

SPEECH

## Considerations on the Road Ahead for Monetary Policy Implementation

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As prepared for delivery

Good afternoon. It is a pleasure to speak with you today at the New York Fed and Columbia SIPA workshop on monetary policy implementation. Many of you have attended these workshops in the past, and it is great to be together again to talk about issues of essential importance to policy implementation. It is also nice to see so many new participants, reflecting the broad interest and engagement in the topic of digital innovation.

Over the past two days, we heard about faster forms of payments and new, digital forms of money—both private and public—and the effects they might have on money markets, policy implementation frameworks, and the international landscape.

Digital innovation in money and payments is occurring for a reason—consumers, businesses, and financial market participants can benefit from around-the-clock, faster, and possibly programmable payments, both to reduce risk and to simplify financial transactions. Increased competition that results from new forms of money and payments could lower costs, increase service availability, and stimulate further innovation.

Harnessing the benefits of innovation to consumers and businesses, while maintaining a safe and effective monetary system, may require new legislation, changes to regulations and to supervisory approaches, and modernization of traditional payment systems. The specifics of the appropriate initiatives will vary by country. These developments could have significant implications, including for financial stability, national security interests, and international cooperation.

In my role as manager of the Federal Reserve's System Open Market Account, I am looking at these issues from the vantage point of monetary policy implementation. And in my remarks today, I will discuss some key issues that digital innovation in money and payments raises for policy implementation. In particular, I will examine how digital currencies might impact interest rate control and central bank balance sheets. In the spirit of this workshop, I won't speak to the U.S. context specifically, but rather intend to discuss conceptual issues for policy implementation across jurisdictions. And, I won't take a position on regulation, design choices, or a preference for a private or public solution.

As always, the views I express today are my own, and do not necessarily reflect those of the Federal Reserve Bank of New York or the Federal Reserve System.<sup>1</sup>

### Private and Public Innovation

I would like to start by describing two types of monetary instruments that could, in the future, be significant for policy implementation. In the private sector, a broad range of digital assets are emerging. A subset of those digital assets, known as stablecoins, could over time be used by consumers and businesses as money, if they serve as a safe means of payment, a store of value, and a unit of account.<sup>2</sup> Some jurisdictions are considering bringing these kinds of instruments into the regulatory framework by requiring their issuers to become banks or other licensed entities.<sup>3</sup> This could enhance the ability to safely integrate them into the payments system. It could also expand access to central bank accounts and services to new entrants, allowing the stablecoins to be backed by the most liquid and stable of assets: central bank reserves.

Traditional commercial banks are also forming consortiums and partnering with digital innovation firms to increase their offerings of liabilities associated with digital activities, which might entail offering deposits to stablecoin issuers or even direct issuance of stablecoins.

Many are also investing in distributed ledger activities that could transform their businesses. Preliminary analysis of the May 2022 Senior Financial Officer Survey suggests that most U.S. Global Systemically Important Banks (GSIBs) expect growth and development in these areas to be a medium or high priority over the next couple of years, and banks continue to explore these areas to see how they fit into their business strategies.<sup>4</sup>

Central banks are also innovating. Many are implementing new forms of payments or experimenting with central bank digital currencies (CBDCs) to prepare for the future. Currently, over 60 jurisdictions have launched faster payment services.<sup>5</sup> In addition, central banks are building expertise and investing in technology to examine the potential applicability of CBDCs.<sup>6</sup>

### Monetary Policy Implementation in An Evolving Monetary System

As we consider the potential impact of this array of innovations, it is useful to start with a view into the current monetary system.

For decades, central bank reserve balances have been the safest and most liquid asset, at the core of a smoothly operating financial system. Most economies operate with two-tier monetary systems, in which households and businesses hold and make payments

Regulation, supervision, and deposit insurance help keep commercial bank money safe. In turn, deposits fund growth in the economy through loans to households and businesses. And central banks provide liquidity backstops to ensure that the banking system can meet its liquidity obligations to the public.

Most policy implementation frameworks around the world are designed based on this two-tiered system. In these frameworks, central banks control the aggregate supply of their liabilities and the rates at which these liabilities are remunerated, which in turn influences the market interest rates that are transmitted to the economy.<sup>7</sup>

In considering the impact on implementation frameworks of an environment including private and public digital currencies, I would like to raise two key questions that central banks might consider. First, what are the implications for the tools of interest rate control? And second, how might the central bank balance sheet adapt?

### ***What are the implications for the central bank's tools of interest rate control?***

Most central banks adjust and communicate their monetary policy stance through an interest rate target, and successful implementation entails supplying central bank liabilities in a manner that promotes conditions in money markets consistent with this stance. Central banks often rely on three pillars to control interest rates: the rates of remuneration on liabilities; the amount of liquidity supplied; and the provision of liquidity backstops.

Certain design choices for the adoption and integration of digital currencies could alter how central banks use these pillars to control short-term interest rates.

#### ***Pillar 1: Rates of remuneration***

Many advanced economy central banks currently operate in some type of a floor system, in which the administered rate or rates paid on certain central bank liabilities are a core component of interest rate control.<sup>8</sup> The development of new digital forms of currency raises questions about how to fit new liabilities into these remuneration frameworks.

In the case of a CBDC, a central bank can directly determine the instrument's design and the return that its holder receives. If a CBDC is designed as a substitute for cash, for example, with relatively low maximum holding limits and zero interest, it may have a relatively limited impact on monetary policy implementation.

On the other hand, a zero-interest CBDC that could be easily employed for large-scale payments may have greater impact. For example, in higher-interest-rate environments, the opportunity cost of holding a CBDC with these design features could be high, resulting in it being used only for modest transactional purposes. Conversely, in lower-interest-rate environments, a zero-interest CBDC without holding limits could compete more strongly with existing money market instruments, and demand for a zero-interest CBDC in lower-interest-rate environments could be hard to predict.

A zero-interest CBDC could also interact with policy rate setting. For central banks that seek to maintain a zero lower bound on interest rates, a zero-interest CBDC could benefit monetary policy implementation, as a widely available zero-interest instrument could help reinforce the lower bound. For other central banks, a zero-interest CBDC could constrain their ability to achieve negative rates.

The alternative that central banks might consider is an interest-bearing CBDC, for which the natural question is: what rate of interest should be paid? If a central bank decided to remunerate a CBDC, the incentives created within the monetary policy implementation framework would need to be considered. As a broad principle, research suggests that a CBDC should be structured with rates of remuneration at or below rates on central bank reserve balances, as a higher rate could create direct competition for deposits, risking disintermediation of the banking system.<sup>9</sup> How much lower would need to be considered in the context of a specific central bank's policy implementation framework, its policy rate target, and the incentives that an interest-bearing CBDC could create in money markets. Some have suggested tiered remuneration for different holding amounts in order to influence incentives and ensure appropriate integration into the monetary system.<sup>10</sup>

In the case of stablecoins, central banks don't directly control interest that might be paid on these instruments. However, incentives created by remuneration policies could have important influences on the structure and relative demand for private and public digital currencies. Depending on how the regulatory and policy environment for financial innovation evolves, stablecoins could be issued by banks or other regulated entities that could have access to interest-bearing accounts at central banks. In this case, the rate of remuneration stablecoin issuers earn on their accounts might influence the rate paid to stablecoin holders, and the role of the instruments in the broader monetary ecosystem.<sup>11</sup>

Of course, implementation issues are not the only important consideration for remuneration of digital currencies, but it should be one consideration. Choices about the remuneration of new central bank liabilities, like CBDC, and of the accounts of private stablecoin issuers, could have an important influence on the incentives created by monetary policy implementation frameworks. Given this, central banks should take a holistic approach to considering the impact of their remuneration policies on the ecosystem of both private and public currencies.

#### ***Pillar 2: Liquidity supply***

This brings me to the second pillar of interest rate control: liquidity supply. In order for central banks' remuneration rates to effectively achieve interest rate control, central banks supply reserves in appropriate quantities to achieve the interest rate target. In some environments, this requires central banks to forecast demand for liabilities and execute open market operations to supply needed reserves.

In recent years, the demand for many central bank liabilities has become higher and less predictable. However, most central banks have been operating with abundant liquidity surpluses, which has limited the impact of this reduced predictability on implementation.<sup>12</sup> As central banks embark on balance sheet reduction, however, understanding demand for liabilities may become more important.

The demand for digital currencies is not well understood, as these are instruments for which there is no precedent or experience. For a CBDC, central banks would have to understand the behavior of the demand for this new liability. If stablecoins were to be issued by commercial banks, it would also be important to understand drivers of growth in these coins and how that growth might affect banks' demand for reserves. Trend growth in these central bank liabilities could be quite different than it is for other liabilities, such as cash or reserve holdings of traditional banks. And, the variability in demand could potentially be high, driven by shifts in the market environment or in response to geopolitical developments or other exogenous events. This variability could be amplified if digital currencies were available internationally, potentially leading to larger flows. The variability could create new challenges for supplying the appropriate amount of reserves to the banking system to ensure that administered rates continue to control rates, and could lead to a need for larger liquidity surpluses to ensure interest rate control.

One way to manage growth or variability in demand, and the associated impact on demand for reserves in the banking system, could be to impose limits on how much of a CBDC individuals or institutions could hold. Some central banks are actively considering such limits.<sup>13</sup> However, these could also diminish the use cases for CBDC and reduce the potential for consumers and businesses to take advantage of the payment benefits.

Stablecoins may not have the same types of holding limitations, which could lead to faster growth or more variability in demand. At least one jurisdiction is considering the potential use of holding limits or transaction limits on stablecoins on a temporary basis, to manage the possible shift from commercial bank deposits during a transition to new forms of digital money.<sup>14</sup> Central banks could also contemplate putting some limits on balances at the central bank associated with stablecoin issuance to manage the unpredictability associated with these flows.

I have spent some time discussing the potential need for greater supply of liquidity; however, the direction is not all one-way. As payments become faster, the demand for some central bank liabilities may decline. For example, in some jurisdictions, payment innovations have led to a substantial decline in the amount of currency in circulation.<sup>15</sup> Banks may also find that more efficient payment systems bring about liquidity efficiencies, and could reduce their own demand for reserves in response.

From my vantage point, the key takeaway for liquidity provision is to consider how, in the context of the remuneration paid on these instruments and other features, demand for central bank liabilities might evolve and how it could shift in different environments. Again, this requires holistic thinking about the ecosystem in which both private and public digital currencies operate.

### *Pillar 3: Liquidity facilities and backstops*

The third pillar of interest rate control is liquidity backstops. In most frameworks the supply of central bank liabilities and their rates of remuneration are the primary means of interest rate control. However, occasional shocks occur in money markets, and central banks provide liquidity backstops that promote interest rate control and smooth market functioning.

In an environment with new public and private digital currencies, liquidity backstops for traditional banks may become even more important. As I noted, digital currencies could create competition for commercial bank deposits. This could enhance market efficiency and improve transmission of monetary policy, but it may also lead to swings in deposit flows that could unexpectedly shift a commercial bank's liquidity position. This could in turn increase the potential for occasional variability in overnight rates and the need for central bank liquidity facilities.

However, liquidity risk will also be an important consideration for new entrants, such as stablecoin issuers. Stablecoins backed entirely by central bank reserves would be less susceptible to liquidity risk than those backed with other assets. But this design may not ultimately be the most efficient use of central bank liabilities for the financial system, because an important role for commercial banks in the two-tier monetary system is their ability to support the provision of credit in the economy.<sup>16</sup>

Stablecoins backed by other instruments, such as high-quality liquid assets, could moderate growth in the central bank's balance sheet relative to a stablecoin backed entirely by central bank reserves. However, this structure would also give rise to liquidity risk for stablecoin issuers, which might in turn give rise to a need for a backstop source of funding.

These considerations raise important questions for how best to integrate digital currencies and ensure smooth market functioning and interest rate control in times of stress.

### ***How might the central bank's balance sheet adapt?***

Possibly the biggest question over time for monetary policy implementation is how much of the central bank balance sheet should be used to support innovation in currencies.

The current two-tier system of money and payments has central bank balances at its center, but also features an expansive set of private money offered through bank deposit balances. Innovation in payment systems may have clear benefits for consumers and businesses, and private currencies backed by safe central bank balances or other highly liquid safe assets are certainly better than alternatives created by less regulated firms and backed by lower quality or illiquid assets. However, to the extent that stablecoins or CBDCs supplant private bank money or expand overall demand for central bank liabilities, they could also increase the size and

A larger balance sheet could cause some central banks to adapt approaches to asset composition to manage the influence of a larger balance sheet on the policy stance. For example, a central bank could buy short-duration assets to support the new demand for central bank liabilities and differentiate these asset purchases from those intended to foster accommodative financial conditions.

These issues may also require new operational approaches for central banks. In some circumstances, the balance sheet could need to adjust rapidly because of unexpected large shifts in liability demand. This could require new thinking by central banks on the appropriate approaches to implementation with potentially a different mix of assets or tools to add liquidity to the system. Short-duration assets or temporary liquidity providing operations would also allow flexibility if an increase in liability demand is expected to be short term.

## Conclusion

The innovation occurring in money and payments has the potential to alter the existing two-tier monetary system upon which current monetary policy implementation frameworks are designed. How things evolve from here is uncertain, and the impact of these innovations could be revolutionary, or more evolutionary. But imagining an environment in which new forms of private and public money and payments could coexist is helpful in adapting implementation frameworks that will enable central banks to continue to achieve their desired policy stance in the future.

Expanding central bank liabilities in an incremental way to support new forms of money could create a safer payment system—one that promotes innovation, mitigates potential risks, and ensures money continues to function well in an increasingly digital economy. Adapting the implementation framework to incorporate new private forms of money and potentially central bank digital currencies is complex and will require substantial further study of key issues, some of which I have raised today.

This calls for an integrated approach, one that considers each instrument and its role in the monetary ecosystem. Central banks must draw on broad expertise within their institutions so that payments experts, monetary policy practitioners, financial stability and supervision colleagues explore and understand important intersections. We will also need to continue to engage a broad range of market participants, academics, and colleagues across the international central banking community as we adapt to be prepared for the road ahead. Workshops like this one help us learn from one another. Thank you all for your participation in such a rich and important set of discussions.

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<sup>1</sup> I would like to thank Julia Gouny, Antoine Martin, Matthew Raskin, Samuel Schulhofer-Wohl, and Patricia Zobel for their assistance in preparing these remarks and colleagues in the Federal Reserve System for valuable comments and suggestions.

<sup>2</sup> Various digital assets have emerged that are described as stablecoins, although some do not have the characteristics of money described here.

<sup>3</sup> See President's Working Group on Financial Markets Report on Stablecoins (November 2021), Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (September 2020), UK regulatory approach to cryptoassets and stablecoins: Consultation and call for evidence (January 2021) and Progress of Research & Development of E-CNY in China (July 2021).

<sup>4</sup> Based on preliminary review of results from the May 2022 Senior Financial Officer Survey. A summary of aggregated results will be released by the Board of Governors in July 2022.

<sup>5</sup> See Bank for International Settlements, Developments in retail fast payments and implications for RTGS systems (December 2021)

<sup>6</sup> A recent BIS report found that 90 percent of central banks surveyed are engaged in some form of work on CBDC. See Bank for International Settlements, *Gaining momentum - Results of the 2021 BIS survey on central bank digital currencies* (May 2022)

<sup>7</sup> Market rates can also affect the composition of liabilities at the central bank.

<sup>8</sup> For the purposes of these remarks, tiered remuneration systems are included as a version of a floor framework.

<sup>9</sup> Nessén, Marianne, Peter Sellin and Per Åsberg (2018), "The implications of an e-krona for the Riksbank's operational framework for implementing monetary policy", *Sveriges Riksbank Economic Review*, no. 3; Bindseil, Ulrich (2020), "Tiered CBDC and the financial system" ECB Working Paper Series No 2351 / January 2020.

<sup>10</sup> Bindseil, Ulrich, *The case for and against CBDC – five years later* (February 19, 2022).

<sup>11</sup> The Bank of England survey found that respondents preferred interest-earning assets to back stablecoins intended as a store of value, but other models could be appropriate when stablecoins were used largely for transactional purposes. *Responses to the Bank of England's Discussion Paper on new forms of digital money* (March 2022)

<sup>12</sup> Hauser, Andrew (2019) *Waiting for the exit: QT and the Bank of England's long-term balance sheet*, remarks at the European Bank for Reconstruction and Development, London; Åberg et al. (2021) "Demand for central bank reserves and monetary policy implementation frameworks: the case of the Eurosystem", ECB Occasional Paper No. 282.

<sup>13</sup> Bank for International Settlements, *Central bank digital currencies: financial stability implications* (September 2021).

<sup>14</sup> Bank of England, *New Forms of Digital Money* (June 2021).

<sup>15</sup> Norway and Sweden have seen large declines the demand for currency in recent years. In the U.S., the extent to which faster, or new forms of payments would affect the demand for currency may be smaller even as the use of cash in U.S. consumer payments declines, given the important international demand for U.S. dollars.

<sup>16</sup> Some have argued that stablecoins might not be the best assets to exchange on a distributed ledger and that tokenized deposits might be a better option. See Rod Garratt, Michael Lee, Antoine Martin, and Joseph Torregrossa, *The Future of Payments Is Not Stablecoins*, Federal Reserve Bank of New York *Liberty Street Economics*, February 7, 2022.

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