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Fintech: Overview of Financial Regulators and Recent Policy Approaches

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SUMMARY

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Fintech: Overview of Financial Regulators and Recent Policy Approaches

New technologies in the financial services sector can create challenges for the various federal agencies responsible for financial regulation in the United States. As these regulators address the potential benefits and risks of innovation, policymakers have demonstrated significant interest in understanding the types of technologies that may benefit consumers and financial markets while identifying the risks that new financial services may present. As Congress considers the potential tradeoffs of financial technology or *fintech*, it can be useful to understand how the financial system regulators are approaching these issues.

The financial system regulators can be grouped into three general categories: (1) depository institution regulators, (2) consumer protection agencies, and (3) securities regulators. Each type of regulator has the authority to write rules, publish guidance, supervise institutions, and enforce compliance with the laws they implement. Further, there are similarities and differences among each regulator's mandate, which shed light on the approaches the regulators tend to take when considering new fintech.

The banking regulators generally are responsible for banks and credit unions, particularly focusing on the safety and soundness of these institutions. They have limited authority to write rules for, supervise the operations of, or enforce actions against firms outside their jurisdiction. Some banking regulators are responsible for granting licenses, or charters, to financial institutions so they can operate as banks and credit unions. Fintech firms typically are not licensed banks or credit unions; however, banks and credit unions often form partnerships with fintech firms, and banking regulators have legal authority to examine these types of relationships. This third-party partnership supervision allows the regulators to supervise depository institutions' interactions with new fintech firms. Banks and credit unions also have an important role in the payments system. Banking regulators have used some of their rulemaking authorities to influence technological advances in the payments system as consumers continue to shift toward electronic payment tools, such as debit and credit cards.

The consumer protection agencies generally are responsible for protecting consumers from unfair and deceptive business activities while maintaining a fair, competitive marketplace. Similar to banking regulators, consumer protection agencies have rulemaking, supervision, and enforcement authorities to implement and ensure industry compliance with consumer protection and competition laws, but consumer protection agencies have broader jurisdiction than banking regulators. For example, often they can directly regulate fintech companies and use their enforcement authorities to interact with fintech. In addition, they have promulgated rules pertaining to aspects of fintech. Consumer protection agencies generally balance the potential benefits of new technologies that could improve consumer outcomes with the potential risks to consumers posed by new, untested products entering the marketplace. This mandate allows consumer protection agencies to take enforcement actions to protect consumers and create safeguards from enforcement actions to protect companies offering financial services that benefit consumers or the market.

Securities regulators generally are concerned with protecting investors, maintaining fair and efficient markets, and facilitating capital formation. These regulators generally have limited concern for safety and soundness of the firms in their jurisdiction, focusing on disclosure requirements and contracts to promote investor protection and efficiency in the marketplace. Similar to the other regulators, they promulgate and enforce rules, but their mandate positions them somewhat differently than banking regulators and consumer protection agencies with respect to fintech. Securities regulators may endeavor to determine whether a new type of fintech product from a company counts as a security and how fintech is changing the way securities are offered. To this end, securities regulators tend to rely on their enforcement authority to ensure that new technologies do not violate securities laws.

Contents

Introduction 1
Banking Regulators: Approach to Fintech 3
Partnerships with Technology Service Providers 4
Updated Guidance on Bank Partnerships with Technology Service Providers 4
Brokered Deposits with Technology-Based Tools 5
FDIC Proposed Rulemaking on Brokered Deposits 5
Regulatory Sandboxes 6
OCC Proposed Innovation Pilot Program 6
Bank Charters for Fintech Companies 7
OCC Special Purpose National Bank Charters for Fintech Companies 8
Industrial Loan Company Charters and the FDIC 8
Consumer Protection and Payments Innovation 9
Federal Reserve FedNow Service 10
Outreach Offices for Stakeholders 11
Federal Reserve Innovation Program 11
OCC Office of Innovation 11
FDIC Tech Lab 11
Consumer Protection Agencies: Approach to Fintech 12
Enforcement Actions to Ensure Consumer Protection 13
FTC Fintech Enforcement Actions 13
Sandboxes and No-Action Letters to Promote Innovation 14
CFPB No-Action Letter Policy 15
CFPB Compliance Assistance and Revised Trial Disclosure Sandbox Policies 15
Outreach, Coordination, and Research Programs 15
CFPB Office of Innovation 15
CFPB American Consumer Financial Innovation Network 16
FTC Investigation of Fintech Issues 16
Securities Regulators: Approach to Fintech 17
Application of Existing Securities Rules to Fintech 18
SEC Guidance for Initial Coin Offerings 19
SEC Crowdfunding Final Rule 19
SEC Guidance for Automated Investment Advice 19
SEC and CFTC Digital Asset Enforcement Actions and No-Action Letters 19
Outreach Offices for Stakeholders 20
SEC Strategic Hub for Innovation and Financial Technology 20
LabCFTC 20

Tables

Table 1. Relevant Federal Financial System Regulators 2
Table 2. Examples of FTC Fintech Enforcement Actions 14

Table A-1. Depository Charters and Regulators 21
Table B-1. Financial Innovation Offices 24

Table C-1. Federal Reserve System Financial Innovation Programs 25
Table C-2. OCC Responsible Innovation Framework 27
Table C-3. CFPB Fintech Policies and Programs 28
Table D-1. Payments Regulations Implemented by Financial Regulators 30
Table D-2. Federal Reserve Payments Programs 31

Appendixes

Appendix A. Summary of Financial Regulator Mandates 21
Appendix B. Financial Innovation Offices 24
Appendix C. Select Regulatory Fintech Initiatives 25
Appendix D. Payments Regulation and Programs 30
Appendix E. CRS Fintech Products 33

Contacts

Author Information 34

Introduction

Swiping a card to pay for something seems routine today; however, at one point in recent history, a piece of plastic with a magnetic strip capable of electronically communicating payment information between the banks of a consumer and a merchant was completely unprecedented. Financial technology, or *fintech*, refers to the broad subset of financial innovations that apply new technologies to a financial service or product. Although the term was coined only recently, it likely would have been applied to a broad set of innovations, such as the advent of automated teller machines, or ATMs, in the 1960s and mobile payments in the 2000s.[1] There is no singular definition of fintech, often making policy discussions around this topic complicated. Further, U.S. financial system regulation is fragmented across many regulators by industry, business practice, and geographical jurisdiction, so regulating fintech is multifaceted.

Each financial regulator has a different mandate, creating gaps and overlaps among their jurisdictions. Regulators have used various policy tools to approach the new technologies in a manner consistent with their mandate, which impacts both institutions under their direct jurisdiction and new firms that do not cleanly fit under one regulator's jurisdiction.

Recent congressional interest in fintech has led to several hearings, the creation of fintech task forces, and legislation pertaining to one or multiple financial system regulators. This report examines activities and proposals initiated after the enactment of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank; P.L. 111-203) that are relevant to fintech. These can include fintech actions as defined by a regulator or actions pertaining to areas of financial services that intersect with technology but may not be explicitly considered fintech.[2]

Financial regulators generally fall into three groups, which are responsible for (1) depository institutions, (2) consumer protection, and (3) securities. Their approaches may include the following:

- writing new rules or amending existing ones;
- issuing guidance to clarify the applications of the rules to new types of business lines;
- creating new types of charters for institutions;
- using supervisory authorities to examine partnerships between regulated and unregulated entities;
- issuing enforcement actions to companies that violate regulations or laws; or
- establishing new offices and staffing experts to serve as outreach points-of-contact for relevant industry concerns.

Table 1 summarizes the federal regulators discussed in this report, including their scope, and relevant authorities.[3] The depository institution regulators discussed in this report include the

[1] The discussion of regulatory activities in this report will rely on the agency's interpretation of what counts as financial technology (fintech). For example, this report will include an agency that has established a financial innovation office or a program with an explicit mission of addressing fintech.

[2] For instance, banking regulators typically will issue guidance for supervising third-party service providers, which may include technology service providers. The selected issues presented in this report are not meant to represent the entire body of issues that could pertain to fintech.

[3] Some agencies and bureaus that are not financial regulators but have an interest in fintech are not the focus of this report. For example, the Financial Crimes Enforcement Network (FinCEN) is a bureau of the U.S. Department of the

Federal Reserve, the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), and the National Credit Union Administration (NCUA)—these are referred to as banking regulators. The consumer protection agencies include the Consumer Financial Protection Bureau (CFPB) and the Federal Trade Commission (FTC). The securities regulators include the Securities and Exchange Commission (SEC) and the Commodity Futures Trade Commission (CFTC). More information on the mandates and relevant authorities of these regulators can be found in **Appendix A**.

Table 1. Relevant Federal Financial System Regulators

Regulatory Agency	Scope of Regulation	Relevant Authorities
	Depository Institutions	
Board of Governors of the Federal Reserve System (Federal Reserve)	Holding companies for banks, financial companies, securities companies, and other financial institutions; banks chartered at the state level that are members of the Federal Reserve System; foreign banking organizations; systemic payment systems and financial institutions	Prudential regulator for state member banks. Operates the payment system; governs federal reserve bank lending to depository institutions
Office of the Comptroller of the Currency (OCC)	National banks, federal branches of foreign banks, and federally chartered thrift institutions	Prudential regulator for national banks. Charters national banks and special purpose banks
Federal Deposit Insurance Corporation (FDIC)	Federally insured depository institutions and state-chartered banks that are not members of the Federal Reserve System	Prudential regulator for state nonmember banks; deposit insurer for national and state chartered banks; receivership and resolution authority for failing banks. Supervises industrial loan companies and industrial banks
National Credit Union Administration (NCUA)	Federally chartered credit unions	Provides oversight over federal credit union system; examines credit unions for safety and soundness; insures federal credit unions
	Consumer Protection	
Consumer Financial Protection Bureau (CFPB)	Banks and nonbanks offering consumer financial products; nonbank mortgage-related firms; private student lenders; payday lenders; larger "consumer financial entities" determined by the CFPB	Rulemaking authority for consumer protection for all banks; supervisory authority for banks with over $10 billion in assets and large, nonbank entities

Treasury responsible for implementing provisions of the Bank Secrecy Act, the main anti-money laundering law in the United States. While FinCEN has some fintech programs, anti-money laundering is beyond the scope of this report. Brief mentions of the FinCEN's fintech work can be found in **Appendix A** and **Appendix D**. For more on anti-money laundering and FinCEN, see CRS In Focus IF11061, *Targeting Illicit Finance: The Financial Crimes Enforcement Network's "Financial Institution Advisory Program,"* by Liana W. Rosen and Rena S. Miller.

Regulatory Agency	Scope of Regulation	Relevant Authorities
Federal Trade Commission (FTC)	Commercial business practices	Consumer protection and competition authority for over 70 laws, including financial system data security laws
	Securities Markets	
Securities and Exchange Commission (SEC)	Securities exchanges; broker-dealers; clearing and settlement agencies; investment funds; mutual funds; investment advisers; hedge funds with assets over $150 million; investment companies; security-swap dealers; corporations selling securities to the public	Enforcement and rulemaking authority for activities and entities in its jurisdiction, specifically primary market security offerings. Approves rulemakings by self-regulated organizations
Commodity Futures Trading Commission (CFTC)	Futures exchanges and futures commission merchants; commodity pool operators and commodity trading advisors; derivatives; clearing organizations; designated contract markets, swap dealers, and major swap market participants	Rulemaking and enforcement authority for entities in its jurisdiction

Source: Congressional Research Service (CRS).

Note: For a similar table that expands on the financial regulatory framework, see CRS Report R44918, *Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework*, by Marc Labonte.

Banking Regulators: Approach to Fintech

The banking regulators—the Federal Reserve, FDIC, OCC, and NCUA—face particular fintech-related challenges regarding how to ensure banks and credit unions can efficiently and safely interact with nonbank fintech companies.[4] Sometimes fintech companies partner with and offer services to banks or credit unions. Other times, they seek to compete with banks by offering bank or bank-like services directly to customers. In some circumstances, banks themselves can develop their own fintech.

Given their broad responsibilities, banking regulators can engage with and respond to fintech in numerous ways, including by

- amending rules and issuing guidance to clarify how rules apply to new products;
- supervising the relationship banks form with fintech companies;
- granting banking licenses to fintech companies; and
- conducting outreach with new types of firms to facilitate communication between industry and regulators.

Examples of these regulatory actions are discussed in more detail below. Each of the agencies has slightly different regulatory scope, so the efforts described in the sections below reflect each regulator's interest in balancing the risks and benefits of financial technologies.

[4] The Federal Reserve, Federal Deposit Insurance Corporation (FDIC), and Office of the Comptroller of the Currency (OCC) comprise the federal banking regulators. The National Credit Union Administration (NCUA) regulates federal credit unions. These four agencies are collectively the federal banking regulators.

Partnerships with Technology Service Providers

In general, banking regulators have not been active in issuing fintech-specific rules in the last 10 years. Instead, regulators have focused more heavily on issuing guidance on how new products and new relationships fit into the current regulatory framework. Relationships between banks and technology service providers (TSPs)—third-party partnerships—are particularly relevant because many TSPs are fintech companies. Banking regulators use their authority to examine the operations of these third-party partnerships as a critical tool to supervise the interactions between banks and nonbank technology firms. Further, third-party supervision demonstrates how regulators have used and applied the existing framework to fintech activities.

Banks and Third-Party Vendor Relationships

As more banking transactions are delivered through digital channels, banks and credit unions that lack the in-house expertise to set up and maintain these technologies are increasingly relying on third-party vendors, specifically technology service providers (TSPs), to provide software and technical support. In light of banks' growing reliance on TSPs, regulators are scrutinizing how banks manage their *operational risks*, defined as the risks of loss related to failed internal controls, people, and systems, or from external events.[5] Rising operational risks—specifically cyber risks (e.g., data breaches, insufficient customer data backups, and operating system hijackings)—have compelled regulators to scrutinize banks' security programs aimed at mitigating operational risks. Regulators require an institution that chooses to use a TSP to ensure that the TSP performs in a safe and sound manner, and activities performed by a TSP for a bank must meet the same regulatory requirements as if they were performed by the bank itself.

Regulation aimed at banks' relationships with third-party vendors such as TSPs may be useful in mitigating operational risks but imposes costs on banks that want to utilize available technologies. Banks, particularly community banks and small credit unions, may find it difficult to comply with regulator standards applicable to third-party vendors. For example, certain institutions may lack sufficient expertise to conduct appropriate diligence when selecting TSPs or structure contracts that adequately protect against the risks TSPs may present. Some banks may also lack the resources to monitor whether the TSPs are adhering to the Gramm-Leach-Bliley Act (P.L. 106-102) and other regulatory or contract requirements. In addition, regulatory compliance costs are sometimes cited as a factor in banking industry consolidation, because compliance costs may be subject to economies of scale that incentivize small banks to merge with larger banks or other small banks to combine their resources to meet their compliance obligations.

Notes: For more information on TSPs and banking industry consolidation, see CRS In Focus IF10935, *Technology Service Providers for Banks*, by Darryl E. Getter; CRS Report R45518, *Banking Policy Issues in the 116th Congress*, coordinated by David W. Perkins; CRS Insight IN11062, *BB&T and SunTrust: The Latest Proposed Merger in a Long-Term Trend of Banking Industry Consolidation*, by David W. Perkins; and CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins.

Updated Guidance on Bank Partnerships with Technology Service Providers

From a banking regulator's standpoint, an institution can be a bank, a nonbank, or a nonbank that partners with a bank. Bank regulators have jurisdiction over banks and their partnerships with nonbanks. Some insured depository institutions opt to partner with TSPs to receive software and technical support. Often, banks will use TSPs to support critical business needs, such as core processing, loan servicing, accounting, or data management—areas where fintech companies have become active market participants. As banks increasingly rely on TSP partnerships, regulators are becoming increasingly interested in how banks manage the risks associated with these partnerships.[6]

[5] See Basel Committee on Banking Supervision, *Principles for the Sound Management of Operational Risk*, June 2011, at https://www.bis.org/publ/bcbs195.pdf.

[6] For more on these relationships, see CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and*

Banking regulators require a financial institution that chooses to partner with a TSP to ensure that the activities performed by the TSP for the institution meet the same regulatory requirements as if they were performed by the bank itself. Banking regulators' broad set of authorities to supervise TSPs are provided by the Bank Service Company Act (BSCA; P.L.87-856). Specifically, the BSCA provides banking regulators with authority to examine and regulate third-party vendors that provide services to banks.

The banking regulators periodically issue and update guidance pertaining to third-party vendors.[7] They issued interagency guidelines in 2001 that, among other things, require banks to provide continuous oversight of third-party vendors such as TSPs to ensure they maintain appropriate security measures. In 2017, the FDIC's Office of Inspector General issued an evaluation of TSP contracts, noting that many of the sampled institutional relationships did not adequately address the risks associated with TSP partnerships.[8] In 2019, the FDIC issued a financial institution letter on TSP contracts, outlining the statutory obligations of firms pursuant to the BSCA and the Gramm-Leach-Bliley Act (P.L. 106-102) and encouraging financial institutions to ensure service provider contracts adequately address business continuity and incident response risks.[9]

Brokered Deposits with Technology-Based Tools

Rulemaking with a specific focus on fintech companies is relatively infrequent, but banking regulators occasionally issue rules or proposed rules that have some tangential impact on fintech companies, such as a recently proposed FDIC rule on brokered deposits.[10] This proposed rule is another example of how regulators have used an existing regulatory framework to potentially accommodate fintech developments.

FDIC Proposed Rulemaking on Brokered Deposits

Generally, banks hold two types of deposits: core deposits and brokered deposits. Core deposits are funds individuals or companies *directly* place in checking and savings accounts, whereas brokered deposits are funds that a third-party broker places in a bank *on behalf* of a client, typically to maximize interest earned and possibly to ensure that the accounts are covered by the FDIC's $250,000 insurance limit.[11] Brokered deposits are considered less stable than core deposits, as the former is typically moved around frequently depending on market conditions. If a bank is not considered well-capitalized by its regulator, the regulator can prohibit the bank from accepting brokered deposits.

Selected Policy Issues, coordinated by David W. Perkins; and CRS In Focus IF10935, *Technology Service Providers for Banks*, by Darryl E. Getter.

[7] For example, see FDIC, *Guidance for Managing Third-Party Risk*, FIL-44-2008, June 6, 2008; Federal Financial Institutions Examination Council, "Financial Regulators Release Guidance for the Supervision of Technology Service Providers," press release, October 31, 2012, at https://www.ffiec.gov/press/pr103112.htm; FDIC, *Technology Outsourcing: Informational Tools for Community Bankers*, FIL-13-2014, April 7, 2014; and FDIC, Office of Inspector General, Office of Audits and Evaluations, *Technology Service Provider Contracts with FDIC-Supervised Institutions*, Report No. EVAL-17-004, February 2017.

[8] FDIC, Office of Inspector General, "OIG Issues Report on FDIC-Supervised Institutions' Contracts with Technology Service Providers," March 28, 2017, at https://www.fdicoig.gov/report-release/oig-issues-report-fdic-supervised-institutions%E2%80%99-contracts-technology-service.

[9] FDIC, *Technology Service Provider Contracts*, FIL-19-2019, April 2, 2019.

[10] FDIC, "Unsafe and Unsound Banking Practices: Brokered Deposits," 85 *Federal Register* 7453, 2020.

[11] CRS Insight IN11209, *FDIC Proposes Changes to Brokered Deposit Regulation*, by David W. Perkins.

Consumers increasingly use nonbank technology-based tools, such as mobile phones and fintech apps, to move money between accounts. Under certain circumstances, rules against accepting brokered deposits could apply to money transfers using nonbank technologies. The FDIC, responding to concerns that regulators have applied the rules too broadly, published a notice of proposed rulemaking in December 2019 that would allow deposits to enter the banking system through new technological channels without being subject to brokered deposit rules.[12]

Regulatory Sandboxes

Regulators occasionally create programs through which firms can experiment with new products in a way that allows industry and regulators to better understand how new technologies can impact consumers and the market. These programs are sometimes referred to as *sandboxes* or *greenhouses*. As a state-level example, Arizona created such a program in March 2018.[13] At the federal level, these programs are being discussed but have not fully taken shape. Among the banking regulators, the OCC has proposed a regulatory sandbox program, discussed below.

OCC Proposed Innovation Pilot Program

In April 2019, the OCC proposed a voluntary Innovation Pilot Program to support the testing of innovative products, services, and processes that could significantly benefit consumers, businesses, and communities, including those that could promote financial inclusion—the OCC is considering public comments on the program as of the date of this report.[14] This proposed program is similar to the concept of a regulatory sandbox or greenhouse, which is discussed in the "Sandboxes and No-Action Letters to Promote Innovation" section, below.[15] Some key characteristics and considerations of the proposed program include the following:

- The pilot would be open to banks, their subsidiaries, and federal branches and agencies, including those partnering with third parties to offer innovative products, services, or processes. It would also be open to banks working together, such as in a consortium or utility.
- The OCC is considering a suite of regulatory tools during the pilot to communicate with banks, including interpretive letters, supervisory feedback, and technical assistance from OCC subject-matter experts—the tools would not include statutory or regulatory waivers.
- The OCC may address the legal permissibility of a product or service that a bank proposes to test as part of the program. The OCC would expect banks to address risks to consumers and would not permit into the program proposals that have potentially predatory, unfair, or deceptive features.

[12] FDIC, *Unsafe and Unsound Banking Practices: Brokered Deposits Restrictions*, December 12, 2019, at https://www.fdic.gov/news/board/2019/2019-12-12-notice-dis-b-fr.pdf. For more information, see Jelena McWilliams, "On Brokered Deposits in the Fintech Age," keynote remarks at the Brookings Institution, Washington, DC, December 11, 2019, at https://www.fdic.gov/news/news/speeches/spdec1119.html.

[13] Arizona Attorney General Mark Brnovich, "Arizona Becomes First State in U.S. to Offer Fintech Regulatory Sandbox," press release, March 22, 2018, at https://www.azag.gov/press-release/arizona-becomes-first-state-us-offer-fintech-regulatory-sandbox.

[14] OCC, "OCC Innovation Pilot Program," April 2019, at https://www.occ.treas.gov/topics/supervision-and-examination/responsible-innovation/occ-innovation-pilot-program.pdf.

[15] The concept of a regulatory sandbox or greenhouse is considered further in CRS In Focus IF10513, *Financial Innovation: "Fintech,"* by David W. Perkins.

Bank Charters for Fintech Companies

One foundational way banking regulators can regulate institutions not traditionally covered by banking regulations, such as fintech companies, is to grant a banking license to a new type of firm. By doing this, the institution becomes covered by the regulatory framework that applies to other depository institutions, and the regulator can apply a similar supervisory framework to the new institution's operations. The OCC and FDIC recently have taken measures to consider charters for nonbank companies. The OCC's efforts are specifically targeted to fintech companies, and the FDIC's efforts could affect a fintech company's opportunity to become a chartered bank.

Fintech and Banking Services

Fintech is generally enabled by advances in general-use technologies that are used to perform financial activities. The proliferation of online financial services has a number of broad implications. One consideration is that online companies can often quickly grow to a significant size shortly after entering a financial market.[16] This could facilitate the rapid growth of small fintech startups, possibly through capturing market share from incumbent financial firms. Adaption of information technology, however, may require significant investment, which could advantage existing firms if they have increased access to capital. In addition, larger technology firms—including Amazon, Facebook, Apple, and Google—have started financial services operations, and thus may become competitors to or partners with traditional financial institutions. Some industry experts predict that platforms offering the ability to engage with different financial institutions from a single channel will likely become the dominant model for delivering financial services.[17] These developments may raise concerns that offering finance through digital channels could drive industry concentration.

Another consideration in this area involves consumer disclosures for financial products. In the past, voluntary or mandatory disclosures were designed to be delivered through paper. As firms move more of their processes online, they have begun to update these disclosures with electronic formats in mind. Consumers may interact differently with mobile or online disclosures than paper disclosures. Accordingly, firms may need to design online disclosures differently than paper disclosures to communicate the same level of information to consumers.

The internet raises questions over what role geography-based financial regulations should play in the future. Many financial regulations are applied to companies and activities based on geographic considerations, as most areas of finance are subject to a dual federal-state regulatory system. For example, nonbank lenders and money transmitters are primarily regulated at the state level in each state in which they operate and are subject to those states' consumer-protection laws.[18] Fintech proponents argue the internet facilitates the provision of products and services on a national scale, and 50 separate state regulatory regimes are inefficient when applied to internet-based businesses that are not constrained by geography.[19] However, state regulators and consumer advocates assert state regulators' experiences and local connections are best situated to regulate nonbank fintechs.[20]

Note: See CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins.

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[16] Itay Goldstein and Andrew Karolyi, "Fintech: What's Real, and What's Hype," Knowledge@Wharton, March 12, 2019, at https://knowledge.wharton.upenn.edu/article/fintech.

[17] For example, World Economic Forum, *Beyond Fintech: A Pragmatic Assessment Of Disruptive Potential In Financial Services*, August 2017, at http://www3.weforum.org/docs/Beyond_Fintech_-_A_Pragmatic_Assessment_of_Disruptive_Potential_in_Financial_Services.pdf.

[18] Conference of State Bank Supervisors, "Chapter 2: Overview of Nonbank Supervision," in *Reengineering Nonbank Supervision*, August 2019, pp. 3-9, at https://www.csbs.org/csbs-white-paper-reengineering-nonbank-supervision.

[19] Brian Knight, *Modernizing Financial Technology Regulations to Facilitate a National Market*, Mercatus Center at George Mason University, Mercatus on Policy, July 2017, at https://www.mercatus.org/publications/financial-markets/modernizing-financial-technology-regulations-facilitate-national.

[20] Testimony of Charles Clark, Director of Washington Department of Financial Institutions, before U.S. Congress, House Committee on Financial Services, Taskforce on Financial Technology, *Overseeing the Fintech Revolution: Domestic and International Perspectives on Fintech Regulation*, 116th Cong., 1st sess., June 25, 2019.

OCC Special Purpose National Bank Charters for Fintech Companies

Many nonbank financial companies are licensed at the state level. Thus, a fintech company wanting to do business across the United States would need to obtain 50 different state licenses and meet a complex set of 50 state regulations and standards in order to do so. In response to concerns about this complexity, the OCC requested comments in 2016 on a proposal to offer national bank charters to fintech companies.[21] In 2018, it announced that it would begin offering charters to fintech companies.[22]

The OCC's charter initiative has been controversial. State regulators and consumer advocates have argued that granting such charters would inappropriately allow federal preemption of important state-level consumer protections, and that the OCC does not have the authority to grant bank charters to these types of companies. State regulators have filed lawsuits, and the matter is the subject of ongoing legal proceedings.[23]

Industrial Loan Company Charters and the FDIC[24]

In addition to traditional bank charters, several states offer a type of bank charter for industrial loan companies (ILCs). Recently, fintech firms have begun to explore these types of charters. ILCs chartered in some states are allowed to accept certain types of deposits if the FDIC has approved the ILC for deposit insurance. Given this condition, the FDIC is considering whether or not to grant deposit insurance to fintech firms; doing so would allow ILCs to operate, under certain state charters, what would be in effect full-service, FDIC-insured banks. Several technology-focused companies have applied to establish new ILCs.

ILCs are regulated in two unique ways, which make them both attractive and controversial to certain fintech companies seeking to have deposit-taking bank operations:

- ILCs can be owned by a nonfinancial parent company, creating an avenue for commercial firms, such as fintech companies, to own a bank. Critics of ILCs argue this runs counter to the long-standing U.S. policy of separating banking and commerce.
- In some circumstances, these parent companies are not considered a bank-holding company; therefore a fintech company owning a bank as a nonfinancial parent company might not be subject to supervision by the Federal Reserve, pursuant to the Bank Holding Company Act of 1956 (BHCA; P.L. 84-511). Critics argue this would result in under regulation of an ILC parent company.

In response to concerns over ILCs, the FDIC and Congress have in the past implemented moratoriums on approving FDIC-insurance for new ILCs.[25] No new ILC charters have been granted since the end of the most recent moratorium in 2013, prompting ILC proponents to argue

[21] OCC, *Exploring Special Purpose National Bank Charters for Fintech Companies*, December 2016, at https://www.occ.gov/publications-and-resources/publications/banker-education/files/pub-special-purpose-nat-bank-charters-fintech.pdf.

[22] OCC, "OCC Begins Accepting National Bank Charter Applications From Financial Technology Companies," press release, July 31, 2018, at https://www.occ.gov/news-issuances/news-releases/2018/nr-occ-2018-74.html.

[23] See CRS Legal Sidebar LSB10381, *Court Battle for Fintech Bank Charters to Continue*, by M. Maureen Murphy.

[24] For more on Industrial Loan Companies (ILCs), see CRS In Focus IF11374, *Industrial Loan Companies and Fintech in Banking*, by David W. Perkins.

[25] FDIC, "Moratorium on Certain Industrial Loan Company Applications and Notices," 71 *Federal Register* 43482, 2006; Section 603 of Dodd-Frank (P.L. 111-203) also imposed a three-year moratorium on the FDIC's ability to grant deposit insurance to ILCs.

an unofficial moratorium is in effect without regulatory or statutory basis. By applying to establish new ILCs, technology companies have renewed public interest in ILCs in general. If the FDIC generally begins granting deposit insurance to ILCs, this could create a path for nontraditional banking companies beyond fintechs to offer bank services.

FDIC Notice of Proposed Rulemaking on Parent Companies of Industrial Banks and Industrial Loan Companies

The BHCA establishes the terms and conditions under which a company can own a bank in the United States and grants the Federal Reserve the authority to regulate these holding companies. In 1987, Congress enacted the Competitive Equality Banking Act of 1987 (CEBA; P.L. 100-86) to provide exemptions to permit certain financial and commercial companies to own and control industrial banks without becoming a bank-holding company under the BHCA.[26] In granting deposit insurance for any insured depository institution, including industrial banks, the FDIC must assess the safety and soundness of the proposed institution and the risk posed to the Deposit Insurance Fund.[27] Recent deposit insurance filings involving industrial banks have proposed ownership and control structures that would not be subject to federal consolidated supervision.[28] To codify and enhance the FDIC's supervisory process with respect to these institutions, the FDIC issued a notice of proposed rulemaking on March 31, 2020, which would require certain conditions and commitments for agency approval of applications that would result in an insured industrial bank or ILC becoming a subsidiary of a company that is not subject to supervision by the Federal Reserve.[29] The proposed rule would also require that the parent company and industrial bank or ILC enter into one or more agreements with the FDIC.

Consumer Protection and Payments Innovation

Many regulators have expressed interest in developing programs that facilitate innovation. Innovation can lead to new types of products for consumers, such as mobile payments, but it can also create obstacles for consumers to manage. Banking regulators and other financial system regulators, such as the Consumer Financial Protection Bureau (CFPB) (see "Consumer Protection Agencies: Approach to Fintech"), implement and promulgate rules pertaining to the payments system. (See **Appendix D** for these rules and other regulatory interests in payments innovation.) The payments system provides a few examples where new technologies create the potential for both benefits and risks to consumers.

[26] The Competitive Equality Banking Act of 1987 (CEBA; P.L. 100-86) created explicit exemptions from the definition of a "bank" under the Bank Holding Company Act of 1956 (BHCA; P.L. 84-511).

[27] The primary purposes of the Deposit Insurance Fund (DIF) are to insure and protect the depositors of insured banks and to resolve failed banks.

[28] FDIC, Memorandum to the Board of Directors, "Notice of Proposed Rulemaking Parent Companies of Industrial Banks and Industrial Loan Companies," March 17, 2020, at https://www.fdic.gov/news/board/2020/2020-03-17-notational-mem.pdf.

[29] FDIC, "Parent Companies of Industrial Banks and Industrial Loan Companies," 85 *Federal Register* 17771 (2020).

Consumer Electronic Payments

Consumers have several options to make electronic, noncash transactions. For instance, consumers can make purchases by swiping, inserting, or tapping a card to a payment terminal; they can store their preferred payment information in a digital wallet; or they can use an app to scan a barcode on a mobile phone that links to a payment of their choice. Merchants also enjoy electronic payments innovations that allow them to accept a range of payment types while limiting the need to manage cash.[30]

Despite the technology surrounding noncash payments, electronic payment networks eventually run through the banking system. Accessing these systems typically involves paying fees, which may be burdensome on certain groups. For instance, most Americans have a bank account, but a 2017 survey found that almost a third of those who left the banking system did so because of fees associated with their account.[31] Although some services, such as prepaid cards, allow individuals to make electronic payments without bank accounts, these options also often involve fees. As a result, cash payments may be the most affordable payment option for certain groups.

Most businesses and consumers would benefit from the ability to receive funds more quickly, particularly as a greater share of payments are made online or using mobile technology. A faster payment system may provide certain other benefits for low-income or liquidity-constrained consumers (colloquially, those living "paycheck to paycheck") who may more often need access to their funds quickly. In particular, many lower-income consumers say that they use alternative financial services, such as check cashing services and payday loans, because they need immediate access to funds. Faster payments may also help some consumers avoid checking account overdraft fees. Note, however, that some payments households make would also be cleared faster—debiting their accounts more quickly—than they are in the current system, which could be harmful to some underserved households.

Note: See CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins.

Federal Reserve FedNow Service

The Federal Reserve's proposed FedNow Service payments initiative is one example of a regulator facilitating a new product for consumers. The Federal Reserve operates or regulates important elements of the payments and settlement system, including retail payment networks such as the FedACH network, multilateral settlement services such as the National Settlement Service, and real-time gross settlement systems such as Fedwire Funds Service.[32] Recently, the Federal Reserve announced plans to develop the FedNow Service: a real-time payments and settlement system for peer-to-peer and business-to-consumer payments.[33]

The FedNow Service is expected to impact consumers as they continue to conduct commerce using electronic payments, mobile phones, and apps. Transacting in this way can lead to better outcomes for consumer budgeting, as transactions are settled in real time, but it also may impact a consumer's ability to resolve errors, as instantaneous payments are harder to stop or return. Given the importance of safety in the payments system, the Federal Reserve and a private organization called the Clearing House have both established real-time payments to create competition in the

[30] For example, PayPal enables users to send and receive money via credit or debit card, directly through their bank, or by using funds stored in their account. Square offers a mobile payment terminal that enables consumers to swipe or insert a payment card. Further, cash can take longer to process at the point of sale (making change, counting coins, etc.), presents a security risk (carrying cash in a register), and takes time to store (depositing cash reserves in a bank account)—some of these issues are elucidated in Andy Newman, "Cash Might Be King, but They Don't Care," *New York Times*, December 25, 2017, at https://www.nytimes.com/2017/12/25/nyregion/no-cash-money-cashless-credit-debit-card.html.

[31] FDIC, *2017 FDIC National Survey of Unbanked and Underbanked Households*, October 2018, p. 4, at https://www.fdic.gov/householdsurvey/2017/2017report.pdf.

[32] For more information on these systems and the Federal Reserve's role, see CRS Report R45927, *U.S. Payment System Policy Issues: Faster Payments and Innovation*, by Cheryl R. Cooper, Marc Labonte, and David W. Perkins.

[33] For more on FedNow, see https://www.federalreserve.gov/paymentsystems/fednow_about.htm.

market for payments and settlement services, with the idea that competition will increase market discipline and enhance resiliency in the system.[34] The Federal Reserve anticipates the FedNow Service will be available in 2023 or 2024.

Outreach Offices for Stakeholders

Each depository regulator has put together a working group or formal office to understand how new technologies may affect institutions under their jurisdictions and to establish a point of contact for industry. A summary of these efforts is presented below. **Table B-1** in **Appendix B** provides a synopsis of the offices established by each financial regulator discussed in this report, and **Appendix C** summarizes other efforts, such as research programs, notable fintech conferences, and working groups.

Federal Reserve Innovation Program

In December 2019, the Federal Reserve established a series of programs to support financial innovation in the financial services marketplace.[35] Part of this effort includes offering "office hours" to supervised financial institutions and nonbank fintech firms looking for information about financial innovation. These office hours are held at the various Federal Reserve Banks. The Federal Reserve also established a new website, which contains information about related supervisory information, regulatory guidance, staff speeches, publications, research, and events. The Reserve Banks have created working groups to address fintech issues, which are summarized in **Appendix C**.

OCC Office of Innovation

In 2015, the OCC began developing a "Responsible Innovation" framework to address issues of financial services innovations. This framework is summarized in **Table C-2** of **Appendix C**. As part of the framework, the OCC created a group to meet with banks, fintech companies, consumer groups, regulators, and other stakeholders to discuss various issues, concerns, and areas of interest relevant to fintech.[36] In 2017, the OCC formally established the Office of Innovation to implement its Responsible Innovation framework and provide a central point of contact for requests and information related to innovation.

FDIC Tech Lab

The FDIC recently has taken steps to establish fintech-specific programs. It created its own version of an office of innovation, the FDIC Tech Lab, or "FDiTech," in October 2018. The FDIC Tech Lab is intended to promote, coordinate, and understand the role of new innovations among technology firms, financial institutions, and other regulators.[37] The Tech Lab's stated goals are to engage with financial and technology companies to identify opportunities to improve the safety

[34] Federal Reserve Governor Lael Brainard, "The Digitalization of Payments and Currency: Some Issues for Consideration," February 5, 2020, at https://www.federalreserve.gov/newsevents/speech/brainard20200205a.htm.

[35] Board of Governors of the Federal Reserve System, "Innovation," December 17, 2019, at https://www.federalreserve.gov/aboutthefed/innovation.htm.

[36] OCC, "Recommendations and Decisions for Implementing a Responsible Framework," October 2016, at https://www.occ.treas.gov/topics/supervision-and-examination/responsible-innovation/comments/recommendations-decisions-for-implementing-a-responsible-innovation-framework.pdf.

[37] For more on the FDIC's Tech Lab, see https://www.fdic.gov/fditech/.

and soundness of insured depository institutions, promote competition, increase economic inclusion, support risk management, and facilitate efficient resolution of failed institutions.

Consumer Protection Agencies: Approach to Fintech

The mandate for the consumer protection agencies—CFPB and FTC—is largely to ensure that consumers are unharmed by the practices of businesses under their jurisdiction while maintaining a competitive marketplace. Within the context of fintech, there are tradeoffs between these objectives. For instance, encouraging firms to offer new kinds of consumer-friendly financial services can help create a competitive market, but the new products also can create the potential for unforeseen risks to consumers.

Similar to the banking regulators, the CFPB and FTC issue and promulgate regulations on issues pertinent to fintech,[38] such as payments and data security, and both agencies have created outreach offices. The consumer protection agencies, however, tend to use enforcement actions as tools to manage the effects of fintech on the financial system to a greater extent than banking regulators. This partly is because the consumer protection agencies are responsible for implementing and enforcing consumer protection laws for many nonbank financial companies—unlike the banking regulators, which generally do not have enforcement authorities for nonbank financial companies.[39]

The consumer protection agencies use enforcement actions to balance their mandates with respect to fintechs in two additional ways:

- protect consumers by levying enforcement actions against firms that violate consumer protection laws, and
- promote market competition and facilitate innovations that benefit consumers by creating safe harbors for firms from enforcement actions in order to encourage firms to develop new technologies and solve challenges facing consumers.

Whereas the CFPB has a broad range of regulatory authorities relevant to fintech, the FTC is somewhat limited to enforcement actions for many fintech activities, as it has some investigative authority but no supervisory authorities. Examples of these approaches are explored in more detail below.

[38] Section 18 of the Federal Trade Commission Act (15 U.S.C. §57) authorizes the FTC to prescribe "rules which define with specificity acts or practices which are unfair or deceptive acts or practices in or affecting commerce." In addition, various other statutes authorize FTC rulemaking; such rulemaking is typically promulgated in accordance with 5 U.S.C. §553. One of the more significant rules the FTC promulgates with respect to financial institutions is the Safeguards Rule, which implements the data security provisions of the Gramm-Leach-Bliley Act (GLBA; P.L. 106-102). For more on the GLBA and the Safeguards Rule, see CRS Insight IN11199, *Big Data in Financial Services: Privacy and Security Regulation*, by Andrew P. Scott.

[39] Enforcement authority of the banking regulators is largely a function of the charter the bank has: the FDIC has certain enforcement authorities for state-chartered nonmember banks; the Federal Reserve has certain enforcement authorities for state-chartered member banks; and the OCC has certain enforcement authorities for nationally chartered banks. This is also part of the policy discussion around the special purpose national bank charters for fintechs, which would subject chartered fintechs to OCC enforcement authority as well as general regulation and supervision.

Lending and Fintech

Dating back to at least 1989, with the debut of a general-purpose credit score called FICO,[40] automation has increasingly become a part of the underwriting process for consumer loans.[41] In general, automation in underwriting relies on algorithms—precoded sets of instructions and calculations executed by a computer—to determine whether to extend credit to an applicant and under what terms. In contrast, human underwriting relies on a person to use their knowledge, experience, and judgement (perhaps informed by a numerical credit score) to make assessments.

More recently, with the proliferation of internet access and data availability, some new lenders—often referred to as *marketplace lenders* or *fintech lenders*—rely entirely or almost entirely on online platforms and algorithmic underwriting.[42] In addition, the abundance of alternative data about prospective borrowers now available to lenders—either publicly accessible or accessed with the borrower's permission—means lenders can incorporate additional information beyond traditional data provided in credit reports and credit scores into assessments of whether a particular borrower is a credit risk.[43]

A general issue underlying many of the policy questions involving fintech in lending is whether the current regulatory framework appropriately fosters these technologies' potential benefits while mitigating the risks they may present. Additional policy questions arise in cases where banks and nonbanks have partnered with each other to issue loans. Another area of debate is how consumers will be affected by fintech in lending.

Notes: See CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins. For more on consumer credit reporting and credit scores, see CRS Report R44125, *Consumer Credit Reporting, Credit Bureaus, Credit Scoring, and Related Policy Issues*, by Cheryl R. Cooper and Darryl E. Getter.

Enforcement Actions to Ensure Consumer Protection

One way consumer protection agencies implement their legal authorities is through enforcement actions: agencies can take a number of actions to levy penalties against or stop firms that violate law or regulation. The FTC's enforcement actions include a number of orders that pertain to fintech firms.

FTC Fintech Enforcement Actions

The FTC enforces federal consumer protection laws that prevent fraud, deception, and unfair business practices, as well as federal antitrust laws that prohibit anticompetitive mergers and other business practices that could lead to higher prices, fewer choices, or less innovation. Companies that violate laws under FTC jurisdiction are liable for civil penalties for each violation. Over the past decade, the FTC has brought over 20 cases against telecommunications firms, money service businesses, prepaid card companies, and technology firms, among others, with operations relevant to fintech and in violation of FTC competition and fairness rules.[44] **Table 2** describes the outcomes of selected recent FTC fintech-related enforcement actions.

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[40] FICO is a trademarked term that was originally an acronym that stood for Fair, Isaac, and Company—the company that developed the score.

[41] Matthew Adam Bruckner, "The Promise and Perils of Algorithmic Lenders' Use of Big Data," *Chicago-Kent Law Review*, vol. 93, no. 1 (March 16, 2018), pp. 11-15.

[42] U.S. Department of the Treasury, *Opportunities and Challenges in Online Marketplace Lending*, May 10, 2016, p. 5, at https://www.treasury.gov/connect/blog/Documents/Opportunities_and_Challenges_in_Online_Marketplace_Lending_white_paper.pdf.

[43] U.S. Government Accountability Office (GAO), *Financial Technology: Agencies Should Provide Clarification on Lenders' Use of Alternative Data*, GAO-19-111, December 2018, p. 33, at https://www.gao.gov/assets/700/696149.pdf.

[44] For example, see FTC, "FTC Returns Nearly $20 Million in Additional Refunds to T-Mobile Customers," press release, February 1, 2017, at https://www.ftc.gov/news-events/press-releases/2017/02/ftc-returns-nearly-20-million-

Table 2. Examples of FTC Fintech Enforcement Actions

Issue Area	Company	Industry	Result
Unauthorized Charges	Apple Inc.	Technology	Jan. 2014: $32.5 million settlement for charging for unauthorized in-app purchases made by children without parental consent
	Google, Inc.	Technology	Sept. 2014: $19 million settlement for unlawfully billing parents for children's unauthorized in-app charges
	Amazon.com, Inc.	Online retail	May 2017: $70 million in refunds for unauthorized charges made to accounts by children without parental consent
Fraudulent Money Transfers	Western Union	Money services	Nov. 2017: $586 million settlement to refund customers scammed while sending money
	MoneyGram International, Inc.	Money services	Nov. 2018: $125 million settlement for failing to take required measures to prevent fraudulent money transfers
	Allied Wallet	Payment processor	May 2019: $110 million settlement for processing fraudulent transactions to consumers' accounts
Unfair and Deceptive Acts	BF Labs, Inc.	Cryptocurrency	Feb. 2016: Company shutdown in 2014 by courts; operators prohibited from taking up-front payment for Bitcoin machines
	SoFi Lending Corp.	Student loan refinancing	Oct. 2018: Company agreed to stop misleading consumers about potential savings
	Avant, LLC	Online lending	Apr. 2019: $3.85 million settlement for unauthorized charges on consumers' accounts and unlawfully requiring automatic payments

Source: Federal Trade Commission (FTC), "Cases Tagged with FinTech," at https://www.ftc.gov/enforcement/cases-proceedings/terms/13309.

Sandboxes and No-Action Letters to Promote Innovation

Consumer protection agencies occasionally create policies or programs that temporarily shield firms from enforcement actions if they meet certain conditions. In the past few years, the CFPB has built upon its No-Action Letter (NAL) policy, which provides some assurances that if a company offers a product or service in a specific way, the agency will withhold enforcement actions for that particular activity. With respect to fintech, the CFPB has identified the NAL policy as a way to encourage firms to produce products and disclosures that may benefit

additional-refunds-t-mobile; FTC, "FTC Alerts Consumers: If Scammers Had You Pay Them Via Western Union, You Can Now File a Claim to Get Money Back," press release, November 13, 2017, at https://www.ftc.gov/news-events/press-releases/2017/11/ftc-alerts-consumers-if-scammers-had-you-pay-them-western-union; FTC, "MoneyGram Agrees to Pay $125 Million to Settle Allegations that the Company Violated the FTC's 2009 Order and Breached a 2012 DOJ Deferred Prosecution Agreement," press release, November 8, 2018, at https://www.ftc.gov/news-events/press-releases/2018/11/moneygram-agrees-pay-125-million-settle-allegations-company; FTC, "FTC Gives Final Approval to Settlement with PayPal Related to Allegations Involving its Venmo Peer-to-Peer Payment Service," press release, May 24, 2018, at https://www.ftc.gov/news-events/press-releases/2018/05/ftc-gives-final-approval-settlement-paypal-related-allegations; and FTC, "NetSpend Settles FTC Charges," press release, March 31, 2017, at https://www.ftc.gov/news-events/press-releases/2017/03/netspend-settles-ftc-charges.

consumers. Consumer protection agencies also promote innovation through programs such as sandboxes or greenhouses, which can allow firms to trial new ideas and products while being subject to a subset of the existing regulatory framework or while being granted safe harbor from certain enforcement actions (see "Regulatory Sandboxes").

CFPB No-Action Letter Policy

In 2016, the CFPB introduced its NAL policy to withhold enforcement actions against qualifying consumer-friendly innovations and to help inform the CFPB on new products and services being offered.[45] Although the CFPB anticipated limited participation in this original NAL policy, it announced its first NAL in 2017 to a company that used alternative data and machine learning in making credit underwriting and pricing decisions.[46] To encourage more robust participation, the CFPB revised its NAL policy in 2019, amending the application and review process and reportedly strengthening its commitment to provide safe harbor to qualifying firms.[47]

CFPB Compliance Assistance and Revised Trial Disclosure Sandbox Policies

The CFPB created sandbox programs to encourage certain firms to test consumer financial services by granting the firms temporary safeguards from liability and enforcement actions. In addition to creating the NAL policy, the CFPB created the Compliance Assistance Sandbox (CAS) policy to enable some firms to test certain innovative products by providing the firms with temporary safe harbor from liability under certain statutes.[48] The CFPB expects participation in the CAS policy to be time-limited, typically two years, with extensions available in specific circumstances. In addition, Dodd-Frank allows the CFPB to provide trials for companies to test new types of disclosures—with safeguards from certain liabilities and on a basis that is limited in time and scope—to make them more effective for consumers. The CFPB first released a Trial Disclosure Policy (TDP) in 2013 and updated it in 2019 to encourage more robust participation.[49]

Outreach, Coordination, and Research Programs

Similar to the banking regulators, the CFPB has an office that serves as a point of contact for industry and other stakeholders. The CFPB also created a network to facilitate policy coordination pertaining to fintech among the federal and state financial regulators. The FTC, to support its investigation authorities, has done research and outreach to try to better understand the ways fintech may impact consumer protection and market competition. These programs are briefly explained below, and additional information regarding these programs can be found in **Appendix C**.

CFPB Office of Innovation

In 2012, the CFPB created Project Catalyst to encourage "consumer-friendly innovation and entrepreneurship in markets for consumer financial products and services" by communicating and

[45] Consumer Financial Protection Bureau (CFPB), "Policy on No-Action Letters; Information Collection," 81 *Federal Register* 8686, February 22, 2016.

[46] The letter can be found at https://files.consumerfinance.gov/f/documents/201709_cfpb_upstart-no-action-letter.pdf.

[47] CFPB, "Policy on No-Action Letters," 84 *Federal Register* 48229, September 13, 2019.

[48] CFPB, "Policy on the Compliance Assistance Sandbox," 84 *Federal Register* 48246, September 13, 2019.

[49] CFPB, "Policy To Encourage Trial Disclosure Programs," 84 *Federal Register* 48260, September 13, 2019.

engaging with industry innovators.[50] Through Project Catalyst, the CFPB studied issues surrounding access to credit, safeguarding financial records, cash flow management, student loan refinancing, mortgage servicing platforms, credit reporting, and peer-to-peer money transfers.[51] The CFPB also held office hours, provided technical assistance, and offered an earlier version of the above-mentioned TDP and NAL policy programs—before the new Office of Innovation was created—designed to encourage firms to produce consumer-friendly innovations by safeguarding those products from CFPB enforcement actions.

In 2018, the CFPB rebranded Project Catalyst, introducing a suite of policies and programs to centralize policies pertaining to consumer-focused innovation through a newly established Office of Innovation.[52] The office provides a single point of contact for firms looking to participate in the revised NAL policy and sandbox policy programs, explained above.

CFPB American Consumer Financial Innovation Network

In September 2019, the CFPB launched the American Consumer Financial Innovation Network (ACFIN) of state regulators. The CFPB created ACFIN to enhance coordination among federal and state regulators and to facilitate financial innovation as regulators develop new regulations and apply existing ones.[53] The network is open to all state and federal financial regulators, as well as state attorneys general.[54]

FTC Investigation of Fintech Issues

The FTC develops policy and research tools through hearings, reports, workshops, and conferences to support its investigation authorities. Since 2012, the FTC has hosted numerous events and developed several reports on mobile payments, big data, marketplace lending, cryptocurrency scams, and small business financing.[55] For example, the FTC has hosted several forums on fintech issues, including one on marketplace lending in June 2016,[56] crowdfunding and peer-to-peer payments in October 2016,[57] and artificial intelligence and blockchain technology in

[50] CFPB, "CFPB Launches Project Catalyst to Spur Consumer-Friendly Innovation," press release, November 14, 2012, at https://www.consumerfinance.gov/about-us/newsroom/consumer-financial-protection-bureau-launches-project-catalyst-to-spur-consumer-friendly-innovation/.

[51] CFPB, "CFPB Releases First-Ever Project Catalyst Innovation Highlights Report," press release, October 24, 2016, at https://www.consumerfinance.gov/about-us/newsroom/cfpb-releases-first-ever-project-catalyst-innovation-highlights-report/.

[52] CFPB, "Bureau of Consumer Financial Protection Announces Director of the Office of Innovation," press release, July 18, 2018, at https://www.consumerfinance.gov/about-us/newsroom/bureau-consumer-financial-protection-announces-director-office-innovation/.

[53] CFPB, "CFPB and State Regulators Launch American Consumer Financial Innovation Network," press release, September 10, 2019, at https://www.consumerfinance.gov/about-us/newsroom/bureau-state-regulators-launch-american-consumer-financial-innovation-network/.

[54] CFPB, "American Consumer Financial Innovation Network Charter as of October 15, 2019," at https://files.consumerfinance.gov/f/documents/201910_cfpb_ACFIN-charter.pdf.

[55] For examples, see FTC, "Public Events Tagged with FinTech," accessed January 23, 2020, at https://www.ftc.gov/news-events/events-calendar/terms/13309; FTC, "Reports Tagged with FinTech," accessed January 23, 2020, at https://www.ftc.gov/policy/reports/terms/13309.

[56] FTC, "FTC Announces Agenda for June 9 FinTech Forum On Marketplace Lending," press release, May 26, 2016, at https://www.ftc.gov/news-events/press-releases/2016/05/ftc-announces-agenda-june-9-fintech-forum-marketplace-lending.

[57] FTC, "FTC to Host FinTech Forum on Crowdfunding and Peer-to-Peer Payments on Oct. 26," press release, August 3, 2016, at https://www.ftc.gov/news-events/press-releases/2016/08/ftc-host-fintech-forum-crowdfunding-peer-peer-

March 2017.[58] In 2018, the FTC hosted an event on cryptocurrency scams for consumer groups, law enforcement, researchers, and the private sector as part of its consumer protection work.[59]

Securities Regulators: Approach to Fintech[60]

The securities regulators—the SEC and the CFTC—are focused on any securities-related activities, including those of fintech companies.[61] Examples would include a fintech company raising capital by issuing equity through an initial coin offering or a firm creating a new technology for derivatives contracts. Given their mandate, the securities regulators have used a range of regulatory tools, largely focused on clarifying whether and how the existing regulatory framework applies to new types of technologies, including the following:

- writing rules and guidance to clarify how existing rules apply to new types of approaches to securities;
- issuing enforcement actions against any fintech firms that may violate the securities laws under their jurisdiction; and
- setting up fintech outreach offices to serve as points of contact for stakeholders.

Examples of these regulatory approaches are provided below.

payments-oct-26.

[58] FTC, "FTC Announces Agenda for March 9 FinTech Forum on Artificial Intelligence and Blockchain Technology," press release, February 27, 2017, at https://www.ftc.gov/news-events/press-releases/2017/02/ftc-announces-agenda-march-9-fintech-forum-artificial. A *blockchain* is a digital ledger that allows parties to transact without the use of a central authority as a trusted intermediary. For more on blockchain, see CRS Report R45116, *Blockchain: Background and Policy Issues*, by Chris Jaikaran.

[59] FTC, "Decrypting Cryptocurrency Scams," June 25, 2018, at https://www.ftc.gov/news-events/events-calendar/2018/06/decrypting-cryptocurrency-scams.

[60] Additional information on the securities regulators and fintech can found at CRS In Focus IF11195, *Financial Innovation: Reducing Fintech Regulatory Uncertainty*, by David W. Perkins, Cheryl R. Cooper, and Eva Su; and CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins.

[61] For more on the SEC and its activities, see CRS In Focus IF10032, *Introduction to Financial Services: The Securities and Exchange Commission (SEC)*, by Gary Shorter; and CRS In Focus IF11256, *SEC Securities Disclosure: Background and Policy Issues*, by Eva Su.

Capital Formation, Digital Assets, and Robo-Advisors

Financial innovation in capital markets has generated new forms of fundraising for firms, including *crowdfunding* and *initial coin offerings (ICOs)*, options not previously overseen by the SEC. Crowdfunding involves raising funds by soliciting investment or contributions from a large number of individuals, generally through the internet.[62] ICOs raise funds by selling digital coins or tokens—generally created and transferred using blockchain technology—to investors. The coins or tokens allow investors to access, make purchases from, or otherwise participate in the issuing company's platform, software, or other project.[63] In cases where crowdfunding and ICOs meet the legal definition of a securities offering, they are subject to securities law and SEC regulation.[64]

Digital assets, often referred to as crypto assets, among other terminology, are digital representations of value made possible by cryptography and blockchain; they include the coins and tokens offered through ICOs. Within the past two years, this new asset class has experienced rapid growth, high volatility, maturing practices, and regulatory scrutiny. About 300 platforms are offering digital asset trading and referring to themselves as "exchanges" as of December 2019. However, many such platforms, if they are regulated at all, are registered as money-transmission services (MTSs) instead of SEC-regulated national securities exchanges.

Asset management companies pool money from various individual or institutional investor clients and invest the funds on their behalf for financial returns.[65] The SEC is the asset management industry's primary regulator. The asset management industry is increasingly using fintech to conduct investment research, trading, and enhance its client services. A prominent example is the proliferation of *robo-advisor* services, in which automated programs give investment advice to clients. There is also potential to apply artificial intelligence and machine learning within asset management, both in robo-advisory services and other functions, such as risk management and regulatory compliance and trading and portfolio management.[66]

Notes: See CRS Report R46332, *Fintech: Overview of Innovative Financial Technology and Selected Policy Issues*, coordinated by David W. Perkins. For more on SEC regulation and digital assets, see CRS Report R46208, *Digital Assets and SEC Regulation*, by Eva Su.

Application of Existing Securities Rules to Fintech

The SEC recently published guidance and rules on new capital-raising measures known as Initial Coin Offerings (ICOs) and crowdfunding, as well as on issues regarding automated investment advice ("robo advisors").[67] Both the SEC and CFTC have used their broad enforcement authorities to issue enforcement actions against digital asset practices that violated rules under their respective jurisdictions.[68] Further, the SEC used its NAL policy (similar to that used by the CFPB, discussed above) to provide safe harbor to digital asset related companies. These initiatives are summarized below.

[62] SEC, "Updated Investor Bulletin: Crowdfunding for Investors," May 10, 2017, at https://www.sec.gov/oiea/investor-alerts-bulletins/ib_crowdfunding-.html (hereinafter SEC, "Updated Investor Bulletin: Crowdfunding for Investors").

[63] SEC, "Investor Bulletin: Initial Coin Offerings," July 25, 2017, at https://www.investor.gov/additional-resources/news-alerts/alerts-bulletins/investor-bulletin-initial-coin-offerings (hereinafter SEC, "Investor Bulletin: Initial Coin Offerings").

[64] SEC, "Updated Investor Bulletin: Crowdfunding for Investors"; and SEC, "Investor Bulletin: Initial Coin Offerings."

[65] For more on asset management, see CRS Report R45957, *Capital Markets: Asset Management and Related Policy Issues*, by Eva Su.

[66] See Financial Stability Board, *Artificial Intelligence and Machine Learning in Financial Services*, November 1, 2017, at http://www.fsb.org/2017/11/artificial-intelligence-and-machine-learning-in-financial-service; and John Schindler, Associate Director, Federal Reserve Board, presentation slides: *Artificial Intelligence and Machine Learning in Finance*, September 29, 2017, at https://philadelphiafed.org/-/media/bank-resources/supervision-and-regulation/events/2017/fintech/resources/24_slides_schindler.pdf?la=en.

[67] For more on Initial Coin Offerings, see CRS In Focus IF11004, *Financial Innovation: Digital Assets and Initial Coin Offerings*, by Eva Su.

[68] For more on digital assets, see CRS Report R46208, *Digital Assets and SEC Regulation*, by Eva Su.

SEC Guidance for Initial Coin Offerings

Firms that issue cryptocurrencies may consider an ICO to raise capital by issuing digital assets to investors.[69] In 2019, the SEC published a framework to build on 2018 guidance for companies to understand whether their ICOs qualify as securities and are subject to SEC regulation.[70] The process of issuing an ICO is similar to a public companies' Initial Public Offering—a well-regulated and commonplace way to raise capital in equity markets for newly public companies—in that both aim to raise funding, but confusion may exist among investors and industry over whether digital assets are treated the same way under SEC regulation.

SEC Crowdfunding Final Rule

The Jumpstart Our Business Startups Act (JOBS Act; P.L. 112-106) contains provisions that establish a regulatory structure for startups and small businesses to raise capital through issuing securities using internet-based crowdfunding.[71] Effective May 2016, the SEC adopted a rule to implement these provisions, thereby governing the offer and sale of such securities and providing a framework for regulating certain registered funding portals and other intermediaries.[72]

SEC Guidance for Automated Investment Advice

The SEC has issued guidance for robo advisors, which provide automated investment advice.[73] The staff guidance serves to inform registered and other investment advisers on how to comply with the relevant securities statutes.[74] Compliance requires firms or sole practitioners compensated for advising others about securities investments to register with the SEC and conform to regulations designed to protect investors.[75]

SEC and CFTC Digital Asset Enforcement Actions and No-Action Letters

The SEC has broad enforcement authorities, granting it the ability to suspend business practices through injunctions and to bring administrative proceedings, such as cease and desist orders. The SEC manages a robust enforcement action program across several industries and has issued 48 such actions against digital asset-related companies since 2013.[76] Similarly, the CFTC issues enforcement actions to enforce derivatives laws; since 2018, it has issued more than 20 enforcement actions against firms related to Bitcoin and other cryptocurrency fraud schemes.[77]

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[69] An initial coin offering (ICO) is a method of raising capital through the creation and sale of digital assets. A typical ICO transaction involves the issuer selling new digital "coins"—crypto tokens—to individual or institutional investors. For more, see CRS In Focus IF11004, *Financial Innovation: Digital Assets and Initial Coin Offerings*, by Eva Su.

[70] SEC, "Framework for 'Investment Contract' Analysis of Digital Assets," at https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets.

[71] The SEC's final rule defines crowdfunding as "a relatively new and evolving method of using the Internet to raise capital to support a wide range of ideas and ventures. An entity or individual raising funds through crowdfunding typically seeks small individual contributions from a large number of people."

[72] SEC, "Crowdfunding," 80 *Federal Register* 71387, November 16, 2015.

[73] SEC, "Guidance Update," February 2017, at https://www.sec.gov/investment/im-guidance-2017-02.pdf.

[74] 15 U.S.C. §80b-3.

[75] The SEC regulations pertaining to the Investment Advisers Act can be found in 17 C.F.R. §275.

[76] The SEC's cyber enforcement actions can be viewed at https://www.sec.gov/spotlight/cybersecurity-enforcement-actions.

[77] For the press releases associated with the Commodity Futures Trading Commission's (CFTC's) enforcement actions,

In addition to its enforcement authority, the SEC grants NALs in some instances to provide relief from the SEC taking an enforcement action against a company. The SEC provided three such letters to digital asset companies in 2019.

Outreach Offices for Stakeholders

SEC Strategic Hub for Innovation and Financial Technology

In 2018, the SEC created the Strategic Hub for Innovation and Financial Technology (FinHub) to serve as a resource for public engagement on fintech issues, such as distributed ledger technology, digital assets, automated investment advice, digital marketplace financing, and artificial intelligence/machine learning. FinHub, developed from numerous SEC internal working groups, also is designed to make the SEC's fintech work more accessible to industry and serve as a platform to inform the SEC's understanding of new financial technologies.[78]

LabCFTC

LabCFTC is the focal point of the CFTC's efforts around financial innovation and is designed to make the CFTC more accessible to innovators.[79] LabCFTC also serves as a platform to inform the CFTC's understanding of new technologies, providing information for CFTC staff that may influence policy development. LabCFTC seeks to promote responsible innovation to improve the quality, resiliency, and competitiveness of markets. It also aims to accelerate CFTC engagement with new technologies that may enable the CFTC to carry out its mission responsibilities more effectively and efficiently. There are two main components to LabCFTC: (1) GuidePoint,[80] which creates a dedicated point of contact for stakeholders, and (2) CFTC 2.0,[81] which serves as a beta testing environment for new technologies.

see https://www.cftc.gov/PressRoom/PressReleases?field_press_release_types_value=Enforcement&year=all.

[78] For more, see SEC, "FinHub," at https://www.sec.gov/finhub.

[79] For more on LabCFTC, see CFTC, "LabCFTC Overview," accessed January 27, 2020, at https://www.cftc.gov/LabCFTC/Overview/index.htm.

[80] An overview of GuidePoint is available at https://www.cftc.gov/LabCFTC/GuidePoint/index.htm.

[81] An overview of CFTC 2.0 is available at https://www.cftc.gov/LabCFTC/CFTC2_0/index.htm.

Appendix A. Summary of Financial Regulator Mandates

Banking Regulators

Banks and credit unions serve a vital role in the economy. Thus, they are subject to a strong regulatory framework that requires institutions operate in a safe and sound manner. Depository institutions are routinely examined to ensure their business lines are healthy and to make sure they comply with various laws. These regulators also write and provide guidance on rules for depository institutions to implement their legal authorities over certain business practices.

Although the mandates and authorities for each agency are a bit different, the agencies all serve as primary federal regulators for some kind of depository institution. The type of depository institution depends on whether a bank is chartered at the federal or state level and whether it is a member of the Federal Reserve System. (See **Table A-1**.)

Table A-1. Depository Charters and Regulators

Institution	Chartering Authority	Primary Federal Regulator	Deposit Insurance
National banks	Office of the Comptroller of the Currency (OCC)	OCC	FDIC
State member banks	State banking agency	Federal Reserve	FDIC
State nonmember banks	State banking agency	Federal Deposit Insurance Corporation (FDIC)	FDIC
Federal credit unions	National Credit Union Administration (NCUA)	NCUA	NCUA

Source: CRS analysis of regulator websites.

Federal Reserve System[82]

The Federal Reserve Act of 1913 (P.L. 63-43) established the Federal Reserve as the central bank of the United States, comprising the Board of Governors and 12 Federal Reserve Banks. The Board generally sets policy, which is carried out by the Reserve Banks. In addition to its responsibility as the central bank to set monetary policy, the Federal Reserve is also responsible for supervising and regulating state banks that are members of the system and all bank-holding companies. The Federal Reserve also has an important role in operating the payments and settlement system.

Table D-2 summarizes the Federal Reserve's notable recent activities in the payments system.

Office of the Comptroller of the Currency[83]

The Office of the Comptroller of the Currency (OCC) was established in 1863 as a bureau of the U.S. Department of the Treasury. The OCC is the primary federal regulator for nearly 1,200 national banks, federal savings associations, and federal branches and agencies of foreign banks

[82] The Federal Reserve's website can be found at https://www.federalreserve.gov/.

[83] The OCC's website can be found at https://www.occ.gov/.

operating in the United States. The OCC grants national bank charters, which allow the charter holder to legally operate as a bank.

Federal Deposit Insurance Corporation[84]

The Federal Deposit Insurance Corporation (FDIC), established by the Banking Act of 1933 (P.L. 73-66) and largely shaped into its modern form by the Federal Deposit Insurance Act of 1950 (P.L. 81-797), insures the deposits of banks and serves as the primary federal regulator for state-chartered banks and thrifts that are not members of the Federal Reserve. The FDIC manages the Deposit Insurance Fund, which provides the funds necessary to insure deposits and to resolve failed banks. The FDIC provides deposit insurance for deposits at all U.S. banks, both national and state, but most of the banks the FDIC supervises are smaller institutions, known as community banks.

National Credit Union Administration[85]

In 1970, Congress amended the Federal Credit Union Act to establish the National Credit Union Administration (NCUA) as the regulator for the federal credit union system (P.L. 91-206). The NCUA supervises and insures deposit shares at federal credit unions and is responsible for resolving failing institutions.

Consumer Protection Agencies

Consumer protection laws and regulations are mainly within the jurisdiction of two agencies. The Consumer Financial Protection Bureau (CFPB) regulates certain financial firms for unfair, deceptive, and abusive acts and practices, as well as for compliance with several consumer protection laws. In addition, many firms—both financial and nonfinancial—are subject to oversight by the Federal Trade Commission (FTC), which regulates firms for competition and fairness.

Consumer Financial Protection Bureau[86]

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank; P.L. 111-203) established the CFPB to implement and enforce federal consumer financial law while ensuring that markets for consumer financial services and products are fair, transparent, and competitive. Dodd-Frank consolidated the consumer protection authorities promulgated by other agencies and provided CFPB new powers to issue rules declaring certain acts or practices associated with consumer financial products and services to be unlawful because they are unfair, deceptive, or abusive.

The CFPB generally has regulatory authority over providers of an array of consumer financial products and services, including deposit taking, mortgages, credit cards and other extensions of credit, loan servicing, collection of consumer reporting data, and debt collection associated with consumer financial products. The scope of its supervisory and enforcement authority varies depending on an institution's size and whether it holds a bank charter.

[84] The FDIC's website can be found at https://www.fdic.gov/.

[85] The NCUA's website can be found at https://www.ncua.gov/.

[86] The CFPB's website can be found at https://www.consumerfinance.gov/.

Federal Trade Commission[87]

Congress passed the Federal Trade Commission Act in 1914 to create the FTC and give it legal authority to protect consumers and promote competition. Specifically, the FTC looks to prevent unfair or deceptive acts or practices and to seek monetary redress or other relief for conduct deemed injurious to consumers. Generally, the FTC has broad investigation, rulemaking, and enforcement authorities that enable it to accomplish its mission.

Securities Regulators

Many companies issue stocks and bonds, trade derivatives, and offer other products collectively called securities. Securities are generally regulated by the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC). (The CFTC has specific responsibility for derivatives markets.) The securities regulators promulgate rules and provide oversight over the institutions in their jurisdiction. They also conduct enforcement actions to investigate and prosecute violations of relevant regulations.

Securities and Exchange Commission[88]

Congress passed the Securities Exchange Act of 1934 (P.L. 73-291) to establish the SEC and restore confidence in the securities markets after the stock market crash of 1929. The SEC is an independent agency that has broad authority over much of the securities industry in order to protect investors, promote fair and efficient markets, and facilitate capital formation.

Commodity Futures Trading Commission[89]

The CFTC was created in 1974 by the Commodity Futures Trading Commission Act (P.L. 93-463) to address the expansion of commodities beyond agriculture. Prior to this law, commodities generally were regulated at the Commodity Exchange Authority, a former agency within the U.S. Department of Agriculture. The CFTC regulates the U.S. derivatives markets, including futures, options, and swaps, and implements the Commodity Exchange Act (CEA; P.L. 74-675). Similar to the SEC, the CFTC has rulemaking and enforcement authorities for a range of issues, but the CFTC's authorities focus on derivatives markets derived from the CEA.

[87] The FTC's website can be found at https://www.ftc.gov/.

[88] The SEC's website can be found at https://www.sec.gov/.

[89] The CFTC's website can be found at https://www.cftc.gov/.

Appendix B. Financial Innovation Offices

Table B-1. Financial Innovation Offices

Agency	Innovation Office	Summary
Federal Reserve Bank of New York	Fintech Advisory Group	Coordinates views and perspectives on emerging issues related to financial technologies, the application and market impact of these technologies, and the potential impact on the Federal Reserve
Office of the Comptroller of the Currency	Office of Innovation	Provides a central point of contact to address requests and information related to innovation and to implement its financial innovation framework
Federal Deposit Insurance Corporation (FDIC)	FDIC Tech Lab (FDiTech)	Engages with financial and technology companies to identify opportunities to improve the safety and soundness of insured depository institutions; promotes competition, increases economic inclusion, supports risk management, and facilitates efficient resolution of failed institutions
Consumer Financial Protection Bureau	Office of Innovation	Promotes innovation, competition, and consumer access within financial services through regulatory relief, engagement with the financial technology (fintech) community, and collaboration with other regulators
Securities and Exchange Commission	FinHub	Serves as a resource for public engagement on fintech issues, such as distributed ledger technology, digital assets, automated investment advice, digital marketplace financing, and artificial intelligence/machine learning
Commodity Futures Trading Commission (CFTC)	LabCFTC	Promotes responsible innovation to improve the quality, resiliency, and competitiveness of markets, and to accelerate CFTC engagement with new technologies that may enable the CFTC to carry out its mission responsibilities more effectively and efficiently
Financial Crimes Enforcement Network (FinCEN)	FinCEN Innovation Initiative	Fosters a better understanding of the opportunities and challenges of innovation in the financial services sector related to the Bank Secrecy Act and Anti-Money Laundering

Source: Congressional Research Service summaries of agency website information.

Appendix C. Select Regulatory Fintech Initiatives

Federal Reserve System Innovation Programs

Table C-1. Federal Reserve System Financial Innovation Programs

Federal Reserve Bank/Board	Name of Program/Event	Date	Description
	Fintech Programs		
Federal Reserve Bank of Atlanta[a]	Center for Financial Innovation and Stability	2009	Supports research and hosts events to explore issues around financial innovation
Federal Reserve Bank of Boston[b]	Mobile Payments Industry Workgroup	2010	Convenes experts in mobile payments to discuss barriers and opportunities in retail mobile and digital payments
Federal Reserve Bank of San Francisco[c]	Navigate	2017	Provides consultative resources for industry to discuss concerns around financial innovation and regulation
Federal Reserve Bank of New York (FRBNY)[d]	New York Federal Reserve Bank Fintech Advisory Group	2019	Establishes a fintech point of contact for industry and consumer organizations
	Fintech Events		
Federal Reserve Board of Governors[e]	Financial Innovations Roundtable	Annually, since 2000	Explores issues related to financial innovation, such as economic mobility, access to capital, community development, and small business lending
Board of Governors	Financial Innovation: Online Lending to Households and Small Business	2016	Convened academics, industry, and policymakers to discuss innovations in online lending and regulatory policy
Federal Reserve Bank of Boston	Fintech, Financial Inclusion—and the Potential to Transform Financial Services	2018	Convened industry, nonprofits, and the public sector to explore the challenges and opportunities for fintech and financial inclusion
Federal Reserve Bank of Philadelphia	Fintech and the New Financial Landscape	2018	Discussed policy solutions for the use of alternative data sources, big data, and complex artificial intelligence and machine learning algorithms

Federal Reserve Bank/Board	Name of Program/Event	Date	Description
FRBNY	New York Fed Research Conference on Fintech	2019	Convened academics, policymakers, and industry leaders to discuss fintech in credit markets, the role of blockchain and tokens in payments systems, and the use of machine learning for evaluating regulation

Source: CRS summary of Federal Reserve Board and Bank websites.

Notes:

a. Federal Reserve Bank of Atlanta, "Center for Financial Innovation and Stability," at https://www.frbatlanta.org/cenfis.aspx.

b. Federal Reserve Bank of Boston, "Mobile Payments Industry Workgroup," at https://www.bostonfed.org/publications/mobile-payments-industry-workgroup.aspx.

c. Federal Reserve Bank of San Francisco, "Navigate," at https://www.frbsf.org/banking/fintech/.

d. Federal Reserve Bank of New York, "Fintech Advisory Group Charter," April 1, 2019, at https://www.newyorkfed.org/medialibrary/media/aboutthefed/pdf/FinTech-Charter.pdf.

e. The Financial Innovations Roundtable is hosted at the University of New Hampshire. For more information on past events, see https://carsey.unh.edu/cif/convenings/financial-innovation-roundtable.

OCC Responsible Innovation Framework

The OCC's Office of Innovation implements its Responsible Innovation framework in a number of ways that are described and summarized in **Table C-2**. For instance, the agency established an outreach and technical assistance program to establish a dialogue with banks, fintech companies, consumer groups, trade associations, and regulators. It engages in outreach through a variety of channels. Over the past two years, for example, the Office of Innovation hosted office hours in five different cities for over 125 stakeholders, approximately 250 additional meetings and calls with stakeholders, and over 100 conferences and other events.[90] The office provides technical assistance to help banks and fintech companies understand OCC expectations, relevant laws, regulations, and guidance, such as the agency's third-party risk management guidance.[91] The Office of Innovation also conducts research and develops content, including white papers, webinars, and collaborations with other OCC business units to deliver in-house training, including on payment technologies.[92]

The Office of Innovation convenes representatives from various OCC business units to develop a coordinated strategy on particular topics, and it forms working groups to consider particular issues to coordinate and facilitate discussion between stakeholders and the OCC. It also endeavors to reduce regulatory uncertainty and inconsistency, provides assistance to agencies

[90] Testimony of Beth Knickerbocker, OCC Chief Innovation Officer, before the Task Force on Financial Technology of the House Committee on Financial Services, June 25, 2019, at https://financialservices.house.gov/uploadedfiles/hhrg-116-ba00-wstate-knickerbockerb-20190625.pdf.

[91] OCC, *Bulletin 2013-29*, "Third-Party Relationships: Risk Management Guidance," October 30, 2013, at https://www.occ.gov/news-issuances/bulletins/2013/bulletin-2013-29.html; OCC, *Bulletin 2017-21*, "Third-Party Relationships: Frequently Ask Questions to Supplement OCC Bulletin 2013-29," June 7, 2017, at https://www.occ.gov/news-issuances/bulletins/2017/bulletin-2017-21.html.

[92] Testimony of Beth Knickerbocker, OCC Chief Innovation Officer, before the Task Force on Financial Technology of the House Committee on Financial Services, June 25, 2019, at https://financialservices.house.gov/uploadedfiles/hhrg-116-ba00-wstate-knickerbockerb-20190625.pdf.

interested in establishing innovation offices, and helps the OCC share information and communicate with other U.S. agencies on emerging trends and ways to improve its innovation initiatives.

The OCC participates in various regulatory forums, such as the Financial Stability Board's Financial Innovation Network, and it serves as co-chair of the Task Force on Financial Technology, established by the Basel Committee on Banking Supervision (BCBS). Furthermore, the OCC collaborates on cybersecurity issues domestically and internationally through the Federal Financial Institutions Examination Council, the Financial and Banking Information Infrastructure Committee, and the BCBS.

Table C-2. OCC Responsible Innovation Framework

Elements of Framework	Summary
Outreach and Technical Assistance	• Establishes ongoing dialogue with banks, nonbanks (including financial technology (fintech) companies), and other stakeholders • Provides technical assistance to banks and nonbanks • Promotes awareness and understanding of OCC positions and expectations
Awareness and Training	• Fosters OCC staff awareness of responsible innovation and emerging trends • Improves training and enhances the skills of examiners and other OCC staff • Develops processes to build and leverage OCC experience and expertise
Coordination and Facilitation	• Implements a process to streamline and coordinate innovation-related decisions to ensure transparent and timely responses to inquiries • Creates a process for OCC participation in bank-run pilots
Research	• Assesses the landscape and trends in financial innovation • Uses research and ongoing stakeholder dialogue to inform OCC policy, supervision, and analysis
Interagency Collaboration	• Uses existing communication channels to share information and collaborate with domestic and international regulators

Source: Office of the Comptroller of the Currency (OCC) Responsible Innovation Website, at https://www.occ.treas.gov/topics/supervision-and-examination/responsible-innovation/index-responsible-innovation.html.

Consumer Financial Protection Bureau Financial Innovation Programs

The CFPB's recent efforts pertaining directly to fintech are summarized in **Table C-3** below.

Table C-3. CFPB Fintech Policies and Programs

Type of Activity	Name	Date	Description
Coordination	Office of Innovation	July 2018	Revamps "Project Catalyst" and provides a point of contact for industry interested in participating in the No-Action Letter (NAL) program or the Compliance Assistance Sandbox (CAS) policy
Coordination	American Consumer Financial Innovation Network	Sept. 2019	Helps federal and state officials coordinate efforts to facilitate innovation and further objectives of consumer access, competition, and financial inclusion
Policy Guidance	NAL Policy (84 *Federal Register* 48229)	Sept. 2019	Modifies 2016 NAL policy to provide companies safe harbor from supervisory and enforcement actions against qualifying consumer-friendly innovations
Policy Guidance	CAS Policy (84 *Federal Register* 48246)	Sept. 2019	Provides safe harbor from certain supervisory and enforcement actions for testing qualified products while sharing data with the CFPB
Policy Guidance	Trial Disclosure Sandbox Policy (84 *Federal Register* 48260)	Sept. 2019	Provides safe harbor from certain supervisory and enforcement actions for qualified disclosure trials while sharing data with the CFPB

Sources: Consumer Financial Protection Bureau (CFPB); Federal Register.

Financial Crimes Enforcement Network

The Financial Crimes Enforcement Network (FinCEN) is a bureau of the U.S. Department of the Treasury charged with administering U.S. anti-money laundering (AML) and combating the financing of terrorism (CFT) laws, most notably the Bank Secrecy Act (BSA; P.L. 91-508).[93] In 2018, FinCEN, along with the Federal Reserve, the FDIC, the NCUA, and the OCC, announced an effort to encourage banks and credit unions to take innovative approaches to combating money laundering, terrorist financing, and other illicit financial threats by enhancing the effectiveness and efficiency of BSA/AML compliance programs.[94]

FinCEN Innovation Initiative. FinCEN launched an Innovation Initiative to address the challenges and opportunities of BSA and AML-related innovation in the financial services sector. FinCEN's Innovation Initiative includes the FinCEN Innovation Hours Program and regulatory relief programs to facilitate innovation around AML/CFT compliance. Additionally, FinCEN

[93] For more on anti-money laundering (AML) and the Financial Crimes Enforcement Network (FinCEN), see CRS In Focus IF11064, *Introduction to Financial Services: Anti-Money Laundering Regulation*, by Rena S. Miller and Liana W. Rosen; CRS Report R44776, *Anti-Money Laundering: An Overview for Congress*, by Rena S. Miller and Liana W. Rosen; and CRS Recorded Event WRE00287, *Anti-Money Laundering: The Bank Secrecy Act and Current Issues*, by Rena S. Miller et al.

[94] FinCEN, "Treasury's FinCEN and Federal Banking Agencies Issue Joint Statement Encouraging Innovative Industry Approaches to AML Compliance," press release, December 3, 2018, at https://www.fincen.gov/news/news-releases/treasurys-fincen-and-federal-banking-agencies-issue-joint-statement-encouraging.

suggested that it will consider incorporating testing programs, similar to sandboxes, and "Tech Sprints" to facilitate the development of innovative solutions to AML/CFT challenges.[95]

Innovation Hours Program. The Innovation Hours Program is the most recent addition to the FinCEN Innovation Initiative. FinCEN intends to host financial institutions, technology providers, and other firms involved in financial services to discuss their interests in innovation around AML/CFT compliance.[96]

[95] FinCEN, "FinCEN Innovation Questions and Answers," at https://www.fincen.gov/resources/fincens-innovation-hours-program/faq.

[96] FinCEN, "FinCEN's Innovation Initiative: Implementation of FinCEN Innovation Hours; Invitation To Request Innovation Hours Meeting," 84 *Federal Register* 25120, May 30, 2019.

Appendix D. Payments Regulation and Programs

Consumers generally have shifted toward electronic payments such as debit and credit cards. Since 2001, the Federal Reserve has been studying consumer trends in payment activities on a triennial basis. In 2019, the CFPB issued a rule to grant protections to prepaid cards in a similar fashion to debit and credit cards—this reflects the shift in consumer preference toward electronic payments. However, regulatory actions around electronic payments may create adverse conditions for some consumers who rely on cash. Balancing the interests of a faster, efficient payment system with one that works for different types of consumers is a challenge currently facing the Federal Reserve and CFPB. **Table D-1** shows a number of these rules, which can impact fintech companies that offer services or support payments operations through partnerships at banks.

Table D-1. Payments Regulations Implemented by Financial Regulators

Agency	Regulation	Relevant Law	Summary
Consumer Financial Protection Bureau (CFPB)	Regulation E	Electronic Funds Transfer Act (P.L. 95-630)	Mandates consumer disclosures for electronic (i.e., debit) transactions, limits liabilities for unauthorized transactions, creates an error resolution mechanism
CFPB	Regulation Z	Truth in Lending Act (P.L. 90-321)	Creates disclosure requirements, including APR and finance charges for open-end credit, such as credit cards
Federal Reserve	Regulation CC	Expedited Funds Availability Act (P.L. 100-86)	Requires banks to make funds from cash deposits, electronic payments, and certain money orders and checks available the next banking day after deposit; and the first $200 of other deposits to be made available the next banking day
Federal Reserve	Regulation II	Durbin Amendment to Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203)	Limits debit interchange fees to 21 cents, plus a factor of 5 basis points and the value of the transaction
CFPB	Prepaid Rule	Electronic Funds Transfer Act and Truth in Lending Act	Creates protections for prepaid account holders that are similar to debit and credit accounts, such as disclosures, limits on liabilities for unauthorized transactions, and error resolution procedures

Source: CRS analysis of cited laws and regulations.

The Costs and Benefits of Electronic Payments

As consumers shifted away from checks and cash to electronic payments, policymakers took interest in the cost of these payment systems. Consumers have several options to make electronic noncash transactions. If electronic methods of payment significantly displace cash as a commonly accepted form of payment, that evolution could have a number of positive and negative outcomes. Reducing cash usage could generate benefits, such as reducing the costs associated with the production, transportation, and protection of cash, but it could marginalize people with limited access to the financial system.

Although consumers tend to prefer using debit cards and credit cards, cash maintains an important role in retail payments and person-to-person transfers, especially for smaller transactions and lower-income households. Further, the debit card payment network is run by only a few parties, which charge interchange fees for each electronic debit transaction. Pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203), the Federal Reserve issued a final rule in 2011 implementing the provisions of the Durbin Amendment under Regulation II, which established a cap on the fees that network members can charge.

Notes: For more on the policy discussion around cash and its alternatives, see CRS Report R45716, *The Potential Decline of Cash Usage and Related Implications*, by David W. Perkins. For more on the Federal Reserve's 2011 final rule, see Federal Reserve, "Federal Reserve issues a final rule establishing standards for debit card interchange fees and prohibiting network exclusivity arrangements and routing restrictions," press release, June 29, 2011, at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20110629a.htm.

As the Federal Reserve contemplates the design of its proposed faster payments system, it has numerous long-standing payments groups working on fintech and related issues. Many of these groups focus on the payments market. An overview of the Federal Reserve's payments groups is provided in **Table D-2** to show the scope of work of the agency and its Reserve Banks.

Table D-2. Federal Reserve Payments Programs

Federal Reserve Bank/Board of Governors (Board)	Program Name	Description
Board	Board of Governors Payments System Policy Advisory Committee	Provides a mechanism for coordinating Federal Reserve System work and advising the Board on policy and strategic matters involving domestic and international payments and settlements issues
Board	Faster Payments Task Force	Establishes a forum for over 300 industry and consumer stakeholders to discuss and evaluate alternative approaches to implementing a faster payments system
Board	Secure Payments Task Force	Provides a forum for stakeholders to advise the Federal Reserve on payment security matters
Atlanta	Retail Payments Risk Forum	Works with financial institutions and industry participants, regulators, and law enforcement officials to research issues and sponsor dialogue to help mitigate risks associated with paper, plastic, and digital payments
Atlanta	PeachPay Payments Advisory Group	Provides a forum for companies to share information and discuss regulatory and policy issues that may affect the payments industry

Federal Reserve Bank/Board of Governors (Board)	Program Name	Description
Boston	Consumer Payments Research Center	Provides data and analysis for Federal Reserve System researchers, analysts, and policymakers, as well as industry leaders and academics—the center's data program transferred to the Atlanta Reserve Bank
Atlanta/Boston	Mobile Payments Industry Workgroup	Convenes experts in mobile payments to discuss barriers and opportunities in mobile and digital payments
Chicago	Payments Policy Group	Provides in-depth research and policy analysis on general purpose payment trends in the United States and abroad
Kansas City	Banking and Payments Research	Analyzes domestic and international payments systems and the banking industry, including supervisory and regulatory concerns, lending issues, and risks to financial institutions
Minneapolis	Payment, Standards, and Outreach Group	Works with national and international organizations, industry groups, and associations to develop standards to make accepting payments safe and efficient
New York	Payments Systems	Provides a wide range of payment services for financial institutions and the U.S. government and helps formulate and execute policies for the oversight of U.S. and international payment systems; fosters innovation in payments systems and conducts research on topical payment issues
Philadelphia	Consumer Finance Institute	Produces research on credit markets and payments systems; sponsors opportunities for scholars, the financial industry, and the public sector to share insights on household finances, the financial system, and the economy
Richmond	Payments Studies Group	Provides analysis and insights into emerging payment technologies, specifically consumer-to-business payments; develops and shares best practices to influence policy and publishes payments research

Sources: Federal Reserve Board and Federal Reserve Bank websites.

Appendix E. CRS Fintech Products

Cybersecurity

CRS Report R44429, *Financial Services and Cybersecurity: The Federal Role*, by M. Maureen Murphy and Andrew P. Scott.

CRS Report R45631, *Data Protection Law: An Overview*, by Stephen P. Mulligan, Wilson C. Freeman, and Chris D. Linebaugh.

CRS In Focus IF10559, *Cybersecurity: An Introduction*, by Chris Jaikaran.

Lending

CRS Report R44614, *Marketplace Lending: Fintech in Consumer and Small-Business Lending*, by David W. Perkins.

CRS Report R45726, *Federal Preemption in the Dual Banking System: An Overview and Issues for the 116th Congress*, by Jay B. Sykes.

Payments

CRS Report R45927, *U.S. Payment System Policy Issues: Faster Payments and Innovation*, by Cheryl R. Cooper, Marc Labonte, and David W. Perkins.

CRS Report R45716, *The Potential Decline of Cash Usage and Related Implications*, by David W. Perkins.

Banks and Third-Party Vendor Relationships

CRS In Focus IF10935, *Technology Service Providers for Banks*, by Darryl E. Getter.

Cryptocurrency and Blockchain-Based Payment Systems

CRS Report R45427, *Cryptocurrency: The Economics of Money and Selected Policy Issues*, by David W. Perkins.

CRS Report R45116, *Blockchain: Background and Policy Issues*, by Chris Jaikaran.

CRS Report R45664, *Virtual Currencies and Money Laundering: Legal Background, Enforcement Actions, and Legislative Proposals*, by Jay B. Sykes and Nicole Vanatko.

CRS In Focus IF10824, *Financial Innovation: "Cryptocurrencies,"* by David W. Perkins.

Digital Assets and Capital Formation

CRS Report R46208, *Digital Assets and SEC Regulation*, by Eva Su.

CRS Report R45221, *Capital Markets, Securities Offerings, and Related Policy Issues*, by Eva Su.

CRS Report R45301, *Securities Regulation and Initial Coin Offerings: A Legal Primer*, by Jay B. Sykes.

CRS In Focus IF11004, *Financial Innovation: Digital Assets and Initial Coin Offerings*, by Eva Su.

High-Frequency Securities and Derivatives Trading

CRS Report R44443, *High Frequency Trading: Overview of Recent Developments*, by Rena S. Miller and Gary Shorter.

CRS Report R43608, *High-Frequency Trading: Background, Concerns, and Regulatory Developments*, by Gary Shorter and Rena S. Miller.

Regulatory Approaches and Issues for Congress

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