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Bank of Japan

## **Possible Design Choices of CBDC**

*Opening Remarks at the Third Meeting of the Liaison and  
Coordination Committee on Central Bank Digital Currency*

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(English translation based on the Japanese original)

Thank you very much for attending the third meeting of the Liaison and Coordination Committee on Central Bank Digital Currency (CBDC) today.

Six months have passed since the second meeting of this Committee in October 2021.

As planned, the Bank of Japan has finished the Proof of Concept (PoC) Phase 1, which aims to test the technical feasibility of the core functions and features required for CBDC, and has moved on to PoC Phase 2 this April. In the PoC Phase 2, the Bank plans to implement more complex, additional functions of CBDC to the core functions explored in Phase 1 and investigate their technical feasibility and challenges. After the PoC, if the Bank judges it necessary to move further forward, we will consider a pilot program that involves financial institutions and payment service providers.

We have seen many developments related to CBDC in other jurisdictions. The European Central Bank has been addressing various issues under the digital euro project formally launched in October 2021, including the engagement with the European Parliament and other European policy makers. The People's Bank of China has been preparing for the issuance of e-CNY. They conducted pilot experiments at the 2022 Beijing Olympic and Paralympic Winter Games venues as a part of the tests to assess the application of e-CNY. In January, the U.S. Federal Reserve System issued a public consultation paper on CBDC, and the Federal Reserve Bank of Boston and the Massachusetts Institute of Technology's Digital Currency Initiative also published the Phase 1 report on the CBDC research project known as "Project Hamilton." In March, President Biden signed an Executive Order to direct the U.S. federal government agencies, in addition to the Federal Reserve, to explore a potential U.S. CBDC.

Meanwhile, stablecoins issued by private entities have been steadily increasing their presence overseas. The market capitalization of stablecoins now exceeds well over ten trillion yen. While stablecoins can bring benefits to users, various issues such as AML/CFT, cyber risks, consumer and investor protection, and financial stability risks should be addressed in order to achieve societal benefit in a sustainable way. Major advanced economies are moving towards a more rigorous regulatory framework for stablecoins. In the U.S., it has been

proposed to limit stablecoin issuers to insured depository institutions. While nonbanks are likely to be allowed to issue stablecoins in the EU and Japan, they would be required to have customer funds backed by safe and highly liquid assets and to adopt strict customer protection arrangements such as mandating customer funds to be kept in deposit accounts. In short, an entity seeking to issue stablecoins will need to have a banking license or to protect customer funds very strictly.

While regulatory developments may vary among jurisdictions, it would be difficult for stablecoin issuers to profit from simple digital payments services alone if they become subject to rigorous regulation. In order to cover the cost incurred by offering these "unprofitable" services, they would have to look for alternative revenue sources, such as offering advertisement and/or data services as digital platformers or pursuing a customer lock-in strategy to earn fees from merchants within their digital ecosystems. From the perspective of the payment and settlement systems as a whole, we cannot ignore the possibility that such individual business behaviors could exacerbate the issues of market fragmentation and market dominance.

To prevent these issues from materializing and to make payment and settlement systems safe and seamless, we need to consider ways to provide the "unprofitable" part in private payment services. The reason behind such unprofitability is that those payment service providers could bear the cost of ensuring overall safety and interoperability. Therefore, one policy option is that the entire financial sector or the wider society collectively provides the "unprofitable" part as a non-competitive area. For example, in the Europe, there appears to be two ways to take up this option. One is the case of Swish, a Swedish mobile payment system, where the underlying infrastructure is jointly operated by private financial institutions as an area of cooperation. Another is the case of a CBDC to be provided by the central bank as a public good, and this is something the Eurosystem has been exploring. As network effects work more strongly under digitalization, leaving it to competition among private businesses will not necessarily, of itself, improve payment services. This would indicate that some sort of coordination efforts are necessary.

At the last meeting, we presented two basic ideas we need to consider if they are to decide to

issue CBDCs. First, central banks should acknowledge the role of CBDC as a public good and ensure coexistence with private sector payment services. Second, "vertical coexistence," meaning how various entities share roles within a CBDC ecosystem, would become important, in addition to "horizontal coexistence."

As potential designs for an ecosystem, we could assume a structure where the central bank issues a CBDC as a public good, and private businesses allow end-users to use CBDC with their own overlay services. We could also assume a structure where CBDC is circulated through various infrastructures or platforms developed by private businesses. Such an ecosystem would allow private businesses to avoid overlapping investment in the noncompetitive field, and foster an environment where they can innovate and compete while ensuring interoperability.

Another crucial point in exploring potential designs for a CBDC is that the CBDC's core system the central bank develops should be highly reliable. Since a CBDC would be used by the whole general public, the CBDC system is more likely to be the target of cyber-attacks, compared to digital payment services provided by private entities. In addition, we need to be well aware that the social impact would be greater if the CBDC system suspends service.

Once again, the Bank reiterates that it currently has no plan to issue CBDC. The decision as to whether or not a CBDC should be issued cannot be made by the Bank nor by the financial sector alone. It will have to be a judgement by the Japanese people. Meanwhile, it is beneficial to explore potential design options for CBDC at this stage in order to help such a decision-making for the future. In doing so, we must consider two issues as mentioned earlier: first, what sort of CBDC would be appropriate as a public good to be provided by the central bank; and second, how to build a highly reliable CBDC ecosystem.

We will examine technical feasibility in the experiment while continuing discussion on institutional arrangements. In the PoC Phase 2, the Bank will test the technical feasibility of providing accounts through multiple intermediaries to individual end-users as well as aggregating multiple accounts by holder. One of the benefits of this approach for ensuring the robustness of the overall ecosystem is that end-users would be allowed to have alternative

routes to access CBDC in the case where an intermediary or an account becomes unavailable. In terms of convenience, it would be an advantage for end-users to be able to choose intermediaries and other private businesses as the point of contact, according to their needs.

In PoC Phase 2, the Bank plans to explore features to set a limit on the amount of transactions and/or holdings of CBDC as safeguards against an unpredictable shift of deposits away from banks. The Bank will also consider a remuneration functionality. It seems that remuneration on CBDC might not be necessary, as CBDC should function as a complement to cash, and an interest-bearing CBDC could end up being a close substitute for bank deposits. Still, the Bank considers it necessary to explore and assess the technical feasibility of this in preparation for future discussions over potential institutional arrangements. While the idea of using such a functionality as a means to achieve a negative interest rate is sometimes discussed in academia, the Bank will not introduce CBDC on this ground. It is unlikely that such a motivation would be supported by the general public. Furthermore, such a remuneration functionality would be operationally unrealistic while cash still exists.

We hope to have more opportunities to ask for your opinions this fiscal year, presenting more specific system design options for a CBDC if it were to be issued. At that time, we would like to discuss how such a CBDC will suit your businesses in the future and what the landscape of the overall payment and settlement systems will look like. Hopefully, these interactions will help the financial sector as a whole come to an answer to the question "Do we need a CBDC of that particular kind of design?" In other words, "Should we, in fact, issue a CBDC?"

Lastly, with or without CBDC, we should avoid a system that is too unique to be used beyond Japan. More simply put, let us avoid the so-called Galapagos Syndrome. Any system that does not fit with global standards would be placed at a disadvantage in the digital world, no matter how well it is tailored for domestic needs. While placing a great emphasis on collaboration among major central banks, the Bank aims to closely follow global trends and contribute to shape them. At the same time, our future work as well as your future businesses could be greatly impacted by how global trends evolve. Thus, I believe that this is a project in which we all need to proceed with a strong determination to overcome the challenges ahead.

Today, we would like to share with you a progress update on our experiment and seek your views, which we believe will serve as valuable input for our explorations going forward.

Thank you for your attention.