

CHAPTER 15

Financial Technology

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This chapter analyzes important developments in financial technology (fintech) and their implications for US regulation in three areas: personal finance, consumer payments, and access to capital. It establishes principles that regulators should follow to foster innovation while protecting consumers and pursuing other policy goals. Overall, fintech innovation benefits market participants by reducing fees and other costs and by improving access to capital and other financial services. While the US financial regulatory framework has enabled fintech to develop, in certain areas regulation can be improved to allow fintech to develop even further.

Technology is causing innovation, competition, and even disruption across a range of industries, including financial services. The growing use of technology has resulted in financial services that are cheaper, faster, safer, and more accessible. These benefits may be relatively mundane improvements, such as more efficient automatic teller machines and data-driven bank relationships with customers. But they also include more radical innovations that potentially remove the need for traditional financial intermediaries to invest, make electronic payments, and raise capital. A major benefit of fintech is making financial services more competitive. According to a March 2015 Goldman

Sachs report, competition from fintech startups has the potential to disrupt \$4 trillion in revenues and \$470 billion of profits at existing financial institutions.¹

Since 2010, global fintech investment has been rapidly increasing, and 2015 was a record year with \$19.1 billion invested globally.² The large amount of capital backing fintech firms indicates that the nature of financial services is fundamentally changing and accordingly warrants attention from regulators.

The growth of fintech has many causes. They include more powerful computing, the need to reduce costs and risk and comply with regulation in the wake of the financial crisis, and dissatisfaction among consumers with existing institutions and services. Another cause is the already large amount of spending done by financial institutions on information technology, which was estimated by Gartner to be \$485 billion in 2014.³

Fintech applies to nearly all aspects of the broad and diverse world of finance and financial markets. However, there are certain features and drivers that have come to typify the fintech industry, most importantly:

- **Peer-to-peer (disintermediation).** Parties transacting (more) directly by removing intermediaries that charge fees and commissions, act as gatekeepers, and are focal points for regulation.
- **Data-driven and automated.** Replacing paper-based information and manual decision-making with those that are digital, automated, and involve data analysis, including using algorithms to make lending decisions and detect fraudulent payments.
- **Open source software and widely accessible data.** Moving away from proprietary technology and closed systems to software code that can be used and modified by anyone and data made accessible to third-party software developers.
- **Mobile.** Payments, trading, borrowing, and other financial services are increasingly being offered on smart phones, wearables, and other mobile devices.
- **Social.** Users and producers of financial services are communicating through social media platforms, including to discuss stock trades and make electronic payments.
- **Accessibility and inclusion.** Expanding the reach of financial services, such as banking and electronic payments, to traditionally underserved

individuals and companies, including those without bank accounts and assets traditionally accepted as collateral by lending institutions.

- **Blockchains (distributed ledgers).** Undertaking and recording transactions without a centralized intermediary by using a blockchain network software protocol that creates a shared ledger among multiple institutions. The potential benefits are widely applicable to financial services and include increased transaction security, speed, and transparency.
- **Cryptocurrencies.** Peer-to-peer payment networks that operate using public-key cryptography to create digital tokens that are not backed by any government and do not require any financial institution or other centralized intermediary to be transferred. The most prominent cryptocurrency is bitcoin.

FINTECH REGULATION: A PRO-INNOVATION APPROACH

Fintech innovation seems to have benefited consumers and companies by reducing costs and delays, increasing transparency about fees, improving accessibility to financial services, and making it easier to diversify investment portfolios. As technology becomes increasingly ubiquitous in all aspects of financial services, regulators should expect that innovation and change—from the introduction of new products and services to the disruption of entire companies and sectors—will become the norm.

Depending on the circumstances, a single fintech innovation may implicate a wide range of regulations and agencies. For example, a mobile phone application that permits users to borrow funds, transfer money, and make investments could potentially implicate state and federal lending laws, anti-money laundering regulation, and securities regulations that relate to consumer protection, recordkeeping and disclosure, and prevention of criminal finance. Accordingly, this chapter establishes principles that foster innovation across a range of financial sectors and regulatory regimes while maintaining policy goals.

The widely recognized observation that successful innovation requires entrepreneurs to develop a tolerance for failure also applies to lawmakers. An overly precautionary approach that seeks to prevent all instances of fraud or

other harms that may accompany innovation should not be the basis for policy decisions. A pro-innovation approach should create room for innovation by permitting new financial products to come to market without being subject to all of the regulations applicable to established firms. This can be accomplished by using legal and policy devices such as:

- Safe harbors or no-action letters that provide exemptive relief from regulation for firms that produce significant benefits or offer their products only to sophisticated persons, or that operate on a small scale.
- Scaled-down or flexible requirements for startups and other small or young firms.
- Government initiatives such as “sandboxes” that permit firms to experiment and develop new products in a cooperative arrangement with regulators.⁴

A potentially promising regulatory sandbox was enacted on February 18, 2016, when the Bureau of Consumer Financial Protection (CFPB) finalized rules relating to its Project Catalyst sandbox initiative.⁵ Project Catalyst seeks to create legal certainty for entrepreneurs by empowering the CFPB to provide no-action regulatory relief from certain legal requirements if entrepreneurs are developing new products with potentially significant benefits to consumers in an area where application of existing law is unclear.⁶ However, the CFPB sandbox is not likely to be widely used because the application process is costly, the CFPB retains power to revoke any regulatory relief granted, and its determinations are not binding on courts or other agencies. Indeed, the CFPB itself notes that its no-action relief will be granted only in exceptional circumstances. A lesson from the limited scope of Project Catalyst is that relief for innovators must be broad and not costly to obtain to have a significant impact. The United Kingdom’s Financial Conduct Authority, by contrast, seems to have a more promising approach for a fintech sandbox due to it being run more like a competitive startup incubator than a narrowly tailored administrative program.⁷

To properly promote innovation, policymakers should also avoid subjecting firms to redundant or conflicting rules and obligations. Fintech products are typically offered nationally or internationally and may cut across several regulatory boundary lines. However, being required to comply with numerous

federal and state licensing, registration, or regulatory requirements may hinder innovation without advancing policy goals. Avoiding such problems may be accomplished by

- coordination among federal regulatory authorities;
- establishing uniform laws among states;
- creating a single federal regime that preempts duplicative and differing state requirements; or
- state regulators recognizing that registration or licensure in another state, or with the federal government, is sufficient for operating within their state.

A pro-innovation approach requires regulators to introduce new rules as a last resort, and only after becoming informed about the use of new technology and making a determination that applying existing rules is insufficient to cure a recognized market failure. Private contract law, technological developments, industry initiatives, and competitive pressures have a successful history and should in part be relied on to protect consumers and companies. The payments industry's protection of consumer data and control of fraud is a good example. First, the Payment Card Industry Data Security Standard established by the major credit card networks provides a robust security framework applicable to merchants, financial institutions, and vendors. Second, the contractual liabilities imposed on merchants and banks provide incentives to protect customer data and reduce fraud. Third, fintech payments and technology providers more generally have gone beyond minimum requirements to incorporate stronger data protection technologies (such as tokenization, which is discussed later) and biometric authentication. As a result, in 2014, gross loss from fraud in credit and debit card transactions was only 0.057 percent (or 5.7 cents per \$100).⁸

When new regulations are necessary, regulators should seek to foster innovation with flexible rules. This approach generally requires preferring government registration over robust licensure requirements, and regulation over prohibition.⁹ Regulators should also avoid targeting specific technologies. Instead, regulators should target problematic activities and harms that may be enabled by new technologies. Regulating specific technologies may be underinclusive because it may not capture problems that are caused by technologies that fall

outside the scope of the regulation. Technology-specific regulation may also be overinclusive by capturing activities undertaken by a particular technology that are unrelated to the actual harms that concern regulators. For example, data security rules applicable only to mobile phone payments software may fail to capture problems that may arise from other types of mobile payment devices such as smart clothing. Likewise, rules targeting mobile phones may not be necessary for certain mobile phones with their own built-in hardware security features. Regulating a specific technology could be particularly onerous in financial services where multiple regulators may have jurisdiction over the same technology, potentially exacerbating the under/overinclusive problems.

Instead of adopting new rules on a technology-by-technology basis, regulators should adapt existing rules and frameworks to new technology. This can be accomplished by clarifying whether existing rules and policies apply to new technological implementations and amending existing rules if required. In adapting rules to new technology, regulators should focus on actual risks and harms and avoid using metaphors and analogical reasoning that often fail to accurately reflect the real benefits and risks of new technology. Regulators should be cautious even when mandating disclosure. Although some level of disclosure certainly benefits consumers and investors, disclosure mandates suffer from well-known problems due to the inability of individuals to process large amounts of information and behavioral biases such as limited attention spans and confirmation bias.¹⁰ For example, requiring startups to disclose audited financial statements may confuse investors due to the constantly changing nature of a young company's business.

Financial regulators should not directly regulate intermediaries and third parties that do not interact with consumers and only provide a technology-driven service to regulated firms or firms that are sophisticated. Examples include software providers and service vendors that enable financial services, but are not financial firms themselves. Financial regulation is often predicated on regulating intermediaries such as exchanges, brokers, and lending institutions. Fintech, however, often poses a challenge to this regulatory paradigm by enabling companies and individuals to exchange value directly (on a peer-to-peer basis) through online platforms or decentralized networks. When technology enables financial markets to become decentralized and function without intermediaries, regulators should reconsider subjecting investors, traders, and other users to rules that would apply if they were interacting with

a regulated firm. Decentralized markets may not pose standard concerns due to a lack of unequal bargaining power and asymmetric information in such markets. Decentralized markets generally serve as platforms that enable parties to interact directly and have a strong incentive to establish their own rules that protect consumers and meet other regulatory goals as a way to attract users. In addition, limitations on enforceability may also require regulators to permit bilateral exchange. There are significant challenges in implementing an oversight regime potentially applicable to millions of individuals transacting bilaterally around the globe.

Overall, given the speed of fintech innovation and the expertise required to understand its operations and benefits and risks for the public, regulators should adopt an approach that emphasizes flexibility, focuses on outcomes, and incorporates industry feedback and validation. This approach broadly fits under what is often referred to as “principles-based regulation” and similar approaches that favor regulation that is adaptable to diverse and rapidly changing industries.¹¹ The Office of the Comptroller of the Currency’s stated intent to host forums and workshops with innovators is a promising example of incorporating industry perspectives in commercial banking.¹² Regulators may also be able to play an important role by providing education and informational resources to the public and potentially vulnerable market participants about any new risks or costs from fintech innovation.

PERSONAL FINANCE

In the United States, savings are typically held in banks and some mixture of real estate and investment funds that hold stocks and bonds. Many of these holdings are in tax-preferred accounts, such as qualified pensions and Individual Retirement Accounts (IRAs). Before the rise of fintech, individuals seeking to purchase public company stocks often did so by using full-service investment advisers and brokers charging significant commissions and fees, including household names such as Charles Schwab and Salomon Smith Barney. These practices were challenged with the development of widely available discount online brokers in the early 1990s such as E-Trade. Around the same time, a wide variety of financial products gave ordinary investors new and cheaper ways to access a broader range of investments. These usually came in the form of stock and bond mutual funds and exchange-traded funds.

Against this backdrop arose fintech firms targeting all aspects of a person's personal financial management. One basic service is to consolidate an individual's accounts and present in a single platform a complete picture of one's finances. This includes one's assets, spending patterns, and investment gains or losses. A leading firm in this area is Mint, founded in 2006, which provides users with a complete financial snapshot and also the ability to pay bills, file taxes, and establish a budget that is monitored and reported back to the user.

Other services provided by personal investment advisers and wealth managers are also being targeted by fintech. A fundamental fintech innovation is providing low-cost, automated financial advice that is tailored to an individual's goals and preferences, with low to no minimum account sizes and with transparent fee structures. So-called robo-advisers provide services in the form of online and mobile platforms that offer services that determine how savers should allocate and diversify their savings among stocks, bonds, and less traditional investments. The platforms automatically adjust a customer's portfolio between different asset classes in accordance with their goals.

Automation allows these firms to reduce costs for investors. Betterment, for example, offers an all-inclusive management fee as low as 0.15 percent of assets, and Wealthfront charges an annual advisory fee of 0.25 percent for accounts with over \$10,000 in assets. Robinhood provides zero-commission stock brokerage for its clients. Acorns circumvents minimum investment requirements often imposed by asset managers by using technology to allow investors to literally invest their spare change. As of 2015, automated services controlled a small portion of assets relative to traditional investment advisers, but they are estimated to grow to \$2.2 trillion by 2020.¹³

Fintech also gives investors greater autonomy over their investments by offering a wider range of choices. Since 2007, discount online brokers have offered customers the ability to invest in foreign stocks directly using local currencies.¹⁴ Motif offers investors over 150 investment themes ranging from recent initial public offerings (IPOs) to drugs that battle cancer to wearable technology.

Fintech advisers and investment platforms are also helping to increase financial literacy. This includes giving customers access to their credit scores and advice on how to improve them, and making available a range of savings and investment options, from stocks and bonds to mortgages and life insurance. Fintech investment platforms are also integrating social media into

investing, such as by integrating social features into investment platforms that enable investors to learn from differing points of view. Most fintech investment platforms target the largest possible range of investors and, at low cost, make advisory services more affordable.

Automated investment advisers are subject to standard registration and regulatory requirements by the US Securities and Exchange Commission (SEC) under the Investment Advisers Act of 1940. The Act prohibits fraud and misleading statements by advisers, imposes fiduciary duties of care and loyalty, and requires disclosures on Form ADV as well as the establishment of a compliance program.¹⁵ Automated investment advisers typically operate an affiliated broker-dealer subject to SEC regulation under the Securities Exchange Act of 1934.

Regulation of fintech investment advisers has generally permitted innovation. The SEC has not singled out firms just because they are online, automated, or offer investors a wider range of investments and investment strategies than previously available. On May 8, 2015, the SEC played an educational role by issuing an alert about the nature and potential pitfalls of automated investment advisers.¹⁶

CONSUMER PAYMENTS

Fintech is bringing a wide variety of changes, both large and small, to global and local payment systems that offer greater accessibility and convenience. By the turn of the century, the ability to make noncash payments was widely available through credit and debit card networks such as Visa, MasterCard, and American Express. Plastic credit and debit cards require a simple swipe of a magnetic stripe to initiate a transaction and may require a personal identification number (PIN) code to process. For each transaction, the merchant pays an interchange fee to the card issuer. In credit card transactions, merchants also pay a processing fee to an intermediary acquiring bank.

Fintech caused a major change in payments with the development of digital wallets accessible through a website or mobile device, including smart watches. Digital wallets make it possible to integrate multiple accounts, make payments, and transfer funds through a single, consolidated interface. PayPal is a leading global provider of such services and enables its users to make payments using their credit cards or bank accounts online or with their mobile app. More

recent developments include Google Wallet and Apple Pay. Individual merchants such as Starbucks, Dunkin' Donuts, and Walmart have also developed their own mobile payment apps that compete with mobile wallets.

Platforms built on top of bank and other existing electronic networks have also been developed to enable online payments as an alternative to cash, checks, or wire transfers. Dwolla, for example, provides a network that allows users to establish an account and then transfer funds among each other, and it only charges 25 cents if the amount is over \$10. Venmo, a platform owned by PayPal, lets users transfer bank and debit card payments for free and is integrated with Facebook accounts. Social media platforms, such as Facebook and Snapchat, also introduced features in 2015 enabling their users to transfer payments. In addition to peer-to-peer payments, fintech is also improving international currency exchange. Companies like TransferWise and CurrencyFair offer cheaper exchange rates than are traditionally available by matching buyers and sellers of different currencies together directly, taking bank currency exchangers out of the equation altogether.

Fintech has also enabled electronic payments to be made without using traditional banking and card networks. PayNearMe allows individuals to pay their utility, rent, and other bills with cash at locations such as 7-Eleven by converting the cash payment into an electronic form acceptable to service providers.¹⁷ In addition, Vodafone's M-Pesa has radically altered the payments landscape in countries such as Kenya by linking payments and fund transfers to mobile phone accounts to enable electronic payments without a bank account.¹⁸ Cryptocurrencies such as bitcoin enable users to transfer units of digital currency without using any bank or centralized entity and for minimal cost. For example, the bitcoin exchange and wallet provider Coinbase does not itself charge for transferring or making payments with bitcoin.

Mobile payments made with digital wallets employ other technologies, including near-field communications or a location-based system that becomes responsive within the proximity of a particular merchant. When using a smart phone to make a payment, the mobile wallet itself may require that an additional PIN be entered.

Fintech has also made it significantly easier for merchants to accept electronic payments instead of cash. Portable point-of-sale systems such as Square allow retailers to accept credit and debit cards through a smart phone or other mobile device. Other companies such as Stripe make it easier for online

merchants to accept credit card payments by offering a simplified platform and fee structure for a wide variety of local and international cards.

An important outcome of fintech payments developments is greater consumer data security. Outside of North America, credit card payments are processed using the Europay, MasterCard, and Visa (EMV) standard that uses a PIN and enhanced encryption with a microchip embedded into the card to reduce fraud. The EMV standard also allows a contact-free payment “tap” with a credit card that transmits less information than a standard credit card transaction and creates a unique card verification code for each transaction. In October 2015, US card issuers and merchants began to implement the EMV standard. The adoption of EMV is an example of private law developments that protect consumers without governmental regulation. Merchants have an incentive to upgrade to EMV or else they will be liable for certain types of fraudulent charges.

Mobile payments are also increasingly using the security advancement known as tokenization. Tokenization replaces a traditional sixteen-digit credit card number by creating a unique, random number and expiration date for every transaction. The benefit of tokenization is that it enables sensitive information to be hidden from, and never stored by, a merchant or others involved in processing payment transactions. Unlike encryption, sensitive data is never passed along to third parties. Apple Pay, for example, uses tokenization to avoid storing sensitive credit card information on a user’s iPhone, Apple’s servers, or with the merchant.¹⁹ Biometric technologies, such as fingerprint-based identification systems, are also increasingly being integrated into payments systems to reduce fraud. Overall, these and other technologies indicate that the market for consumer payments security is functioning well and improving.

Mobile and other forms of fintech payments typically use or expand the functionality of traditional regulated intermediaries, such as card networks and banks, and are accordingly subject to a wide variety of regulations. These include mandates regarding information retention, disclosure, and acquisition; substantive prohibitions on how and to whom payments may be made; and provisions that limit consumer liability. The primary purpose of these requirements is to prevent the use of funds in illicit activities and to protect consumers.

Fintech payment providers that transmit or exchange money are subject to a wide variety of anti-money laundering laws, including criminal statutes.

Statutes such as the Bank Secrecy Act (BSA) impose recordkeeping and reporting requirements, customer information-gathering (“know your customer”) requirements, and the implementation of anti-money laundering programs. Payment providers must also comply with Treasury Department rules that prohibit being involved with payments to sanctioned persons, countries, or entities. In addition, the Gramm-Leach-Bliley Act and regulations of the Federal Trade Commission (FTC) subject institutions and companies to rules that require them to protect consumers’ confidential information. Money transmitters are also generally subject to state-level money transmission statutes. Some states, such as New York, have specific licensing requirements for digital currency businesses.²⁰

Electronic funds transfers between accounts at financial institutions are governed by the Electronic Fund Transfer Act (EFTA) and Regulation E. These laws limit consumer liability to \$500 and require institutions to disclose information about financial charges. Credit card and other types of consumer credit are governed by the Truth in Lending Act (TILA) and Regulation Z. These rules require card issuers to provide continuous disclosure to credit card users, provide procedures for resolving errors and fraud, and generally limit consumer liability for fraud to \$50. In 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act gave the CFPB authority over implementing EFTA and TILA regulation, among several other statutes.²¹ The CFPB has broad authority to regulate consumer financial products, which includes the authority to prohibit unfair, deceptive, or abusive acts or practices.²² Although telephone carrier-based billing systems are not widely used in the United States, the FTC requires carriers to disclose information about mobile payments charged directly to a user’s phone bill.²³

In general, the regulatory framework applicable to consumer payments has enabled a wide range of innovation to emerge while protecting consumers from fraud and abuse. Regulators have also promoted innovation by gathering data and information about the changing nature of the payments market before enacting new rules. For example, the Federal Reserve Banks of Boston and Atlanta established the Mobile Payments Industry Workgroup in January 2010 to bring together regulators and other stakeholders to study and make recommendations on improving the US payment system. Notably, none of the Workgroup’s publications identified any market failures warranting additional regulation.

In some cases, however, the existing regulatory framework and agency actions undermine payment innovations or hurt consumers and companies. For example, laws prohibiting money laundering likely make banks overly cautious about compliance risks and cause them to not provide financial services to underserved communities because they are perceived as being too risky.²⁴ Cryptocurrencies such as bitcoin are another case in point. Although bitcoin's underlying blockchain technology enables users to transfer value globally, bitcoin exchanges, electronic storage wallets, and other intermediaries are generally required to register with and be licensed by the federal government and also in numerous states and thereby are subject to redundant regulation regarding anti-money laundering, consumer protection, and other areas. A second problem is scope. Decentralized cryptocurrency networks operate in ways that do not fit traditional regulatory categories. For example, bitcoin wallets that require the consent of multiple parties to initiate a transfer likely do not fit within traditional regulatory categories of "money transmitter" or "custodian" yet may be subject to regulation nonetheless. Likewise, cryptocurrencies may also be used to record transactions or enable nonfinancial software applications yet may be subject to money transmitter regulation, despite being used for nonfinancial purposes. A final issue is regulating on the basis of unrealistic harms and without regard to marketplace developments that reduce traditional consumer protection concerns. For example, cryptocurrency networks provide a permanent and publicly verifiable record of transactions. In addition, technologies that require multiple parties to approve a transaction (multisignature) or confirm that a firm has sufficient funds (proof-of-reserve) provide market-based protections to consumers against fraud and insolvency.²⁵ For such reasons, the potential application of CFPB prepaid card regulation to cryptocurrency intermediaries not involved in a payment transaction seems unnecessary.

FUNDRAISING AND ACCESS TO CAPITAL

Fintech is dramatically increasing the accessibility of capital. This is especially true for individuals and small companies—segments of the public that continually have problems borrowing money or finding investors. A basic way that fintech is increasing access to capital is by making the loan application process less of a hassle. Potential borrowers may now apply for mortgages and other loans with their smart phones and receive funds in minutes.

For companies, online platforms are also making it easier to raise capital by selling their invoices and receivables.²⁶

The development of online fundraising platforms is how fintech has fundamentally broadened access to capital. Rewards-based crowdfunding platforms that aggregate small amounts of money in return for public recognition or a payment-in-kind have opened up new vistas of capital for new businesses, art projects, and social causes. The well-known crowdfunding platform Kickstarter has raised more than \$2.5 billion in funds since its founding in 2009.²⁷ These platforms are regulated at the federal level by the FTC.

Online platforms have also increased access to capital from investors and lenders seeking a return on capital. Equity crowdfunding platforms allow investors with small amounts of capital to share in the profits of enterprises. The platforms may play a relatively passive role in allocating capital and grouping investors or take an active role by vetting companies, taking board seats, and providing mentorship. Equity crowdfunding platforms make it much easier for private companies to raise capital by giving them direct access to investors instead of having to rely on professionals or informal networks that are typically very costly and may take years to establish.

Congress took a significant step in the direction of enabling online equity crowdfunding platforms by passing the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). Title III of the JOBS Act permits online crowdfunding portals to serve as intermediaries for fundraising by providing legal certainty that they may operate as matchmakers between firms and sophisticated investors without necessarily being subject to broker-dealer regulation that would make it too costly to operate.²⁸ AngelList is a prominent example of such a portal.

Going further, Title III of the JOBS Act permitted private companies for the first time to raise funds selling their securities to the public and not just wealthy investors who meet the legal definition of accredited investor. The purpose of the Title III crowdfunding rules is to enable new companies to raise small amounts of funds from numerous investors without costly registration and compliance requirements. In any twelve-month period, the rules permit a company to raise up to \$1 million and limit investors to investing no more than (1) the greater of \$2,000 or 5 percent of annual income or net worth, if annual income or net worth is below \$100,000, or (2) 10 percent of the lesser of annual income or net worth up to a total of \$100,000, if both annual income and net worth are \$100,000 or above.²⁹ Online crowdfunding portals are

permitted to curate the companies that list on their platforms and take equity stakes in them on similar terms as other investors.

Online “marketplace lending” platforms connect borrowers to investors. Investors provide funding to borrowers by purchasing loans or notes representing fractional interests in loans, or through securitization. For example, investors may purchase three- to five-year notes backed by the payments of numerous diverse borrowers that are often disclosed on a loan-level basis.³⁰ Institutional investors make up most of the purchasers of such notes in the United States, and banks often play a role in marketplace lending by originating the loan and selling it to the online platform.³¹ The loans usually range in size from \$1,000 to \$35,000 and may include refinancing and consolidation. The platforms often use a wide variety of traditional and nontraditional criteria to assess a borrower’s risk, such as FICO scores, data from social media and seller channels, or banking and merchant processing data. Marketplace lenders may also use large sets of data and machine-learning algorithms in making loan decisions to borrowers, as well as qualitative factors such as endorsements and community affiliations. As of 2015 approximately \$12 billion in marketplace loans had been issued.³²

In addition to making more funds available for loans in the first place, marketplace lending has several important benefits for borrowers. First, loans from online platforms are generally cheaper.³³ This is because marketplace lenders are not encumbered by inefficiencies of traditional banking that stem from mismanagement, the costs of maintaining a branch infrastructure, overhead, and regulatory capital requirements. Second, obtaining a marketplace-funded loan is more streamlined and faster than obtaining a traditional bank loan and often a more manageable form of credit. Unlike credit cards, marketplace loans tend to be fully amortizing with fixed interest rates. Third, marketplace lenders may be willing to lend to individuals and companies otherwise unable to obtain a loan or refinancing due to the lenders’ use of innovative underwriting practices and access to capital market funding.

The practice of marketplace lending is subject to wide-ranging regulation. Any notes issued by marketplace lenders are subject to securities laws. In addition, marketplace lenders that extend consumer credit are subject to federal and state laws, including TILA, FTC, and CFPB prohibitions on unfair and deceptive practices, fair lending rules, and federal Bank Secrecy Act anti-money laundering and know-your-customer regulations. On March 7, 2016, the CFPB issued an alert to educate borrowers about the risks of marketplace loans.³⁴ Other

bodies of law that may apply to marketplace lending include state usury laws, vendor management programs, and the Fair Debt Collection Practices Act. Industry-led initiatives such as the Small Business Borrowers' Bill of Rights also provide protections for companies that may lack the financial acumen of sophisticated borrowers.³⁵ Although the increasing use of data and algorithms to automate lending decisions potentially raises unique concerns—about violating fair lending and disparate impact regulations, predatory lending, and confusing consumers about why they were (or were not) approved for a loan—the same legal protections still apply. Nonetheless, the use of data and algorithms may be an area in which regulators need to increase their focus.

Despite a new regulatory regime enabling crowdfunding, and the explosion in marketplace lending, regulators can also take steps to ensure further growth in both.

Crowdfunding regulations subject companies and investors to overly restrictive or burdensome rules. The crowdfunding investment limit should be raised from \$1 million to \$5 million to permit companies to adequately capitalize themselves through crowdfunding without having to resort to other methods of finance. Crowdfunding portals are prohibited from making any investment recommendations or having their directors and officers take equity positions in the companies listed on their platforms. These restrictions prevent crowdfunding platforms from providing potentially valuable information regarding the quality of investments they offer. They likewise may prevent platforms from listing higher quality companies due to insiders having a direct stake in their success. The restrictions should be relaxed. Conflicts of interest that arise from such activities can likely be addressed with proper mandated disclosures.

In addition, crowdfunding regulations likely require too much ongoing reporting for certain startups. The rules require that startups publicly file a new form anytime a material update takes place. However, given how often startups make significant changes to their businesses, it seems that filing a new form each time may be overly burdensome and not meaningful to investors. This is because such changes are often short-lived and not related to the long-term success of the startup, despite potentially meeting the legal definition of materiality. The SEC should also permit single-purpose funds to crowdfund and invest as a single shareholder. Single-purpose funds could help startups avoid amassing too many investors to be attractive to subsequent investors. To prevent crowdfunding from being unattractive to startups with

plans of growing large, Congress or the SEC should exempt crowdfunding startups from being required to go public if they have more than \$25 million in assets and 500 nonaccredited shareholders.

A crowdfunding regulatory regime that strikes a better balance between investor protection and innovation is the substantially less restrictive approach of the UK's Financial Conduct Authority.³⁶ In contrast to the SEC regime, the UK regime does not impose numerous specific disclosure or periodic reporting requirements on crowdfunding companies, but rather requires disclosure sufficient for investors to make informed decisions.³⁷ UK crowdfunding portals vet which startups are permitted to use their platform and impose their own disclosure requirements based on the requirements' anticipated costs and benefits as well as demand from investors. Despite the lighter touch of the UK approach, the UK equity crowdfunding market raised approximately £332 million in 2015 without significant fraud.³⁸ Based on the UK experience, it seems that crowdfunding portals can develop investor protection practices without wide-ranging regulation as is the case in the United States.

Marketplace lending would also likely be able to bring more benefits to borrowers with a more streamlined regulatory framework. This could be accomplished through the establishment of a new federal charter for marketplace lenders. The charter would subject the lenders to consumer protection rules and rules designed to limit their systemic risks, while removing the redundancies and operational inefficiencies that result from the current patchwork of rules.³⁹ Currently, to operate legally, marketplace lenders must either obtain a license in each state in which they operate or partner with a federally chartered bank that is already permitted to operate nationally. Neither of these arrangements is optimal. The costs of state-by-state licensing likely outweigh its benefits. In addition, partnering with a national bank may undermine innovation and competition. Marketplace lenders may be constrained by a bank's organizational inertia and its traditional approach to regulatory compliance. Limited opportunities to partner with banks and the costs of doing so may dissuade additional marketplace lenders from entering the market. Like any relatively new and growing industry, marketplace lending can also likely be improved through greater standardization and transparency, as well as broader partnerships and access to data that improves borrower decision-making.⁴⁰ To the extent regulators mandate or facilitate the development of such improvements, the principles identified earlier in this chapter should be followed.

CONCLUSION

The delivery of financial services is undergoing a process of increasing change that benefits society by reducing costs and increasing accessibility. Robo-advisers have brought reduced fees and more transparency to retail investors. Payments technology has made it easier, faster, and cheaper for more consumers and merchants to enjoy the benefits of electronic payments. Online equity crowdfunding and marketplace lending platforms are opening up significant sources of capital to individuals and small businesses. While the US financial regulatory framework has largely enabled these fintech innovations to grow, in certain areas such as equity crowdfunding regulation needs to be less restrictive.

NOTES

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19. First Data Corporation, "First Data Enables Industry Payment."

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22. See Dodd-Frank §§ 1002, 1031, and 1036(a), codified at 12 U.S.C. §§ 5481, 5531, and 5536(a).
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