules. Another example of predatory lending includes payday loans in the form of high-cost, early-wage access apps, in which people pay excessive fees for a loan based on future earnings. The long-standing concerns about the predatory features of these products are not alleviated by the technology mechanisms facilitating them.

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<sup>1</sup> Robert Bartlett et al., "Consumer-Lending Discrimination in the FinTech Era" (Berkeley, CA: Haas School of Business, UC Berkeley, May 2019), p. 1, <http://faculty.haas.berkeley.edu/morse/research/papers/discrim.pdf>.

These iterations of financial technology directly and indirectly affect HOPE and its members. HOPE's relationship to technology is rooted in the unique strengths of CDFIs and whether technology contributes to the goals of closing the racial wealth gaps exacerbated by the financial system. CDFI strengths include deep relationships with members and communities, supporting people along their journey toward financial security. They also continue to make those who are underserved by other lenders aware of the availability of HOPE and similar institutions. Incorporation or expansion of the use of technology must amplify these strengths, not replace them. Finally, no matter the form, financial technology—and deregulation under the guise of expanding financial technology—should not be used to perpetuate existing patterns of inequality and disenfranchisement.

### **HOPE's Use of Financial Technology in the Paycheck Protection Program**

HOPE seeks to close the racial wealth gap in the Deep South primarily through serving small business owners and entrepreneurs, particularly minority-owned businesses. Nationally, the racial wealth gap between Black and white households is 10 to 1—for every \$1 of wealth held by white households, Black households hold one dime.<sup>2</sup> For households with children, this ratio skyrockets to 100 to 1—for every \$1 of wealth held by white households with children, similar Black households hold one penny.<sup>2</sup> A clearly demonstrated pathway for closing this gap is small business ownership. Among small business owners, the wealth gap shrinks to 3 to 1.<sup>3</sup> Entrepreneurship and small business ownership is critical to our region's economic survival and overall economic vitality.

Between 2017 and 2019, 72 percent of HOPE's commercial loans were under \$1 million. In 2019, over 60 percent of our commercial loans were to minority- and women-owned businesses. In March 2020, HOPE launched a new small business loan product up to \$250,000 to meet the demands and needs in our region. HOPE is both a certified Community Advantage Lender and a participant in the SBA Paycheck Protection Program (PPP). Prior to PPP, HOPE originated about 50 business loans in a typical year, the majority of which went to businesses owned or led by women or people of color.

Thus, by the onset of COVID-19, HOPE had the expertise and some initial infrastructure to meet the needs of small businesses in our region. However, this alone was not enough to overcome the structural inequities baked into the PPP, particularly in the first round of \$350 billion, which was depleted in 14 days.<sup>3</sup> Larger financial institutions had more resources to invest in in-house technology software to process applications quickly.<sup>4</sup> Their customer base consists of larger, more resourced businesses with pre-existing banking relationships. As such, they were able to access the bulk of the PPP funds before most, if any, community-based lenders even were able to submit an

2 Kriston McIntosh et al., "Examining the Black-White Wealth Gap" (Washington, DC: Brookings Institution, February 27, 2020), <https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap/>.

3 Association for Enterprise Opportunity, "Tapestry of Black Business Ownership in America" (Washington, DC: Association for Enterprise Opportunity, February 16, 2017), [https://aeoworks.org/images/uploads/fact\\_sheets/AEO\\_Black\\_Owned\\_Business\\_Report\\_02\\_16\\_17\\_FOR\\_WEB.pdf](https://aeoworks.org/images/uploads/fact_sheets/AEO_Black_Owned_Business_Report_02_16_17_FOR_WEB.pdf)

4 Small Business Administration (SBA) Inspector General, "SBA's Implementation of the Paycheck Protection Program" (Washington, DC: SBA Inspector General, January 14, 2021), <https://www.sba.gov/sites/default/files/2021-01/SBA%20OIG%20Report-21-07.pdf>. (Finding: "The top 15 lenders in round one approved an average loan amount of \$526,576 in the first 7 days of the program. By comparison, all the other PPP lenders approved an average of \$238,083 in the same period.")

application.<sup>4</sup> Accessing SBA's portal was a key barrier—which, for HOPE, took over seven days and a call to our Congress member. HOPE was able to get only 45 PPP loans funded by the SBA before the \$350 billion was depleted seven days later.

As is well-documented now, and was viscerally felt in March and April of 2020, small businesses urgently needed support at the start of the pandemic. This was particularly true for Black- and Latino-owned businesses, which were disproportionately in industries affected by public health safety measures; yet, they also had the smallest cushion to withstand an economic shock due to a long history of discrimination by the financial system now charged with throwing them a lifeline.<sup>5</sup> The PPP's shortcomings unfolded against a backdrop in which, from February through April of 2020, the number of Black business owners declined by 41 percent and Latino business owners declined by 32 percent, compared with a 17 percent decline for white business owners.<sup>5</sup> The disparities in access to PPP funds and COVID-induced business closures will affect the growth and health of businesses owned by people of color for years to come.

In the first round, technology and program design were barriers to accessing PPP. Non-employer businesses were unable to access the program for the first seven days, and there were unnecessarily restrictive barriers to justice-involved borrowers. This had a tremendous impact on the reach of PPP in our region, as 96 percent of Black- and Latino-owned businesses and 84 percent of white-owned businesses in the Deep South are non-employers.<sup>6</sup> Additionally, HOPE's five-state footprint consists of four of the five top states in the country in terms of incarceration rates.<sup>6</sup> These barriers are in addition to the first-come, first-served nature of the program rollout, which exacerbated long-standing racial disparities in access to financial institutions. For example, fewer than 25 percent of Black-owned employer firms have a recent borrowing relationship with a bank.<sup>7</sup> This number drops to 10 percent among Black non-employer firms, compared with 25 percent for white-owned non-employers.<sup>7</sup> These gaps in financial relationships exist even among healthy firms. According to the Federal Reserve Bank of New York's August 2020 report ("Double Jeopardy"), 73 percent of healthy or stable white employers have an existing banking relationship, compared with 42 percent of healthy or stable Black employers.

That said, although technology was one of the barriers in PPP deployment, it was one of several barriers that HOPE sought to overcome between the first and second rounds. It was critical for HOPE to examine how it would meet growing demand for relief to small businesses as the public health and economic impacts of COVID-19 cut deeper into our region. Between the first and second rounds of PPP, HOPE took two steps to overcome the challenges that were also borne of disinvestment patterns in the Deep South and minority-led CDFIs. The first was to invest in software processing technology by contracting with a third party, StreetShares. Many larger financial institutions already have this type of technology in-house.

5 Claire Kramer Mills and Jessica Battisto, "Double Jeopardy: COVID-19's Concentrated Health and Wealth Effects in Black Communities" (New York: Federal Reserve Bank of New York, August 2020), p. 6, [https://www.newyorkfed.org/medialibrary/media/smallbusiness/DoubleJeopardy\\_COVID19andBlackOwnedBusinesses](https://www.newyorkfed.org/medialibrary/media/smallbusiness/DoubleJeopardy_COVID19andBlackOwnedBusinesses).

6 Kiyadh Burt and Diane Standaert, "Deep South Economic Mobility Forecast" (Jackson, MS: Hope Policy Institute, February 24, 2021), <https://hopecu.org/manage/media/HOPE-Deep-South-Economic-Mobility-Forecast-Presentation.pdf>. (The report provides analysis of statistics for non-employer firms by industry, sex, ethnicity, race, and veteran status for the United States, states, and metro areas [2017, Annual Business Survey Program]).

7 Kiyadh Burt, "Analyzing the CDFI Asset Gap: Examining Racial Disparities in CDFI Fund Awardees from 2003 to 2017" (Jackson, MS: Hope Policy Institute, November 5, 2020), <http://hopepolicy.org/manage/wp-content/uploads/CDFI-Fund-Time-Series-Analysis-brief-edited.pdf>.

HOPE also partnered with Goldman Sachs to receive an \$80 million injection of liquidity to expand our lending potential. Credit unions' and other financial institutions' lending capacity is limited by their asset size. HOPE has documented historic racial disparities in asset gaps among minority- and white-led CDFIs, showing that over a 15-year period among CDFI Fund awardees, white-led CDFIs had a median asset size 2.5 times larger than minority-led CDFIs.<sup>8</sup> Thus, going into the pandemic, white-led CDFIs had a leg up in their lending capacity, even though minority-led CDFIs typically have a stronger track record in serving the communities hit hardest by COVID-19. To achieve scale in this type of lending in some of the hardest-to-reach communities during a global pandemic and economic crisis was no small undertaking. For example, at peak, nearly half of HOPE's staff were dedicated to PPP lending, with a significant amount providing technical assistance to small borrowers. Both investment of technology and capital resources were critical to ensure that HOPE's strengths and lending expertise could be fully deployed during this crisis.

### *HOPE's Use of Fintech for PPP Processing*

As HOPE readied for the second round of PPP, it simultaneously engaged in advocacy to address some of the structural barriers of the first round. It sought to obtain a dedicated pool of PPP funds to be deployed by CDFIs and MDIs in order to alleviate the inequities embedded in the first-come, first-served deployment of funds. At the same time, HOPE strengthened its internal systems by contracting with a software processing company, StreetShares, due to the lack of preparedness of other vendors with whom it was already working. This is one lesson learned in retrospect: HOPE recognized the need to have ongoing conversations with its technology providers about their ability to enact urgent technology upgrades, as well as to anticipate members' needs and develop products for them.

StreetShares is a software platform that allowed us to put PPP loans into an operating system securely and quickly. This significantly enhanced HOPE's ability to process numerous loans with swiftness and with ease, as we moved through the underwriting process and sent them to SBA for approval. StreetShares listened to the HOPE's unique needs and partnered with us throughout the process. The StreetShares application allowed HOPE to leverage its deep relationship with underserved communities (such as communities of color in the Deep South) and our expertise in providing assistance to small businesses to meet the overwhelming demand for small business relief as a result of the pandemic. The technology was critical given the overwhelming volume of demand and the speed at which the funds were being deployed.

At the same time, in working with HOPE, StreetShares strengthened its own capacity in processing PPP loans. Its goal was for its platform to reach businesses in communities hardest hit by the crisis; thus, it required a partnership with an entity (such as HOPE) that already had a strong relationship with businesses in the region. An important element of the use of this technology is that it did not replace HOPE's strengths, but worked to enhance them by streamlining the paperwork

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<sup>8</sup> Kiyadh Burt, "Analyzing the CDFI Asset Gap: Examining Racial Disparities in CDFI Fund Awardees from 2003 to 2017" (Jackson, MS: Hope Policy Institute, November 5, 2020), <http://hopepolicy.org/manage/wp-content/uploads/CDFI-Fund-Time-Series-Analysis-brief-edited.pdf>.

and organizational elements of processing thousands of PPP loans. The technology did not replace the things which are most unique to HOPE's ability to meet its mission, such as the relationships HOPE team members have in communities hardest hit by the pandemic and the expertise of walking along side distressed businesses who may be both new to the lending process while navigating the urgency of the pandemic.

PPP is just one of many SBA lending programs, several of which aim specifically to reach underserved borrowers. The data from these other programs show pre-existing gaps in SBA's reach. For example, between 2015 and 2020, 28 percent of approved 7(a) loans went to minority-owned businesses. However, when looking at Black businesses alone, just 2.5 percent of approved SBA 7(a) loans went to Black borrowers (\$3.7 billion out of \$144 billion). As we emerge from COVID-19 and PPP comes to a close, SBA and participating lenders should address the disparities within the PPP program and not repeat them in future SBA programs. Community-based lenders, technology providers, and SBA must work collectively to deepen SBA's lending resources in communities of color. Developing software that interacts smoothly across multiple SBA programs—and increasing its access among minority-led and minority-serving CDFIs—may further help SBA address the gaps in its own lending to communities of color.<sup>8</sup>

### ***Borrowers' Experiences***

In fall of 2020, HOPE partnered with 60decibels, an impact evaluation firm, to survey a representative sample of HOPE's PPP borrowers to understand their experiences. These results show both the limitations and benefits of technology, while also affirming the strengths of mission-driven lenders, like HOPE. First, even with the use of technology to aid the processing of completed applications, businesses still needed significant help in preparing the application materials. For many HOPE borrowers, this additional assistance was critical. Many of the businesses HOPE serves are most often ones where the owner is both the chief cook and bottle washer, doing the work of running the business while also in charge of running the business. This is in stark contrast to larger, more resourced businesses that may have specialized legal or accounting staff on hand, either internally or on contract. In addition, many of the businesses in communities HOPE serves are those historically overlooked by other mainstream financial institutions, meaning they are typically less likely to have capital reserves to withstand the shock of economic downturn.

HOPE's survey of PPP borrowers showed that most (64 percent) were not prepared for a crisis such as COVID-19. However, this varied widely by race: 71 percent of Black PPP borrowers reported being "unprepared" or "very unprepared," compared with 47 percent of white borrowers. This level of preparedness before the pandemic had a strong correlation to the amount of assistance that borrowers needed to complete the PPP application, which HOPE was able to provide with one-on-one technical assistance. Businesses that felt "very unprepared" or "unprepared" for the challenges brought on by COVID-19 spent more time with a HOPE associate on the PPP application. Those who said "very unprepared" spent an average of two hours, and those who answered "unprepared" spent an average of 48 minutes with an associate. Conversely, those who said "somewhat prepared" spent an average



of 37 minutes. As such, technology alone could not have met these borrowers' needs, but the use of technology to enhance other functions ensured that HOPE team members could spend time with the borrowers who needed support along the way.

Additionally, HOPE asked about borrowers' experiences with other lenders, such as online lenders. About 18 percent of those who applied to HOPE for PPP with another lender did so through an online lender. The majority said their experience was either "better" or "much better" with HOPE; hence, borrowers actually received their loan from HOPE rather than the PPP lender. In the words of one member, "HOPE was easier because I was actually speaking with someone in person, and [the other lender] was online and I actually didn't get to speak with somebody."

HOPE borrowers also expressed frustration with service by larger banks. Black-owned businesses approached mainstream financial institutions offering PPP loans only to learn that they would not be served. For example, a Black dentist was not funded by a large bank, and the bank never called to check on the application. The dentist applied with HOPE, and we approved her \$12,000 loan request. HOPE approved a \$7,200 loan for a Black-owned, 27-year-old barbershop in New Orleans after the owner received no help from the bank, one of the largest in the country and with major CRA obligations. These stories were a constant narrative during our PPP lending process, an extension of a banking system that has historically failed to serve communities of color and low-income communities with the same attention as others.

In HOPE's survey of its PPP borrowers, 36 percent decided to take a PPP loan with HOPE because they lacked another option or were declined by another bank. As one member described it, "I'm a member [of a bank], and initially they weren't gonna do it and then my account management app said they gave me PPP. Then they changed their mind. HOPE was the only community institution that really embraced PPP. I attempted, but [the bank] is the fourth-largest bank in the world, so that didn't fit their corporate mission." Another member said, "We tried to get it through other avenues and other banks, but they didn't give us the time of day. HOPE was the only one to assist us with the matter. I didn't even know how to fill it out; they just had an online form, and I uploaded the tax form and then we just winged it, but HOPE called after and fixed it."

Although both fintech firms and larger financial institutions have greater access to technology, they do not have the strengths of mission-driven lenders to reach the businesses that need it most. Beyond the experiences of HOPE's members, these patterns are also evident in the aggregate. For example, a recent study of whether the first round of PPP relief reached communities hardest hit by the pandemic found that fintech lenders alone did not compensate for banks' underperformance in hardest-hit communities.<sup>9</sup> Additionally, even though 19 fintech lenders here in Mississippi were participating PPP lenders as of May 2020, only five made any loans at all in the state in 2020. Even for loans made by CDFIs under \$150,000, CDFIs collectively outperformed all PPP loans made by fintech lenders in Mississippi in terms of number of loans, loan volume, and jobs saved (see Table 1).

<sup>9</sup> João Granja et al., "Did the Paycheck Protection Program Hit the Target?" Working Paper 27095 (Cambridge, MA: National Bureau of Economic Research, 2020), <http://www.nber.org/papers/w27095>, [https://www.nber.org/system/files/working\\_papers/w27095/w27095.pdf](https://www.nber.org/system/files/working_papers/w27095/w27095.pdf)

Table 1  
2020 PPP Lending in Mississippi, by Lender Type<sup>10</sup>

Lender Type	Total Loan Volume	Total Jobs	Total Loans
Fintechs Total	\$40,206,463	4,828	2,100
CDFI PPP Loans under <\$150K	\$609,710,383	108,607	22,817

## Conclusion

As of September 15, 2020, HOPE funded 2,587 loans totaling \$81 million, supporting more than 10,200 jobs in the Deep South. The majority of HOPE's PPP borrowers are businesses owned or led by people of color and women, and most are located in communities of color. The vast majority of HOPE's PPP loans are to small businesses, independent contractors, and sole proprietorships. Others include rural hospitals, HBCUs, and nonprofit service providers. Nearly 40 percent of HOPE's PPP loan dollars reached communities with poverty rates that exceeded 20 percent for more than three decades in a row. HOPE's median amount of roughly \$11,000 is substantially lower than loans originated by most PPP lenders and most other CDFIs. Ninety-seven percent of HOPE's PPP loans in rural areas are under \$150,000. In 2021, in the third round of PPP, HOPE funded an over 2,500 additional loans, bringing the total to 17,734 jobs saved and over \$140 million in PPP funds deployed throughout the South.

The PPP served as a lifeline for many of HOPE's PPP borrowers, with 50 percent saying they would have "closed down" without assistance and another 13 percent saying they would have had to lay off employees. The severity of minority-owned businesses' being unserved by the banking system cannot be overstated. One borrower predicted what might have happened if he had not received a PPP loan: "Probably would be put out of business, would not have been able to catch up with rent. I would probably be homeless as well."

HOPE's ability to reach the depth of need amid the pandemic is due to its 25 years of expertise in meeting the needs of historically underserved businesses and communities. The scale of the COVID-19 pandemic sent shock waves through our entire region, both at the onset and even a year later. Even with HOPE's experience and dedication, rising to the challenge of the massive economic losses caused by COVID-19 also meant overcoming a series of structural barriers—many historically rooted for minority-owned businesses and minority financial institutions, and others unique to the nature of this particular crisis. Technology, and the ability to have access to it, was one of those barriers. Access to improved technology systems was critical in responding to the scale of the pandemic. However, technology alone would not have been enough, especially in light of other systemic challenges, such as capitalization limits and design flaws within the PPP program, that also

<sup>10</sup> Analysis of SBA Paycheck Protection Program Loan Level Data for PPP loans originated in 2020, accessed June 7, 2021, <https://www.pandemicoversight.gov/>.

needed to be overcome. And, as evidenced by our members' experiences, technology alone would not have provided the one-on-one support many of the hardest-hit businesses needed to access relief.

HOPE has come to understand the importance of continually working with existing technology providers to ensure they are adapting to the needs of our members and to underscore the need for software systems that can build capacity across all SBA programs. HOPE and CDFIs play a critical role in ensuring the benefits of technology actually reach and work for the communities we serve. HOPE's experience with PPP is another example of the organization's long history of rooting its response—whether it be to a disaster or new financial technology—in understanding what is necessary to close the racial wealth gap in the Deep South.

**Pearl Wicks** is Executive Vice President for Hope Enterprise Corporation/Hope Credit Union (HOPE). In this role, she is responsible for all HOPE consumer and mortgage financing and program activities. Prior to joining HOPE in 2007, she worked as a Retail Area Sales Manager for Regions Bank covering the Central Mississippi area and as a Deposit Operations Specialist with First Tennessee Bank in Morristown, TN. Pearl has worked in the financial services and community development industry for 30 years. She joined HOPE and helped to establish operations on the Gulf Coast after the devastation of Hurricane Katrina. Through this work, HOPE provided financial counseling and recovery planning to 10,000 Mississippi residents. She plays a key role in the continued expansion of the credit union, which advances the priorities of serving vulnerable communities in the Deep South States of Alabama, Arkansas, Louisiana, Mississippi and Tennessee. Pearl has guided the direction, growth and financial soundness of Hope Credit Union as it has expanded its branch network to ensure access to affordable financial services that promote financial inclusion.

**Diane Standaert** is Senior Vice President of Policy and Advocacy for Hope Enterprise Corporation/Hope Credit Union (HOPE). In this role, she directs the Hope Policy Institute and provides leadership on the development and execution of HOPE's policy and advocacy strategy. Diane brings more than 16 years of experience in policy deployment and expertise on a range of financial inclusion, consumer protections, along with a legal background in civil rights. She most recently served as Executive Vice President at the Center for Responsible Lending, where she worked with bi-partisan coalitions and policymakers at the state and federal level to advance consumer protections against predatory lending practices. Diane began her legal career as a fellow at the University of North Carolina Center for Civil Rights, where she worked in partnership with rural communities in North Carolina for access to basic services like sewer and water.



# CDFI and Fintech Partnerships: A Promising Avenue for Affordable, Fast, and Equitably Distributed Small-Business Capital

*Gwendy Brown and Luz Urrutia  
Accion Opportunity Fund*

For more than 25 years, Accion Opportunity Fund (AOF)<sup>1</sup>—the nation’s leading nonprofit microlender to small businesses and a Community Development Financial Institution (CDFI) through our lending arm, Opportunity Fund—has provided loans to low- and moderate-income people of color and immigrants. Our strategy combines microloans and business advising for small business owners with New Markets Tax Credit investments in high-impact community infrastructure projects. In 2019 alone, we deployed nearly \$120 million in capital to over 3,200 small businesses across the nation, along with an additional \$43 million in neighborhood revitalization efforts.

Despite our success, we knew the nationwide need for small business owners to access transparent, affordable, and responsible credit was far larger than what we had delivered to date—a gap estimated at \$87 billion (pre-COVID). To help bridge this massive capital chasm, and to compete effectively with high-cost, online, small-dollar lenders that were wreaking havoc on Main Street, one strategy we pursued was an industry-leading collaboration with a best-in-class fintech, LendingClub, launched in 2016. That innovative program allowed us to be at the forefront of providing fast, responsible capital at scale when the crisis of a generation hit.

In March 2020, cities and towns across America made the difficult decision to shut down their Main Streets in the face of the deadly COVID-19 virus. Small businesses have borne the brunt of the economic shutdowns, and data from Yelp<sup>2</sup> find that more than half of the small businesses on its platform closed permanently as a result. What’s more, Black-owned businesses are closing at rates twice as fast<sup>3</sup> as other businesses, nearly half of Latinx business owners expect to permanently

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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

1 Opportunity Fund is a Community Development Financial Institution (CDFI) and the nation’s leading nonprofit microlender to small businesses. In 2020, Opportunity Fund joined forces with Accion U.S. Network to create Accion Opportunity Fund (AOF) to provide national, scalable programs that leverage technology and data analytics with high-touch customer service to drive deep community impact. The organization will be referred to throughout the paper as Accion Opportunity Fund, or AOF.

2 Danielle Wiener-Bronner, “More Than Half of Businesses That Closed During the Pandemic Won’t Reopen,” CNN Business, September 17, 2020, [www.cnn.com/2020/09/16/business/yelp-coronavirus-closures/index.html](http://www.cnn.com/2020/09/16/business/yelp-coronavirus-closures/index.html).

3 Lucas Misera, “An Uphill Battle: COVID-19’s Outsized Toll on Minority-Owned Firms,” Federal Reserve Bank of Cleveland, October 18, 2020.

close within six months,<sup>4</sup> and women-owned businesses disproportionately feel the impacts of COVID-19,<sup>5</sup> compared with their male-owned counterparts.

The Paycheck Protection Program (PPP)—created as part of the broader CARES Act relief package passed by Congress in March 2020—was intended to staunch the bleeding of America’s small businesses. But in disbursing PPP loans, the Small Business Administration (SBA) relied on the biggest, most established banks to get money into the hands of their existing customers. The inevitable result was that big businesses received more than half of the funds, while many small business owners were left in the cold.<sup>6</sup> This problem was compounded for low-income communities and communities of color. A poll of Black and Latino business owners showed that only one in 10 received the relief funding they requested,<sup>7</sup> and secret shopper research demonstrated entrepreneurs of color experienced disparate treatment by banks, compared with their white counterparts.<sup>8</sup>

By overlooking nontraditional financiers—like fintechs and CDFIs—in the first round of PPP funding, government relief efforts missed a huge opportunity to reach the small businesses most in need. Fortunately, the flawed rollout of the PPP has put nontraditional lenders in the spotlight. Now the question is: How do we leverage the potential of these players to increase financial inclusion and provide financial services to more entrepreneurs of color?

Building partnerships between CDFIs and fintechs, as AOF and our fintech partners have done, provides a promising opportunity. In this way, we can capitalize on each sector’s unique expertise to find solutions that work for both of us—and more important, for underfunded entrepreneurs. How do we build successful partnerships between such disparate entities? AOF’s experience creating cross-sector partnerships with fintechs provides a roadmap.

## Key Lessons for Building Fintech-CDFI Partnerships

### *Uncover shared interests.*

CDFIs and fintechs are very different entities, with very different *raison d’êtres*. Both are private financial institutions, but CDFIs are, by definition, dedicated to delivering responsible, affordable capital and other supports to help low-income and other disadvantaged borrowers. Furthermore, the vast majority of CDFIs are structured as nonprofits, operating in the public’s trust. Fintechs, on the other hand, are for-profit companies that aim to disrupt and compete with the traditional banking industry by providing customers with fast, efficient, and easily accessible lending products enabled by technology and data analytics. Fintech investors seek sizable returns in exchange for the risk associated with scaling disruptive new business models.

4 Robert Fairlie, “The Impact of COVID-19 on Small Business Owners: Evidence of Early-Stage Losses from the April 2020 Current Population Survey,” Stanford Institute for Economic Policy Research, May 2020.

5 U.S. Chamber of Commerce, “Special Report on Women-Owned Small Businesses During the Pandemic,” August 26, 2020.

6 Jonathan O’Connell et al., “More Than Half of Emergency Small-Business Funds Went to Larger Businesses, New Data Shows,” Washington Post, December 2, 2020, <https://www.washingtonpost.com/business/2020/12/01/ppp-sba-data/>.

7 Color of Change / Unidos US, “First COVID-19 Survey of Black and Latino Small-Business Owners Reveals Dire Economic Future, Inaccessible and Insufficient Government Relief Funds.” Press release (Oakland, CA: Color of Change / Unidos US, May 18, 2020), [colorofchange.org/press\\_release/first-covid-19-survey-of-black-and-latino-small-business-owners-reveals-dire-economic-future/](https://colorofchange.org/press_release/first-covid-19-survey-of-black-and-latino-small-business-owners-reveals-dire-economic-future/).

8 Anneliese Lederer and Sara Oros, “More Tests and More Signs of Discrimination in PPP Lending by Banks.” Press release (Washington, DC: National Community Reinvestment Coalition, November 12, 2020), [nrc.org/more-tests-and-more-signs-of-discrimination-in-ppp-lending-by-banks/](https://nrc.org/more-tests-and-more-signs-of-discrimination-in-ppp-lending-by-banks/).

Despite these differences, CDFIs and fintechs do have shared interests. Both are overshadowed by big banks, and both are important resources for small business owners. Since the 2008 recession, the traditional banking system has pulled back from lending to small businesses and increased their minimum loan sizes—resulting in huge gaps for these businesses looking for financing. We expect those gaps to increase, particularly after COVID-19. In fact, 80 percent of small-business owners who apply for a bank loan get rejected.<sup>9</sup> Often, small businesses then find their ways to CDFIs or fintechs in their search for financing.

However, unscrupulous lenders that are high-cost and entirely unregulated prey upon too many small businesses looking for capital. The financial services sector as a whole provides minimal protections for commercial financial products. Harmful and unregulated products threaten the livelihoods of business owners and their employees—and thus threaten already struggling communities across our nation.

CDFIs and fintechs are well positioned to tackle this problem collaboratively. Accion Opportunity Fund, alongside fintech partners LendingClub and Funding Circle, are founders of the Small Business Borrowers' Bill of Rights.<sup>10</sup> These organizations took action because they believe that the lack of industry-wide responsible practices is a risk to their business—either to losing market share and/or to creating harm for individuals and communities. Collectively, we advocated for California and New York to pass Truth-in-Lending laws and are continuing to advocate for such a law at the federal level. These laws require fintechs, CDFIs, and other alternative lenders to provide clear and comprehensive pricing disclosures to borrowers, among other guidelines.<sup>11</sup> In doing so, we're pushing industry practices to become more responsible.

However, not all fintechs share this commitment; some have deployed predatory financial products that trap small business owners in harmful cycles of debt and have strongly opposed efforts to disclose their pricing. It is therefore critical to identify shared interests before embarking on a partnership and finding fintech partners who align with CDFI values.

### ***Exchange Expertise That Benefits Your Partners' Bottom Line.***

The differences between CDFIs and fintechs can be a boon in any partnership. Each has specific traits and expertise that can help the other advance its mission and its bottom line. The fact is that CDFIs and fintechs can be stronger—and better able to serve small business customers—when we work together.

For example, CDFIs like AOF know, from experience, how to underwrite customers who do not meet the credit criteria for many fintechs, including small business owners with thin credit files or cash-based businesses. This represents a business opportunity for fintechs, which are not typically set up to underwrite and serve these customer segments on their own. By partnering with a CDFI, fintechs can expand the number of businesses that they can say “yes” to and earn additional fees.

9 Brayden McCarthy, “Why Bank Lending to Small Businesses Isn't Recovering” (New York: Fundera, September 9, 2020), [www.fundera.com/business-loans/guides/bank-lending-small-businesses-isnt-recovering](http://www.fundera.com/business-loans/guides/bank-lending-small-businesses-isnt-recovering).

10 Responsible Business Lending Coalition, “Small Business Borrowers' Bill of Rights,” [www.borrowersbillofrights.org/](http://www.borrowersbillofrights.org/).

11 Responsible Business Lending Coalition, “Statement: New York Enacts Strongest Commercial Lending Disclosure Law in the Nation,” December 23, 2020, [www.borrowersbillofrights.org/newyorkenactsstrongestcommercial.html](http://www.borrowersbillofrights.org/newyorkenactsstrongestcommercial.html).

On the flip side, fintechs can help CDFIs increase their customer acquisition volumes and improve their efficiency in highly beneficial ways. Enabled by technology and data analytics, CDFIs can learn how to streamline their operations, develop scalable solutions, offer affordable credit to more businesses, and access different types of capital beyond that of traditional CRA-motivated investments.

### ***Invest in the Necessary Capabilities.***

To build out these types of relationships, CDFIs will require upfront investment in new technology, data analytics, and staff capabilities. At AOF, we've found that in order to compete with other alternative lending offers, we needed to combine the mission focus of a CDFI with the online lending expertise of a fintech, creating a new model for transparent and affordable lending to meet the needs of small business owners across the country. We've worked hard to raise the significant funds to support these investments, which not all CDFIs are in a position to do. However, a promising CDFI-tech model is Connect2Capital, which serves as a technology gateway to connect a network of CDFIs, investors, and small-business owners seeking capital. Connect2Capital made it possible for many smaller CDFIs without robust, in-house technology to participate in various statewide relief efforts in California, New York, and Illinois during the pandemic.

Even before small businesses were facing an existential crisis, for many it wasn't enough to simply access affordable capital in the traditional CDFI method and timeframe (which may replicate bank processes more than we like to think). Small business owners are often frustrated or overwhelmed by onerous document requirements when applying for credit and may instead opt for a loan with less favorable terms if that process is simpler and faster. But partnerships with fintechs, coupled with changing customer expectations and AOF's desire to scale, compelled us to create an online lending experience and offer a personalized service in a faster, more standardized way.

However, these changes require investments in technology, data analytics, and human and capital resources. Fortunately, our partnership with LendingClub was made possible, in large part, by a \$2.6 million grant from JPMorgan Chase's PRO Neighborhoods initiative, which was used for technology, staffing, loan capital, and program evaluation.<sup>12</sup>

### ***Recognize the Limitations of Your Partnership.***

Although fintech partnerships can help CDFIs scale their reach, they can't fill all the persistent and systemic gaps that prevent us from fully serving our target markets. Even though we consider our fintech partnerships successful, customers we currently obtain through these partners are less likely to fit into our target market—low/moderate income and entrepreneurs of color.

Fintech tools can be part of a CDFI's efforts to serve our communities, but they must be coupled with others from the CDFI toolbox: subsidized capital and loan loss reserves, mutually beneficial community partnerships, and culturally responsive staffing and services.

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<sup>12</sup> Jenny Boyer and Gwendy Brown, "Building Technology for Cross-Sector Collaboration: A Case Study of Fintech-CDFI Partnership Success" (New York: Opportunity Fund, September 2017), <https://aofund.org/news/building-technology-for-cross-sector-collaboration/>.



When entering into fintech partnerships, we carefully vet our potential partners to make sure they share our values and are committed, as we are, to responsible lending to underserved markets. For example, in an initial evaluation<sup>13</sup> of AOF's partnership with LendingClub, we identified four key lessons that we use to assess and grow future partners. These themes are: 1) focus on relationships and values alignment at the outset; 2) ensure strong leadership commitment and resource allocation by both partners; 3) maintain a learning mindset and be flexible to how the partnership can evolve over time; and 4) develop a nimble, nuanced approach to goal-setting and partnership evaluation. Successful partnerships require understanding limitations while still pushing against them in pursuit of our mission and end goals.

## **2020: A Year of Unprecedented Challenges—and Opportunities**

The past year introduced unprecedented rates of change and complexity to the financial sector. The needs of small businesses are vast and urgent, and the limited public resources we have at our disposal change minute by minute. But in many ways, these challenges also have the potential to be turned into opportunities for enhanced partnerships between CDFIs and fintechs.

Early in the pandemic, one of our fintech partners, Gusto, a human resource software company, was desperate to get PPP loans for its customers. But we were all at the back of the line together, with government programs overlooking fintechs and CDFIs alike. However, this presented the opportunity for joint advocacy. Collectively, we advocated strongly and loudly before decision-makers acknowledged the flaws in existing small-business relief and the critical role of nontraditional lenders. And thanks to this advocacy, we were able to collaborate with Gusto to get much-needed money into the hands of its customers. One such customer was My Financial Counsel, Inc., a Brooklyn-based business with two employees that connects millennial professionals and young families with independent, fiduciary Certified Financial Planners. My Financial Counsel uses the Gusto platform to manage the company's payroll. Thanks to our partnership, they were also able to use Gusto's platform to connect with AOF and obtain a PPP loan that kept basic operations running through the pandemic. Without the loan, business would have come to a standstill.

Another unintended, but positive, consequence of the pandemic is that we—like so many organizations—have had to accelerate our digital transformation. A few years ago, it wouldn't have seemed possible to do all of our lending remotely, and still be able to find and serve our target customers, but we have. Our customers' use of digital tools, coupled with our phone support when they need us, has changed and increased substantially, and we've met them where they are.

Finally, the events of 2020 have resulted in more attention being paid than ever before to the importance of small businesses and to people knowing what a CDFI is. The real-life consequences of systemic racism and underinvestment in communities of color have been front and center over the past year, both because of the economic impact of COVID-19 and the racial justice protests. More than ever, we need partnerships that are strong enough to serve these markets that have been locked out for

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<sup>13</sup> Boyer and Brown, "Building Technology."

so long. This requires both CDFIs and fintechs to examine our practices and ensure that we are doing our best to counteract centuries of neglect and financial exclusion towards these communities.

## Looking Ahead

We've learned important lessons from our for-profit fintech partnerships over the years, and we continue to adapt these partnerships to changing circumstances. In the future, we plan to identify even more areas of shared interest in order to best serve small business owners.

We know that, in the years ahead, the lines between fintechs, CDFIs, traditional banks, and other lenders will continue to blur. Even now, there are many actors that straddle these different categories—from LendingClub purchasing Radius Bank<sup>14</sup> to American Express acquiring Kabbage.<sup>15</sup> Thus, it is more important than ever to find ways to work together to increase financial inclusion and build a sector that works for all.

***Gwendy Brown** is Vice President of Research and Policy at Accion Opportunity Fund, where she works to drive economic mobility by supporting original research and advocating for sensible public policies to advance responsible lending for all communities. Before joining Accion Opportunity Fund, Gwendy worked with One Economy Corporation helping low-income New Yorkers bridge the digital divide and get online for the first time. She also worked with local governments and corporations to reduce their carbon footprint with the California Climate Action Registry in Los Angeles, CA and served as a Fulbright Fellow with the Andean Development Corporation in Caracas, Venezuela. She holds a B.A. in Economics & Public Policy from Pomona College and an MPA in Nonprofit Management from New York University.*

***Luz Urrutia** joined Opportunity Fund as CEO in 2017. Luz is helping to scale the non-profit CDFI to deepen its impact in California and expand nationwide. Already the nation's leading nonprofit small business lender – with over \$170 million in small business loans under management – Luz is focused on expanding nationally and quadrupling impact nationally by 2025. Under Luz's leadership, in 2020, Opportunity Fund and Accion, The US Network, joined forces to establish Accion Opportunity Fund – developing new products, establishing new partnerships, and promoting research and financial education to support mission-driven lending. Luz spent her career in banking and financial services and has won numerous awards for her leadership in the field. She began her career at Wachovia before founding El Banco de Nuestra Comunidad. As VP of Retail Sales and Services at Oportun, Luz's team expanded Oportun's footprint across five states. In 2016, Luz joined Dollar Financial Group as CEO for the Americas to help transform the organization into a responsible consumer finance lender for underserved communities.*

<sup>14</sup> Hugh Son, "LendingClub Buys Radius Bank for \$185 Million in First Fintech Takeover of a Regulated US Bank," CNBC, February 18, 2020, [www.cnbc.com/2020/02/18/lendingclub-buys-radius-bank-in-first-fintech-takeover-of-a-bank.html](http://www.cnbc.com/2020/02/18/lendingclub-buys-radius-bank-in-first-fintech-takeover-of-a-bank.html).

<sup>15</sup> American Express, "American Express to Acquire Kabbage." Press release (New York: American Express, August 17, 2020), <https://about.americanexpress.com/all-news/news-details/2020/American-Express-to-Acquire-Kabbage/default.aspx>.

# Designing for Whom? Lessons from a Coordinated Relief Effort to Reach Student Loan Borrowers Most in Need

*Maria Lajewski and Nataly Sabharwal  
Financial Health Network*

## The Challenges of Designing for and Reaching Vulnerable Populations

Innovation in highly regulated and complex industries can be extremely costly. This is especially true in financial services, where the legal and regulatory environment creates significant barriers to entry and sustainability for new consumer finance businesses. It typically takes far longer for entrepreneurs to take ideas to prototype, increasing both the costs and the likelihood of failure. Ongoing compliance, risk management, and partner requirements drive increased operating expenses. Investors, therefore, place significant premiums on entrepreneurs with proven track records, industry experience, or strong professional connections that can shorten the time to market and/or reduce execution risk. Despite fintech being touted for its promise to increase financial health amongst diverse and underserved populations, these dynamics have resulted in a starkly homogenous sector. According to Village Capital, women make up just 17 percent of executives at fintech startups, and less than 1 percent of fintech founders are Black.<sup>1</sup>

At the same time, estimates from the Financial Health Pulse<sup>2</sup> indicate that over two-thirds of people living in America are financially unhealthy, of whom a disproportionate percentage are Black, Latinx, and/or women.<sup>3</sup> As of August 2020, only 15 percent of Black people and 24 percent of Latinx people were financially healthy, compared with 39 percent of White people and 39 percent of Asian Americans. The gap in financial health between men and women is also notable, with 40 percent of men versus 28 percent of women financially healthy. As Table 1 shows, these disparities compound, making it even more challenging for people who identify across more than one of these dimensions.

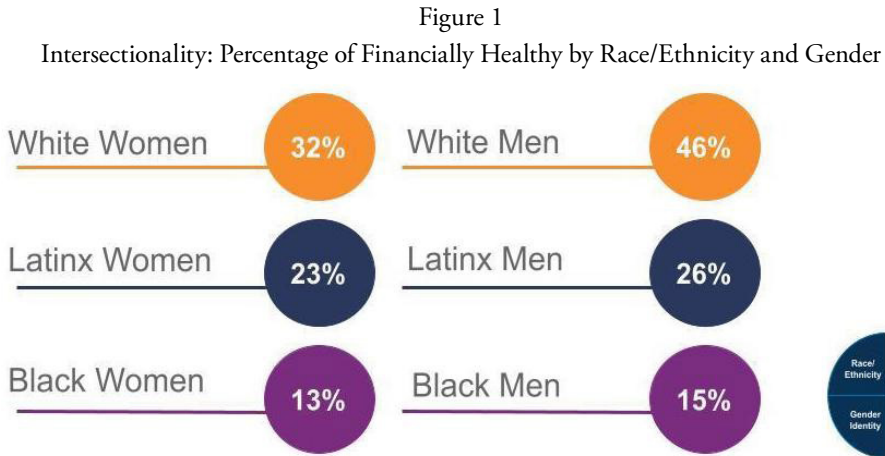
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*The Community Development Innovation Review focuses on bridging the gap between theory and practice, from as many viewpoints as possible. The goal of this journal is to promote cross-sector dialogue around a range of emerging issues and related investments that advance economic resilience and mobility for low- and moderate-income communities and communities of color. The views expressed are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.*

1 Village Capital, "Fintech for All: Building a More Equitable Financial Services Sector" (Washington, DC: Village Capital, August 2020).

2 <https://finhealthnetwork.org/programs-and-events/financial-health-pulse/>

3 Financial Health Network, "Financial Health Pulse" (Chicago, IL: Financial Health Network, November 2020).



*Source: U.S. Financial Health Pulse 2020, Financial Health Network*

For the promise of fintech to be realized, we need entrepreneurs with a deep understanding of the lives and livelihoods of vulnerable consumers and the persistent challenges getting in the way of their financial health. Additionally, we need to create a strong, enabling environment of financial services providers, investors, policymakers, and regulators who can help create pathways to scale for solutions that work.

In this article, we explore how our Financial Solutions Lab<sup>4</sup> leveraged philanthropic capital and a multi-stakeholder approach to support the development and rollout of two interventions to identify and reach the most vulnerable student loan borrowers during the height of the pandemic.

### Reaching Student Loan Borrowers in Need: A Case Study

In early 2020, the Financial Solutions Lab launched its first Collaborative Challenge<sup>5</sup> with the aim of co-creating an innovation to support student loan borrowers in distress, especially those who also became unemployed during the pandemic. We were particularly interested in solutions that could continue to help borrowers once emergency measures, like expanded unemployment benefits and the student loan forbearance period, came to an end—knowing that these twin crises would have a significant hit on consumers' financial health. The design and execution of the Collaborative Challenge serves as an example of how we can harness and direct innovation to where it is needed most.

<sup>4</sup> The Financial Solutions Lab (<https://finlab.finhealthnetwork.org/>) is a \$60 million, 10-year initiative managed by the Financial Health Network in collaboration with founding partner JPMorgan Chase and with support from Prudential Financial. The Financial Solutions Lab's mission is to cultivate, support, and scale innovative ideas that advance the financial health of low- to moderate-income (LMI) individuals and historically underserved communities. The Financial Solutions Lab focuses on innovative solutions that support populations facing acute and persistent financial health challenges, including communities of color, women, older adults, and people with disabilities.

<sup>5</sup> <https://finlab.finhealthnetwork.org/financial-health-collaborative/>

### *Understanding the Needs of Vulnerable Student Loan Borrowers*

The latest reporting on student loan debt in the United States shows Americans owe more than \$1.5 trillion. Although this number is alarming, macro-level indicators are insufficient to provide a more nuanced understanding, such as which borrowers are struggling the most and why. Surely not all borrowers' circumstances and ability to repay are the same.

A closer look at student loan repayment rates reveals the following:

- + The highest rates of default are among borrowers with less than a \$5,000 balance.<sup>6</sup>
- + Black and Latinx borrowers have some of the highest default rates in the United States, with 49 percent of Black borrowers and 33 percent of Latinx borrowers defaulting on their payments within a 20-year period.<sup>7</sup>
- + Low-income borrowers are less likely than other borrowers to be enrolled in an Income-Driven Repayment (IDR) plan. Instead, over two-thirds of loan dollars in IDR plans belong to borrowers who are enrolled in graduate and professional school—a group that typically has higher-than-average incomes.<sup>8</sup>
- + Almost 40% of student loan payers are helping someone else pay off their student loan debt, with 27% holding no student loan debt themselves, which underscores the extent to which student loan repayment is a shared family burden beyond the direct borrower.<sup>9</sup>

Disaggregating student loan repayment data starts to reveal the various and often stark differences between borrowers' circumstances. The borrowers in the greatest trouble are typically not the ones with high debt, but instead the ones with relatively low balances. Many in this category started a degree but didn't finish, and thus aren't enjoying the higher earnings afforded by a degree. Perhaps they were one of the three million students who drop out of college each year because of an unexpected financial emergency of \$500 or less.<sup>10</sup> This is especially true for Black and Latinx students, who are more likely to come from less well-off families that lack emergency savings and are unable to assist with college-related expenses.

Additionally, low-income borrowers are less likely to participate in IDR plans, suggesting that these borrowers are unaware of, or have had difficulty navigating, such programs. This is partly due to the needlessly complex federal student loan repayment system that administers various programs

6 College Board, "Share of Defaulters and Three-Year Default Rates by Loan Balance," (New York: College Board, 2016), <https://trends.collegeboard.org/student-aid/figures-tables/share-defaulters-and-three-year-default-rates-loan-balance>.

7 Laura Sullivan et al., "Stalling Dreams: How Student Debt Is Disrupting Life Chances and Widening the Racial Wealth Gap" (Waltham, MA: Institute on Asset and Social Policy (IASP), Brandeis University, September 2019), <https://heller.brandeis.edu/iasp/pdfs/racial-wealth-equity/racial-wealth-gap/stallingdreams-how-student-debt-is-disrupting-lifechances.pdf>.

8 Jason Delisle, "Fixing the Student Loan Safety Net" (Washington, DC: American Enterprise Institute (AEI), 2021), <https://www.aei.org/op-eds/fixing-the-student-loan-safety-net/>.

9 Diana Farrell et al., "Student Loan Debt: Who is Paying it Down?" (JPMorgan Chase & Co. Institute, October 2020), <https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/institute/pdf/household-debt-student-loan-debt.pdf>.

10 Sara Goldrick-Rab, "Edquity Emergency Aid Primer" (Brooklyn, NY: Edquity, 2019), [https://uploads-ssl.webflow.com/5e56bab4a602182939defec3/5eb3865b8c2c610cd112590\\_EA%20Primer.pdf](https://uploads-ssl.webflow.com/5e56bab4a602182939defec3/5eb3865b8c2c610cd112590_EA%20Primer.pdf)

with different terms and eligibility rules. The result is that people who are underwater on their investment in college may end up defaulting on their loans and paying an unnecessary price.

To better understand the needs of low-income and vulnerable borrowers and to map potential collaboration opportunities, the Collaborative held several workshops with a diverse group of stakeholders who had direct experience working with distressed borrowers, including community-based organizations and nonprofit practitioners, as well as individuals with backgrounds in banking, policy, and digital product design and management.

Through these workshops, there was clear consensus around a need for identifying and reaching vulnerable borrowers with relevant information on the relief measures available to them, including IDR plans. Enrollment in these plans would be especially critical once the student loan forbearance period is set to end.

### ***Equipping Innovators with Flexible Capital, Deep Consumer Finance Expertise, and Network Connections***

To move from ideation to action, the Collaborative awarded a grant to two workshop participants: Student Borrower Protection Center<sup>11</sup> (SBPC) and Student Debt Crisis<sup>12</sup> (SDC). Over several months, these organizations, in partnership with others, embarked on research sprints, iterative product design, and rapid prototyping and testing.

Selected Concepts and Project Teams:

Concept #1: *Identifying Distressed Borrowers*

Lead Partner: Student Borrower Protection Center

Support Partner: San Francisco's Office of Financial Empowerment

Concept #2: *Development of Tools and Support Resources to Help Borrowers Navigate Relief Options*

Lead Partner: Student Debt Crisis

Support Partners: NextGen, Young Invincibles, Savi

### **Concept #1: Identifying Distressed Borrowers**

The first concept was the development of an interactive dashboard<sup>13</sup> to identify and target borrowers who would benefit from IDR plans, particularly Black and Latinx borrowers.<sup>14</sup>

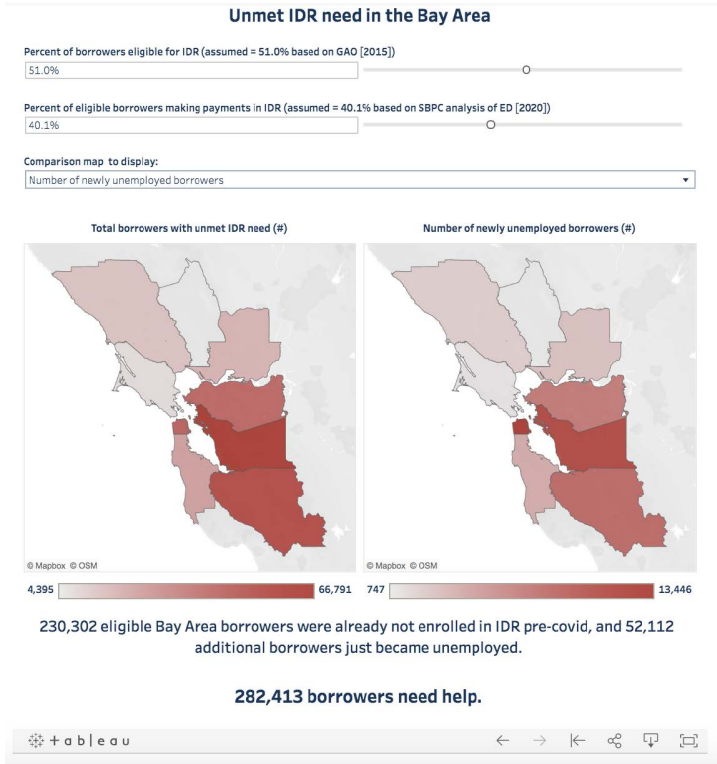
<sup>11</sup> <https://protectborrowers.org/>

<sup>12</sup> <https://studentdebtcrisis.org/>

<sup>13</sup> <https://protectborrowers.org/bay-area-borrowers/>

<sup>14</sup> Financial Solutions Lab, "Driving Cross-Sector Solutions: Responding to the Unemployment and Student Loan Crises." Blog (Chicago, IL: Financial Solutions Lab, December 15, 2020), <https://finlab.finhealthnetwork.org/driving-cross-sector-solutions-responding-to-the-unemployment-and-student-loan-crises/>.

Figure 2  
Interactive Dashboard of Unmet IDR Need in the San Francisco Bay Area



This concept was led by SBPC, in partnership with the city of San Francisco’s Office of Financial Empowerment (SF OFE). By bringing together data on borrower distress, unemployment, demographics, and economic status, SBPC and SF OFE identified over 280,000 borrowers in the Bay Area who are eligible for, but not currently enrolled in, IDR plans. Many of these borrowers are concentrated in some of the Bay Area’s poorest communities and those with higher percentages of Black and Latinx residents.

Armed with this data, SF OFE published an RFI (request for information) in late 2020 seeking a technology vendor that could provide direct-to-borrower assistance in accessing and enrolling in IDR plans. SF OFE is currently evaluating responses to this RFI and is preparing to implement an intervention before the end of the federal student loan forbearance period.

**Concept #2: Helping Borrowers Understand and Effectively Navigate Relief Options**

The second concept was a public education campaign designed to help borrowers understand the CARES Act and its implications for their student debt obligations and to help borrowers navigate the relief options available to them, including enrollment in IDR plans.

This concept was led by SDC, the nation's largest student loan advocacy organization. SDC developed relevant content for borrowers<sup>15</sup> and organizations that can help reach borrowers,<sup>16</sup> then tested content delivery methods and messaging through trusted nonprofit partners NextGen and Young Invincibles. SDC also worked with social impact technology startup Savi to deploy a free, online IDR enrollment tool to eligible borrowers. These outreach efforts resulted in:

- + Reaching ~70,000 borrowers via email campaign
- + More than 7,000 registrations for student loan repayment workshops, 28 percent of whom identified as Black student loan borrowers
- + 460 registrations for the Savi tool, with nearly \$20 million total debt managed and more than \$1,000 average monthly savings for borrowers once the forbearance period comes to an end

### *Creating Pathways to Scale*

Although the Collaborative was successful in supporting the development of SBPC's interactive dashboard and SDC's public education campaign, scaling these interventions will require the active engagement and participation of the broader ecosystem.

SBPC continues to leverage its data and insights to advise state governments and other stakeholders. It is in ongoing discussions with Governor Newsom's Student Debt Task Force, run by the California Student Aid Commission (CSAC), and along with NextGen and others will help shape a set of recommendations to assist student borrowers, to be published in Fall 2021. SBPC is also working with other cities interested in building local dashboards and exploring how this data-driven approach can apply to other vulnerable populations struggling with student debt. It is actively engaged in conversations with leaders in Boston and Chicago.

SDC continues to evolve its campaign efforts based on borrower feedback and input from its workshop series. Likewise, the Borrower Resource Center and Savi's eligibility tool continue to see increased traffic and engagement. SDC is currently focused on recruiting additional partners to bring these tools to Black and Latinx borrowers at scale.

### *The Role of Technology and Policy*

It is important for fintechs and nonprofits to understand the policy reforms that could impact their work, and many of them are already playing a role in shaping the policy discussion. Likewise, it is important for policymakers and policy influencers to understand how tech-enabled innovations can complement their efforts to reach diverse communities, as well as the regulatory challenges impeding innovators' ability to scale. A survey conducted by SDC, for example, found that more than 24 percent of Black borrowers<sup>17</sup> did not know that their federal loan payments were paused as part of the CARES Act (compared with less than 19 percent of White borrowers). Although

<sup>15</sup> <https://sites.google.com/studentdebtcrisis.org/borrower-resource-center>

<sup>16</sup> <https://docs.google.com/document/d/1DF8R2A-CtMypN8g98J9yEsSCmHll9U8bvHyypLEc0VE/edit#heading=h.q9triqzraayok>

<sup>17</sup> <https://studentdebtcrisis.org/student-debt-covid-survey/>



innovations from private and nonprofit groups can help reach some of these borrowers, they alone cannot bring change at the scale required.

The Collaborative organized a convening with our pilot partners, think tanks, and policy experts to discuss the role of technology and policy in helping distressed borrowers and to share insights and learnings from our pilot program. It was widely agreed that policy levers, such as debt cancellation, autoenrollment, and recertification of IDR plans, could eliminate or lessen many of the obstacles hindering access to debt relief among vulnerable borrowers.

Even at relatively small amounts, debt cancellation could help massive numbers of borrowers—over 40 percent of student loan borrowers have less than \$10,000 in debt. Although there is much debate as to whether this cancellation should be means-tested or across-the-board, this type of measure would provide much-needed relief to those who need it most.

For borrowers with remaining debt who continue to need relief, enabling autoenrollment in and recertification of IDR plans could dramatically improve access and utilization of such relief programs. Regarding autoenrollment, the IRS could share income tax information with the Department of Education to identify and target IDR-eligible borrowers more easily. In the case of recertification, unemployed borrowers must verify loss of income by completing a paper-based application. Instead, the IRS and Social Security Administration could consider a data-sharing policy to automatically determine loss of income, which would eliminate one hurdle in the recertification process.

These types of IDR enhancements would allow innovations from private and nonprofit groups, like those offered by SBPC and SDC, the ability to focus on helping borrowers manage their debt rather than the tactical steps to participate in these IDR plans. We hope these kinds of cross-sector conversations, backed by evidence-based data, will result in a more effective and efficient set of policies and innovations to reach greater numbers of borrowers in need.

## Conclusion

To improve financial health for all, business leaders and policymakers must be intentional in their efforts to go beyond macro-level indicators and statistical averages to develop a more nuanced and informed understanding of where disparities lie across individuals and communities. In the case of student loans in the United States, borrowers in the greatest trouble are typically not those with the highest debt, but those who dropped out before they earned a degree. The highest rates of default are among borrowers with less than a \$5,000 balance—a disproportionate percentage of whom are people of color.

Although data can help us identify where the most acute need is, our thinking must also be informed by listening to the people whose lives we seek to improve. Our pilot partners, SBPC and SDC, ran workshops with distressed borrowers and partnered with nonprofit organizations to test the relevancy of their approach and messaging campaigns. We are continuing to work with our pilot partners to help them scale their innovations, with a particular focus on Black and Latinx borrowers and communities. Additionally, we are leveraging the insights and learnings gained from these pilots to help inform and engage policymakers who share our goal of better targeting relief measures to

borrowers in need.

We know that the challenges facing borrowers will become even more acute as the student loan forbearance period under the CARES Act comes to an end. Through collaboration and cross-ecosystem engagement, we can help create a path toward a better financial future where all people, especially the most vulnerable, have the information, tools, and support they need to be resilient and thrive.

We invite you to reach out to [finlab@finhealthnetwork.org](mailto:finlab@finhealthnetwork.org) if you would like to discuss this topic further, explore collaboration, or bring the resources developed by our pilot partners—SBPC and SDC—to the communities you serve.

**Maria Lajewski** enjoys working at the intersection of technology and behavior change, and is passionate about products and programs that help people live happier, healthier lives. A Director at the Financial Health Network, Maria helped design and now leads stakeholder engagement for the Financial Solutions Lab, an initiative to support early-stage entrepreneurs building innovative, scalable solutions to improve consumer financial health. Maria received her Bachelor of Arts in Economics and Sociology from Beloit College where she graduated magna cum laude.

**Nataly Sabharwal** is Collaborative Lead at the Financial Health Network. Nataly has over 15 years of experience leading programs to advance innovation in the public, private and nonprofit sectors with an emphasis on cross-sector partnerships to drive change – examples of programs she’s designed and launched include an edtech program to improve K-12 educational outcomes for disadvantaged youth and an innovation challenge to recognize and reward women-led businesses in the financial services industry. Now at the Financial Health Network, she’s launched a program that uses design thinking and engages cross-sector experts to better understand the financial health needs of underserved individuals and identify solutions to address these needs. In 2020, the program focused on the challenges being faced by individuals hit by the dual crises of unemployment and student debt.





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