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Bank of Japan

The New Financial Ecosystem and the Role of Central Banks

Remarks at the FIN/SUM 2026

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(English translation based on the Japanese original)

Introduction

I am delighted to be given this opportunity to speak to you at the FIN/SUM 2026.

The year 2016, when the first FIN/SUM was held, marked a milestone for the Bank of Japan as well: we established the FinTech Center that very year, taking into account the growing momentum in fintech efforts and our support for these developments as the central bank such that they would contribute to enhancing financial services and ultimately achieving sustainable growth in Japan's economy.

The theme of this year's FIN/SUM is "The New Financial Ecosystem Shaped by AI and Blockchain." AI and blockchain have been significant topics of interest at the Bank since its founding of the FinTech Center. Assuming application of these technologies in the areas of finance and payments, the FinTech Center conducted joint research with the European Central Bank (ECB), identifying opportunities and possible challenges that blockchain could bring to financial market infrastructures. The Bank's Institute for Monetary and Economic Studies (IMES) also held workshops to explore legal considerations surrounding issues such as the use of distributed ledger technology (DLT) in securities settlements and the use of algorithms and AI.

Fast forward 10 years, blockchain technology has entered the implementation phase in a wide range of financial services. Coupled with the rapid advancement of generative AI, these developments have paved the way for innovative moves to create a financial ecosystem for a new era. In this vein, today I would like to talk about the role of central banks in this new financial ecosystem.

AI and Blockchain: Prospects for a New Financial Ecosystem

Taking a look at blockchain technology, a notable characteristic of decentralized finance, or so-called DeFi, is its high programmability. Specifically, DeFi is capable of deploying a system where smart contracts are utilized, enabling multiple transactions along the transaction chain, such as the borrowing and repayment of assets, to be bundled into a single transaction. Efforts are also being made to develop a mechanism where payment transactions among multiple financial institutions, which result from cross-border payments, can be completed

synchronously.^{1,2} Early use cases to date include arbitrage transactions related to crypto assets and collateral exchange as well as the refinancing of lending conditions. Going forward, blockchain technology has the potential to develop as an infrastructure for transactions and settlements involving a wide range of assets and services, including delivery versus payment (DvP).³

Shifting our focus to AI, which has proliferated rapidly over the past few years, this technology enables the analysis and processing of a variety of big data, whether it be with speed and precision or by taking an unconventional approach. It is hoped that integrating AI and blockchain will allow the provision of enhanced financial services that utilize transaction and settlement data accumulated on the blockchain. Examples of this include provision of financial advisory services via an AI agent, automation of value assessments and substitutions of collateral, as well as effective anti-money laundering and combating the financing of terrorism (AML/CFT) through detection of transactions that deviate from previously observed transactional patterns.⁴

In order for the financial ecosystem of a new era -- characterized by new financial services being generated through the integration of AI and blockchain -- to develop, it is necessary to build a mechanism that ensures the transparency and authenticity of transactions, in particular the safety and robustness of payments, in accordance with the extent of system expansion and effects on economic society.

For the time being, the coexistence of multiple systems employing blockchains and a more

¹ This mechanism, which enables atomic transactions, refers to an all-or-nothing process where each relevant transaction is either executed completely or not executed at all.

² Atomic transactions are also relevant to Project Agorá, as discussed later. Participants are engaging in efforts to develop a mechanism where payment transactions among multiple financial institutions, which result from cross-border payments, can be completed through atomic transactions by utilizing smart contracts and blockchains.

³ For details on the utilization of blockchain in finance, see Ueda, K., "Future of Payments and the Role of Central Banks," speech at the Symposium for the 40th Anniversary of the Center for Financial Industry Information Systems (FISC), December 4, 2024.

⁴ Meanwhile, new methods of analysis such as nowcasting have emerged. Specifically, generative AI is utilized to sort, by type of goods, large volumes of price data collected from markets, which allows users to generate real-time price indices and gain an accurate grasp of inflationary developments.

conventional system is expected. It is necessary to consider the possibility that, while settlements are conducted smoothly within the individual systems, the same cannot be said for the conversion of payment instruments among different systems -- in other words, a lack of interoperability -- as well as the challenges that come with this.

The Role of Central Banks: As an Anchor of Trust

In addition to achieving price stability, many central banks, in their capacity, are expected to provide central bank money such as cash and central bank current account deposits -- the payment instrument supporting economic activity -- while safeguarding payment stability.

When making payments today, bank deposits and a wide array of cashless payment instruments are used besides cash. Underlying this coexistence of the various payment instruments is not only a framework ensuring the soundness of each of these payment instruments but also central bank money, which acts as a bridge among the various payment instruments.

Central bank money provides a foundation where money can be exchanged at par value for all payment instruments; in other words, the singleness of money is secured. Unless the deposits at different banks are connected through central bank deposits, there is a risk that people will perceive this as variation in the value of deposits among banks, as was the case during the wildcat banking era in 19th-century United States. This would bring about negative effects on payments and general economic activity.

Central bank money also plays a role in large-value payments: as the safest and most liquid settlement asset, it contributes to the containment of systemic risk in, for example, interbank funds settlement and securities settlement among financial institutions. Central bank money therefore fulfils its role as the anchor of trust for an economy by serving as the foundation that connects all payment instruments and by functioning as the safest and most liquid settlement asset.

Let us turn to prospects regarding the development of the anchor of trust in a new financial ecosystem. A number of scenarios can be envisaged. By providing a mechanism where

payment instruments on various blockchains -- different payment instruments in some cases -- can carry out a smooth exchange through the use of central bank money, this would ensure interoperability achieved by using central bank money as the medium of exchange. Alternatively, it is also plausible to secure and provide a mechanism under which transactions of assets on blockchains are settled with central bank money. This could be achieved by either settling assets with tokenized central bank money on the blockchain or by connecting the existing system for central bank money with a new system for transactions on the blockchain.

A wide range of experimental projects are in progress across the globe to delve into these ideas I have just raised. When proceeding with such projects, exploring unintended consequences is just as important as exploring the plausible effects. For example, smart contracts are highly convenient in that they allow transactions to be carried out automatically without any manual labor. When the design of the smart contracts is inadequate, however, there is a risk that the stability of financial markets and payment systems will be threatened due to fraudulent use. In areas where technological advancement is occurring at considerable speed and direct regulation is not the optimal approach, best practices may be explored to ensure the safety of payments through international discussions with participants including central banks.

In order for a central bank to effectively employ new technologies in enhancing a mechanism under which to provide an anchor of trust, it is essential to carry out thorough institutional arrangements that take into account use cases and the nature of transactions as well as the risks involved. For this reason and more, it is crucial for central banks to gain deep insights into these new technologies.

The Bank's Efforts

I would now like to share some of the Bank's recent efforts in line with today's topic.

First, the ongoing pilot program for retail central bank digital currency (CBDC) involves the Bank's continued conduct of technical experiments, which will make it possible to provide, as an effective anchor of trust in a new financial ecosystem, a digital form of cash when in demand by the wider public. In this pilot program, the Bank is engaging in technical

experimentation on the CBDC system while managing the CBDC Forum, through which it draws upon the skills and insights of private businesses. As part of its next steps, the Bank will reorganize the CBDC Forum with a view to considering the future of payments from a broader perspective.

Second, Project Agorá is an international experimental project that brings together multiple central banks and major private-sector financial institutions. Participants in this project, with a view to processing cross-border payments between banks, are considering building a mechanism that would enable central banks, including the Bank of Japan, to issue central bank money as tokenized deposits on the blockchain. Smart contracts can also be utilized for tokenized deposits. If this project comes to fruition, it may bring innovation in terms of streamlining cross-border payments.

At the Bank, a sandbox project is underway to enable the use of central bank money for a wide range of settlements on blockchains. In this experimental project, the Bank will conduct technical experimentation on settlement using central bank money in the form of current account deposits on a system that uses blockchains. We intend to make further progress while gaining the support of external experts, exploring methods of connection with the existing system as well as examining use cases such as domestic interbank settlement and securities settlement.

Insights gained through such projects will also be leveraged for improving the Bank of Japan Financial Network System (BOJ-NET), a payments infrastructure operated by the Bank.

The Bank has fulfilled its role as the anchor of trust by issuing a new, redesigned series of Bank of Japan notes with enhanced anti-counterfeiting features and by providing an infrastructure for interbank funds settlement through its operation of the BOJ-NET. Going forward, the Bank will continue to enhance its central banking operations while deepening insights into new technologies such as AI and blockchain, properly fulfilling its role as the anchor of trust in a new financial ecosystem.

Closing Remarks

Today I have talked about the role of central banks in the areas of fintech and payment systems and the Bank's efforts in this regard. In improving Japan's monetary and payment system as a whole, the support of and coordinated efforts with a wide range of stakeholders are essential. As we continue to cooperate and coordinate with relevant institutions, including those of you here today, we are determined to create a financial ecosystem suitable for the next era.

Thank you very much for your attention.