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SPEECH

Welcome Remarks at First New York Fed Fintech Conference

March 22, 2019

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Remarks at the First New York Fed Fintech Conference, Federal Reserve Bank of New York, New York City
As prepared for delivery

Good morning and welcome to the first *New York Fed Research Conference on FinTech*.

It is exciting to see all of you in attendance today including the many scholars, industry participants and colleagues from the official sector who have joined us to further our understanding of the impact, implications, and direction of financial technologies. Thank you for helping us to broaden and deepen this important dialogue.

The conference agenda covers a number of relevant topics for economists interested in fintech, which I think of simply as the intersection of finance and technology. Today's agenda includes changes in credit allocation, the role of blockchain and tokens in payment systems, and the use of machine learning for evaluating regulation. These are all important issues.

Before proceeding, let me emphasize that the views I express are my own and do not necessarily reflect those of the Federal Reserve Bank of New York or the Federal Reserve System.

I have a long interest in technology, particularly how it affects economic growth, productivity, and welfare. I started my career as a research economist studying the impact of information technology on U.S. productivity and economic growth.[1] As you know, a core belief among economists is that technological progress is a fundamental driver of economic growth and improvements in consumer welfare. We see that in the "great inventions" of the late 19th century such as electricity and the internal combustion engine,[2] and more recently in the impact of information technology.

My view as an economist is that technological progress is generally good for an economy. That is not to say that there aren't adverse consequences and risks that need to be addressed. Recent studies, for example, have questioned whether the increasing use of digital technologies, robotics and artificial intelligence may lead to a decline in the compensation of workers or employment.[3] Research suggests that productivity could grow about 2 percent annually over the next ten years, with about 60 percent of this growth coming from digital opportunities.[4] This will likely lead to some disruptions and reallocations with new winners and losers among corporations, workers, and households.

Focusing on a single industry, the financial sector has long benefited from technological innovations—think about the automated teller machine, practical applications of asset pricing models, and credit-scoring technologies that have been around for decades. But, the pace of technological change seems to be accelerating as financial firms embrace more sophisticated predictive algorithms, develop new products and consumer interfaces, and leverage new tools such as cloud services. One survey suggests that banking firms are more concerned about the speed of technological change than any other sector.[5]

This is relevant to me because, in addition to being a recovering economist, I am now a supervisor of financial institutions. My perspective as a supervisor is that implementing innovations, while generally beneficial, can introduce new risks and add complexity. These risks need to be understood and managed. Moreover, in addition to deciding how to implement and manage new digital strategies, financial institutions must also re-evaluate legacy systems, organizations, risk management frameworks, and skillsets.

The Federal Reserve has long taken a risk-focused supervisory approach with the understanding that the level of scrutiny should be commensurate with the level of risk. Each type of fintech innovation poses its own set of risks and supervisors can look at these changes through a familiar risk framework focused on things like credit, operational, reputation, or strategic risk.

Operational risk, for example, could increase with high-frequency trading, system integration, or cyber events. Partnerships with new fintech firms or third-party service providers could increase reputation risk. The potential for new entrants creates strategic risk to incumbent business models. Artificial intelligence algorithms have the potential to introduce unintended biases that lead to potential fair lending violations or compliance issues.

These risks need to be managed to reap the largest benefits from innovation. Some may see this perspective as implying that the official sector is an impediment to the adoption of new technologies, but I don't think that is necessarily the case. The five federal banking agencies, for example, recently encouraged financial firms to explore innovative approaches to meet their compliance

obligations related to money laundering and further strengthen the industry against illicit activity.[6] That said, not all fintech-related risks are knowable now, and we must be vigilant in monitoring new risks that may emerge in this rapidly evolving space.

I am fortunate to have this supervisory perspective in New York. The New York Fed's district holds a unique position in the fintech landscape. New York City is an attractive destination for fintech entrepreneurs and innovators who aim to operate in the epicenter of the financial services industry. According to the New York City Economic Development Corporation, since 2008, the City's tech workforce has grown nearly three times faster than the nation's.[7] New York City's metro area also benefits from one of the largest concentrations of academic institutions and a strong investor community. These factors have created a growing and active fintech ecosystem that benefits from its proximity to Wall Street. We can learn much from a sustained dialogue with this community.

At the New York Fed, we are working to think more systematically about fintech. A key aim of today's conference is to further the New York Fed's engagement and communication with stakeholders in this space. This will give us greater insight into cutting-edge developments in specific areas of interest, including technology, regulation, law, and economic research.

To further our engagement efforts, the New York Fed has created a *Fintech Advisory Group*. The primary purpose of the *Fintech Advisory Group* is to build the Bank's institutional knowledge of fintech and provide the New York Fed senior leaders with a more complete picture of existing and emerging technologies, the application and market penetration of these technologies, and the resultant or expected impact on the financial system. The *Fintech Advisory Group* will convene for the first time in the coming weeks and will meet several times per year.

We also have much to learn from an academic perspective, both on the impact of technology in the financial system and the emerging risks. That is one reason why conferences such as this one are so important.

Through these ongoing efforts, we aim to engage with a wide range of firms and participants in the fintech landscape and to participate actively in the ongoing dialogue about the changes that technology is bringing to the financial system.

Thank you for your attention, and I hope you enjoy the conference.

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[1] Dale W. Jorgenson, Mun S. Ho, and Kevin J. Stiroh. Information Technology and the American Growth Resurgence. The MIT Press. 2005.

[2] Gordon, Robert J. The Rise and Fall of American Growth. Princeton University Press. 2016.

[3] Daron Acemoglu and Pacual Restrepo, "The Race Between Man and Machine: Implication of Technology for Growth, Factor Shares and Employment," June 2017.

[4] McKinsey Global Institute, "Navigating a World of Disruption," January 2019.

[5] PWC, "Financial Services, Technology 2020 and Beyond: Embracing Disruption."

[6] Federal Reserve Board, Federal Reserve Board issues joint statement encouraging depository institutions to explore innovative approaches to meet BSA/anti-money laundering compliance obligations and to further strengthen the financial system against illicit financial activity, December 3, 2018.

[7] New York City Economic Development Corporation website. Retrieved on March 10, 2019.