

Michelle W Bowman: Innovation in the financial system

Speech by Ms Michelle W Bowman, Member of the Board of Governors of the Federal Reserve System, at the Salzburg Global Seminar on "Financial Technology Innovation, Social Impact, and Regulation: Do We Need New Paradigms?", Salzburg, Austria, 17 June 2024.

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It is a pleasure to be back in Salzburg again for the next chapter in the Global Seminar, focusing on financial technology innovations and the developing financial regulatory framework.¹ At this same gathering last year, we discussed the potential evolution of the bank regulatory framework in response to the banking stress during the spring of 2023. At that time, we were taking stock of the regulatory reforms implemented after the 2008 financial crisis and evaluating whether those reforms-and the resulting bank regulatory and supervisory framework we have now-were effective and efficient, and whether improvements may be appropriate. Of course, many of those conversations are ongoing in the United States, with proposals-in varying levels of formality-under discussion, including new and expanded long-term debt requirements for non-global systemically important banks (G-SIBs), new liquidity requirements, and a host of other supervisory and regulatory reforms. These are in addition to other regulatory reform matters, including Basel III capital reforms and changes to the G-SIB surcharge framework, that are not directly related to the 2023 banking stress.

Policy reforms in the United States, at times and to varying degrees, have arguably suffered from a lack of appropriate prioritization and focus.² This trend has been evident recently, when one considers the sheer volume of reforms that have recently been completed, that have been proposed, or that are in the pipeline. Often shortchanged in the rush to implement reforms are considerations of effectiveness and efficiency-effectiveness in addressing identified shortcomings, and efficiency in providing solutions that address these shortcomings without imposing unnecessary costs or compliance burdens or resulting in unintended consequences.

While much of the reform agenda in the United States has been focused on the response to the 2023 banking stress, in my view, we also need to consider whether we have an appropriate bank regulatory and supervisory framework when it comes to innovation. So, today I would like to discuss how we can create a regulatory environment that fosters successful innovation. I will focus my remarks on the United States, specifically innovation within the "regulatory perimeter" in which regulated institutions-banks, holding companies, and their affiliates-operate. However, I think this approach has broader relevance for how regulation can more effectively support and promote innovation, including internationally.

The implications of our regulatory approach go beyond just the banking system. A reflexive "no" from regulators can encourage activity to migrate out of the banking system. The result could be decreased transparency, lower regulatory standards, and increased risks to financial stability. We tend to think that the "stakes" are confined to a particular technology or innovation, but this is a misleading approach. Instead, we should adopt a broader approach that considers financial system stability. To implement

a successful "same activity, same risk, same regulation" approach requires either broad-based legislation to coordinate these standards or an effective interagency approach that incorporates regulators beyond traditional banking regulators.

Benefits of Innovation

In my experience, regulators love innovation-in the abstract. The idea of innovation is an alluring one. Among other things, innovation can help develop a faster and more efficient banking and payments system, it can lower the cost and expand the availability of products and services to consumers and businesses, it can improve the speed and reduce counterparty risk of securities transactions, and it can promote market competition.

And we see evidence all around in the banking system where innovation has had transformative effects: we have automated teller machines (ATMs) that allow ready access to cash and basic account services, we have the ability to make electronic payments at merchants both in-person and online, and almost every bank customer can access their bank account or transfer money to a friend by using only their mobile phone. When innovation becomes commonplace, and with the passage of time, we lose sight of the long and sometimes tortured road these innovators traveled to introduce and embed them into customer expectations for banking services.

I see a common theme between innovation as an abstract idea and "established" innovation that has become the new norm in the financial landscape-namely, that neither of these versions force us to confront the risks of the unknown. The abstract version does not force us to confront its practical implications, including: How does it work? What benefits could it bring? What risks does it present, and how will those risks be managed? Similarly, by the point at which the innovation becomes widely adopted and accepted, hopefully we have done the difficult work. We have come to understand the challenges it presents and have accepted the tradeoffs between the benefits, and the associated risks and costs, of allowing the new technology or process improvement to be introduced into the banking system.

When we think about the abstract, or look back on successful innovation, we lose sight of the unique path forged to ensure its success. Many of the technologies that we will discuss during this conference have the potential to bring benefits, including greater efficiency to banking and payments. So how do we create an environment that allows innovation to flourish and in which regulated banking institutions are able to play a role? In the past I have spoken about three principles that I believe are necessary building blocks to fostering innovation: developing an understanding of the technology, having an open approach to innovation, and making innovation a priority in the development of regulatory frameworks.³ I would like to revisit these principles today.

Understanding Innovation

As a threshold matter, regulators and innovators share some responsibilities when it comes to innovation. Regulators must work hard to understand the functionality of new innovation, including the benefits innovation can bring and its accompanying risks. Regulators must not fall into the trap of complacency. Comfort with the known and familiar risks of how things have always been done can present a barrier. Regulators

must be willing to thoughtfully consider the possibilities of innovation within the regulated banking system.

At the same time, innovators must be committed to sharing their understanding and knowledge of innovation with regulators. But in doing so, innovators must not adopt the "sales" mentality that they may use when pitching investors or partners, and instead, acknowledge the unknowns-the risks that new technology presents, the various ways that the technology could be used or evolve over time, and how the technology could either complement or disrupt the current financial system. Going a step further, they may be best positioned to propose how regulators can best develop a regulatory framework to manage these risks.

This deeper level of understanding may assist regulators in their responsibility to consider how innovation could impact different financial sectors, from small banks to wholesale financial markets, and how those impacts may ultimately affect end users. Of course, regulators must also consider not only the intended objectives of innovation, but they must also anticipate and understand the unintended consequences.

Within the broad category of "understanding" innovation, I see three critical steps that regulators must take: understand the technology and landscape, recognize the use case for the technology, and anticipate the consequences. Each of these is a necessary ingredient for accepting the technology and developing a regulatory framework that effectively fosters innovation.

Understanding technology and the landscape

At its most basic level, many innovations involve a technological component and are situated in a landscape of different parties who may play a role in the use of the technology.

Take for example, distributed ledger technology (DLT), including blockchain, which is the backbone of some innovations that are being explored in the financial system. DLT highlights the challenges presented to regulators in understanding innovation. There are many variations in the application of DLT-with ongoing research and development creating more variability over time-which ultimately may complicate understanding how the technology can be used and how different functionality can be incorporated into DLT solutions for different use cases. DLT provides a way for parties to record transfers of digital assets without the need for any centralized authority and relies on multiple participants who coordinate to maintain a synchronized version of the "ledger." DLT combines a number of different design elements-like distributed data storage, cryptography, and consensus mechanisms-that support the transfer process, information visibility, and transaction recordkeeping. These design elements can be combined in a number of different ways, and different parties may play a role in its ultimate use.

Understanding technology is an important first step, but regulators also need to be confident in the players who operate in a particular innovative space. Banks of all sizes have a long history of innovation. And the many nonbank providers in this space, including core service providers, often hold the "keys" to innovation when they facilitate the add-on of new technology to core systems. There are also fintechs that may focus on even more transformational uses of technology, in ways that can affect all aspects of

banking. Many of the parties involved in financial innovation describe themselves as financial system "disruptors." This may be an apt word to describe some of their ambitions, but it is certainly one that proves the need for a deliberate and cautious approach to regulation. The broad range of participants involved in this space presents another layer of complication. It is especially important for regulators to be able to distill the reality from the prototype hype to achieve a comprehensive understanding necessary to inform a policy viewpoint and ultimately an effective regulatory framework.

Understanding the use case

Apart from understanding the technology, and who may use it, regulators also need to clearly understand the use case—what existing problem does this technology solve? What are the costs and benefits, and are there tradeoffs policymakers would need to consider if the new technology were introduced or integrated in the existing financial system? DLT has inspired new ways of thinking about the exchange of assets and data, in addition to the role of intermediaries and trusted third parties. And of course, as will be discussed during this conference, artificial intelligence, or "AI," is increasingly discussed for its transformative potential not only in banking, but also in the broader world economy.

While innovation can take many forms, from the regulatory perspective, it is helpful to understand how innovation fits—or could fit—into the existing financial system. Does innovation meet customer demands for cheaper or new and innovative products? Does it operate in the background to reduce both the incidence and cost of fraud? Does it lower the cost of basic banking services or improve financial inclusion? Does it allow banks to do a better job evaluating the creditworthiness of their customers and make safer loans?

The "use case" is important because it helps to define the parameters around any particular innovation. Instead of saying the innovation is AI, or tokenization, or DLT, what is it exactly? How does it work? What technology underpins it, and what constraints would be placed on its use? Does its implementation rely on external participants or third parties to accomplish its use? Who has ultimate control over, and responsibility for, the function of the product or service?

Understanding the consequences

While understanding both the technology behind a new innovation and its use case is important, these steps alone are not sufficient. Regulators must also understand, to the extent possible, the consequences of specific innovations. Take, for example, the increasing interest in tokenization. There is a risk that tokenized products and platforms could duplicate existing bank deposits and payment rails, potentially creating parallel systems. How would these parallel systems interact with, or even replace, current systems? Will the products and platforms that duplicate these deposit and payment functions provide the same legal protections for customers and the overall financial system that they currently receive? In the long run, the goal of financial innovation is to integrate the new technology into the fabric of the financial system. To do so in a responsible way, we need to understand the effects the technology will have, including the risks and consequences of introducing it, and the risks and consequences of its wide adoption in the financial system.

It is not my intent to downplay the difficulty of understanding new developments that could change key activities, technology, products, or processes within the financial system. We are in an era of rapid change, and there are a wide range of innovations that may play an important role in the future of the financial system. But within the regulatory perimeter of the banking system, we need to be cautious about the risks of new technology, not only to the safety and soundness of individual financial institutions, but also to financial stability concerns.

Openness to Innovation

Earlier I mentioned the importance of ensuring the regulator understands the new technology. But while education is an important first step, it often runs headlong into regulatory skepticism. Often, a regulator's first reaction to proposed innovation in the banking system is not one of openness and acceptance but rather suspicion and concern. The use of emerging technology and innovation may require a change in policy or supervisory approach. It also very often requires regulatory feedback-ideally before the innovation is introduced or after it has been integrated by a bank and is reviewed during the supervisory process.

To be sure, skepticism is an understandable first reaction to new activities, particularly those that someone seeks to conduct within the regulatory perimeter after its integration. For regulators, the challenge is one of balance. How do we allow innovation to flourish, with sensible supervision and regulation, so that our financial system can reap the gains of innovation while preserving safety and soundness and consumer compliance?

Regulators need to ask whether we have considered the intended and unintended outcomes of a new innovation, and do the benefits of the new technology outweigh its risks? Would the introduction of a new technology or innovation in the banking system require updating our regulatory framework to incorporate clear oversight? Who should have responsibility for oversight, and what roles do we see for different regulators at both the state and federal level?

Transformational technology requires clear, consistent, and transparent guardrails and expectations to govern the activities that are allowed into the regulated financial system. Where current regulation does not contemplate a new activity, should it be acceptable for financial agencies to regulate the activity through supervision and enforcement alone? Or should congressional action address the treatment of these activities in the financial system?

I think it is vital that regulators work with banks through all stages of the innovation life cycle to achieve that baseline understanding I mentioned before. But it is incumbent on regulators to fight the temptation to say "no" and resist new technology and instead focus on solutions-how can we mitigate the risk of new technology? What benefits will technology bring to the financial system? How can we provide clear regulatory expectations?

I would suggest that adopting a posture receptive to innovation requires a shift in regulatory approach. The current temptation is to pre-judge financial innovation and to

take a harsh view. But this resistance approach carries significant risks. One of the most important risks is that financial innovation stagnates or is pushed out of-and kept out of-the banking system. Eliminating innovation could result in significant harm to the stability of the financial system and in terms of limiting the role of banking in the economy. Ultimately, this approach could lead to a banking system that may be safer and smaller but also much less effective in providing banking products and services to support the U.S. economy.

In developing this regulatory "openness," I think it is important to acknowledge the shortcomings of our regulatory posture. This requires looking beyond the most immediate impacts on the banking system and considering the broader effects on the financial system. Hostility to innovation *within* the banking system often results in activity migrating *outside* of the banking system. This is not an elimination of the underlying risk of these activities. They remain in the financial system but are often subject to less transparency and less regulation than the same activities conducted by banks. There have been a number of examples in which regulatory approach has driven activity outside the banking industry, thereby creating different and less transparent risks.

Take for example mortgage servicing rights. In May, the U.S. Financial Stability Oversight Council released a report on nonbank mortgage servicing, documenting the growth of nonbank mortgage servicing since 2008, and the potential vulnerabilities that these servicers pose, vulnerabilities that could manifest as shocks to the U.S. financial system. As noted in the materials announcing this report, nonbank mortgage companies had servicing rights on 4 percent of U.S. mortgage balances in 2008; by 2022, this percentage had risen to 54 percent.⁴ The rapid shift of such activity out of banks and into nonbank mortgage companies should surprise no one, as this was a predictable result of post-2008 regulatory reforms that made it more costly for these activities to be conducted by banks. But equally unsurprising (in my view) is that this shift did not insulate the U.S. financial system from the risks of these activities. The U.S. mortgage industry in the United States is very large-shifting which entities are favored to conduct these activities merely transferred the risk to less-regulated entities. The mortgages did not disappear, nor did the underlying activities necessary to support this market.

Innovation as a Priority in the Regulatory and Supervisory Agenda

Financial innovation must be a core regulatory priority, in the sense that we must devote regulatory and supervisory resources and attention to building a framework that permits responsible innovation to flourish. Our approach must shift from reactive to active and one that facilitates innovation. Regulators must also promote innovation through transparency and open communication, ideally demonstrating a willingness to engage during the development process and within a restricted environment for experimentation.

Shifting to a more tangible example, in some instances there are policy reasons for regulatory hesitation. In the past, I have spoken about cross-border payments as one area that has historically presented many frictions that, at least in theory, could be improved with new innovations and technology. This challenge involves achieving the goal to serve new types of customers and increase the speed of payments without

losing or diluting important compliance safeguards that deter criminal activity. Some perceived payment frictions exist for specific policy reasons, not because of issues with existing technology. Therefore, new technology alone cannot solve a particular issue unless it also incorporates the required safeguards.

The challenge is not just understanding innovative solutions to address cross-border payments, but also understanding how the framework itself could or should adjust in the face of innovation. Regulators can serve a valuable role in identifying where a technology solution may have an important "gap," as in the case of cross-border payments, by identifying how a solution can meet the needs of both customers and regulators. Innovation and regulatory and legal requirements can coexist-providing both enhanced capability and regulatory compliance. Transparency itself can promote innovation.

Our goal should be to develop-and continually invest in-building and supporting a clear and sensible regulatory framework. One that allows the private sector to innovate while also maintaining appropriate safeguards. A clear regulatory framework supports private-sector innovators by providing the clarity and consistency that encourage long-term business investment in pursuing innovation, while continuing to support today's products and services. A clear regulatory framework empowers supervisors to focus on safety and soundness, while also ensuring a safe and efficient payment system.

The best way to build a regulatory system that is receptive to new financial technologies and innovations is to build on what has been effective in the past. This includes providing clear guidance to banks and the broader public, incorporating innovation into the regulatory agenda in a comprehensive way, and encouraging interaction between industry and regulators. This industry–regulator interaction must allow for feedback and information sharing throughout the innovation life cycle and incorporate regulatory feedback on innovation.

There is more that can be done to accomplish this. While we should expand opportunities for regulators to provide clear, actionable, and timely feedback on innovation proposals, we should also consider developing regulatory "sandboxes," those designed to allow some degree of testing and experimentation. We should also ensure our regulatory staff understands and appreciates the value of responsible new technologies, so they may contribute to crafting a sensible regulatory approach to financial innovation. The more that regulators understand innovation, the more comfortable they will be in accepting and promoting its adoption in the financial system.

As part of this framework, we also must consider the broader financial system. The "regulatory perimeter" between regulated banks and other parts of the financial system is a permeable barrier, and not only can activities shift between the two-as we saw with the migration of mortgage servicing in the United States-but *risk* can shift between the two as well. As our financial system has grown and become more complex over time, it has also become much more interconnected. Banks often have direct exposure to activities and risks that occur in other parts of the financial system. Even when they do not have direct exposures, they may have indirect exposures to financial stability risks originating in other parts of the financial system.

Closing Thoughts

The most unfortunate approach to innovation would be to simply prohibit it, or to impose such onerous standards that effectively discourage innovation or prevent it from developing and flourishing. This approach would not only decrease the importance and relevance of the banking system, but it could also generate new financial stability risks as activity migrates to areas with lower regulatory standards and less transparency. Broadly speaking, the regulatory framework should be dynamic, one that can and should accommodate new technology and services. Where the same underlying activity presents the same risk, there is a strong case to be made for imposing the same type of regulation. But we must successfully balance the standards that protect households and businesses and prohibit criminal and other illicit financial activity with maintaining the safety and soundness of individual financial institutions and the stability of the broader financial system. We must also prioritize working on a whole-of-government approach to ensure we appropriately monitor and manage the risks of financial activity, no matter where those occur. As we continue to enhance our understanding, my hope is that we can strike a more receptive tone to financial innovation, in a way that enables a more innovative, efficient, and effective financial system for the future.

¹ The views expressed here are my own and not necessarily those of my colleagues on the Federal Open Market Committee or the Board of Governors of the Federal Reserve System.

² See Michelle W. Bowman, "[Remarks on the Economy and Prioritization of Bank Supervision and Regulation \(PDF\)](#)" (speech at the New York Bankers Association's Financial Services Forum, Palm Beach, Florida, November 9, 2023); Michelle W. Bowman, "[Reflections on the Economy and Bank Supervision \(PDF\)](#)" (speech at the Florida Bankers Association Leadership Luncheon Events, Miami, Florida, February 27, 2024); Michelle W. Bowman, "[Reflections on the Economy and Bank Supervision \(PDF\)](#)" (speech at the New Jersey Bankers Association Annual Economic Leadership Forum, Somerset, New Jersey, March 7, 2024).

³ See Michelle W. Bowman, "[Innovation and the Evolving Financial Landscape \(PDF\)](#)" (speech at The Digital Chamber DC Blockchain Summit 2024, Washington, D.C., May 15, 2024).

⁴ See U.S. Department of the Treasury, "[The Financial Stability Oversight Council Releases Report on Nonbank Mortgage Servicing](#)," press release, May 10, 2024.