



Financial Innovation: “Fintech”

Recent advances in the capability and use of digital technology are affecting the way many financial services are delivered by companies and used by consumers. Innovations in financial technology—or *fintech*—potentially could increase the efficiency and availability of financial services, but may involve potential risks. Congress and regulators may face questions about how the benefits should be balanced against the risks. This *In Focus* gives a broad overview of the issues commonly involved with innovative financial technology. It does not cover specific innovations in detail, but instead provides a framework for evaluating any innovation.

Background

Overview. “Fintech” usually refers to technologies with the potential to alter the way certain financial services are performed. **Table 1** provides a few examples. Some sources indicate that more than 4,000 fintech companies operated in the U.S. and the UK in 2015, and more than \$24 billion had been invested in fintech companies since 2010. These numbers do not include internal investments made by incumbent financial institutions.

Table 1. Examples of “Fintech”

Innovation	Financial Product or Service Affected
Marketplace Lending	Commercial lending
Crowdfunding	Equity issuance
Blockchain Ledgers	Payment and settlement
Robo-Advising	Wealth management
Algorithmic High-Speed Trading	Securities trading
“RegTech”	Regulatory compliance
“Big Data”	Many services; cross-cutting

Source: CRS.

Notes: This is a non-exhaustive, illustrative list.

Technology has continuously changed finance throughout history—from using cuneiform writing to record debts on clay tablets to using mobile phones to deposit checks. Some innovations create opportunity to improve social and economic outcomes; some create risks of undue or unexpected financial loss and instability; and many do both.

Policy issues. Fintech generally does not offer wholly new products or services, but rather it changes the way traditional products and services are delivered. These existing products and services are subject to a variety of federal and state laws and regulations. A possible issue for policymakers when evaluating a particular emerging

financial technology is whether the existing legal and regulatory framework appropriately facilitates the realization of potential benefits while adequately protecting society from the risks. While the technologies in question may be numerous and varied, there are common areas of analysis that can help address relevant policy concerns.

Potential Opportunities

Technology has improved the production of goods and services in virtually every industry, including finance. Fintech may be able to improve or replace the way certain financial services are provided, potentially resulting in more efficiency and increased customer and small business access.

Efficiency. Fintech supporters assert that the traditional processes used to provide certain financial services are encumbered by legacy systems and have become outdated. Automation can replace employees, and digital, wireless technology can replace physical systems and infrastructure. Algorithmic analysis of big data may be better able to allocate capital across the financial system than traditional human assessments. Eliminating inefficiencies can reduce the prices and increase the availability of financial services.

Access. Fintech’s potential ability to increase efficiency may also increase consumer and small business access to financial products and services. Reduced costs are likely to reduce prices, and some customers that previously found services too expensive could enter the market. Some that previously did not have access to funding—due to misinformation or lack of information about the risk of losses—could potentially secure funding.

Also, as financial services are increasingly delivered online and wirelessly, fintech may allow businesses to reach new customers that were previously restricted by geographic remoteness or unfamiliarity with products and services. Increased accessibility may be especially beneficial to traditionally underserved groups, such as low-income, minority, and rural populations.

Potential Risks

Risk taking is inherent in finance, and not a problem *per se*. However, losses can be problematic when parties do not understand the nature and magnitude of risks they assumed, as unexpected losses can inflict undue harm on individuals, companies, and the financial system. Innovation, by definition, is relatively new and untested, and so certain observers are concerned that it increases the risk of these negative outcomes.

Unexpected losses. When an innovation has only a brief history of significant involvement in the financial system, it can be hard to predict outcomes. Certain technologies may not in the end allocate funds, assess risks, or otherwise

function as efficiently and accurately as intended, and so generate unexpected losses.

Consumer harm. Proponents of certain innovations will sometimes expressly state that the aim is to bring a service or product directly to consumers and eliminate an inefficient “middle-man.” However, this middle-man may be an experienced financial institution or professional that is able to explain and advise consumers on financial products and their risks. Also, new fintech startups may be inexperienced in complying with consumer protection laws. These characteristics may increase the likelihood that consumers engage in a financial activity and take on risks that they do not fully understand.

Policy and Regulation Questions

Certain policy considerations—such as the merits of tax incentives, government investment, and decreasing barriers to capital raising—are related to technology and tech companies generally. However, this *In Focus* examines financial regulation issues, which are specific to financial technology.

Are current regulations appropriate? Technology in finance largely involves reducing the cost of producing existing products and services. The existing regulatory structure was developed to address risks from these financial activities. It is possible that a new innovation can be integrated into the regulatory system with little disruption or policy action. For more information on financial regulation see CRS Report R44918, *Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework*, by Marc Labonte.

Do regulations need to be altered? Some regulations may be stifling innovation and might be relaxed. On the other hand, there may be regulatory gaps that warrant stronger regulation.

Introducing new technology requires innovators to face much uncertainty over success or failure, potentially impeding the development and introduction of beneficial innovation. Regulation plays a part in this dynamic in two ways. One, companies incur costs to comply with regulations. Two, it is sometimes unclear how regulators will treat the innovation once it is brought to market.

A potential solution being used in other countries, including the UK, is to provide the option for companies to introduce a technology in a “regulatory sandbox” wherein companies that meet certain requirements can work with regulators and not have to immediately be in total compliance with the full range of applicable regulations. However, whether this approach is appropriate for the U.S. and what form it should take is debatable. Skeptics express concerns that such a program could weaken consumer protections and reduce the incentive for institutions to develop well-designed pilot programs for new services.

Some observers are concerned that existing regulations may not adequately address risks posed by new companies, systems, and methods. Regulatory arbitrage—conducting business in a way that circumvents unfavorable

regulations—may be a concern in this area. Fintech potentially could provide an opportunity for companies to claim they are not subject to certain regulations because of a superficial difference between how they operate compared to traditional companies.

Are appropriate cybersecurity practices implemented?

As activity increasingly utilizes digital technology, sensitive data are generated. On one hand, data can be used to accurately assess risks and ensure customers receive the best products and services. However, data can be stolen and used inappropriately, and there are concerns over privacy issues. This raises questions over ownership and control of the data—including to the rights of consumers and the responsibilities of companies in accessing and using data—and whether companies that use and collect data face appropriate cybersecurity requirements.

Startups and Incumbents

Either tech-focused start-ups or established financial institutions could be the main purveyors of a new technology. Each has different advantages and regulatory considerations.

New tech-focused companies may be more adaptable and responsive to technological and market changes relative to incumbent institutions. These new companies typically focus on a relatively narrow set of services in which they have identified inefficiency. Also, small, nonbank firms may not be subject to as much existing regulation and oversight facing large traditional institutions. On the other hand, start-ups may have difficulty gaining customers and securing funding. In terms of regulation, start-ups may lack experience adhering to financial regulations, and the compliance costs for smaller companies may be an imposing barrier to market entry and continued operation.

In contrast, existing financial institutions generally have access to large numbers of customers relative to startups. Large firms may also be able to invest large amounts of internal resources in new technologies or to acquire smaller fintech companies. Large, existing firms may face the opposite regulatory tradeoff that startups do; they could have the expertise and resources to dedicate to compliance, but may face a greater existing regulatory burden.

CRS Resources

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

CRS Report R43339, *Bitcoin: Questions, Answers, and Analysis of Legal Issues*, by Edward V. Murphy, M. Maureen Murphy, and Michael V. Seitzinger

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

David W. Perkins, Analyst in Macroeconomic Policy

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS’s institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.