Fintech Special Edition

Consumer Compliance Outlook®

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Inside

A Federal Reserve System Publication with a Focus on Consumer Compliance Issues

Smartphone interactive scan

Perspectives on Fintech: A Conversation with Governor Lael Brainard

Welcome to the special fintech edition of *Consumer Compliance Outlook*. For the lead article, staff asked Governor Lael Brainard of the Federal Reserve Board of Governors to share her perspectives on recent developments in fintech and how regulators and bankers should approach financial innovation.

Why do you think fintech is generating so much interest from institutions, consumers, and regulators?

Fintech has the potential to transform the way that financial services are delivered and designed and change the underlying processes of payments, clearing, and settlement. The past few years have seen a proliferation of new digitally enabled financial products and services in addition to new processes and platforms. Just as smartphones revolutionized the way in which we interact with one another to communicate and share information, fintech may impact nearly every aspect of how we interact with each other financially, from payments and credit to savings and financial planning. In our continuously connected, on-demand world, consumers, businesses, and financial institutions are all eager to find new ways to engage in financial transactions that are more convenient, timely, secure, and efficient.

In many cases, fintech puts financial change at consumers' fingertips — literally. Today's consumers, particularly Millennials, are accustomed to having a wide range of applications, options, and information immediately accessible to them. Almost every type of consumer transaction — ordering groceries, downloading a movie, buying furniture, or arranging child care, to name a few — can be done on a mobile device, with many different applications from which consumers can choose for each of these tasks based on their preferences. It seems inevitable for this kind of convenience, immediacy, and customization to extend to financial services. Indeed, according to the Federal Reserve Board's most recent survey of mobile financial services, fully two-thirds of consumers between the ages of 18 and 29 who have a mobile phone and a bank account use mobile banking.

While financial innovation holds promise, it is crucial that financial firms, customers, regulators, and other stakeholders understand and mitigate associated risks. There is a tension between the lightning pace of development of new products and services being brought to market — sometimes by firms that are new or have not historically specialized in consumer finance — and the duty to ensure that important risks around financial services and payments are addressed. Firms need to ensure that they are appropriately controlling and mitigating the risks that are unique to fintech as well as those that exist independently with new technologies.

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Fintech: Balancing the Promise and Risks of Innovation

By Teresa Curran, Executive Vice President and Director, Financial Institution Supervision and Credit, Federal Reserve Bank of San Francisco

One of the hottest topics I am often asked about today is financial technology or fintech, as it is widely known. Fintech is a broad term, but at its core, it refers to the use of technology to better deliver banking products and services. These services could be in the form of lending platforms, payment processes, investments and savings, blockchains, digital currencies, or a host of other areas. In all of these sectors, fintech has the potential to transform financial products and services for consumers and small businesses.

Think about it. Consumers can now use their smartphones and other mobile devices to manage their money, transfer funds, or obtain a loan. This type of accessibility has altered their expectations and demands about when and how they should be able to conduct financial transactions. In my view, the expectation for an on-demand experience is just one of the permanent changes driving today's innovation.

At the San Francisco Fed, with its proximity to Silicon Valley and the many new fintech firms nearby, the emergence of innovative technology has captured our attention. Some of the latest innovations offer consumers convenience, speed, and reliability, and provide banks the ability to access and analyze big data quicker and sometimes cheaper than ever before. Other innovations can address some of the financial system's long-standing challenges, including the ability to facilitate direct payments between buyers and sellers and to direct households' and businesses' savings to their most productive uses, such as building homes, expanding businesses, or obtaining an education. [1]

But our excitement is tempered by our resolve to balance these promises by understanding and mitigating the risks of innovation. In certain terms, our goal is simple: to ensure that consumers are protected and that the safety and soundness of banks is maintained. Toward that end, the Federal Reserve System is fully analyzing fintech innovations and their impacts in different areas, including supervision, community development, financial stability, and payments. This effort aligns directly with our role in maintaining the stability of the financial system and containing systemic risk that may arise in financial markets.

In this article, I talk about these efforts and offer some thoughts about why bankers and supervisors should care about fintech.

WHY SHOULD BANKERS CARE ABOUT FINTECH?

The emergence of fintech has changed consumer expectations around the delivery and types of financial services. Consumers now expect to be able to complete a streamlined loan application online and receive a quick, if not almost immediate, response. They also appear to be embracing new ways to quickly transfer funds to other people, automatically move money to savings, and better manage their finances. As a result of these trends, banks are now feeling increased pressure to update and diversify their delivery mechanisms to stay competitive, particularly in the consumer and small business lending and payments channels.

The article by Tim Marder on page 4 of this issue of *Outlook* provides a good overview of four fintech market segments: credit; digital payments; savings, investments, and personal financial management; and distributed ledger technology.[2] These segments do not encompass the entire fintech landscape, but they are among the areas most likely to impact current banking practices.

In April 2016, I addressed a group of West Coast bankers and discussed many of the trends that we're seeing in fintech and why bankers should take notice.[3] One rising trend is greater collaboration between banks and fintech firms, which can occur through investments, funding, or partnerships that range from loan originations to loan purchases to referral arrangements. We are also seeing bankers create fintech solutions or directly acquire fintech companies to complement their strategic goals.

In Memoriam

Teresa Curran, the author of this article, passed away in November after a heroic battle with a long illness. She served as executive vice president and director of the Financial Institution Supervision and Credit Division at the Federal Reserve Bank of San Francisco. Teresa was a highly respected leader who made significant contributions to the Federal Reserve System and its banking supervision function. She was passionate about the Fed's critical role in the economy, held strong regard for the importance of community banks, and was an expert on issues important to banking in Asia. Teresa is greatly missed by her many friends and colleagues throughout the Twelfth District and the Federal Reserve System.

We don't yet know which of the various efforts — acquisition, investment, or partnership models — will ultimately survive. But we do know that financial institutions and bankers collaborating with fintech firms must ensure they control for the risks associated with these new products, services, and third-party relationships. While incorporating innovation that is consistent with a bank's goals and risk tolerance, bankers will need to consider which model of engagement makes the most sense in light of their business model and risk management infrastructure; need to manage any outsourced relationships consistent with supervisory expectations;[4] and need to have strong fallback plans in place to limit the risks associated with products and partners that may not survive in this dynamic market.

Also, bankers should carefully consider timing issues when deciding to enter the fintech market. For example, early adoption carries the risk of committing to products and partners that may not survive, while waiting too long could mean losing customers and new business opportunities.

WHY DO BANK SUPERVISORS CARE ABOUT FINTECH?

The discussions that I've had with my supervision colleagues across the Federal Reserve System reveal a strong interest in gaining a better understanding of fintech's potential and its related risks. For example, we see the opportunity to expand access to financial services, reach underserved customers, reduce transaction costs, provide greater transparency with simpler products and clear cost disclosures, provide greater convenience and efficiency, and enable better control over spending and budgeting.

At the same time, we are concerned about the risks fintech may introduce to both financial institutions and their customers. Fintech has the ability to be a disruptive force, creating competitive pressures for banks in terms of speed, convenience, price, and maintaining customers. Also, fintech lending models raise several questions. How will the models perform over a full credit cycle? How are the requirements for the Bank Secrecy Act, information security, and customer privacy and data security managed, and by whom? And importantly, how is consumer protection ensured? It's conceivable that innovative algorithms, unintentionally or not, could enable new forms of discrimination or other unfair credit practices.

In the fintech speech I presented in April 2016, I told the bankers that our job, as supervisors, is to find an appropriate balance of oversight.[5] For example, as we develop relevant and applicable supervisory policies for fintech, we have to consider which existing regulations and guidance may be either appropriate or ill-suited to capture the set of risks that fintech poses to banks.

Bankers and supervisors alike need to learn more about fintech and develop appropriate strategies to capitalize on its benefits and mitigate its risks. Understanding and taking steps to ensure that a proper balance exists between the promise of innovation and the associated risks are key roles of bank supervisors, and we are committed to getting it right.

WHAT ARE BANK SUPERVISORS DOING ABOUT FINTECH?

Most bank supervisors are taking a measured approach to consider the effect of supervision on fintech. Notable steps taken by other agencies to date include:

- The Consumer Financial Protection Bureau created Project Catalyst to facilitate consumer-friendly innovation;[6] it includes a "No-Action Letters" policy, finalized on February 18, 2016, to reduce regulatory uncertainty for a new product or service that offers the potential for significant consumer-friendly innovation.[7]
- The Office of the Comptroller of Currency (OCC) released the white paper *Recommendations and Decisions for Implementing a Responsible Innovation Framework* on October 26, 2016.[8]

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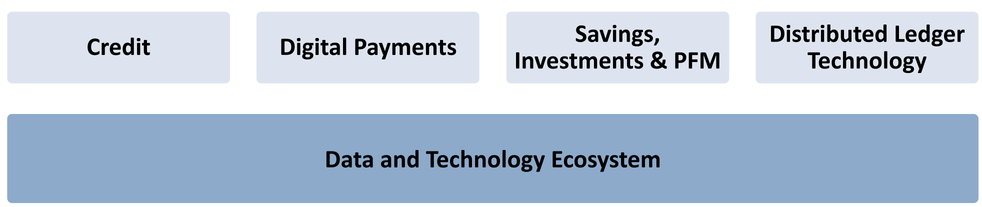
Fintech for the Consumer Market: An Overview

By Tim Marder, Fintech Senior Supervisory Analyst, Financial Institution Supervision and Credit Division, Federal Reserve Bank of San Francisco

Recent technological innovations are resulting in significant changes to the financial services landscape and have led to the rise of certain nontraditional financial services providers. Commonly known as fintech companies, these providers use advances in technology to develop alternative platforms for financial activities, including consumer and small business lending, securities clearing and settlement, and personal financial planning and investing. Banks, investment advisors, and other traditional financial service providers have also begun adopting new technologies by partnering with fintech firms and/or by developing these new technologies in house.

Figure 1: Fintech Market Segments and Ecosystem



When the fintech industry began to develop (circa 2007–2013), industry participants and observers emphasized the potential for fintech firms to disrupt traditional banking intermediaries. More recently, however, important fintech and banking leaders have focused on partnerships, collaboration, and other relationships among their firms. Many fintech areas are still in the early phases of development or are undergoing evolution. It is therefore too early to predict fintech's ultimate impact on the banking system or how traditional financial service providers will adapt. However, it is clear that the combination of advances in technology, new uses of data, and changes in customer preferences and expectations are likely to create lasting structural changes in financial services.

At the Federal Reserve, we are often asked two questions about fintech: (1) What is meant by fintech and (2) what is the Federal Reserve doing to understand the impact of these new technologies? This article attempts to answer both questions by providing an overview of four fintech market segments: credit; digital payments; savings, investments, and personal financial management (PFM); and distributed ledger technology. In addition, this article surveys fintech's underlying data and technology ecosystem (Figure 1). These segments do not encompass everything that can be considered fintech, but they are among the areas most likely to impact current banking practices and, accordingly, are of particular interest to the Federal Reserve.

CREDIT

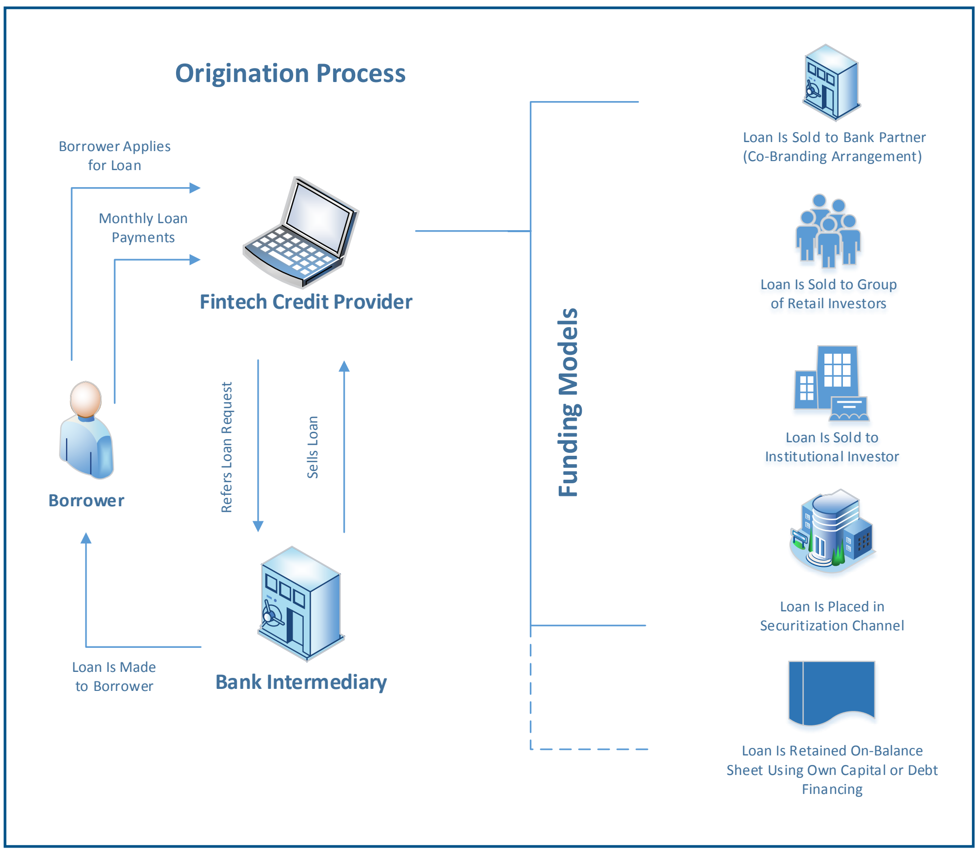
Fintech credit providers (alternative lenders) are non-bank lenders that have developed business models based on innovative uses of the Internet, mobile devices, and data analysis technologies. These lenders use technology designed to (1) meet customer expectations for increased speed and convenience (e.g., online applications, documentation transfer, quick decisions on loan approval); (2) provide more clarity and convenience on loan extensions (e.g., pricing, terms, borrower identification); (3) broaden customer sourcing; and (4) automate loan funding. In general, alternative lenders tend to focus on specific segments in the consumer and small business lending space. While alternative lenders are sometimes competitors to banks, the predominant business model is highly reliant on banks to originate and, in many cases, fund their loans. As such, the industry has evolved from direct competition designed to disrupt traditional banking to one of growing partnerships between alternative lenders and banks (Table 1).

Table 1: The Range of Bank Collaboration with Alternative Lenders

Funding	Banks provide funding through loan purchases, credit extensions, and equity investments.
Partnership	Banks (1) originate loans on behalf of alternative lenders, (2) use technology developed by alternative lenders to originate loans themselves, and (3) direct customers to alternative lenders in exchange for marketing and referral fees.
Incubation	Banks have provided workspace, seed funding, mentoring, training, and other related support for startup entrepreneurs.
Acquisitions	Banks have shown some interest in acquiring alternative lenders.

The number and types of alternative lending firms have risen sharply in the past few years, and the business models have evolved. Early firms were referred to as peer-to-peer (P2P) lenders because their business models used technology to directly match prospective borrowers with retail investors to fund specific loans. However, the market has evolved along several dimensions of the business model. The P2P lenders were relabeled as marketplace lenders as firms broadened their funding sources by marketing their loans to institutional investors such as asset managers, hedge fund companies, and banks. Funding also has changed through greater use of loan securitizations and debt financing to fund loans. While most alternative lenders still primarily use a non–balance-sheet or originate-to-sell model, some firms also partly rely on an originate-to-hold/balance-sheet lending model. Figure 2 depicts a typical loan origination process that includes a bank partner that provides the loan and various funding models.

Figure 2: Alternative Lender Loan Origination Process



Many alternative lenders initially focused on unsecured consumer installment debt, often marketed as a means to consolidate and refinance higher-cost revolving credit card debt. Loan types have evolved and now include mortgage, student loan, point of sale financing, and other forms of consumer installment debt, most of which remains unsecured. Small business lending has also become an area of focus for fintech lenders. Firms are able to leverage technology to make loans in smaller amounts or to smaller businesses with revenues that would normally not be profitable for banks. They also can tailor loan and repayment terms based on detailed information about a small business's daily revenue and finances.

The key distinguishing feature of alternative lenders is their use of the Internet and emerging data-analytic technologies in innovative ways to simplify the customer experience, the loan extension and approval process, and the loan funding process. Online platforms streamline the customer experience when applying for loans, delivering supporting information electronically, signing and reviewing loan documents, and making payments directly from borrowers' bank accounts. The platforms also are critical for providing information efficiently and seamlessly to investors interested in funding loans.

DIGITAL PAYMENTS

Fintech is changing the way people pay merchants and transfer money, mainly through the use of applications designed for convenience. Such applications are often based on mobile phones with "digital wallets" that store credit card, debit card, and sometimes checking account information, thus eliminating the need for cash or checks. With mobile technology, consumers can use their phones to pay for goods in a checkout line or initiate online payments. In addition, fintech firms have enabled an increasing number of small businesses to accept credit cards as a payment option.

Beyond payments to merchants, firms have developed popular applications that allow people to easily transfer money electronically to any other person. Oftentimes, such transfers are free and can be routed through the use of the recipient's e-mail address or phone number. In addition to increased convenience when making everyday money transfers such as splitting a lunch bill or paying a sitter, many mobile payment applications offer social networking features that appeal to some consumers.

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Laws, Regulations, and Supervisory Guidance

Table 1 lists certain federal laws and implementing regulations for financial services and products that may be relevant to fintech firms and their depository institution partners. This is not an exhaustive list, and the applicability of an individual law depends on the particular circumstances.[1] State laws and regulations, including usury limits, may also apply. Table 2 highlights Federal Reserve supervisory guidance that is potentially applicable to fintech firms and depository institutions that partner with fintech firms. Links to all of the documents are available in the online version of *Outlook* at www.consumercomplianceoutlook.org.

Table 1. Examples of Federal Financial Laws That May Apply to Fintech Firms and Fintech-Related Activities

LAW OR REGULATION	HIGH-LEVEL DESCRIPTION
Credit	
Equal Credit Opportunity Act (Regulation B)	• Prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, or age, or because all or part of the applicant's income derives from any public assistance program, or because the applicant has in good faith exercised any right under the federal Consumer Credit Protection Act or any applicable state law • Covers both disparate treatment and disparate impact claims • Requires creditors to provide borrowers with notice of any action taken on their application for credit
Truth in Lending Act (Regulation Z)	• Provides meaningful disclosure of credit costs and terms to promote the informed use of consumer credit. The uniformity of disclosures is intended to assist consumers in comparison shopping for credit. • Protects consumers against unfair credit billing and credit card practices • Regulates credit advertising
Fair Credit Reporting Act (FCRA) (Regulation V)	• Requires a permissible purpose to obtain a consumer credit report • Requires furnishers of information to credit bureaus to implement policies and procedures concerning the accuracy and integrity of the information they furnish and to address consumer disputes about information furnished • Imposes disclosure requirements on creditors who take adverse action on credit applications or charge more for credit based on information in a credit report • Requires creditors to develop and implement an identity theft prevention program
Fair Debt Collection Practices Act	• Provides guidelines and limitations on the conduct of third-party debt collectors in connection with the collection of consumer debts • Limits certain communications by debt collectors; imposes notice and debt validation requirements; and prohibits false and misleading representations, harassing or abusive conduct, and unfair practices in collecting a debt
Servicemembers Civil Relief Act	• Allows servicemembers entering active duty to have the interest rate on debts incurred prior to service reduced to 6 percent • Protects active duty servicemembers from default judgments and allows them to obtain a suspension of civil proceedings if their service prevents them from appearing to defend a collection action
Military Lending Act	• Imposes a rate cap of 36 percent on the Military Annual Percentage Rate for credit extended to active duty servicemembers and their dependents and imposes additional restrictions to protect covered borrowers

LAW OR REGULATION	HIGH-LEVEL DESCRIPTION
Section 85 of the National Bank Act **Section 521 of the Depository Institutions Deregulation and Monetary Control Act of 1980**	• Allows a national bank to charge the highest rate allowed for a state-chartered bank in the national bank's home state, regardless if the customer is located in-state or out-of-state • Permits a state-chartered bank to charge the "highest" allowable rate permitted under its home state law to out-of-state customers as well as in-state customers, the same way a national bank could
	Privacy and Data Security
Gramm–Leach–Bliley Act or Financial Services Modernization Act (Regulation P)	• Limits when a financial institution may disclose a consumer's nonpublic personal information to nonaffiliated third parties • Requires financial institutions to notify their customers about their information-sharing practices and to tell consumers of their right to opt out if they do not want their information shared with certain nonaffiliated third parties
Federal Trade Commission (FTC) Safeguards Rule (under the Gramm–Leach–Bliley Act)	• Requires financial institutions under FTC jurisdiction to have measures in place to keep customer information secure. In addition to developing their own safeguards, companies covered by the rule are responsible for taking steps to ensure that their affiliates and service providers safeguard customer information in their care.
	Bank Secrecy Act
Bank Secrecy Act	• Requires financial institutions to implement anti-money-laundering procedures, apply customer verification program rules, and report suspicious activity that meets a certain dollar threshold
	Other
Section 5 of the FTC Act	• Prohibits unfair or deceptive acts or practices in trade or commerce
§§1031 & 1036 of the Dodd–Frank Wall Street Reform and Consumer Protection Act	• Prohibits unfair, deceptive, or abusive business acts or practices
Electronic Fund Transfer Act (Regulation E)	• Provides certain consumer rights regarding the electronic transfer of funds to and from consumers' bank accounts • Requires disclosure of terms and conditions of electronic transfers, limits consumer liability for unauthorized transfers, establishes procedures for recurring preauthorized transfers, and establishes error resolution procedures
Electronic Signatures in Global and National Commerce Act/Uniform Electronic Transactions Act	• Authorizes the use of electronic records and signatures to create legally valid and enforceable agreements • Requires businesses to obtain consumers' affirmative consent before using electronic records or signatures to comply with a legal requirement to provide information in writing
Section 1867(c) of the Bank Service Company Act	• Provides federal banking agencies with the authority to regulate and examine the performance of certain services by a third-party service provider for a depository institution (or for any subsidiary or affiliate of a depository institution that is subject to examination by that agency) "to the same extent as if such services were being performed by the depository institution itself on its own premises" • The federal banking agencies may also have enforcement authority against a third-party service provider (considered to be an institution-affiliated party) and in other circumstances under the Federal Deposit Insurance Act.
Investment Advisers Act of 1940	• Requires that firms or sole practitioners who are compensated for advising others about securities investments register with the U.S. Securities and Exchange Commission and conform to regulations designed to protect investors

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News from Washington: Regulatory Updates*

The Office of the Comptroller of the Currency (OCC) announces that it is considering offering special purpose charters for fintech companies. On December 2, 2016, Comptroller of the Currency Thomas J. Curry announced during a speech at Georgetown University Law Center that the OCC is developing special purpose national bank charters for fintech companies. Comptroller Curry also stated that the OCC has published a white paper, available at www.occ.gov/topics/bank-operations/innovation/special-purpose-national-bank-charters-for-fintech.pdf, discussing the agency's considerations when reviewing an application for such a charter. Public comment on the white paper may be submitted through January 15, 2017. Separately, in October 2016, the OCC established a new Office of Innovation to serve as a central point of contact and a clearinghouse for requests and information related to innovation, including fintech.

The Consumer Financial Protection Bureau (CFPB) issues its fall 2016 rulemaking agenda. On December 2, 2016, the CFPB published its fall rulemaking agenda based on its regulatory activities as of October 19, 2016. The agenda was posted online by the Office of Management and Budget on December 1, 2016. The CFPB also posted its "Fall 2016 Statement of Regulatory Priorities" document, and on December 2, the CFPB published a blog post providing a brief status update.

The CFPB releases its 2017 lists of rural and underserved counties. On November 20, 2016, the CFPB released the 2017 iteration of its annual lists of rural counties and rural or underserved counties. Certain creditors originating residential mortgages in rural or underserved areas are exempt from some residential mortgage requirements, such as exemption from the escrow requirements for higher-priced mortgage loans.

The Federal Reserve extends post-employment restrictions for senior examiners. On November 18, 2016, the Board of Governors of the Federal Reserve System (Board) announced it is broadening the scope of post-employment restrictions applicable to Reserve Bank senior examiners and officers. By law, senior bank examiners are prohibited for one year from accepting paid work from a financial institution for which they had primary responsibility for examining in their last year of Reserve Bank employment. This law has historically been applied to examiners who are central points of contact at firms with more than $10 billion in assets. The revised policy expands the number of senior Reserve Bank examiners subject to the ban. A new policy also prohibits former Reserve Bank officers from representing financial institutions and other third parties before current Federal Reserve System employees for one year after leaving their Federal Reserve position and imposes a one-year ban on current Reserve Bank employees from discussing official business with these former officers. The restriction on former officers was effective on December 5, 2016, and the revised senior examiner policy is effective on January 2, 2017.

A Government Accountability Office (GAO) report finds that servicemembers face challenges obtaining the student loan rate cap benefit. On November 15, 2016, the GAO sent a report to Congress regarding enforcement of the Servicemembers Civil Relief Act's (SCRA) interest rate cap of 6 percent on the student loans of servicemembers during active duty service. The report found that eligible servicemembers may not always receive the benefit for several reasons. Among these, the report found that information provided to servicemembers about the SCRA interest rate cap is sometimes inaccurate and that private student loan lenders and servicers are not subject to the same rules applicable to federal student loan servicers. For example, private student loan servicers are not required to identify eligible borrowers and automatically apply the rate cap. The report also found that oversight of compliance with SCRA is dispersed across multiple agencies, each of which has limitations on its authority.

The Federal Financial Institutions Examination Council (FFIEC) announces an updated Uniform Interagency Consumer Compliance Rating System (CC Rating System). On November 14, 2016, the FFIEC issued final guidance updating the CC Rating System, which provides FFIEC member agencies a general framework for evaluating compliance assessment factors in order to assign a consumer compliance rating to each federally regulated financial institution. The CC Rating System was revised to better reflect current consumer compliance supervisory approaches and to more fully align it with FFIEC member agencies' current risk-based, tailored examination processes. The revisions do not create new or higher supervisory expectations for financial institutions. The revised system stresses the importance of institutions' compliance management systems, with an emphasis on practices to manage consumer compliance risk, support compliance, and prevent consumer harm. The policy's effective date is March 31, 2017.

* Links to the announcements are available in the online version of *Outlook* at www.consumercomplianceoutlook.org.

The Federal Deposit Insurance Corporation (FDIC) releases its biennial report on the unbanked and underbanked. Since 2009, the FDIC has conducted a biennial survey of the unbanked and underbanked. On October 20, 2016, the FDIC published the results of its most recent survey (2015), the "FDIC National Survey of Unbanked and Underbanked Households." As noted in the survey's executive summary: "The survey provides estimates of the proportion of U.S. households that do not have an account at an insured institution, and the proportion that have an account but obtained (nonbank) alternative financial services in the past 12 months. The survey also provides insights that may inform efforts to better meet the needs of these consumers within the banking system." Key highlights include:

- In 2015, 7 percent of U.S. households were unbanked — defined as a household in which no one has a checking or savings account — falling from 7.7 percent when the last study was conducted in 2013.
- In addition, 19.9 percent of U.S. households were underbanked — defined as a household in which members have bank accounts but also use alternative financial services (AFS), such as money orders, check cashing, international remittances, payday loans, refund anticipation loans, rent-to-own services, pawn shop loans, or auto title loans.
- Finally, 68 percent of U.S. households were fully banked — defined as a household in which members have not used AFS in the last 12 months.
- The most common reason households are unbanked is that members "do not have enough money to keep in an account."

The CFPB issues its annual report from the Student Loan Ombudsman. Section 1035 of the Dodd–Frank Wall Street Reform and Consumer Protection Act created within the CFPB the position of Private Education Loan Ombudsman, or Student Loan Ombudsman, for receiving, reviewing, and attempting to resolve private student loan borrower complaints, making recommendations to lawmakers and policymakers, and issuing an annual report. On October 17, 2016, the CFPB released the "Annual Report of the CFPB Student Loan Ombudsman," its analysis of complaints submitted September 1, 2015, through August 31, 2016. The report analyzed more than 5,500 private student loan complaints and approximately 2,300 debt collection complaints regarding private and federal student loans. The executive summary of the report includes the following findings:

- More than 650,000 student loan borrowers rehabilitated a defaulted loan by making monthly payments of $5 for nine months. The CFPB projects that, over the next two years, more than 220,000 of these borrowers will default for a second time and be charged more than $125 million in "unnecessary" interest charges.

- Federal law permits a student loan borrower who experiences financial hardship and is in default to cure the default and enroll in an income-driven repayment (IDR) plan. Borrowers attempting to rehabilitate their loans experienced breakdowns in communications, paperwork processing, and customer service at every stage of the default-to-IDR transition.
- The report cites private credit analysts who project that 45 percent of borrowers who rehabilitate a federal student loan will default again shortly after curing the previous default.
- The report recommends that policymakers and market participants improve the default-to-IDR transition.

The CFPB issues a final rule amending its 2013 mortgage servicing rules. On October 19, 2016, the CFPB published a final rule in the Federal Register to amend certain mortgage servicing rules issued in 2013 under Regulations Z and X. The rules are generally effective on October 19, 2017, except the provisions relating to periodic statements for borrowers in bankruptcy and successors in interest become effective on April 19, 2018. Small servicers (a servicer that, together with affiliates, services 5,000 or fewer mortgages for which the servicer or affiliate is the creditor or assignee) will continue to be exempt from some of these requirements. The CFPB published a guide on August 4, 2016, to assist small servicers in determining the applicability of the changes.

Among other revisions, the final rule (1) establishes who is a "successor in interest" (SII) for purposes of the rule, establishes servicers' duties to individuals who assert that they are SIIs, and applies the rule's protections to confirmed SIIs; (2) changes current provisions requiring servicers to comply with loss mitigation requirements only once during the life of a loan to more than once in certain circumstances; (3) amends other loss mitigation requirements, including the rule's dual tracking limitations; (4) provides servicers with ways to comply with the rules consistent with bankruptcy laws and the Fair Debt Collection Practices Act; (5) adds a definition of "delinquency"; and (6) clarifies that certain seller-financed transactions and mortgage loans voluntarily serviced for a nonaffiliate without compensation do not count toward the loan threshold in the small servicer exemption. ■

On the Docket: Recent Federal Court Opinions*

REGULATION B — EQUAL CREDIT OPPORTUNITY ACT (ECOA)

The Sixth Circuit rules that a dealership participating in automobile loan credit decisions is subject to ECOA adverse action notice requirements. *Tyson v. Sterling Rental, Inc.,* 836 F.3d 571 (6th Cir. 2016). Regulation B defines a creditor as "a person who, in the ordinary course of business, regularly participates in a credit decision, including setting the terms of the credit." The regulation also defines creditor to include "a person who, in the ordinary course of business, regularly refers applicants or prospective applicants to creditors, or selects or offers to select creditors to whom requests for credit may be made." 12 C.F.R. §1002.2(l). Creditors that only satisfy the referral definition are solely subject to 12 C.F.R. §1002.4(a), which prohibits discrimination, and 12 C.F.R. §1002.4(b), which prohibits discouragement, and not to the regulation's other requirements. As the court explained: "Under Regulation B, in other words, 'creditors' who act as mere middle-men between applicants and lenders have no affirmative obligation to provide applicants with notice stating the reasons for any adverse action." The plaintiff financed the purchase of a vehicle from the defendant, used car dealer Car Source, which relied on the nonparty Credit Acceptance Corporation (CAC), an indirect lender, to fund loans and used its software to underwrite them. The software generated a retail installment contract (RIC) for the plaintiff's loan, which was assigned to CAC. However, CAC declined to pay Car Source an advance on the loan because of a discrepancy between the plaintiff's pay stubs and her stated monthly income, which occurred because of a software input error made by the defendant. Consequently, the defendant asked the plaintiff to return to the dealership and then demanded that she sign a revised RIC and provide an additional down payment. The plaintiff declined, and the vehicle remained at the dealership. Her lawsuit alleged that the defendant violated ECOA by failing to provide an adverse action notice after changing the terms of the existing credit agreement to her disadvantage. Car Source argued that it merely referred applicants to other creditors, and therefore it was not subject to the adverse action notice requirements. The Sixth Circuit rejected this defense because the record showed that Car Source regularly participated in credit decisions by setting the terms of the credit, including determining loan rates, monthly payments, and other loan terms so as to make them acceptable to CAC. Additionally, it was Car Source, and not CAC, that took adverse action against the plaintiff in this matter. The plaintiff also sought injunctive relief under ECOA against Car Source, which the district court denied because it stated that such relief is only available to the attorney general and not to private parties. However, the Sixth Circuit held that the district court's reading of 12 CFR §1002.16(b)(4) as limiting such relief was inconsistent with ECOA's statutory language: "[u]pon application by *an aggrieved applicant*, the appropriate United States district court or any other court of competent jurisdiction may grant such equitable and declaratory relief as is necessary to enforce the requirements imposed under [the Act]." 15 U.S.C. § 1691e(c) (emphasis added). The case was remanded to the district court for further action.

REGULATION X — REAL ESTATE SETTLEMENT PROCEDURES ACT (RESPA)

The Eleventh Circuit reverses dismissal of a qualified written request (QWR) claim because the servicer failed to explain reasons for its determination that no error occurred. *Renfroe v. Nationstar Mortgage, LLC,* 822 F.3d 1241 (11th Cir. 2016). RESPA, as implemented by Regulation X, requires servicers to investigate and respond to a QWR from borrowers concerning the servicing of their loans. 12 U.S.C. §2605(e); 12 C.F.R. §§1024.35–36. Several years after the plaintiff refinanced a mortgage loan, the servicing rights were transferred to defendant Nationstar, and her monthly payment increased by $100. The plaintiff sent a QWR to Nationstar to investigate the increase because she believed that certain mistakes had been made and requested a refund as appropriate. The defendant merely replied that "[T]he loan and related documents were reviewed and found to comply with all state and federal guidelines that regulate them. As such, the above-mentioned loan account will continue to be serviced appropriate to its status." It also attached several loan documents without any further explanation. The plaintiff sued, alleging that the defendant had failed to properly investigate and respond to her QWR, instead merely "provid[ing] boilerplate statements and objections ... [and a] general conclusion that it did nothing wrong," and did not refund her overpayments. Nationstar, in turn, filed a motion to dismiss the lawsuit. The district court affirmed the recommendation of a magistrate judge, dismissing the case on the grounds that the defendant's response to the QWR satisfied RESPA as it stated that related loan documents were reviewed and adding that, in any case, the plaintiff had not alleged any resulting actual damages. On appeal, the 11th Circuit reversed the lower court, finding that the Consumer Financial Protection Bureau's (CFPB) 2013 amendments to Regulation X's servicer obligations required the defendant after receiving a notice of error to conduct a reasonable investigation and to state the reason(s) for its determination, which it failed to do: "If servicers want to try to shelter behind their RESPA response letters, they must provide a more comprehensive, supported explanation of their findings[.]" Regarding the defendant's argument that the plaintiff did not suffer damages, the court held "When a plaintiff plausibly alleges that a servicer violated its statutory obligations and as a result the plaintiff did not receive a refund of erroneous charges, she has been cognizably harmed." Accordingly, the court of appeals reversed the district court and remanded the matter for further proceedings consistent with its opinion.

* Links to the announcements are available in the online version of *Outlook* at www.consumercomplianceoutlook.org.

THE DODD–FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT (DODD–FRANK ACT)

The D.C. Circuit holds that CFPB's leadership structure is unconstitutional. *PHH Corporation v. Consumer Financial Protection Bureau,* 839 F.3d 1 (D.C. Cir. 2016). Title X of the Dodd–Frank Act (the Consumer Financial Protection Act of 2010) created the CFPB as an independent federal agency headed by a single director, who can only be removed for "inefficiency, neglect of duty, or malfeasance in office," and who has final authority over, among other things, enumerated federal consumer financial law rulemakings and enforcement actions. In 2014, the CFPB initiated an enforcement action against PHH, a mortgage lender, for violating Section 8 of RESPA ("[p]rohibition against kickbacks and unearned fees"). An administrative law judge (ALJ) ordered PHH to pay $6.44 million for referring mortgage customers to mortgage insurers that purchased mortgage reinsurance from a wholly owned PHH subsidiary. PHH appealed the ALJ's decision to Richard Cordray, the CFPB's director. He affirmed the ALJ's RESPA findings and increased the disgorgement order to approximately $109 million. PHH sought review by the U.S. Court of Appeals for the D.C. Circuit, arguing that the structure of the CFPB as an independent agency with a single director who could only be removed by the president for cause violated the Constitution's separation of powers. A divided panel of the D.C. Circuit granted PHH's petition, finding that the CFPB was unconstitutionally structured as an independent agency led by a single agency head. In reaching its decision, the court distinguished between independent and executive agencies. Independent agencies, such as the CFPB, are led by agency heads who can only be removed by the president for cause, whereas executive agencies, such as the Department of Justice, are led by officers who can be removed by the president without cause. The court noted that, although executive agencies are sometimes led by a single officer, they operate under the executive branch chain of command and are therefore accountable to the president. As the head of an independent agency can only be removed for cause, the court explained, independent agencies, such as the Federal Trade Commission and the Securities and Exchange Commission, have historically been headed by multiple board members, commissioners, or directors so as to diffuse power and make arbitrary decisions less likely. "The CFPB's concentration of enormous executive power in a single, unaccountable, unchecked Director not only departs from settled historical practice, but also poses a far greater risk of arbitrary decision-making and abuse of power, and a far greater threat to individual liberty, than does a multi-member independent agency." Although it determined that the CFPB's leadership structure was unconstitutional, the court declined to invalidate the CFPB and instead severed the provision specifying that the president can only remove the CFPB's director for cause. This allows the CFPB to continue performing its responsibilities but "as an executive agency akin to other executive agencies headed by a single person." In its decision, the court also addressed two other issues raised by PHH concerning the statute of limitations for CFPB enforcement actions and whether the CFPB's RESPA Section 8 determination was legally correct. **Update:** On November 18, 2016, the CFPB petitioned the D.C. Circuit for an *en banc* review of the above decision.

LEGAL STANDING

The Eighth Circuit holds that a plaintiff alleging a procedural violation of a privacy statute without suffering concrete and particularized harm lacks Article III legal standing. *Braitberg v. Charter Communications, Inc.,* 836 F.3d 925 (8th Cir. 2016). The plaintiff alleged in a lawsuit, on behalf of himself and a putative class of former customers, that the defendant, his cable services provider, violated the Cable Communications Policy Act (CCPA) by retaining customers' personally identifiable information (PII) for long periods after they closed their accounts. The CCPA states that "[a] cable operator shall destroy personally identifiable information if the information is no longer necessary for the purpose for which it was collected and there are no pending requests or orders for access to such information [by the subscriber] or pursuant to a court order." The plaintiff claimed that the defendant's retention of the customers' PII represented a "direct invasion of their federally protected privacy rights" and served to deprive customers of the full value of the services they had purchased from the defendant. The district court dismissed the case on the grounds that the plaintiff lacked legal standing and for failure to state a claim because the plaintiff did not allege any actual damages. On appeal, the Eighth Circuit affirmed, citing the Supreme Court's recent decision in *Spokeo, Inc., v. Robins,* 136 S. Ct. 1540 (2016), in which it held that "[a] concrete injury must 'actually exist,' and it must be 'real,' not 'abstract'" and that a plaintiff cannot "allege a bare procedural violation [of a statute], divorced from any concrete harm, and satisfy the injury-in-fact requirement of Article III." For the standing requirement, the Eighth Circuit explained: "Article III of the Constitution limits the jurisdiction of the federal courts to cases or controversies. A plaintiff invoking the jurisdiction of the court must adequately allege an injury in fact, an essential element of the 'irreducible constitutional minimum of standing.'" The court found that "the plaintiff does not allege that [the cable provider] has disclosed the information to a third party, that any outside party has accessed the data, or that [it] has used the information in any way during the disputed period. He identifies no material risk of harm from the retention; a speculative or hypothetical risk is insufficient." The Eighth Circuit therefore affirmed dismissal of the case. ■

What do you see as the greatest potential benefits and risks of financial technology?

New fintech platforms are giving consumers and small businesses more real-time control over their finances. Once broad adoption is achieved, it is technologically quite simple to conduct cashless person-to-person fund transfers, enabling, among other things, the splitting of a check after a meal out with friends or the sending of remittances quickly and cheaply to friends or family in other countries. Financial management tools are automating savings decisions based on what consumers can afford, and they are helping consumers set financial goals and providing feedback on expenditures that are inconsistent with those goals. In some cases, fintech applications are automatically transferring spare account balances into savings, based on monthly spending and income patterns, effectively making savings the default choice. Other applications are providing consumers with more real-time access to earnings as they are accrued rather than waiting for their regular payday. This service may be particularly valuable to the nearly 50 percent of adults with extremely limited liquid savings. It is too early to know what the overall impact of these innovations will be, but they offer the potential to empower consumers to better manage cash flow to reduce the need for more expensive credit products to cover short-term cash needs.

One particularly promising aspect of fintech is the potential to expand access to credit and other financial services for consumers and small businesses. By reducing loan processing and underwriting costs, online origination platforms may enable financial services providers to more cost effectively offer smaller-balance loans to households and small businesses than had previously been feasible. In addition, broader analysis of data may allow lenders to better assess the creditworthiness of potential borrowers, facilitating the responsible provision of loans to some individuals and firms that otherwise would not have access to such credit. In recent years, some innovative community development financial institutions have developed partnerships with online alternative lenders, with the goal of expanding credit access to underserved small businesses.

The challenge will be to foster socially beneficial innovation that responsibly expands access to credit for underserved consumers and small businesses and for those who otherwise would qualify only for high-cost alternatives. It would be a lost opportunity if, instead of expanding access in a socially beneficial way, some fintech products merely provided a vehicle to market high-cost loans to the underserved or resulted in the digital equivalent of redlining, exacerbating rather than ameliorating financial access inequities.

For example, some fintech firms are exploring the use of nontraditional data in underwriting and pricing credit products. While nontraditional data may have the potential to help evaluate consumers who lack credit histories, some data may raise consumer protection concerns. Nontraditional data, such as the level of education and social media usage, may not necessarily have a broadly agreed upon or empirically established nexus with creditworthiness and may be correlated with characteristics protected by fair lending laws. To the extent that the use of this type of data could result in unfairly disadvantaging some groups of consumers, it requires careful review to ensure legal compliance. In addition, while consumers generally have some sense of how their financial behavior affects their traditional credit scores, alternative credit scoring methods present new challenges that could raise questions of fairness and transparency. It may not always be readily apparent to consumers, or even to regulators, what specific information is utilized by certain alternative credit scoring systems, how such use impacts a consumer's ability to secure a loan or its pricing, and what behavioral changes consumers might take to improve their credit access and pricing.

In addition to addressing any new risks that may be specific to fintech firms, it is important that institutions establish and maintain the same kind of compliance management systems and controls that would be expected for any entity engaged in offering consumer financial products and services. Financial institutions partnering with fintech firms should also ensure that they control for the risks associated with new products, services, and third-party relationships.

How do you think regulators should approach potentially transformative and disruptive innovations like fintech?

With fintech, as with any other emerging financial product or service, the Federal Reserve is learning as much as we can to ensure that we have a robust understanding of the technologies and activities in which banks and other financial firms are engaging and to inform the development of our policy and supervisory approaches. To that end, the Federal Reserve Board has established a multidisciplinary working group that is engaged in a 360-degree analysis of fintech innovation. We are bringing together the best thinking across the Federal Reserve System, spanning key areas of responsibility — from supervision to community development, from financial stability to payments — to assess the impact of technological development on the Federal Reserve's responsibilities. As part of this effort, Federal Reserve senior officials and staff have been closely watching developments in fintech, evaluating its impact on financial services delivery, and assessing the policy and supervisory implications in this arena.

The rapid pace of change and the large number of actors — both banks and nonbanks — in fintech raise questions about how to effectively conduct our regulatory and supervisory activities. As an ever-broadening array of choices become available to consumers, we have to think carefully about ensuring that consumers can meaningfully make informed choices among the options presented to them. In one sense, regulators' approach to fintech should be no different than for conventional financial products or services. The same basic principles regarding fairness and transparency should apply regardless of whether a consumer obtains a product through a brick-and-mortar bank branch or an online portal using a smartphone. Indeed, the same consumer laws and regulations that apply to products offered by banks generally apply to nonbank fintech firms as well, even though their business models may differ. However, the application of laws and regulations that were designed based on traditional financial products and delivery channels may give rise to complex or novel issues when applied to new products or new delivery channels. As a result, we are committed to regularly engage with firms and the technology to develop a shared understanding of these issues as they evolve.

Fundamentally, financial institutions themselves are responsible for providing innovative financial services safely. Financial services firms must pair technological know-how and innovative services with a strong compliance culture and a thorough knowledge of the important legal and compliance guardrails. While "run fast and break things" may be a popular mantra in the technology space, it is ill-suited to an arena that depends on trust and confidence. New entrants need to understand that the financial arena is a carefully regulated space with a compelling rationale underlying the various rules at play, even if these rules are likely to evolve over time. More is at stake in the realm of financial services than in some other areas of technological innovation. The consequences are more serious and lasting for a consumer who obtains, for instance, an unsustainable loan on his or her smartphone than for a consumer who downloads the wrong movie or listens to a bad podcast. At the same time, regulators may need to revisit processes designed for a brick-and-mortar world when approaching digital finance. To ensure that fintech realizes its positive potential, regulators and firms alike should take a long view, with thoughtful engagement on both sides.

When we look back at times of financial crisis or missteps, we frequently find that a key cause was elevating short-term profitability over long-term sustainability and consumer welfare. It was not long ago that so-called exotic mortgages originally designed for niche borrowers became increasingly marketed to low- and moderate-income borrowers who could not sustain them, ultimately with disastrous results. In addition to the financial consequences for individual consumers, the drive for unsustainable profit can contribute to distrust in the financial system, which is detrimental to the broader economy. It is critical that firms providing financial services consider the long-term social benefit of the products and services they offer. Concerns regarding long-term sustainability are magnified in situations where banks may bear credit or other longer-term operational risks related to products delivered by a fintech firm. One useful question to ask is whether a product's success depends on consumers making ill-informed choices; if so, or if the product otherwise fails to provide sufficient value to consumers, it is not going to be seen as responsible and may not prove sustainable over time.

The key challenge for regulatory agencies is to create the right balance. Ultimately, regulators should be prepared to appropriately tailor regulatory or supervisory expectations — to the extent possible within our respective authorities — to facilitate fintech innovations that produce benefits for consumers, businesses, and the financial system. At the same time, any contemplated adjustments must also appropriately manage corresponding risks. Financial products must be fair and transparent so that consumers can make informed choices and have confidence that the terms of their credit, savings, and investment accounts are as advertised and disclosed. It is important that consumers have this level of trust in financial products and services, regardless of the type of firm with which they do business. ■

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- The OCC announced on December 2, 2016, that it is proceeding with its proposal to allow fintech companies to become charted as special-purpose national banks.[9]
- The U.S. Department of the Treasury published the white paper *Opportunities and Challenges in Online Marketplace Lending* on May 10, 2016.[10]
- The U.S. Federal Trade Commission released the report *Big Data: A Tool for Inclusion or Exclusion? Understanding the Issues* on January 6, 2016.[11]
- The State of California's Department of Business Oversight implemented the practice of offering prefiling meetings with its Money Transmitter Division staff to answer applicant questions with the goal of timely application processing.[12]
- The State of New York's Department of Financial Services (NYDFS) created BitLicense for companies conducting virtual currency activities in June 2015.[13] The NYDFS has since issued four licenses.[14]

The Federal Reserve System is no different, and it has undertaken extensive efforts to study various technologies and their impact on financial services. Within the System, we have convened several high-level working groups that bring together the best thinkers across the Fed, including economists, payments specialists, supervisors, attorneys, and community development experts. These groups are tasked with understanding potential concerns and proposing solutions that support beneficial innovation.

The System is not alone in pursuing the goal of better understanding the implications of innovation in financial services. Supervisory agencies in other countries are grappling with the same issues, and we are monitoring developments abroad and considering potential best practices. Similarly, we are coordinating efforts with other domestic regulatory agencies to achieve consistency in our approaches.

Ultimately, our goal is to adopt an appropriate balance of oversight that acknowledges both the promise of innovation as well as its potential risks.

WHAT'S NEXT?

The System intends to maintain an active dialogue with innovators, bankers, and other stakeholders to stay informed of developments in order to best fulfill its role of ensuring the safety and soundness of the nation's banking and financial system and protecting the rights of consumers. Part of that role is considering how to best mitigate risks to financial institutions' safety and soundness and ensure consumer protection. Since the stakes are generally higher in the area of financial services than in other areas of technological innovation, the System is working diligently to ensure transparency, create a strong compliance culture, and provide safeguards for consumers.

John Williams, the San Francisco Fed's president, expressed similar ideas in an April 2016 speech. He noted that "well-designed regulation that protects consumers, fosters inclusionary rather than exclusionary practices, and enhances the fairness and resilience of the financial system should help, rather than hinder fintech's contribution to creating a better financial system and economy."[15]

LOOKING FORWARD

Given some of the lessons learned from the financial crisis about the importance of articulating a clear risk tolerance and the need for exercising sound management to limit risk, it is critical that financial institutions and fintech firms consider the long-term sustainability of the products and services they offer. This will come through continuous, thoughtful conversation on the right use of technology, its value to customers, and the relationships that are built along the way.

Speaking of relationships, I am reminded about an article I wrote for *Community Banking Connections* in 2013,[16] in which I mention that community banks are most successful when they establish deep connections with their customers. The continued viability of the community banking model is in large measure dependent on these connections and the extraordinary service that community banks can offer their customers. Innovative use of technology to offer expanded and improved services is a natural development that we hope to see benefit both community bankers and their customers. It will be up to all of us — regulators and financial institutions alike — to do our respective parts to ensure that happens.

SUPPORTING MEDIA

- Federal Reserve Bank of San Francisco 2015 Annual Report video, Transforming Financial Services, www.frbsf.org/our-district/about/annual-report/annual-report-2015/transforming-financial-services/

The author would like to thank Tracy Basinger, Cynthia Course, Tim Marder, and Desmond Rice of the Federal Reserve Bank of San Francisco for their contributions to this article. ■

Endnotes*

[1] John C. Williams, "Fintech: The Power of the Possible and Potential Pitfalls," speech delivered at the LendIt USA 2016 conference, April 12, 2016.

[2] See Tim Marder, "Fintech for the Consumer Market: An Overview," on page 4 of this issue.

[3] Teresa Curran, "Tailoring, Fintech, and Risk Culture: The Talk of the (Community Banking) Town," speech delivered to the Western Independent Bankers Annual Conference for Bank Presidents, Senior Officers & Directors, April 4, 2016.

[4] See Supervision and Regulation Letter 13-19/Consumer Affairs Letter 13-21, "Guidance on Managing Outsourcing Risk."

[5] See Curran, "Tailoring, Fintech, and Risk Culture: The Talk of the (Community Banking) Town."

[6] Consumer Financial Protection Bureau, Project Catalyst.

[7] Consumer Financial Protection Bureau, "CFPB Finalizes Policy to Facilitate Consumer-Friendly Innovation," February 18, 2016.

[8] Office of the Comptroller of the Currency, *Recommendations and Decisions for Implementing a Responsible Innovation Framework*, October 2016.

[9] Office of the Comptroller of the Currency, "OCC to Consider Fintech Charter Applications, Seeks Comment," December 2, 2016.

[10] U.S. Department of the Treasury, *Opportunities and Challenges in Online Marketing*, May 10, 2016.

[11] U.S. Federal Trade Commission, *Big Data: A Tool for Inclusion or Exclusion? Understanding the Issues*, January 2016.

[12] California Department of Business Oversight, Money Transmitter Division, Money Transmission Act.

[13] New York Department of Financial Services (NYDFS), Final BitLicense Regulatory Framework.

[14] NYDFS, "DFS Grants Virtual Currency License to XRP II, LLC, an Affiliate of Ripple" (press release), June 13, 2016.

[15] See Williams.

[16] Teresa Curran, "Considerations When Introducing a New Product or Service at a Community Bank," *Community Banking Connections*, First Quarter (2013): 1, 8–11.

* Links to cited sources are available in the online version of *Outlook* at www.consumercomplianceoutlook.org.

Fintech for the Consumer Market: An Overview continued from page 5

New payment services also offer greater convenience and ease for business-initiated payments to other businesses and consumers. Through the use of online and mobile payment platforms, businesses can send electronic payments to other businesses for goods and services at a fraction of the cost and time involved with traditional check payments. Other fintech payment services allow businesses to conveniently initiate mass or recurring payments to multiple parties.

Although digital applications present consumers and businesses with easier tools to make payments, fintech firms are still dependent on traditional bank-controlled payment methods (e.g., automated clearing house, credit and debit cards). In this regard, fintech firms need to work closely with banks, either as partners or customers, to transact and settle payments and deposit consumer balances.

SAVINGS, INVESTMENTS, AND PERSONAL FINANCIAL MANAGEMENT

Fintech is also making saving, investing, and PFM more accessible to consumers at all income levels. Fintech efforts in this area tend to focus on (1) automated investment advisory services (commonly known as "robo-advisors") and (2) financial management tools that collect and analyze consumer habits to simplify saving, investing, and planning. Through innovations in data analysis and other fields, fintech firms in this area can provide investment advice, automatically make investment or savings decisions, and provide resources for budgeting and planning with less need for human interaction and involvement.

Robo-advisors generally employ an online questionnaire to determine a client's investment objectives and risk tolerance. Using algorithms, the robo-advisor then creates a customized portfolio to fit the client's need and automatically rebalances the portfolio in response to the performance of the underlying investments and the client's goals.

Financial management tools include automated savings platforms as well as personal budgeting and financial advice services. These tools analyze consumers' bank and other financial information. The analysis is then used to assist consumers in meeting their financial goals, in certain cases by offering cost–saving suggestions or even initiating transactions. For example, an automated savings service can analyze and monitor a person's checking account activity and notify the consumer when it is a good time to transfer funds to a savings account. Making saving and investing easier, with plans available at a modest cost, may benefit consumers.

DISTRIBUTED LEDGER TECHNOLOGY

Distributed ledger technology (DLT), more commonly known as blockchain technology, is a system of decentralized automated record keeping and exchange that creates an immutable record of data that can be automatically and securely updated and stored across a network without the need for trusted central intermediaries.

This technology was popularized in 2009 with the launch of the digital currency and payment system Bitcoin. Since then, it has been used as the foundation to develop other digital currencies and associated payment systems, and many fintech firms have been formed to support these digital currency use cases. After Bitcoin's introduction, many in the technology and financial services sector recognized the potential of applying DLT to the transfer, clearing, and settlement of more traditional financial market transactions.

A key feature of DLT is that it allows the transfer of an asset without the need for trusted intermediaries, similar to a cash transaction. The technology provides a way to confirm across a network that the sender of an asset is the owner of the asset and has enough of the asset to transfer to the receiver.

DLT may be most transformative when current mechanisms for updating and recording ownership records employ disparate infrastructures and cumbersome processes. Securities trading is one such area in which some fintech and traditional firms are exploring the viability of DLT, because the technology has the potential to reduce clearing and settlement times among broker dealers, exchanges, and custodians. Similarly, other fintech firms and banks are studying DLT to facilitate wholesale, interbank payments with lower costs and faster availability than traditional wire systems.

THE DATA AND TECHNOLOGY ECOSYSTEM

Financial service providers are increasingly relying on a core set of common data and technology systems, including big data, application programming interfaces (APIs), and mobile delivery:

- Big data is an evolving term that describes any voluminous amount of data that has the potential to be mined for information and subjected to new analysis techniques to gain insights into customer behavior.
- APIs are interfaces between different software programs that facilitate their interaction, similar to the way the user interface facilitates interaction between humans and computers. APIs are rules and specifications that software programs follow to communicate with each other.
- Mobile delivery refers to the delivery of financial services via a smartphone or tablet.

Rapid changes have occurred within each of these three areas, fueling their use in the fintech space. For example, advancements in computing power make big data more accessible. In addition, financial services firms are increasingly willing to provide open access to their APIs. Also, the widespread use of smartphones and improved authentication methods have allowed firms to remotely offer an increasing number of services that previously required face-to-face authentication.

The demand for anywhere, anytime mobile financial services is allowing fintech firms to challenge the traditional brick-and-mortar, "9-to-5" banking model. Fintech firms are exploring a wide range of potential uses for big data, APIs, and mobile delivery to better meet customer expectations for on-demand services and to achieve competitive advantages.

FINTECH'S OPPORTUNITIES AND CHALLENGES

Fintech innovations have the potential to benefit both consumers and small businesses. These benefits could include expanding access to financial services, reaching underserved consumers, reducing transaction costs, offering greater convenience and efficiency, and enabling better controls over spending and budgeting.[1] Collectively, these innovations may improve the customer experience and permit better alignment of products with the preferences of consumers and small businesses. In addition, these innovations may streamline operations and increase cost efficiencies for banks and fintech firms.

On the other hand, fintech innovations can pose risks for consumers and small businesses. For example, the use of nontraditional data raises questions about the predictiveness of algorithms that have not been tested over a full credit cycle as well as questions regarding fair lending risk. In addition, firms need to control for the privacy and data security risks associated with customer information in an online environment. Ultimately, banks and firms engaged in the fintech space need to ensure that they factor compliance management into their fintech activities to the same extent they factor it into their traditional financial activities, and they need to carefully consider any additional new risks posed as a result of financial innovations.

THE FEDERAL RESERVE'S RESPONSE

The key challenges for regulators are balancing the opportunities and risks as the fintech sector evolves and determining appropriate risk management practices for rapidly evolving technology.[2] To this end, the Federal Reserve has formed a multidisciplinary working group that is engaged in a 360-degree analysis of fintech innovation. Working group members have diverse expertise from across the Federal Reserve System, including prudential and consumer supervision, payments, economic research, legal analysis, and community development. Communicating with bankers and fintech firms is a key component of our work as we follow emerging financial technology developments. The working group is an important component of the Federal Reserve's efforts to foster long-run innovation, including addressing barriers to innovation when appropriate, while ensuring that risks are appropriately controlled and mitigated.

CONCLUSION

Fintech has generated tremendous interest and excitement in the financial services space because of its vast potential to transform how financial services and products are provided to consumers and businesses. But like any other disruptive change, it entails risk. Regulators are trying to find the appropriate balance of facilitating the change, while mitigating and managing the associated risks. ■

Endnotes

[1] For a broader analysis of the potential benefits and risks of fintech, see the discussion with Federal Reserve Governor Lael Brainard in this issue of *Outlook*.

[2] For a more in-depth discussion explaining the interest of bank supervisors in fintech and the careful consideration being given to develop appropriate supervisory policies for the area, see the companion article in this issue titled "Fintech: Balancing the Promise and Risks of Innovation" by Teresa Curran.

Federal Reserve issues discussion series paper: Distributed Ledger Technology in Payments, Clearing, and Settlement

David Mills, Kathy Wang, Bredan Malone, Anjana Ravi, Jeff Marquardt, Clinton Chen, Anton Badev, Timothy Brezinski (Federal Reserve Board)

Linda Fahy, Kimberly Liao, Vanessa Kargenian, Max Ellithorpe, Wendy Ng (Federal Reserve Bank of New York)

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A key goal of the paper is to examine how this technology might be used in the area of payments, clearing, and settlement, and to identify both the opportunities and challenges facing its practical implementation and possible long-term adoption.

The article is available at: https://www.federalreserve.gov/econresdata/feds/2016/files/2016095pap.pdf

Laws, Regulations, and Supervisory Guidance continued from page 7

Table 2. Federal Reserve Supervisory Guidance That May Be Relevant to Fintech Firms and Their Depository Institution Partners

GUIDANCE LETTER	HIGH-LEVEL DESCRIPTION
Working with Third Parties[2]	
Supervision and Regulation (SR) 13–19/Consumer Affairs (CA) 13–21: Guidance on Managing Outsourcing Risk	• Addresses outsourced activities performed by traditional core bank processing and information technology service providers as well as operational activities such as accounting, appraisal management, internal audit, human resources, sales and marketing, loan review, asset and wealth management, procurement, and loan servicing • Highlights the potential risks arising from the use of service providers • Describes the elements of an appropriate service provider risk management program • Supplements existing guidance on technology service providers (TSP) issued by the Federal Financial Institutions Examination Council (FFIEC)
SR 07–19: Confidentiality Provisions in Third-Party Agreements	• Explains that it is contrary to Federal Reserve regulation and policy for agreements to contain confidentiality provisions that (1) restrict the banking organization from providing information to Federal Reserve supervisory staff; (2) require or permit, without the prior approval of the Federal Reserve, the banking organization to disclose to a counterparty that any information will be or was provided to Federal Reserve supervisory staff; or (3) require or permit, without the prior approval of the Federal Reserve, the banking organization to inform a counterparty of a current or upcoming Federal Reserve examination or any nonpublic Federal Reserve supervisory initiative or action • Notes that banking organizations that have entered into agreements containing such confidentiality provisions are subject to legal risk
Credit	
SR 15–2/CA 15–1: Guidance on Private Student Loans with Graduated Repayment Terms at Origination	• Provides guidance on private student loans with graduated repayment terms at origination
SR 10–2: Interagency Statement on Meeting the Needs of Creditworthy Small Business Borrowers	• Discusses banking agencies' views on prudent lending practices for creditworthy small business borrowers
SR 08–7/CA 08–10: Interagency Examination Procedures for the Identity Theft Red Flags and Other Regulations under the FCRA	• Provides examination procedures for regulations implementing the following three provisions of the FCRA, as amended by the Fair and Accurate Credit Transactions Act: ◦ Duties of users regarding address discrepancies (12 CFR 222.82) (Address Discrepancy rule) ◦ Duties regarding the detection, prevention, and mitigation of identity theft (12 CFR 222.90) (Identity Theft Red Flags rule) ◦ Duties of card issuers regarding changes of address (12 CFR 222.91) (Card Issuer rule)
Technology	
SR 16-14: FFIEC Information Technology Examination Handbook — Information Security Booklet	• Announces the revised FFIEC information security booklet, which highlights characteristics of effective information security programs • Includes examination procedures for cybersecurity threats and resource requirements • Reviews the stages of an IT risk management program

GUIDANCE LETTER	HIGH-LEVEL DESCRIPTION
SR 12–14: Revised Guidance on Supervision of Technology Service Providers	• Addresses the agencies' statutory authority to supervise third-party servicers that enter into contractual arrangements with regulated financial institutions • Outlines the agencies' risk-based supervisory program • Emphasizes that a financial institution's management and board of directors have the ultimate responsibility for ensuring outsourced activities are conducted in a safe and sound manner and comply with applicable laws and regulations
SR 05–19: Interagency Guidance on Authentication in an Internet Banking Environment	• Addresses the need for risk-based assessments, customer awareness, and security measures to reliably authenticate customers accessing financial institutions' Internet-based services • Emphasizes that the agencies consider single-factor authentication, if it is the only control mechanism, to be inadequate for high-risk transactions involving access to customer information or moving funds to other parties. Supplemented by SR 06–13, which includes an FAQ to assist institutions and TSPs in conforming to the guidance, and by SR 11–9, which updates agencies' expectations for supervised financial organizations regarding customer authentication, layered security, and other controls
SR 01–15: Standards for Safeguarding Customer Information	• Establishes standards for financial institutions related to administrative, technical, and physical safeguards for customer records and information
SR 00–17: Guidance on the Risk Management of Outsourced Technology Services	• Focuses on the risk management process of identifying, measuring, monitoring, and controlling the risks associated with outsourcing technology services
Bank Secrecy Act	
SR 10–11: Interagency Examination Procedures for Reviewing Compliance with the Unlawful Internet Gambling Enforcement Act of 2006	• Provides an overview of the Unlawful Internet Gambling Enforcement Act of 2006 • Sets forth procedures for reviewing compliance by institutions with the joint rule of Treasury (31 CFR Part 132) and the Board (12 CFR Part 233)
SR 05–8: Interagency Interpretive Guidance on the Provision of Banking Services to Money Services Businesses Operating in the United States	• Clarifies the requirements of the Bank Secrecy Act and anti-money-laundering regulations in relation to the provision of banking services to money services businesses operating in the United States
SR 05–7: Account Relationships with Money Services Businesses	• Describes current issues in providing banking services to money service businesses and the views of the Federal Reserve, the other federal financial institutions supervisory agencies, and the Financial Crimes Enforcement Network about assessing and controlling the varying levels of risk associated with such accounts
Other	
SR 11–7: Guidance on Model Risk Management	• Provides guidance to banking organizations and supervisors concerning model risk management, including model validation

Endnotes

[1] The descriptions provided in both tables should not be interpreted as comprehensive statements of the laws, regulations, or policies that may apply. Rather, these tables are intended to give a broad overview of the applicable requirements.

[2] See also Consumer Financial Protection Bureau, Bulletin 2012-03, "Service Providers" (April 13, 2012); Federal Deposit Insurance Corporation (FDIC), FIL-44-2008, "Guidance for Managing Third-Party Risk" (June 6, 2008); FDIC, FIL-50-2016, "FDIC Seeking Comment on Proposed Guidance for Third-Party Lending" (July 29, 2016); National Credit Union Administration, Supervisory Letter No. 07-01: "Evaluating Third Party Relationships" (October 2007); and Office of the Comptroller of the Currency, Bulletin 2013-29, "Third-Party Relationships: Risk Management Guidance" (October 30, 2013).

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2017 Calendar of Events

February 19–22, 2017	**ABA National Conference for Community Bankers** ***(includes session on fintech)*** American Bankers Association JW Marriott Orlando Orlando, FL
June 12–14, 2017	**Digital Banking** American Bankers Association Hilton Austin Austin, TX