FinRegLab

Data Diversification in Credit Underwriting

Research Brief

OCTOBER 2020

Concerns about the reliability of traditional credit data in rapidly changing economic conditions and the need to expand financial inclusion are strengthening incentives to adopt new information sources and predictive models. This Research Brief summarizes recent developments and challenges.

As digital information has exploded in the past 15 years, the U.S. financial sector has been searching for "alternative" or "non-traditional" data to improve credit scoring and underwriting. Incentives to adopt new data sources and models have further increased in the last six months, as the pandemic recession and mass movements for racial justice have further underscored the need to address weaknesses and gaps in traditional information sources.

This Research Brief catalogues recent initiatives to tap non-traditional data sources and update scoring and underwriting models. FinRegLab has not independently evaluated these efforts, but rather describes them here as part of its series about efforts to facilitate a more inclusive recovery to the Covid-19 pandemic and as a follow up to its prior report, *The Use of Cash-Flow Data in Underwriting Credit: Market Context & Policy Analysis*.[1] For example, the brief provides overviews of the following initiatives:

- **New scoring products that use bank account data, professional licensures, and other non-traditional information sources**
- **Recent credit bureau initiatives to provide lenders with access to information from utility and telecom records and bank account data**

FinRegLab is a nonprofit research organization founded on the premise that independent, rigorous research is a primary ingredient in developing market norms and policy solutions that will enable responsible innovation and a more inclusive financial system.

- **Heightened scrutiny of cash-flow information by individual lenders**
- **Initiatives to distill additional insights from traditional credit reporting data in connection with economic downturns**
- **Recent activities by federal financial regulators signaling openness to the adoption of new sources of financial information and updated models in credit underwriting**

The increased interest in alternative information sources and expanding range of data and model options could prove particularly helpful for smaller lenders seeking to adapt their processes and systems. Yet the events of the last six months have also increased competing demands for resources and exacerbated some market and policy challenges. While short-term risk management is still the dominant industry focus in light of uncertainty about the broader economy, strategic decisions by policymakers, industry, and advocates in coming months will shape credit markets' ability to facilitate a more inclusive recovery and make broader long-term changes.

Background

Consumer credit markets today are heavily dependent on credit reports from the three nationwide consumer reporting agencies (NCRAs)— Equifax, Experian, and TransUnion—that each maintain files on more than 200 million U.S. residents. These reports often in turn serve as the basis for calculating credit scores that group applicants into bands based on the groups' predicted relative likelihood of default. Some sources estimate that third-party credit scores from models developed by the Fair Isaac Corporation (FICO) and NCRA joint venture VantageScore are used in more than 90% of underwriting decisions for mortgages, credit cards, and auto loans.[2] Small business lenders also frequently use owners' personal credit history and scores in their underwriting processes.[3]

The creation of a nationwide credit information infrastructure, use of third-party credit scores, and adoption of automated underwriting models by individual lenders are credited with helping to fuel a substantial expansion in U.S. credit markets over the last several decades. In particular, the ability to access information that previously would only have been available to companies that have already done business with an applicant has been transformational. Studies suggest that the three developments have tended to lower underwriting costs and default losses and increase competition for borrowers.[4] They have also tended to reduce reliance on subjective decision-making, which can be particularly vulnerable to conscious discrimination or unconscious bias.[5]

Yet for all of these benefits, the traditional credit information system is still subject to significant limitations. Because reporting is voluntary and most information comes from particular categories of lenders, there is relatively little data about consumers or small businesses who do not already have and use those types of credit products. There are incentives for companies to withhold information, and accuracy has been a substantial concern historically though it may have improved in recent years.[6] More fundamentally, even for applicants with relatively robust, accurate credit files, reports from the three NCRAs cannot provide a complete assessment of their finances because they do not provide direct information on income, reserves, or even a complete picture of all recurring expenses.[7]

Concerns about the reliability of traditional credit information and existing scoring and underwriting models have increased substantially in recent months in response to both the pandemic recession and racial justice movements. In particular, stakeholders have focused on three sets of issues:

- **The sensitivity and timeliness of traditional information sources:** Because lenders typically file updates with the NCRAs on a batch basis and NCRA reports reflect payment history only for selected types of expenses, it may take weeks or months for substantial changes in borrowers' financial circumstances to manifest fully in their reports and scores. This can make it particularly difficult for lenders to predict default risk accurately both for applicants who have recently experienced financial difficulties and for applicants who are rebounding from past income or expense shocks.[8]
- **Inclusion and fairness concerns:** About 20% of U.S. adults—including disproportionate numbers of African-American, Hispanic, and low-income borrowers—lack sufficient credit history to be scored using traditional models.[9] Disparities in scores between different demographic groups also appear to be driven in significant part by disparities in income and assets, which in turn have been affected by historical discrimination in such fields as employment, education, housing, and lending. Concerns have also been raised that racial minorities' scores may be disproportionately affected to the extent that they may lack geographic access to banks and are targeted by lenders who offer credit products with higher prices and riskier structures.[10] Although Federal Reserve Board research has found that traditional credit scoring models have substantial predictive value across different demographic groups,[11] concerns that traditional credit information and scoring systems are perpetuating disparities have received increased attention in recent months as part of broader debates about systemic racial justice.[12]
- **Model performance in unprecedented economic conditions:** Even for populations that are not historically underserved, existing scoring and underwriting models simply were not built for such extreme economic conditions. Particularly in the face of continuing uncertainty about future prevalence of Covid-19 and government relief initiatives, industry confidence in traditional models' ability to predict default risk has eroded in the face of the worst unemployment levels since the Great Depression, growing small business closures, and unprecedented use of short-term loan forbearances.[13] Some sources have also suggested that the fact that average credit scores have actually edged upward in recent months due to pandemic relief programs, deleveraging by consumers, and federal consumer reporting legislation may be further undermining confidence in traditional information and models.[14]

In the short run, capital requirements and concerns about the performance of existing credit scoring and underwriting models are prompting many lenders to tighten their credit criteria, for instance by requiring higher minimum credit scores for new loans.[15] But such categorical credit overlays can be both over- and underinclusive, since they may cause lenders to turn away applicants who in fact would repay and fail to detect applicants whose financial circumstances are rapidly deteriorating. A growing number of stakeholders have voiced concerns that overly rigid overlays could exacerbate systemic barriers to credit access and dampen attempts to facilitate a broader and more rapid recovery.[16]

Thus, recent developments are substantially strengthening business and policy incentives to diversify data sources and update models, despite a number of factors that can tend to slow or discourage changes in more ordinary circumstances. For example, developing and validating new models can take substantial time and resources, particularly for banks that are subject to ongoing monitoring for safety and soundness.[17] Adopting novel data or models may make it more complicated for lenders to securitize loans and attract investors, since third-party credit scores are often used as a benchmark for comparisons across companies and portfolios.[18] Use of new data types and models also requires careful vetting for fair lending, privacy, and other consumer protection concerns.[19]

Such factors can affect the pace of innovation even for models that rely solely on data in NCRAs' credit files. For example, FICO and VantageScore have each released two major model updates in the past decade to account for changes in consumer behavior since the 2008 financial crisis, modifications in consumer report data, and advances in modeling techniques; the most recent of these initiatives is FICO 10, which was announced in January 2020.[20] Yet the most popular third-party scoring model in use today is FICO 8, which was developed based on data from before the crisis.[21] And thanks to special market and regulatory factors, mortgage securitization currently relies on even earlier FICO models that were developed in the late 1990s. Government-sponsored entities Fannie Mae and Freddie Mac are in the process of analyzing and validating more recent models for use, but approval and implementation are expected to take another two to three years to complete.[22]

Recent Data and Model Initiatives

Incumbents in the credit reporting system have been working to supplement traditional underwriting information with rental and utility payments history for more than a decade, though practical, legal, and policy considerations have affected the pace and scope of such efforts.[23] More recently, attention has shifted to bank transaction account records and other sources of cash-flow information that reflect not only payment of recurring expenses but also information about income and reserves.[24] For lenders who are not already providing transaction accounts or other services to borrowers, such information is typically obtained via "data aggregators," which are a type of intermediary that has developed over the last two decades largely to move account data between different kinds of financial institutions.[25] In some cases data aggregators are partnering with nationwide consumer reporting agencies and/or credit score model developers, and in other cases they are functioning as agents on behalf of individual lenders, who then process the data using proprietary models.

A number of actors had launched or announced initiatives to diversify data sources and develop new models for use in credit scoring and underwriting in 2019. Recent developments have both spurred market interest in these initiatives and prompted additional efforts to distill more insights from both alternative and traditional data sources. This section provides a brief overview of recent commercial and regulatory developments.

New scoring models using alternative data

In addition to an earlier alternative product called FICO XD that uses telecom, utility, and public records to evaluate applicants who cannot be scored using traditional FICO models,[26] FICO and Experian each launched pilots in 2019 of alternative scoring models for more generalized use that draw on non-traditional information such as bank account data and professional licensure information. In summer 2020, a new startup called Harvest also started offering a credit scoring model that combines a traditional score with analysis of cash-flow data.

- **UltraFICO:** FICO began piloting a scoring product called UltraFICO in 2019 in partnership with Experian and Finicity, a data aggregator. The scoring model relies on consumers' permission to access their checking, savings, or money market data to generate a separate credit score using both cash-flow and traditional consumer report attributes.[27] The cash-flow elements include such factors as the length of time that accounts have been open, recency and frequency of transactions, evidence of consistent cash on hand, and history of positive account balances. The score is frequently being used in a "second look" process for consumers who do not qualify for credit or for favorable terms using traditional scores. UltraFICO organizers have estimated that 15 million consumers can be scored using the new model even though they may lack sufficient credit history to generate a traditional FICO score, and note that UltraFICO may also be particularly helpful to consumers with low scores, marred credit, or relatively short payment histories.[28]

- **Experian Lift Premium Score:** Experian has begun piloting a new credit score product that combines analysis of trends in consumers' traditional credit report data over 24 months (including on-time rental payments where such information is available) with non-traditional data (specifically professional licensures and payment history on payday and certain high-cost installment loans).[29] Experian has estimated that the model increases predictiveness by 23% compared to other scores when evaluating thin and no file consumers and could benefit up to 40 million consumers.[30] The score could be used as a primary score for consumers who lack traditional credit files or as a supplemental or second-look product in combination with traditional scores. The program builds on Experian's prior acquisitions of specialty credit bureaus and in particular on an earlier initiative called the Experian Clear Early Risk Score that incorporates payday and installment loan data.[31]

- **Harvest Pro Index:** Harvest is a fintech that provides automated personal financial management services and advice relating to bank fee negotiation, debt management, and other topics. In summer 2020, it launched a new scoring model called Pro Index that factors in traditional credit scores, average debt to income ratios, and average expense to income ratios based on an analysis of bank account information that is compiled by various data aggregators with consumer permission. The product is designed for use as a tool to help consumers understand their own financial health, as well as for lenders in originations and portfolio monitoring. The company reports that several New York credit unions and a large U.S. financial institution have signed up to use the score.[32]

Credit bureau initiatives to leverage utility/telecom records and bank account data

New initiatives to supplement traditional data at all three nationwide consumer reporting agencies with payment history reflected in utility/telecom records and bank account information were announced prior to the pandemic. The programs differ as to whether they are focusing on direct consumer sign up or recruiting individual lenders to participate, as well as to whether the supplemental information is provided via the NCRAs' main reports or as a separate data source. Two other credit bureaus announced initiatives relating to cash-flow data in September 2020.

- **Experian Boost:** NCRA Experian and data aggregator Finicity launched "Experian Boost" in 2019 to augment consumers' credit files where they authorize pulling positive payments information for designated utilities and telecommunications companies from their checking accounts. In July 2020, Experian announced it would also consider positive payments history with Netflix streaming services.[33] The results are reflected in any scores that are generated based on Experian credit files for as long as consumers' bank accounts are connected, without lenders having to purchase a separate score. Overall, nearly 5 million consumers have connected their accounts, adding an average of two trade lines. About 65% of consumers overall experience a score increase. The average improvement among all consumers who experience a gain is 13 points, compared with 19 points for consumers who start with scores below the "prime" range.[34] About 12% of consumers experienced a significant enough increase to move into a higher score band. There is no charge to sign up for Boost.[35]

- **TransUnion/eCredable Lift:** This initiative was announced in late 2019 as a way to reflect consumers' telecom and utility payment history in their TransUnion credit files. Consumers designate which accounts they want listed and provide their telecom or utility account credentials to eCredable, which works with a data aggregator named Urjanet to provide up to 24 months' of account history from the designated companies to TransUnion and then updates the information on a monthly basis for as long as the accounts are connected. The information, which includes both positive and negative payments history, is then accounted for in credit scoring models that are generated based on TransUnion credit files, without lenders having to purchase a separate score. eCredable reported in late May that the average score increase is 30 points but did not provide information on how many people had enrolled to date. The cost is $19.95 per year.[36] eCredable provides a similar service for small business owners seeking to report accounts to commercial credit bureaus.[37]

- **Equifax partnerships:** Equifax launched two partnerships in 2020 with data aggregators to provide customer-permissioned bank account and utility/telecom data to participating lenders. The information is not feeding into Equifax's main credit files and does not involve a consumer fee for sign up. One initiative called Snapshot is a partnership with aggregator Envestnet/Yodlee where consumers authorize pulling information from their financial accounts about income, assets, and cash flow. The reports provide attributes, but not a specific predictive score.[38] The second product, called Credit Risk, involves a partnership with Urjanet to provide up to 12 months of payment history from telecoms and/or utilities with consumer permission. The partnership will be able to access data from companies that are not members of the National Consumer Telecom & Utilities Exchange, which is a separate specialty consumer reporting agency that Equifax helps to administer and that provides data for some specialty credit scoring models.[39]

- **Finicity Lend:** Separate from its other partnerships discussed above, Finicity announced in late September 2020 that it was expanding analytical services on its lending support platform to provide an enhanced group of attributes distilled from bank account data for use by individual lenders in their proprietary underwriting systems.[40]
- **Nova Credit:** Nova Credit is a consumer reporting agency that helps people who have recently moved to the U.S. by collecting their credit report information from their home countries and analyzing it to produce a standardized score and report that are similar to domestic analogues for use by U.S. lenders. It announced in September 2020 that it was partnering with international data aggregator Salt Edge to supplement its "Credit Passport" reports with bank account data for customers who move to the U.S. from more 31 European countries.[41]

Heightened scrutiny of cash-flow data by individual lenders

Interviews with industry stakeholders also suggest that some individual lenders are using their own proprietary analyses to look more closely at cash-flow information as a way to assess applicants' financial capacity and payment history. Banks can tap such information internally where they provide both transaction accounts and credit products to particular consumers or small businesses, although it may be more difficult and/or expensive for small banks to do so given their reliance on "core processor" vendors and limited modelling resources.[42] Where lenders are assessing applicants that are not already customers, they typically rely on data aggregators as discussed above to gain access to the data. In the small business context, some companies also use accounting software or payment processing feeds as sources of cash-flow information.[43]

Although patterns are complicated by the fact that demand for most types of loans dropped at the same time that credit standards were tightening in response to the pandemic,[44] aggregators indicate that they have seen an increase in the volume of activity from new and/or existing lender clients particularly in the last few months as lenders have adjusted their operations and business strategies in response to the pandemic. Some lenders are using the information to monitor their existing portfolios, while others are using it to increase their originations activity. In both contexts, stakeholders say many lenders are digging more deeply into the data to distill additional insights that may be useful in current conditions. Individual lenders who were relying on bank transaction account data before the pandemic report that it is proving particularly useful during the downturn to evaluate shifts in consumers' reserves, income, and expense patterns in response to changes in the broader economy.

Commercial relationships and industry initiatives to support movement of account data have also continued to evolve over the course of the pandemic. Payments network Mastercard announced in June that it was acquiring Finicity, following on the heels of a similar January announcement by Visa regarding its acquisition of aggregator Plaid. Both acquisitions are subject to regulatory approval.[45] Large banks have also continued to push aggregators to sign bilateral agreements governing their collection and transmission of consumers' account data from the banks' platforms; for instance, Wells Fargo announced in September that it has signed 17 such agreements with aggregators and large fintechs that will govern 99% of the information being collected from its platforms for use by other financial institutions.[46] An industry initiative to develop more consistent technology infrastructure and standards for data transfers has also gained an additional 40 members since March 2020, with increasing international participation.[47]

Initiatives to distill more insights from traditional data regarding economic downturns

A number of initiatives have also been announced to distill additional insights from traditional credit reports with regard to economic downturns generally or the Covid-19 pandemic in particular. In June 2020, FICO announced a new general product that analyzes which consumers are likely to be relatively sensitive to or resilient in the face of economic downturns relative to peers with comparable traditional credit scores. The three nationwide consumer reporting agencies each also announced new products in summer 2020 that distill traditional credit reporting data to provide greater insights about consumers who have obtained short-term forbearances and other points of uncertainty with regard to current economic conditions.

- **FICO Resilience Index:** FICO announced a new product in late June called a "Resilience Index" that is designed for use in conjunction with traditional FICO scores to evaluate which consumers within any particular scoring band are likely to be relatively sensitive to or resilient in the face of economic downturns.[48] While defaults tend to go up for consumers in all score bands during such periods, the model was developed based on data from the 2008 financial crisis using variables that are derived from traditional consumer reports to determine which consumers' performance was better than average for their scoring cohorts. For example, the model finds that consumers with longer experience managing credit, lower balances, and fewer active accounts tend to have fewer defaults relative to other consumers with the same credit score during downturns.[49] A white paper commissioned by FICO concludes that the product could substantially increase access to credit during downturns in middle and low score bands by giving lenders a way to evaluate which consumers are less likely to default, rather than setting higher score cut offs based on average default rates for credit score bands as a whole.[50]
- **TransUnion Acute Relief:** Announced in June, the Acute Relief products are designed to help lenders better gauge credit risk among consumers who have obtained a short-term loan forbearance or otherwise indicated that they are experiencing pandemic-related financial distress. The Acute Relief products rely on data from traditional consumer reports using trended history over a 30-month period. TransUnion has identified dozens of attributes from the reports to shed light on consumers' risk levels depending on the particular types of credit accounts they have. The company has also generated a risk score that relies on various trends in payment behaviors but not account delinquency to predict likelihood of default.[51]

TransUnion has specifically restricted use of its Acute Relief products by contract to prohibit their use in negative credit decisions, such as rejecting applications or restricting credit lines. Instead, the products can be used for general risk monitoring of portfolios and potentially for determining which consumers are sufficiently financially stable that lenders may want to extend a prescreened offer of credit.[52]

- **Equifax's Response Recovery:** Equifax announced in August that it was providing trended consumer report data and analytics for both consumers and small businesses, for instance to enable lenders and servicers reach out to customers who may already have received credit accommodations from other institutions and monitor predictors of small business distress. The company is also providing a "sandbox" to allow companies to analyze aggregated data across multiple Equifax datasets to identify general trends for purposes of portfolio management.[53]
- **Experian Economic Response and Recovery:** Experian announced in September that it was enhancing earlier Covid-19 related initiatives to provide approximately 300 credit report attributes, including trended data, to help lenders work with customers who have taken loan accommodations. The suite of products also includes a free business risk index to assess which companies most need assistance and general market trends data.[54]

Federal financial regulator initiatives

Federal financial regulators issued an interagency statement on the use of alternative data in late 2019 that signaled particular openness to the use of cash-flow information from transaction accounts,[55] and have followed up in 2020 with several additional statements and initiatives to facilitate the use of new data and models. Recent activities include:

- **Prudential regulators' statement on responsible small dollar lending:** In the course of a broader May 2020 statement emphasizing the role that responsible small dollar lending could play in pandemic response, the agencies noted the roles that both innovative technologies and data sources such as deposit account activity can play in underwriting consumers and small businesses who do not meet supervised institutions' traditional standards.[56]
- **CFPB no action letter template:** The Consumer Financial Protection Bureau issued a template for "no action letters" to the Bank Policy Institute in May to facilitate the approval of plans by individual lenders to offer small-dollar credit products based on an assessment of cash-flow data and other standardized elements. Each lender's plan will require a further submission and approval based on additional information.[57]
- **CFPB focus on adverse action notices:** The Consumer Financial Protection Bureau in June announced a fall tech sprint focusing on the provision of "adverse action notices" explaining the reasons for particular credit decisions to consumers.[58] The agency also published a blog in July discussing the fact that compliance concerns with the disclosure requirements may be affecting the pace at which lenders adopt new underwriting models, particularly ones involving alternative data sources or machine learning techniques. The

blog described the regulatory provisions as providing "built-in flexibility" and noted topics that the Bureau is particularly interested in exploring with stakeholders.[59]

- **FDIC initiative on model due diligence:** The Federal Deposit Insurance Corporation in July issued a Request for Information to explore ways to facilitate community banks' adoption of new technologies and partnerships with fintechs by increasing the efficiency of vendor due diligence. Among other topics, the RFI seeks input about the potential use of standard setting organizations and voluntary certification programs to help lessen the burden on individual banks of validating vendors' models for underwriting and other purposes.[60]

- **OCC Project REACh:** The Office of the Comptroller of the Currrency in July convened representatives from national civil rights organizations and the banking, business, and technology industries through a Roundtable for Economic Access and Change (REACh) to address barriers that prevent full, equal, and fair participation in the nation's economy.[61] One of the project's initiatives is focusing on the potential to assess consumers who lack sufficient credit history to be scored using conventional models by leveraging bank account information, rent payments, and/or utility payments. The workstream is focusing on encouraging the development of alternative credit scoring methods based on such data and on addressing related infrastructure issues concerning data flows.[62] Institutions that are participating in this workstream include Affirm, Bank of America, Citibank, Credit Karma, JPMorgan Chase, National Urban League, Operation HOPE, Plaid, Steady, U.S. Bank, and Wells Fargo.[63]

Market & Policy Considerations

It is too early to gauge the practical impact of many of these initiatives, but stakeholder interviews suggest that there is a substantial increase in interest among lenders and investors about changing their business processes compared to when FinRegLab published its last major report on the potential use of cash-flow data in credit underwriting in late February 2020. While industry stakeholders' immediate focus is primarily risk management given continuing uncertainty about the broader economy, there is also greater sensitivity to the need to address systemic barriers to access to credit going forward. Thus, efforts to regularize access to new data sources and assess their short-term utility may also lay the groundwork for longer-term efforts to expand credit access to historically underserved populations as economic conditions begin to stabilize. Stakeholders have emphasized that strengthening data infrastructure and providing additional third-party scoring models could be particularly important to help smaller players adapt their processes and systems in light of internal data and resource constraints.

But a number of other market and regulatory factors could also affect the pace and scale of longer-term changes to credit information systems. As detailed in FinRegLab's previous cash-flow data reports, such issues include:

- Business model factors, such as operational costs that affect banks' willingness to make relatively small loans in both consumer and commercial markets and capital structures that affect fintech lenders' pricing and capacity to operate in difficult economic conditions.[64]
- Investors' need for common benchmarks across lenders and portfolios.[65]
- Business and regulatory requirements for individual firms to validate their models for general performance and stability as well as for fair lending risk.[66]
- Challenges in securing reliable data access, including development of consistent technology standards and resolution of regulatory compliance and liability issues as the volume of data transfers between firms continues to increase.[67]
- Management of privacy tradeoffs and potential concerns about fairness, accuracy, data security, and transparency with regard to the use of new types of data to underwrite consumers and small businesses.[68]

And while the events of the last six months have increased momentum in some respects, they have also exacerbated various market and policy challenges. For instance, banks' technology and modeling resources are stretched thin as they have to respond to changes across multiple aspects of their businesses, and many are funneling money to loan loss reserves. Non-banks have had to recalibrate their originations strategies as investors have become more cautious, and a number of lenders (both bank and non-bank alike) have laid off workers to cut costs.[69] Regulators and advocates are also having to prioritize resources as between long-term projects and short-term issues arising in connection with the pandemic.

Model building is also likely to prove particularly challenging in the wake of the pandemic recession. While the recent downturn has in one sense addressed concerns that many of the models that have been developed over the last decade using non-traditional data had never been tested in adverse economic conditions,[70] the current downturn is aberrant in its scale and cause. The fact that an applicant has experienced a short-term disruption in their ability to repay a loan because of the pandemic may not yield much insight about their long-term propensity to repay in normal conditions, but the negative effects of that short-term disruption will generally remain on their credit reports for 7 years.[71] At the same time, consumer behavior may shift in response to recent stresses in ways that cannot yet be predicted. The fact that the pandemic's health and economic impacts are disproportionately harming communities of color and exacerbating historical financial disparities also underscores the challenges of determining what further adjustments to historical models may be warranted to increase predictiveness and fairness going forward.

Industry processes for making long-term adjustments to credit models in the aftermath of an economic downturn do not typically begin until the particular downturn has bottomed out and several months of subsequent data have accrued. But the actions that policymakers, industry, and advocates take in coming months could make a substantial difference as to the extent of financial damage that accrues in the meantime, lenders' ability to help bridge shortfalls and facilitate a more rapid recovery in the short term, and the strength and effectiveness of long-term efforts to make credit markets more inclusive and resilient. Beyond the work of individual firms to develop, adjust, and validate new credit models and data sources, three sets of near-term activities could be particularly important to sustaining the current momentum:

- **Approving further pandemic relief and organizing related outreach efforts:** The decisions Congress makes on further pandemic relief programs for particular populations will have a substantial effect on the finances of affected consumers and small businesses, the extent to which financial damage manifests itself in both traditional and new data sources, and the need for private credit sources to fill short-term gaps.[72] These issues in turn will shape which individuals and businesses can qualify for credit to support business reopenings, major household purchases, and other activities during the recovery phase. Certainty about pandemic relief programs would also help lenders act with more confidence in calibrating risk levels and credit standards.[73] Requiring households and small businesses to rely solely on amassed savings and private sources of credit to bridge through the pandemic recession would exacerbate current hardship patterns among low- to moderate-income populations and slow the pace of the broader recovery for communities, states, and the nation as a whole.[74]

  Greater public education, outreach, and counseling support for consumers and small businesses also appear critical in light of evidence of substantial gaps in public awareness and the fact that requirements are shifting as initial relief programs are modified or replaced by subsequent initiatives. For example, more than 530,000 homeowners have become delinquent on their mortgages since the pandemic began, despite being eligible to request up to a year of forbearance under federal law, and another 205,000 homeowners who did not extend their initial forbearances in June and July have since become delinquent.[75] Stakeholders say many of the latter group may be in the course of negotiating long-term loan modifications, but more research would be helpful to determine exactly which consumers are failing to take advantage of relief programs and why. Surveys of housing counselors suggest that lack of awareness of the ability to request forbearances and concern about being required to make a single lump sum payment immediately upon the end of forbearance are substantial drivers.[76]

- **Additional public research on economic conditions, working with distressed borrowers, and the predictiveness, fairness, and inclusion effects of particular data sources:** The need for quick, effective, and efficient action puts a further premium on public research to help identify and promote best practices and innovations that will benefit borrowers and lenders alike. Although the experiences of the 2008 financial crisis provide important lessons about working with distressed borrowers in severe downturns, the pandemic recession also presents substantial differences with regard to the source and breadth of disruption. Being able to identify meaningful recovery signals in different market segments, determine how to increase the effectiveness of relief and outreach programs, and validate available data sources and models for both short-term and long-term use will be critical to increasing lender confidence, minimizing damage to consumer and small businesses' finances and credit reports, and facilitating the adoption of changes to promote longer-term inclusion and resiliency.

- **Firming up industry standards and regulatory requirements applicable to customer-permissioned data transfers:** As discussed in previous reports, developing consistent technology standards and resolving outstanding regulatory questions about the ecosystem for customer-permissioned data transfers could substantially increase efficiency and security and give both industry and consumers greater confidence in structuring their activities as data sharing continues to accelerate.[77] Industry standardization discussions are continuing, but stakeholders emphasize that greater regulatory certainty is also critical. Although federal financial regulators have signaled increasing openness to the use of cash-flow information and other non-traditional financial data in underwriting through various channels as discussed above, resolving regulatory questions about customer-permissioned data flows is likely to require formal action by individual agencies and/or Congress. Such questions include the application of the Fair Credit Reporting Act to underwriting information that is transferred via data aggregators for underwriting purposes, application of Electronic Fund Transfer Act protections concerning unauthorized transactions in cases involving misuse of consumers' banking platform log-in credentials, and the parameters of consumers' right to access their data under § 1033 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.[78] The Consumer Financial Protection Bureau announced in July 2020 that it intends to release an Advanced Notice of Rulemaking on § 1033 and its interaction with other statutes within the Bureau's jurisdiction, but has not yet issued the notice or signaled a timeline for actual rulemaking.[79]

Thus, sustaining the current momentum to produce long-term improvements in credit underwriting will depend both on the trajectory of the general economy and on strategic decisions by industry, policymakers, and advocates in the months and years to come. Stakeholders who have been seeking the adoption of nontraditional data sources and more inclusive lending practices for years express cautious optimism that 2020 is an inflection point, but they also emphasize how much hard work is still ahead. In the face of both the most severe economic crisis in decades and worsening historic disparities, building a more inclusive and resilient credit system has become more urgent—and in some ways more challenging—than ever.

Endnotes

1 FinRegLab, Research Brief, Covid-19 Credit Reporting & Scoring Update (2020); FinRegLab, Research Brief, Technology Solutions for PPP and Beyond (2020); FinRegLab, Research Brief, Disaster-Related Credit Reporting Options (2020); FinRegLab, The Use of Cash-Flow Data in Credit Underwriting: Market Context & Policy Analysis (2020).

2 FinRegLab, Market Context & Policy Analysis at 8-12; Payments Journal, FICO Scores Used in Over 90% of Lending Decisions According to New Study, Mercator Advisory Group (Feb. 27, 2018); Peter Carroll & Cosimo Schiavone, 2018 VantageScore Market Study Report, Oliver Wyman (2018). Individual lenders vary both as to how heavily they rely on NCRA reports and third-party scores and as to the specific ways that they factor the information into their credit approval and pricing decisions. For instance, some lenders establish a minimum third-party score below which they will not consider lending, but use attributes from the underlying credit reports and/or proprietary algorithms to evaluate applicants above that threshold. Lenders also use generic scores to monitor portfolios, expedite securitization, and engage with investors. FinRegLab, Disaster-Related Credit Reporting Options at 3-4; FinRegLab, Market Context & Policy Analysis at 9-11.

3 FinRegLab, The Use of Cash-Flow Data in Credit Underwriting: Small Business Spotlight 5-9 (2019).

4 FinRegLab, Market Context & Policy Analysis at 8-12; Board of Governors of the Federal Reserve System, Report to the Congress on Credit Scoring and its Effects on the Availability and Affordability of Credit S-2, S-3 to S-4, O-4 to O-6, 32-49 (2007) (hereinafter FRB, Credit Scoring Report); Allen N. Berger & W. Scott Frame, Small Business Credit Scoring and Credit Availability, 47 J. of Small Bus. Mgmt. 5 (2007).

5 FRB, Credit Scoring Report at 0-4, 3, 10-11. Fair lending concerns can also arise in connection with predictive algorithms due to data flaws, decisions made in the course of developing the models, and other issues. However, they facilitate more consistent treatment of a large number of factors simultaneously than subjective or judgmental underwriting systems. FinRegLab, Frequently Asked Questions, AI in Financial Services: Explainability in Credit Underwriting 21-22 (2020); FinRegLab, Market Context & Policy Analysis at 8-9, 14.

6 A 2012 study by the Federal Trade Commission found that 21 percent of participants had errors in their credit reports, 13 percent had errors that affected their credit scores, and 5 percent were able to obtain corrections that were so large that they changed credit risk tiers. Federal Trade Commission, Report to Congress under Section 319 of the Fair and Accurate Credit Transactions Act of 2003 at i to vi, 57-64 (2012). However, the data analyzed in the report largely pre-dates the Consumer Financial Protection Bureau's supervision of consumer reporting agencies and furnishers for accuracy requirements. CFPB officials announced at an industry conference in fall 2020 that they were planning to launch a new research initiative to evaluate accuracy of NCRA credit files, although the exact timing and structure is still being decided.

7 FinRegLab, Market Context & Policy Analysis at 12. Lenders can fill these gaps by collecting additional information from applicants and other third-party sources. But gathering, verifying, and analyzing a detailed picture of applicants' full financial situations can take substantial time and labor. These costs must also be balanced against competitive pressures to process and approve credit applications quickly. *Id.*

8 See, e.g., Jason Gross, Will COVID Mean the End of Credit Scores?, Medium (Sept. 8, 2020); AnnaMaria Andriotis, 'Flying Blind into a Credit Storm': Widespread Deferrals Mean Banks Can't Tell Who's Creditworthy, Wall St. J. (June 29, 2020); FinRegLab, Market Context & Policy Analysis at 12-15.

9 FinRegLab, Market Context & Policy Analysis at 12-13; Consumer Financial Protection Bureau, Data Point, Credit Invisibles 4-6 (2015).

10 FinRegLab, Market Context & Policy Analysis at 13-15. For additional background on income, wealth, and credit system disparities see, e.g., Federal Reserve Bulletin, Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances (Sept. 2020); Jung Huan Choi et al., Explaining the Black-White Homeownership Gap, Urban Institute 3, 8-10 (Oct. 2019); Richard Rothstein, The Color of Law: A Forgotten History of How Our Government Segregated America (2017); Caroline Ratcliffe & Steven Brown, Blog, Credit Scores Perpetuate Racial Disparities, Even in America's Most Prosperous Cities, urban.org (Nov. 20, 2017).

11 FRB, Credit Scoring Report; Robert B. Avery et al., Does Credit Scoring Produce a Disparate Impact? 40 Real Estate Econ. 965 (2012).

12 See, e.g., Chi Chi Wu, Reparations, Race, and Reputation in Credit: Rethinking the Relationship Between Credit Scores and Reports with Black Communities, Medium (Aug. 7, 2020); Thomas Frank, Disaster Loans Entrench Disparities in Black Communities, Scientific American (July 2, 2020); Ellen Rosen, Trying to Correct Banking's Racial Imbalance, N.Y. Times (June 30, 2020); Veronica Chau et al., Financial Institutions Can Help Break the Cycle of Racial Inequality, BCG (June 11, 2020); Mónica García-Pérez et al., Baltimore Study: Credit Scores, Washington Center for Equitable Growth Working Paper (March 2020); Aria Florant et al., The Case for Accelerating Financial Inclusion in Black Communities, McKinsey & Co. 13-14 (Feb. 2020).

13 Steve Cocheo, Impending Credit Crisis: How Banks and Credit Unions Must Prepare, Financial Brand (Sept. 2, 2020); Ed Garsten, Tightening Auto Credit Slows Sales Rebound, Forbes (Sept. 1, 2020); Elan Amir, Pandemic Exposes Limits of Lenders' Traditional Credit Metrics, Am. Banker (July 24, 2020); Maria Arminio & Bo Berg, Coronavirus Stresses Traditional Payment-Related Credit Models,

PaymentsSource (July 20, 2020); FinRegLab, Covid-19 Credit Reporting & Scoring Update at 2-4; Andriotis, 'Flying Blind'; Harry Terris & Ali Shayan Sikander, Bank Credit Performance in Limbo as Massive Experiment in Forbearance Unspools, S&P Global (June 22, 2020); Lindsey White et al., US Lenders Walking Tightrope to Balance Consumer Loan Demand, COVID-19 Risk, S&P Global (June 12, 2020); Michelle Lerner, Home Financing 'Hit a Perfect Storm' with Virus and the Economic Downturn, Wash. Post (Apr. 30, 2020). TransUnion has reported that the number of accounts with information indicating forbearance, deferred payment, or affected by disaster rose through the end of May to about 106 million; about 75% were student loans, large portions of which were automatically put into forbearance by federal legislation. FinRegLab, Covid-19 Credit Reporting & Scoring Update at 2-3, 6; AnnaMaria Andriotis, Americans Skip Millions of Loan Payments as Coronavirus Takes Economic Toll, Wall St. J. (June 18, 2020). The percentage of loans with forbearance or other signs of hardship has declined in several consumer credit markets over the course of the summer, although there were some signs of an uptick in mortgage markets in late September. For instance, surveys of mortgage servicers indicated an increase in requests in some mortgage segments and that about 1.5% of mortgages in forbearance had re-entered that status after an earlier accommodation ended. Black Knight, Blog, Forbearances Up Slightly, First Rise in 6 Weeks, blackknightinc.com (Oct. 2, 2020); Mortgage Bankers Association, Share of Mortgage Loans in Forbearance Declines to 6.87% (Sept. 28, 2020); TransUnion, August 2020 Monthly Industry Snapshot (Sept. 2020). In addition, some homeowners have exited forbearance and become delinquent. See page 12 & nn. 75-76.

[14] See, e.g., Gross; Anna Irrera, Did Uncle Sam's Virus Aid Help Your Credit Score? Don't Count on a Loan, Reuters (July 13, 2020); Andriotis, 'Flying Blind.' For discussion of the effects of federal legislation and other trends in credit scoring and reporting during the pandemic, see Consumer Financial Protection Bureau, The Early Effects of the COVID-19 Pandemic on Consumer Credit (Aug. 2020); TransUnion, August 2020 Monthly Industry Snapshot; FinRegLab, Covid-19 Credit Reporting & Scoring Update; FinRegLab, Disaster-Related Credit Reporting Options. In past downturns, credit industry incumbents report that credit scoring models have generally held up well with regard to rank ordering consumers by relative risk, but that the percent of consumers who default increases substantially particularly in middle scoring bands. See, e.g., VantageScore, White Paper, The Dynamic Relationship Between a Credit Score and Risk (May 2020); Equifax, Webinar, Market Pulse: Potential Impact of Pandemic on Credit Scores (May 21, 2020); Jim Bander, Blog, Validating Consumer Credit Scores in a Time of Extreme Uncertainty, experian.com (May 20, 2020); FICO, Webinar, FICO Score Trends Through Economic Downturns and Natural Disasters, And What They Can Tell Us about the Road Ahead (May 13, 2020).

[15] See, e.g., Board of Governors of the Federal Reserve System, July 2020 Senior Loan Officer Opinion Survey on Bank Lending Practices (Aug. 2020) (reporting widespread tightening of loan criteria across commercial and consumer markets) (hereinafter FRB, July 2020 Senior Loan Officer Survey); Terris & Shayan Sikander; White et al; Lerner. Many lenders also pulled back on marketing initiatives, particularly in the first months of the pandemic. FinRegLab, Covid-19 Credit Reporting & Scoring Update at 7.

[16] See, e.g., Cocheo; Tara Siegel Bernard, Interest Rates Are Low, But Loans Are Harder to Get. Here's Why, N. Y. Times (Aug. 4, 2020); Arminio & Berg; FinRegLab, Covid-19 Credit Reporting & Scoring Update at 16-17. Stakeholders have been particularly concerned about credit overlays in the mortgage market, where both industry and consumer advocates argue that government policies concerning loans in forbearance are causing further tightening of credit standards, having particularly severe effects on home purchases and refinances by applicants of color, and threatening to exacerbate the broader financial crisis. FinRegLab, Covid-19 Credit Reporting & Scoring Update at 7-9.

[17] FinRegLab, Market Context & Policy Analysis at 37-41, 62-69.

[18] *Id.* at 16, 68-69.

[19] *Id.* at 78-115.

[20] FICO, FICO Introduces New FICO Score 10 Suite (Jan. 23, 2020); VantageScore, Inaugural VantageScore 4.0 Trended Credit Data Model Validation (Sept. 2018); FICO, FICO Score 9 Introduces Refined Analysis of Medical Collections (Aug. 7, 2014); VantageScore, White Paper, VantageScore 3.0 (Dec. 2013). For more discussion of FICO 10, including a variation of the model that uses trended credit data, see FinRegLab, Market Context & Policy Analysis at 15-16 nn. 24, 32-33; 34; see also note 29 (discussing growing use of trended data in scoring models).

[21] MyFICO, FICO® Scores Versions: Did You Know You Have More Than One FICO® Score? (undated); FICO, FICO 8 Credit Score Available at All Three National Credit Reporting Agencies (July 22, 2009).

[22] MyFICO; FinRegLab, Market Context & Policy Analysis at 15-16; Federal Housing Finance Agency, Final Rule, Validation and Approval of Credit Score Models, 84 Fed. Reg. 41,886 (Aug. 16, 2019). The deadline for submitting model documentation for validation was September 15, 2020. Federal Housing Finance Agency, News Release, Fannie Mae and Freddie Mac Publish Joint Enterprise Credit Score Solicitation (Feb. 18, 2020).

[23] Reporting of rental data has historically been handled by specialty credit bureaus rather than the three nationwide consumer reporting agencies whose files are used to generate third-party credit scores. Although the amount of rental data in NCRA files has slowly been increasing as the result of credit bureau acquisitions and initiatives and web apps that will report consumers' rental payments for a fee, less than 0.5% of U.S. adults in rental housing reportedly have tradelines in their NCRA files reflecting routine rental payments today. Small landlords may be particularly discouraged by the operational and compliance challenges of furnishing data, prompting them to report only severely delinquent tenants if they report at all. FinRegLab, Covid-19 Credit Reporting & Scoring Update at 9-11 & n. 70. With

regard to utility data, Equifax has administered a separate database on behalf of the National Consumer Telecom & Utilities Exchange for more than two decades that was originally available only to utility companies and other data contributors for use in their businesses. In recent years, it has grown to include information on more than 215 million unique consumers and 420 million accounts, and the organization has begun permitting data use by non-exchange members for some specialty credit scores such as FICO XD. Equifax, National Consumer Telecom & Utilities Exchange (2016); notes 26, 39, and accompanying text. As discussed on pages 6-7, several other initiatives to collect telecom and utility payment history through data aggregators with consumer consent have been launched in the last two years. Other factors that may shape reporting and use of utility payments history include legal restrictions on reporting by utilities in some jurisdictions and opposition to certain types of energy utility reporting by some consumer advocates, who argue that it would penalize consumers who rely on state laws that protect them from utility shut offs during peak months and then catch up on their bills in off seasons. FinRegLab, Market Context & Policy Analysis at 15-16 & nn. 28-29.

[24] FinRegLab, Market Context & Policy Analysis at 15-21.

[25] Aggregators first emerged in the U.S. about 20 years ago largely to support various types of wealth advisory and "personal financial management" services that provide consumers with consolidated information from and/or access to their credit, payments, and asset management accounts. However, some aggregators do work with utilities and companies in other industries that are not generally thought of as financial institutions. *Id.* at 41-56; pages 6-7. Aggregators have historically collected data by asking consumers to share their log-in credentials for banking or other account platforms and using a process called "screen scraping" that relies on proprietary software to copy the data that is available via the financial institutions' customer-facing webpages. Due to privacy, security, and other concerns, the industry is increasingly transitioning to use of specially generated tokens to authorize data access and transmission via dedicated application programming interfaces (APIs). FinRegLab, Market Context & Policy Analysis at 46-56.

[26] FICO XD was introduced in 2016 and updated to model 2.0 in 2018. It uses utility payment history from Equifax in its role as manager of the National Consumer Telecom & Utilities Exchange and information concerning address changes and property ownership from LexisNexis. The product is designed for use only to evaluate consumers who lack traditional scores for credit cards, educational loans, or other unsecured credit, which in turn can be used to generate scores under traditional models as they build payment history. FICO reports that the XD 2 model can generate scores for about 26.5 million consumers that are not scorable under its traditional models, and that 75% of consumers that had XD 2 scores of 620 or higher at application have FICO 9 scores of 620 or higher after two years. FICO, UltraFICO Fact Sheet 4 (2019); FICO, FICO XD Product Overview (2019); FICO, FICO Continues to Expand Access to Credit with New FICO® Score XD 2, fico.com (Mar. 29, 2018).

[27] Ben Luthi, Blog, What Is UltraFICO and How Do I Use It?, experian.com (May 29, 2020); FICO, UltraFICO Fact Sheet. Attributes are predictive variables derived from credit bureau data or other sources. They are often inferred from the interaction of multiple data points, for instance by calculating average monthly balances from component variables. FinRegLab, Market Context & Policy Analysis at 18, 34.

[28] Luthi; FICO, UltraFICO Fact Sheet. The model does not consider specific details about what or to whom payments are made or items reported as child or family support obligations. FICO, UltraFICO Fact Sheet at 3.

[29] As discussed in note 23, routine rental payment history is rarely reflected in NCRA reports. Because it was so rare historically, older credit scoring models do not take it into account even where it is available. Experian Lift and the most recent two general models introduced by FICO and VantageScore do consider it, but the most commonly used scoring model today (FICO 8) does not. FinRegLab, Covid-19 Credit Reporting & Scoring Update at 9-11. Experian Lift's consideration of professional licensure takes into account whether a consumer has any one of about 5,000 types of licenses as a measure of stability but does not differentiate between particular types of licenses. Trended data considers how particular attributes have changed over time, rather than simply taking a single snapshot. For instance, two consumers with the same credit utilization rates might be scored differently depending on how their rates have changed in recent months. A growing number of credit scoring models use trended data. FinRegLab, Market Context & Policy Analysis at 11; see also notes 20, 51, 53, 54, and accompanying text.

[30] Experian, White Paper, 2020 State of Alternative Credit Data 14 (Sept. 2020); Peter Renton, Experian Introduces New Credit Scoring Suite for Thin File Consumers, LendAcademy (Nov. 25, 2019); Experian, Press Release, New Experian Credit Score May Improve Access to Credit for More than 40 Million Credit Invisibles (Nov. 7, 2019); AnnaMaria Andriotis, Hairdresser, Plumber, Lawyer: A Job License Could Help You Get a Loan, Wall St. J. (Nov.6, 2019). The company expects to release white papers in coming months providing additional information on consumer impacts based on the pilot results.

[31] Erica Sandberg, Blog, Is My Rental History on My Credit Report?, experian.com (July 23, 2020); Renton.

[32] Penny Crosman, Twitter Veteran Launches Credit Score That Digs Deep into Cash Flow, Am. Banker (Oct. 1, 2020); Harvest, What Determines My PRO Index? (July 2020).

[33] Jeff Softley, Blog, Experian Boost Adds Streaming Service Payments, experian.com (July 27, 2020).

[34] Adding more trade lines is less likely to affect consumers who already have a large number of credit accounts and high scores. Score declines occur in about 1% of cases, but the company has noted that consumers can disconnect their accounts if that occurs and that

their scores will revert to being calculated without the supplemental information. Softley; Experian, Help Raise America's Credit Scores, Experian.com (undated).

[35] Experian, 2020 State of Alternative Credit Data at 13; Softley; Experian, Help Raise America's Credit Scores, Experian.com (undated).

[36] eCredable, Blog, eCredable Lift Review: The Pros & Cons of Lift, ecredable.com (May 28, 2020); eCredable, Blog, Expert Q&A With ECredable: Changing The Credit Scoring Game With Alternative Data, ecredable.com (Mar. 6, 2020).

[37] eCredable, We Help You Build Business Credit (undated). The service currently offers automated monthly reporting of telecom and utility data and on-demand verification and reporting of other types of accounts (such as rent or equipment leases) to commercial credit bureaus Creditsafe and Ansonia, and is in the process of adding transmissions to Equifax. *Id.* Pricing for automated reporting of linked accounts is $49.95 for start up and $9.95 monthly thereafter; on-demand reporting is an additional $19.95 per account per report. eCredable, Business Credit Is Invaluable. We Can Help You Build It. (undated).

[38] Equifax, Product Sheet, Help Expand Access to Credit for Consumers Overlooked in Traditional Lending with Snapshot from Yodlee (2020).

[39] Equifax has invested in Urjanet in addition to forming the partnership. Madison Hogan, Equifax Leads $14.6M Funding Round for Atlanta Utility Account Aggregator, Atlanta Business J. (June 23, 2020); Equifax, Product Sheet, Start Ahead with a Better View of Underbanked Consumers (2020). For more discussion of the NCTUE database, see notes 23 and 26.

[40] Finicity, Press Release, Finicity Launches Finicity Lend™ to Accelerate the Next-Gen Credit Decisioning Experience, Advance Open Banking (Sept. 28, 2020). Finicity considers itself to be a consumer reporting agency under the Fair Credit Reporting Act, while some other data aggregators argue that they are not covered by the statute. *Id.*; FinRegLab, Market Context & Policy Analysis at 87.

[41] Nova Credit, Blog, Nova Credit Taps Salt Edge to Enhance Access to Finance for Newcomers to the US via Open Banking, novacredit.com (Sept. 16, 2020).

[42] FinRegLab, Market Context & Policy Analysis at 38-39.

[43] FinRegLab, Small Business Spotlight at 21-22.

[44] See, e.g., FRB, July 2020 Senior Loan Officer Survey (reporting reductions in demand across most credit markets with the exception of mortgage lending); Claire Williams, Demand for Online, Small-Dollar Loans Fell as Consumers Got Pandemic Relief, New Data Shows, Morning Consult (July 31, 2020); Penny Crosman, Which Fintechs Will Survive the Pandemic?, Am. Banker (July 21, 2020); White et al.

[45] Penny Crosman, What Happens if Mastercard and Visa Gobble up All the Data Aggregators?, Am. Banker (June 29, 2020); Michael Deleon, Visa Has Plaid and Now Mastercard Acquires Finicity for Close to $1 Billion, TearSheet (June 23, 2020).

[46] Penny Crosman, Wells Fargo Says It Has Nearly Eliminated Screen-Scraping Threat, Am. Banker (Sept. 24, 2020).

[47] The group now includes more than 140 companies, including firms in Canada and the United Kingdom. Financial Data Exchange, Financial Data Exchange Adds 39 New Members with Expanding International Footprint (Sept. 14, 2020); Financial Data Exchange, Statement on COVID-19 (Mar. 24, 2020).

[48] Sally Taylor, Blog, FICO Resilience Index Now Available for Lenders to Pilot, fico.com (June 29, 2020); Robin Saks Frankel, FICO Introduces New Resilience Index. Here's What It Might Mean for You, Forbes (June 29, 2020).

[49] Tom Parrent, FICO Resilience Index: A New Tool for More Precise Lending, Risk Management and Housing Policy, Quantilytic (2020).

[50] *Id.* at 4-6.

[51] AnnaMaria Andriotis, 'Flying Blind'; TransUnion, Press Release, TransUnion Launches CreditVision Acute Relief Suite to Help Lenders and Insurers Identify and Support the 106 Million Accounts in Relief Programs, Global Newswire (June 18, 2020).

[52] AnnaMaria Andriotis, 'Flying Blind'; TransUnion, TransUnion Launches CreditVision Acute Relief Suite.

[53] Equifax, Press Release, Equifax Introduces New COVID-19 Response Recovery Solution Suite (Aug. 3, 2020).

[54] Experian, Press Release, Experian Enhances its Economic Response and Recovery Suite to Help Lenders Navigate Market Volatility Due to COVID-19 (Sept. 3, 2020); Experian, Economic Response and Recovery Suite, experian.com (undated).

[55] Board of Governors of the Federal Reserve System, Consumer Financial Protection Bureau, Federal Deposit Insurance Corporation, National Credit Union Administration & Office of the Comptroller of the Currency, Interagency Statement on the Use of Alternative Data in Credit Underwriting (December 3, 2019); see also FinRegLab, Market Context & Policy Analysis at 67 (discussing the statement in detail).

[56] Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, National Credit Union Administration & Office of the Comptroller of the Currency, Interagency Lending Principles for Offering Responsible Small-Dollar Loans 2, 3-4 (May 2020).

[57] Letter from Paul Watkins, Assistant Director, Consumer Financial Protection Bureau Office of Innovation, to Bank Policy Institute (May 22, 2020).

[58] Consumer Financial Protection Bureau, CFPB Announces Tech Sprints to Empower Consumers, Reduce Regulatory Burden (June 29, 2020). The event will allow teams of participants to present ideas to the agency for improving the generation and delivery of adverse action notices to consumers. Albert Chang et al., Blog, CFPB's First Tech Sprint on October 5-9, 2020: Help Improve Consumer Adverse Action Notices, consumerfinance.gov (Sept. 1, 2020).

[59] Patrice Alexander Ficklin et al., Blog, Innovation Spotlight: Providing Adverse Action Notices When Using AI/ML Models, consumerfinance.gov (July 7, 2020).

[60] Federal Deposit Insurance Corporation, Request for Information on Standard Setting and Voluntary Certification for Models and Third-Party Providers of Technology and Other Services, 85 Fed. Reg. 44890 (July 24, 2020).

[61] Office of the Comptroller of the Currency, News Release 2020-89, OCC Announces Project REACh to Promote Greater Access to Capital and Credit for Underserved Populations (July 10, 2020). Participants in the initial meeting included representatives of several banks (Citigroup, JPMorgan Chase, Wells Fargo, Huntington Bank, City First Bank of DC, Broadway Federal Bank, Unity National Bank), Credit Karma, the National Asian American Coalition, the National Black Farmers Association, the Association of American Indian Farmers, Operation HOPE, the U.S. Hispanic Chamber of Commerce, the Native American Finance Officers Association, the National Association for the Advancement of Colored People, the National Urban League, the National Diversity Coalition, and the National Community Reinvestment Coalition. *Id.* However, additional institutions are working on particular workstreams.

[62] FinRegLab, Webinar, Developing the Credit System for Greater Fairness and Inclusion (Sept. 30, 2020) (comments by Grovetta Gardineer, Senior Deputy Comptroller for Bank Supervision Policy), available at https://finreglab.org/newsevents/evolving-the-credit-system-for-greater-fairness-and-inclusion/; Anna-Liss Roy, New Project Could Give Credit Scores to Millions of Americans, WUSA9 (Sept. 2, 2020); Office of the Comptroller of the Currency, Fact Sheet, Project REACh (undated). Other workstreams are focusing on strengthening minority depository institutions through creation of an investment fund and homeownership initiatives as a means of closing wealth gaps between different demographic groups. A team has also been identified to focus on small business issues, but its focus is still being defined. Office of the Comptroller of the Currency, Project REACh, Workstream Participants (undated); Office of the Comptroller of the Currency, Fact Sheet, Project REACh.

[63] Office of the Comptroller of the Currency, Project REACh, Workstream Participants.

[64] FinRegLab, Market Context & Policy Analysis at 32-33, 37-38, 65-66.

[65] *Id.* at 16, 68-69.

[66] *Id.* at 62-65, 68-69, 80-85.

[67] *Id.* at 69-77.

[68] *Id.* at 78-115.

[69] Elizabeth Dilts Marshal et al., Banks Eye Layoffs as Short-Term Crisis Ends, Long-Term Costs Emerge, Reuters (Aug. 28, 2020); Crosman, Which Fintechs Will Survive the Pandemic?; Emily Flitter et al., Banks Stockpile Billions as They Prepare for Things to Get Worse, N.Y. Times (July 14, 2020); Joey Kim, Blog, Survive and Accelerate: Marketplace Lenders' Varied Paths to the Next Growth Stage Post-Coronavirus, finextra.com (June 30, 2020); Kevin Wack, Battered by Coronavirus Crisis, Online Lenders Face Reckoning, Am. Banker (May 14, 2020). Online lenders' delinquency levels to date have performed better than some skeptics expected during the pandemic, but investors have been cautious and small business lenders have been particularly affected by the creation of federal pandemic programs. Robert Armstrong, Online Loans Defy Fears of Mass Delinquencies, Fin. Times (Aug. 17, 2020); Crosman, Which Fintechs Will Survive the Pandemic?; Kim; Wack.

[70] FinRegLab, Market Context & Policy Analysis at 30, 64-65, 68.

[71] 15 U.S.C. § 1681c(a)(1)-(5), (b). Models generally assign less weight to particular delinquencies or other negative information that is more than two years old, but the details vary depending on the particular negative information and the particular model. A single account that is more than 30 days past due can reduce scores by 40 to 100 points initially depending on the consumer's initial score and other circumstances. FinRegLab, Disaster-Related Credit Reporting Options at 4.

[72] For example, federal relief legislation in March provided substantially more support and protection for homeowners than for renters and landlords, creating concern that renters are more likely to experience substantial declines in their credit reports and scores more rapidly than homeowners who may actually be similarly situated with regard to their current finances. The Centers for Disease Control and Prevention issued a temporary eviction moratorium in September to allow some consumers to remain in their homes through the end of the year. The moratorium is broader in some respects than a previous moratorium enacted by Congress in March, but is subject to income limits and other conditions. It also does not provide financial relief to renters or landlords and does not affect landlords' ability to report delinquencies to credit bureaus. Samantha Fields, What You Need to Know about the CDC Eviction Moratorium,

Marketplace (Sept. 11, 2020); Matthew Goldstein, US Orders Eviction Moratorium for Most Through Year's End, N.Y. Times (Sept. 2, 2020); FinRegLab, Covid-19 Credit Reporting & Scoring Update at 9-11.

[73] For studies of the impact of emergency relief benefits on facilitating greater access to private credit sources and preventing deadweight losses from housing foreclosures, see Joanne W. Hsu et al., Unemployment Insurance as a Housing Market Stabilizer, 108 Am. Econ. Rev. 49 (2018); Joanne W. Hsu et al., Positive Externalities of Social Insurance: Unemployment Insurance and Consumer Credit, National Bureau of Economic Research Working Paper No. 20353 (July 2014).

[74] Josh Mitchell, Consumer Spending Rose in August, but Incomes Pose Hurdle for U.S. Recovery, Wall St. J. (Oct. 1, 2020).

[75] Jung Hyun Choi & Daniel Pang, Six Facts You Should Know about Current Mortgage Forbearances, Urban Institute (Aug. 18, 2020).

[76] National Housing Resource Center, Forbearance and Delinquency Summary of Housing Counselor Survey (July 2020). Federal regulators have emphasized with regard to federally backed mortgages that consumers should not be required to make an immediate lump sum payment to reinstate their mortgage at the end of a forbearance unless they choose to do so. Federal Housing Finance Agency, Press Release, "No Lump Sum Required at the End of Forbearance" says FHFA's Calabria (Apr. 27, 2020); U.S. Department of Housing & Urban Development, Office of Inspector General, COVID-19 OIG Bulletin for Homeowners (April 2020); Federal Housing Administration, If You Need Assistance in Making Your Mortgage Payments, Help is Available (updated Apr. 17, 2020).

[77] FinRegLab, Market Context & Policy Analysis at 41-56, 69-77, 85-93, 96-101.

[78] *Id.*

[79] Consumer Financial Protection Bureau, Press Release, CFPB Announces Plan to Issue ANPR on Consumer-Authorized Access to Financial Data (July 24, 2020). The CFPB has previously obtained stakeholder input on § 1033 when developing a set of general principles on data sharing in 2017 and in a February 2020 symposium. *Id.*; Consumer Financial Protection Bureau, Consumer Protection Principles: Consumer-Authorized Financial Data Sharing and Aggregation (2017).

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