



CENTER FOR FINANCIAL MARKETS
MILKEN INSTITUTE

FINTECH

Building a 21st-Century Regulator's Toolkit

By Chris Brummer and Daniel Gorfine
October 2014

**FIN
TECH**

FinTech: Building a 21st-Century Regulator's Toolkit

By [Chris Brummer](#) and [Daniel Gorfine](#)

October 2014

In recent years we have witnessed a torrent of technology-driven innovation in financial markets and services. This innovation, in turn, is reshaping how markets are structured, how investors receive and use information, how customers receive and use financial services, and how companies access and deploy capital. Ranging from new digital payment systems and digital or electronic currencies to online investment/finance platforms and data analytics, these developments, collectively called FinTech, are already having an impact on traditional financial markets and services. Less discussed, however, is how

How can regulation best foster the responsible development of the FinTech industry?

the rise of FinTech challenges underlying precepts of existing regulatory approaches and requires fresh thinking as to how regulation can best foster the responsible development of this industry.¹

We tackle some of these issues in the pages that follow. That said, we do not proclaim absolute policy prescriptions, which are rarely possible in a world of dynamic, sophisticated, ever-changing markets. Instead, as we will argue, regulatory policies that match these dynamics with the versatile application of agile approaches and tools, as discussed further below, will more likely ensure market integrity and transparency, investor protection, and capital formation.

With this in mind, this paper outlines characteristics of FinTech that drive the need for new thinking about today's regulatory approaches, and then details the pros and cons of alternative regulatory responses—which themselves can and will be deployed in varying contexts and scenarios.

Rapid change and innovation are already the norm in technology-driven sectors, and perhaps more so in financial markets and services. A failure to account for these trends will result in regulatory frameworks that fall short of their goals, impede positive innovation, and reduce competitiveness of local economies and businesses. The following discussion, which begins with a brief summary of the growth of FinTech, is an attempt to catalyze efforts to provide policymakers with a “toolkit” that can keep pace with FinTech developments.

¹ Chris Brummer, *Disruptive Technology and Securities Regulation*, (working paper, forthcoming, 2015).

FinTech Development

FINTECH: digital payment systems,
digital or electronic currencies,
online investment/finance
platforms and data analytics.

FinTech has experienced dramatic growth in the years following the financial crisis, despite negative economic headwinds. Since 2008, global investment in the sector has tripled, from \$930 million to more than \$3 billion.²

London, New York, and Silicon Valley are the leading hot spots for FinTech development. The US FinTech industry received 83 percent of global investment in 2013, but London is catching up fast.³ In recent months, the UK Government has outlined its approach for promoting its FinTech industry, with Chancellor of the Exchequer [George Osborne championing the campaign](#). Overall, global investment in FinTech is expected to surpass \$8 billion by 2018.⁴

Neat and tidy classifications of FinTech companies are ultimately deceptive, given the increasing convergence in the services they provide, but we can roughly divide the ecosystem into the following four verticals. We list them here to provide context for the different kinds of approaches and tools that this paper will address. Subsequent work will delve more fully into the specific verticals. For our current purposes, they include: (1) digital and electronic currencies, (2) digital payment systems, (3) online finance and investment platforms, and (4) big data analytics. Each of these verticals has experienced significant growth in the past few years, spurred by advances in technology, changing investor and consumer preferences, a shifting regulatory landscape (especially vis-à-vis traditional financial institutions), and renewed efforts—via mobile banking, for example—to provide financial services to the unbanked or underbanked.

(1) Digital and Electronic Currencies: There are [more than 200 digital currencies](#) (independent, non-fiat currencies) in existence, 12 of which have market capitalizations of greater than \$5 million. From bitcoin to litecoin, digital currencies are driving financial disintermediation and offering new peer-to-peer channels for routing payments, even for international remittances. To date, [more than 63,000 merchants](#) worldwide accept bitcoin, with that figure expected to reach 100,000 by year-end; 5.3 million bitcoin wallets are in existence, up from 765,000 users just a year ago. Volatility in price continues to be a source of unease for potential investors and current users, however, as do persistent security concerns and regulatory uncertainty.

Electronic currencies (those tied to a fiat currency and perhaps better considered as money transfer services)⁵ are also experiencing significant growth and, in some cases, bringing greater financial inclusion. For example, Kenya's M-Pesa, a mobile-account system launched in 2007, [now handles transactions responsible for at least 31 percent of the country's GDP](#). In the US, Venmo processed [\\$468 million](#) in peer-to-peer payments in Q2 2014, an increase of 347 percent year-over-year and an amount that exceeds Starbucks' mobile payments program. Similar to the use of virtual currencies, the use of electronic currencies is converging into the next FinTech vertical—payments—by enabling transactions that fall outside the traditional payments infrastructure.

² Julian Skan et al., "The Boom in Global Fintech Investment: A New Growth Opportunity for London," Accenture, March 26, 2014, www.accenture.com/Microsites/fsinsights/capital-markets-uk/Documents/Accenture-Global-Boom-in-Fintech-Investment.pdf.

³ Michael Mandel and Jonathan Liebenau, "London: Digital City on the Rise," South Mountain Economics, June 16, 2014, <http://mikebloomberg.com/files/London-Digital-City-On-The-Rise.PDF>.

⁴ Robert Gach and Maria Gotsch, "The Rise of Fintech: New York's Opportunity for Tech Leadership," Accenture and Partnership Fund for New York City, June 26, 2014, <http://pfny.org/wp-content/uploads/2014/06/NY-FinTech-Report-2014.pdf>.

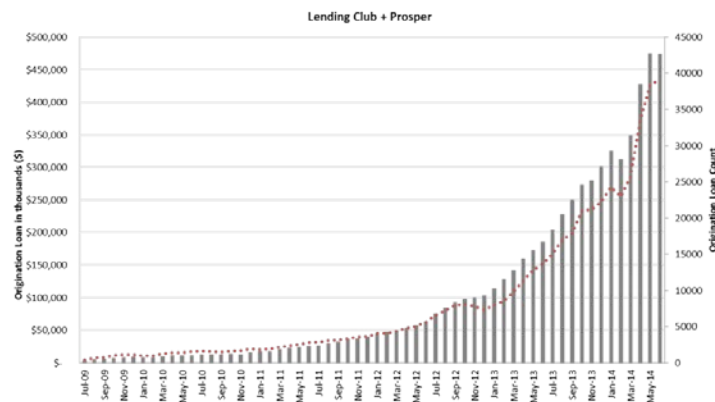
⁵ We are separating electronic currencies here from digital payments in order to distinguish between technologies that are branding their peer-to-peer financial service or product as distinct from what is commonly viewed as traditional payments infrastructure.

(2) Digital Payment Systems: Along with the peer-to-peer models noted above, digital payment systems continue to evolve and transform the way consumers and businesses interact. The recent release of Apple Pay adds another mobile payment-service provider to a list of innovators looking to disrupt the payment marketplace, estimated to top \$700 billion in transactions by 2017. Square expects to transact \$30 billion in payments in 2014 through its mobile hardware, while PayPal transacts roughly \$7,000 in payments *every second*. Notably—and again demonstrating increased convergence driven by FinTech innovation—through their use of data aggregation and novel credit analytics based on transactions, these two companies are now able to enter the small-business lending market by providing customized loans.

Innovations in communicating payments and ensuring the security of those payments are causing rapid shifts in the landscape. Smart chip payment technologies (the dominant set of interoperability standards referred to as EMV, for Europay, MasterCard, and Visa) are driving the need to replace older point-of-sale terminals; and NFC (near-field communication) technologies are similarly allowing mobile devices (such as the new iPhone 6) to communicate payments by placing devices within close proximity of each other. Add to these advances significant innovation with tokenization, whereby sensitive payment or personal data are replaced with disposable proxies, and the stage is set for fierce competition in the payments space with respect to the future of payment communication and authentication systems.

(3) Online Finance and Investment Platforms: Online finance and investment platforms are increasingly challenging the providers of traditional financial services with efficient, low-cost, and user-friendly products and platforms. Companies such as Wealthfront, Betterment, and Acorns, for example, are creating automated financial advisory platforms targeting millennials in a new approach to wealth management. Peer-to-peer lenders, such as Lending Club, Prosper, and SoFi are lending billions of dollars annually to individuals; and online marketplace lenders, including Funding Circle, OnDeck, and Kabbage, are stepping in to provide small-business loans as traditional banks retreat from the space.⁶

Monthly Lending Issuance at Lending Club and Prosper (\$ billions)



Sources: Lending Club, Prosper, www.nickelsteamroller.com, Milken Institute.

⁶ See Karen Gordon Mills and Brayden McCarthy, “The State of Small Business Lending: Credit Access During the Recovery And How Technology May Change the Game,” Harvard Business School Working Paper, July 22, 2014, http://www.hbs.edu/faculty/Publication%20Files/15-004_09b1bf8b-eb2a-4e63-9c4e-0374f770856f.pdf.

Meanwhile, innovative investment and crowdfunding platforms are helping entrepreneurs, startups, and small businesses raise funds online directly from the crowd. Non-financial-return platforms, such as Indiegogo and Kickstarter, have enabled individuals and ventures to raise hundreds of millions of dollars annually, while accredited investor equity investment platforms, including AngelList, CircleUp, OurCrowd, SeedInvest, and FundersClub are democratizing venture capital investment into startups. The NYSE and NASDAQ have also invested in technology-driven private market offering platforms, including Ace Portal and Sharespost, respectively. These developments raise interesting questions around the gradually eroding distinctions between public and private markets.

- (4) Big Data:** Massive data aggregation and analytics are increasingly allowing financial platforms and service providers to offer innovative and low-cost products and services. Proprietary credit risk models, for example, have dramatically reduced the amount of time individuals and small businesses have to wait to access credit, and have expanded the range of potential peer-to-peer investment opportunities, including through Lending Club and Prosper. Similar technologies are enabling the unbanked to access capital. Additionally, algorithmic trading tactics rely on complex data aggregation and analytics. The rising role and importance of data are creating new challenges, however, for regulators and market participants alike, including cybersecurity, personal privacy, and concerns over transparency and insider trading.

Disruptive Characteristics

It is not uncommon for some commentators to invoke innovation as reason to question existing policy frameworks or regulatory models. Frequently, such calls cloak efforts to recast the old models in new trappings that may not warrant serious consideration. When it comes to regulating FinTech, however, a strong case can be made that something is in fact “different” here, and that the existing US regulatory model and rulemaking process needs to adjust accordingly. We are calling for new regulatory approaches and processes that reflect FinTech’s key distinguishing characteristics, noted as follows:

1. ***The Nature and Pace of Innovation and Adoption:*** A key feature of FinTech is the large-scale introduction of technology, technologists, and computer/data scientists to the field of finance. Traditional sectors of the economy rely on human action, organization, and networking to determine the pace of innovation and adoption of new products and services. Technology-based sectors instead appear to innovate in lockstep with exponentially increasing computing power.⁷ This means that software, data gathering, and analytics tools can be deployed through ever-faster computing networks to reach millions of individuals across the globe; it also means that innovators are able to iterate new models, based on feedback loops, at faster rates. Ease and speed of information result in ease and speed of innovation. End-users, meanwhile, can access and adopt these new products and services through the Internet and mobile devices from anywhere in the world.

⁷ Harald Bauer, Jan Veira, and Florian Weig, “Moore’s Law: Repeal or Renewal?” McKinsey & Company, December 2013, http://www.mckinsey.com/insights/high_tech_telecoms_internet/moores_law_repeal_or_renewal. Intel co-founder Gordon Moore set forth what is known as “Moore’s law” in the 1960s, which states “that the number of transistors on integrated circuits doubles every two years.” This proposition, which has held true for the past four decades, has resulted in computing “cost declines, made possible by fitting more transistors per area onto silicon chips, and performance increases with regard to speed, compactness, and power consumption.” These dynamics have collectively enabled “semiconductor-enabled products [to] play [an] integral role [] in virtually every aspect of modern life.” Ibid.

2. **The Disintermediation It Causes:** FinTech platforms and services frequently bypass existing intermediaries or challenge traditional understanding of how such intermediaries serve their purpose with respect to financial markets or financial transactions. In many instances, the *disintermediated* actors served as “traditional gatekeepers that regulatory authorities have increasingly relied on (and regulated)”⁸ since the early 1900s. Identifying the new gatekeepers will be another task for regulators.

Online and peer-to-peer lenders, for example, are stepping into the small-business lending space increasingly vacated by traditional banks, and connecting directly with borrowers. In the context of payments, FinTech companies are experimenting with new ways to communicate payment transactions that fall outside of the existing infrastructure, whether through Square card-swipe technology or mobile-phone messaging systems.

And in other instances, FinTech is challenging our existing notions of old actors: broker/dealers are now creating “crowdfunding” platforms, for example, and are essentially blurring the functional lines distinguishing exchanges and ever-adapting alternative trading systems.⁹ Ultimately, these rapidly changing markets will require careful thinking as they come up against decades’-old regulatory approaches and models.

DISRUPTIVE CHARACTERISTICS:

1. Innovation
2. Disintermediation
3. Convergence
4. Low Costs/Barriers
5. Borderless
6. Democratization

3. **The Industry Convergence It Drives:** Mobile and Internet-based platforms are not tethered to specific industry sectors—indeed, software and the Internet, telecom, technology hardware, and traditional financial institutions¹⁰ are now directly competing to access customers worldwide.¹¹ This convergence of industries raises important questions and challenges for regulators, who must coordinate with other regulatory bodies and can no longer regulate economic activity by focusing solely on the covered entity. Instead, regulators must look at and comprehensively consider *activities* to prevent gaps in regulation. Consider, for example, the recently announced Apple Pay product: has Apple—the quintessential California technology company—[unwittingly become a statutory financial services provider](#) and therefore subject to Consumer Financial Protection Bureau (CFPB) supervision and financial regulation?
4. **Its Low Costs and Low Barriers to Entry:** Unlike traditional financial services providers, who historically required brick-and-mortar offices and significant capitalization to scale their business, today’s FinTech companies can gain adoption from thousands, if not millions, of users from a loft office, with a lean staff, and an Internet connection. This new reality bodes well for the pace and dynamism of innovation, but it presents a unique challenge for regulators, who must calibrate and implement a regulatory framework that does not preemptively stifle innovation, while also ensuring adequate investor or customer protection.

⁸ Brummer, *Disruptive Technology and Securities Regulation*, forthcoming.

⁹ Ibid.

¹⁰ Indeed, in order to keep pace with recent FinTech developments, large banks have been actively creating and promoting FinTech venture funds and accelerator programs, <http://blogs.wsj.com/digits/2014/08/04/banks-lure-fintech-startups-with-venture-funds/>.

¹¹ Daniel Gorfine, “Stuffing money into your digital wallet is getting easier,” *MarketWatch*, June 19, 2014, www.marketwatch.com/story/stuffing-money-into-your-digital-wallet-is-getting-easier-2014-06-19; Daniel Gorfine and John Schellhase, “From Modesto to Mombasa, Tech Is Revolutionizing Small Business Lending,” *Forbes*, Aug. 20, 2014, www.forbes.com/sites/realspin/2014/08/06/from-modesto-to-mombasa-tech-is-revolutionizing-small-business-lending/.

In short, operational barriers to entry may have fallen, but regulatory barriers remain entrenched, creating at times novel challenges for early-stage FinTech businesses. Whereas historically it was reasonable for regulators to assume that a well-capitalized financial institution possessed the ability to invest in regulatory and compliance divisions, such an assumption may not hold for many FinTech startups. Accordingly, if regulators view FinTech innovation as a positive development for consumers and markets, then they will need to look for ways to engage with smaller companies and assist them in their compliance efforts.

5. ***It Uses Borderless Platforms:*** It goes without saying that the Internet does not observe geographic boundaries or borders. Indeed, in line with the concept of convergence, the Internet in effect is creating a single global marketplace, where individuals can engage in all varieties of economic activity. This “Internet of Finance” raises serious questions of federalism and international coordination. Within the US, we are observing increasing duplication, friction, and inefficiency between and among state and federal regulatory schemes that are being applied to Internet or mobile activity. The same issue arises in the global context, where national regimes may conflict and result in inefficient or self-defeating regulatory outcomes. As a result, regulators need to work to rationalize, coordinate, and harmonize regulatory schemes in order to satisfy appropriate regulatory goals.
6. ***The Democratization of Financial and Investment Opportunity:*** Some of the primary benefits of FinTech innovation include decreasing transaction costs, promoting global financial inclusion, and increasing opportunity—all worthy social goals. However, this enhanced interconnectivity can create consumer and investor risks, and with it arises an even greater need for general financial education and understanding. Moreover, not all new technology-powered tools will be used for good or will enhance the public welfare, though differentiating between helpful versus harmful technology frequently proves difficult. Thus, 21st-century regulators must be able to react quickly to market developments that may have significant, immediate impact on millions of people. This will require foresight, flexibility, and frequent coordination, education efforts, and engagement with all market participants.

Considerations for a 21st-Century Regulator’s Toolkit

Given these characteristics of the nascent FinTech industry, the following menu of regulatory approaches, principles, and processes (and accompanying pros and cons) is intended to catalyze discussion of possible new regulatory tools that can be applied as needed to appropriate situations. This discussion is intended to be a starting point for more robust consideration of a modern theory of regulation that can efficiently and effectively satisfy core regulatory objectives:

- ***The Principles-versus-Rules Spectrum/Continuum:*** Commentators frequently seek to classify national regulatory regimes as being either “rules-based” or “principles-based” (PBR). This is an overly simplistic view of regulatory models that has been forwarded by market participants and governmental authorities for their own branding purposes. It impedes productive discussion because it fails to reflect a more nuanced reality in which rules and principles are better considered as forming two ends of a spectrum or continuum along which regulation may fall.¹² On the rules end of the spectrum, regulation tends to be prescriptive and detailed, while on the principles end, regulation is communicated through broad, aspirational, and goal-

¹² Lawrence Cunningham, “A Prescription to Retire the Rhetoric of ‘Principles-Based Systems,’” *Corporate Law, Securities Regulation and Accounting*. Boston College Law School, March 13, 2007, <http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1196&context=lsfp>.

or outcome-focused statements that depend on a range of facts and circumstances for compliance purposes.

Most regulatory systems display elements of both. At times the regulations can be highly detailed. At others, broader statements may be left to interpretation, either by regulated entities or by regulatory and judicial authorities. With this in mind, a more constructive lens with which to view these distinctions is by considering the *objectives* of any regulatory portfolio, and situating them against the *trade-offs* of either regulatory strategy, as illustrated in the following table.

Rules-based Regulatory Regimes		Principles-based Regulatory Regimes	
Potential Positives	Potential Negatives	Potential Positives	Potential Negatives
Certainty and predictability, including with respect to future enforcement	Check-the-box forms of compliance that strategically evade the underlying purpose of the regulation ¹³	Executive-level management involvement in incorporating regulatory principles into business models	Uncertainty and the risk of unpredictable post hoc application or arbitrage
Clear communication of steps for compliance	High internal costs of compliance	Flexibility and innovation in the face of “rapidly changing environments” ¹⁴	Concerns over fairness/bias in application
Ensures specific behavior	Deterrence with respect to innovation	Speed in the regulatory process	Inadequate deterrence of specific problematic behavior or activities
Uniform treatment of regulated entities	Frequent disconnect between the purpose of the regulation and the actual regulatory outcomes	The centrality of guidance and evolving norms/best practices	Over-reliance on current norms and practices
	Obsolescence		

Of course, as mentioned at the outset, rules and principles set the outer limits of a continuum—no rules can exist without overarching principles, and principles are meaningless without rules. That said, depending on a number of factors—including the economic activities or actors to be regulated and the overall risks posed to markets or customers/investors—errring on one side versus the other may be appropriate.

With respect to FinTech, in circumstances where innovation is offering potential benefits to markets and customers, but is not yet well understood, errring on the side of PBR would seem to maximize the benefits and minimize applicable negative trade-offs as the new innovation develops. Once the innovation matures, thereby allowing for learning and analysis, it may become increasingly appropriate to promulgate a larger set of detailed rules that prohibit negative behavior and encourage observed best practices. The key here, however, is to not stunt the development of innovation with non-indicated rules and regulations.

¹³ Ibid.

¹⁴ Ibid.

- **Agile and Iterative Rulemaking:** While management and innovation practices have developed substantially in recent years in response to rapid technological advancement and shifting market dynamics, the same cannot be said about the US rulemaking process. Currently, the standard rulemaking process proceeds accordingly: First, in response to legislation or market developments, regulators and their staff spend considerable time exploring relevant issues and proposing rules; second, the public is given a one-time window of opportunity, typically not exceeding 90 days, to provide regulators with comments on the proposed rules; finally, regulators spend a substantial amount of time reviewing comments and finalizing rules.

Given the fact that this process takes place in a vacuum (meaning without a great deal of real-world application and feedback) and that a rule once finalized is infrequently revisited, the stakes are high for regulators to “get it right.”¹⁵ This added pressure tends to increase the time it takes to implement new rules. The SEC, for example, is running years behind in implementing key portions of Dodd-Frank and the JOBS Act.

Against this backdrop of a glacial, inflexible, and unidirectional rulemaking process, a number of thinkers are proposing alternative processes that are agile, iterative, and results-driven. They rely on measuring outcomes to ensure that regulatory goals and objectives are being satisfied, promote feedback loops, and are predicated on frequent iteration of rules.

One framework, proposed by PayPal, calls for the adoption and application of “[Dynamic Performance Standards](#)” in place of rule-based “design standards” that specify particular business models or approaches. Under this formulation, the combined use of “technology and data with a collaborative and iterative process to measure performance of covered entities [may] creat[e] a better informed regulatory development process.” This model permits innovation by “[f]ocusing on performance rather than design,” measuring agreed-upon outcomes through data analytics, pursuing frequent iteration, and promoting regulatory collaboration with key stakeholders to ensure a well-functioning feedback loop.¹⁶

Similar threads are found in Tim O’Reilly’s work on “[Algorithmic Regulation](#)” and a recent piece from impact-investors at Omidyar Network exploring concepts of “[Lean Regulation](#).” O’Reilly emphasizes the use of technology to constantly measure outcomes, and then iterate rules frequently in order to ensure satisfaction of regulatory goals. For example, as O’Reilly notes, if the twin goals of speed limits are to ensure the safe and efficient flow of traffic, then perhaps digital street signs that change speed limits based on road and weather conditions would most effectively satisfy both objectives.

The Omidyar authors invoke the “[Lean Startup Approach](#)” made popular by Eric Ries, and suggest that regulators should engage with FinTech companies in order to increase learning and understanding of innovations, and then “develop rules based on observed market behavior and [] introduce regulation iteratively (again, taking a ‘lean’ approach). This ‘layering in’ approach can reinforce and encourage an emerging sector, while at the same time still help to catalyze increased competition.” This model is effectively predicated on “experimentation, validated learning, iterative product [or rule] design,” and the creation of feedback-loops.

¹⁵ See Jessica Rosenworcel, “Sandbox Thinking,” *Democracy: A Journal of Ideas*, No. 34, Fall 2014, at www.democracyjournal.org/34/sandbox-thinking.php.

¹⁶ “21st Century Regulation: Putting Innovation at the Heart of Payments Regulation.” PayPal, n.d., <http://www.ebaymainstreet.com/sites/default/files/PayPal-Payment-Regulations-Booklet-US.pdf>.

Agile and Iterative Rulemaking Approaches	
Potential Positives	Potential Negatives
Flexibility and speed in the regulatory process	Uncertainty and unpredictability surrounding frequently changing rules
Facilitation of innovation	Less clarity around timing and involvement of stakeholders in informing the rulemaking process
Frequent assessment of regulatory outcomes	Regulatory costs and resources commitment to ensure frequent outcome monitoring and rulemaking iteration
Frequent engagement and collaboration with key stakeholders	

Ultimately, adapting or incorporating new regulatory processes and approaches will not happen overnight. However, the following bullet points introduce concepts that may provide regulators and FinTech innovators with space to experiment with new approaches to rulemaking.

- **Pilots and Trials:** Elements described in the preceding two bullet points, including PBR policies and outcomes-focused iterative rulemaking, may be applied in the context of pilots and trials. Akin to the FDA clinical trial model built around safely facilitating medical research innovation,¹⁷ financial regulators can similarly approve pilots and trials to test innovation, observe outcomes, and then tailor rulemaking to its most efficient and effective form. Principles can establish outer boundaries and parameters for the pilots or trials, and iterative rules can be tested. This approach allows innovation space to develop, and provides regulators with the space to observe outcomes and test regulatory approaches.

Regulators are already experimenting with the idea of pilots, and positive results should drive increased adoption. For example, the SEC is working to finalize a “[Tick Size Pilot Program](#)” that “will allow the Commission, market participants, and the public to study and assess the impact of [minimum] increment conventions on the liquidity and trading of the common stocks of small capitalization companies. To do so, the Plan provides for the widening of quoting and trading increments for a group of Pilot Securities.” This innovative pilot program is expected to run for 12-months, and potentially drive broader changes to existing securities rules. Similarly, the CFPB, is encouraging FinTech innovators [to pitch pilot programs or novel disclosure trials](#) in order to meet its goals of enhanced consumer protection.¹⁸

¹⁷ See Brummer, *Disruptive Technology and Securities Regulation*, forthcoming; see generally Eric. A. Posner and Glen E. Weyl, “An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to 21st Century Financial Markets,” June 4, 2012, *Northwestern University Law Review*, Vol. 107, forthcoming; University of Chicago Coase-Sandor Institute for Law and Economics, Olin Research Paper No. 589; University of Chicago, Public Law Working Paper No. 382. Available at SSRN: <http://ssrn.com/abstract=2010606> or <http://dx.doi.org/10.2139/ssrn.2010606>.

¹⁸ See also Jessica Rosenworcel’s description of an innovative FCC licensing regime seeking to promote testing and innovation, “Sandbox Thinking,” *Democracy: A Journal of Ideas*, at www.democracyjournal.org/34/sandbox-thinking.php.

With respect to the disclosure trial, the CFPB asks innovators to:

Design an innovative disclosure and/or way of delivering a disclosure that isn't allowed under existing regulations. Apply for a waiver to try out your idea and measure how well it works. Each trial will be specific to the approved companies for approved disclosures and have safeguards to protect against consumer harm.

CFPB and SEC efforts to implement pilots and trials are laudable, and will, we hope, yield positive outcomes. Yet given significant delays at the SEC in implementing, for example, Title III of the 2012 JOBS Act—which legalizes securities crowdfunding—one can wonder whether a more nimble pilot model would have enabled securities crowdfunding to go live faster, while also providing regulators with real-world market feedback critical for informed rulemaking.

Pilots and Trials	
Potential Positives	Potential Negatives
Speed and flexibility	Uncertain medium- to long-term regulatory outcomes that may limit industry participation, thereby undermining the validity of the pilot/trial
Decreased pressure on regulators to create final rules in a vacuum	Pilot or trial outcomes may be biased or limited by pilot/trial design and parameters
Measurable outcomes that can inform final rulemaking	Regulatory costs and resources commitment to design, monitor, and analyze pilots and trials
Broader stakeholder collaboration	

- **Engagement versus Enforcement:** In many cases, an inherent ambiguity exists as to whether and how a rule should be applied to particular conduct or activities. Across regulatory jurisdictions, two broad responses are evident. One relies on enforcement backed by judicial process to shape and elaborate the parameters of acceptable conduct. Another relies on proactive engagement with regulated entities in ways that allow regulators to steer market participants along and ensure that all conduct is within permissible bounds.

While regulators have made some progress in pursuing engagement and rulemaking over enforcement in the courts, we would argue that the latter, “policy-making by adjudication,”¹⁹ continues to be a prevailing thread running through the US regulatory system. This approach is not always unwarranted. In some instances, it serves as an important deterrent to actors who may seek to avoid or skirt the objectives of a particular regulatory policy. At the same time, however, the constant threat of enforcement can deter resource-constrained FinTech companies from innovating for risk of falling afoul of hazy or unclear regulatory goalposts. And for those companies that do enter the market, there remains a real risk of noncompliance precisely due to their limited resources and the pervasiveness of regulatory ambiguity.

¹⁹ Cass Sunstein, “Democratizing Regulation, Digitally,” *Democracy: A Journal of Ideas*, No. 34, Fall 2014, at www.democracyjournal.org/34/democratizing-regulation-digitally.php.

Approaches that encourage engagement, on the other hand, may facilitate FinTech innovation and compliance, as well as effective oversight. By engaging companies as they develop their business models, regulators can create a positive feedback loop with market participants that help both make wiser decisions. The UK is taking a leading role by promoting engagement and collaboration with FinTech companies through its [Project Innovate](#). This initiative of the UK financial regulator—the Financial Conduct Authority, or FCA—is focused on helping FinTech companies navigate the regulatory landscape, establishing a dedicated contact channel to ensure clear communication, and working to develop harmony between innovation and sound regulation. Based on anecdotal feedback,²⁰ initiatives like this foster an engagement culture within the regulatory system rather than one defined by industry avoidance.

In the US, some regulators are experimenting with programs similar to Project Innovate. The CFPB’s Project Catalyst, described above, is also looking to engage with industry and collaborate on ensuring responsible innovation. Such programs hold promise, though likely will need to be applied across agencies to ensure a harmonized approach to engaging with FinTech companies. This need for cross-agency task forces and collaboration is crucial, given the fragmented nature of financial regulation across disparate federal and state regulators.

Engagement Approach to Regulation		Enforcement Approach to Regulation	
Potential Positives	Potential Negatives	Potential Positives	Potential Negatives
Clear and open communication channels between regulators and covered entities	The perception of overly close ties between regulators and covered entities	Deterrence of risk-taking activities	Innovation deterrence
Increased industry willingness to pursue innovation	The risk of biased or disparate treatment of favored covered entities	Clear separation of regulators and covered entities	Industry avoidance of regulators
Greater regulatory flexibility and adaptability	Potential lack of process transparency	Judicial/adjudicatory review and interpretation of rules	Increased legal and regulatory compliance costs

- ***The Role of Industry and Consumer/Investor Advocates:*** Many of the approaches and concepts described in this paper include the notion that interested public groups, including market participants and consumer/investor protection advocates, could play a larger role in the rulemaking process through engagement with regulators. Although such participation at its extremes can facilitate “ideas capture,” in which regulators begin to identify too closely with the firms they are tasked with monitoring, it can and inevitably does aid regulators who frequently scramble to keep up with the accelerating pace of innovation and who face the unenviable task of assessing the potential consequences of any new regulatory response. Thoughtful and balanced public participation can accordingly be a valuable addition to the rulemaking process.

²⁰ Katrina Bishop, “London bank scandals aid ‘FinTech’ dominance,” June 25, 2014, www.cnbc.com/id/101787843.

Even here there are opportunities to innovate. The current notice-and-comment approach to US rulemaking encourages public participation *before* a rule is finalized. But even after rules are adopted, it is important to maintain feedback loops between the market participants and regulatory analysis. Market participation should not end once comments are given; and regulators should not cease to supervise and adapt once they write rules.

One can imagine a more modern informational infrastructure for ongoing policy refinement. Comment letters could adapt to the digital age and allow participants to “like” aspects of policy proposals in the way one sees with Facebook and other social media. And financial regulators could be given a space to comment on aspects of alternative regulatory suggestions beyond no-action letters, formal guidance, or FAQs; they could, for instance, endorse or confirm consumer/industry guidance as “promising” or “worthy of elaboration.”²¹

Industry or Public Regulatory Engagement	
Potential Positives	Potential Negatives
Help for regulators in understanding and regulating fast-changing and complex markets	The perception of overly close ties between regulators and covered entities
Increased reliance on collaborative models that generate industry/public buy-in	Increased focus on efficiency at the expense of investor or consumer protection
Integration of an institutionalized feedback loop predicated on regulator-confirmed guidance	Increased role of industry groups and associations

- **Sunset Provisions:** Designing and implementing an agile, iterative rulemaking system may take time, though there are tools policymakers could use to incorporate central aspects of such systems. Sunset provisions require policymakers to revisit the costs and benefits of a particular rule before it sunsets, or expires, creating a feedback mechanism that can inform amendments or re-authorization. Typically a rule does not sunset for a fairly extended period of time, which allows for measurable outcomes and an opportunity to assess whether changed circumstances require a different regulatory course of action.

Sunset Provisions	
Potential Positives	Potential Negatives
Likely review of regulatory outcomes	Significant burden on regulators to frequently revisit and/or re-authorize expiring rules
Automatic elimination of unnecessary or ineffective rules	Greater regulatory uncertainty given a shifting landscape
Sufficient certainty to foster market development and/or industry investment (assuming the sunset term is fairly extended)	Decreased incentive for regulators to review or revisit a poorly performing rule

²¹ In the UK, for example, regulators do go an important step further and may in fact “confirm” industry-proposed guidance. Additionally, regulators make clear that unless industry-led guidance includes the perspective of consumer or investor protection advocates, it is far less likely to win confirmation. Ultimately, the confirmed guidance incentive to public engagement and participation can create a very different kind of regulatory system, built on trust and collaboration. See, e.g., The Financial Conduct Authority, “Industry Guidance,” <http://www.fca.org.uk/firms/being-regulated/meeting-your-obligations/guidance/industry-guidance>.

- **State, Federal, and International Harmonization:** The Internet does not recognize traditional geographic boundaries—a reality that is creating challenges for legal and regulatory regimes around the world, as well as for the companies required to navigate them. Indeed, many companies, especially those providing goods or services through the Internet, are required to comply with a maze of local, national, and international rules and regulations that are frequently duplicative, inconsistent, and/or fragmented. Not only does such disharmony result in substantial compliance costs for covered entities, but regulatory gaps and inconsistencies between rules can hinder investor/consumer protection.

Examples of inefficient regulation of FinTech abound in the United States. For example, online peer-to-peer or marketplace lenders face state-by-state registration and disparate regulation of lending rates and practices. Similarly, fledgling virtual or electronic currency companies may be regulated on a state-by-state basis as money transmitters. Digital and mobile payment providers, meanwhile, face a patchwork of state regulation, as well as federal regulation spread out among a number of agencies.²²

While local regulation of financial markets and services has its benefits, including unique knowledge of local market participants, such regulation should be harmonized and rationalized with other state, federal, and even international regulations to the fullest degree possible. Duplication and unnecessary inconsistencies between regulatory regimes needlessly raise compliance costs, and do little to protect investors and consumers.

Regulatory tools that can mitigate such friction include appropriate exercise of federal preemption, state-coordination and adoption of uniform rules, and regulatory taskforces. If the need for local “boots on the ground” is not compelling, then federal lawmakers may do well to consider preempting the states in order to promote efficient and uniform regulation. When, alternatively, there is sound reason for local regulation, then states could coordinate regulation by adopting largely uniform rules. Finally, taskforces comprised of local, national, and international regulators should meet frequently to ensure that regulation is not needlessly duplicative or riddled with gaps that undermine regulatory objectives.²³

Regulatory Harmonization	
Potential Positives	Potential Negatives
Increased efficiency	Decrease in regulatory innovation and competition
Elimination of regulatory gaps	Elimination of a “second set of eyes” and “regulatory portfolio diversification”
Greater cross-regulator collaboration and communication	Decreased accountability for local regulators

²² Susan Pandey, “Update on the US Regulatory Landscape for Mobile Payments: Summary of Meeting between Mobile Payments Industry Workgroup (MPIW) and Federal and State Regulators, May 7, 2014,” Federal Reserve Bank of Atlanta, Federal Reserve Bank of Boston, August 18, 2014, www.bostonfed.org/bankinfo/payment-strategies/publications/2014/summary-of-mpiw-meeting-may-2014.pdf.

²³ Ibid.

As this paper highlights, technology is not only driving rapid change in financial markets and services, it is creating new challenges for regulatory frameworks often developed under very different circumstances and at very different points in time. The novel features of FinTech innovation will, as a result, require a re-thinking of how we approach regulation and the processes we apply to rulemaking.

This paper has initiated such a project by outlining some of the avenues available to financial authorities seeking to keep pace with innovation, to measure and ensure regulatory objectives, and to react with agility and flexibility to fast-moving markets. In deploying these tools wisely, creatively, and in smart and new combinations, regulators will find an expanding world of opportunities in which to promote efficient markets while ensuring that individuals and society at large benefit from the innovation reshaping the global economy. It is easier said than done, but not impossible—and the first step begins with appreciating the dynamism and impacts of the new technologies driving today's markets.

#

About the Authors

Chris Brummer is a senior fellow at the Milken Institute's Center for Financial Markets and a professor of law at Georgetown University. An expert in international financial regulation, he lectures widely on securities and banking supervision. Brummer has also taught at Vanderbilt Law School, the University of Basel, the University of Heidelberg, and the London School of Economics. Before becoming a professor, he practiced law in the New York and London offices of Cravath, Swaine & Moore LLP. His research has appeared in a number of prestigious journals, and in 2013 he was appointed to a three-year term on National Adjudicatory Council of the Financial Industry Regulatory Authority (FINRA). Brummer's most recent book is *Minilateralism: How Trade Alliances, Soft Law and Financial Engineering are Redefining Economic Statecraft* (2014). He holds an AB from Washington University, a JD from Columbia Law School, and a PhD in Germanic studies from the University of Chicago.

Daniel Gorfine is director of financial markets policy and legal counsel in the Washington office of the Milken Institute. He focuses on financial innovation, capital access, and financial market issues and spearheads the Milken Institute's work on innovative capital access tools and new financial technologies. He has provided expert testimony before Congress, frequently engages with policymakers and market participants, and is a national media contributor on these topics. Before joining the institute, Gorfine worked at the international law firm Covington & Burling LLP, where he advised and represented a range of business and nonprofit clients on commercial litigation/arbitration, regulatory, antitrust, and international matters. A graduate of Brown University, he holds a juris doctorate from George Washington University Law School and a master of arts from the Paul H. Nitze School for Advanced International Studies at Johns Hopkins University.

Acknowledgment

The authors thank Jackson Mueller, Milken Institute policy research analyst, for his research and contributions to this paper.