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Wholesale CBDC: as decisive as Retail CBDC, and actively experimenting

3 Octobre 2023

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Conference “Unveiling the potential of wholesale CBDC: what insights and prospects?” - Paris, 03 October 2023

Wholesale CBDC: as decisive as Retail CBDC, and actively experimenting

Speech by François Villeroy de Galhau, Governor of the Banque de France

Ladies and Gentlemen,

It is a great pleasure to welcome you to this conference organised by the Banque de France. I would also like to welcome today’s distinguished speakers from both the central banking community and the private sector. I am convinced that only broad-ranging and comprehensive cooperation between all of us will make it possible to “unveil the potential of wholesale central bank digital currency (CBDC)”, which is the theme of today’s conference.

We are currently facing a wave of technological disruption in the form of the blockchain and tokenisation: our ambition as central bank and supervisor is to explore the embedded – and hugely promising – potential of these technologies as early as possible. This is why no less than 93% of central banks are currently exploring the possibilities for CBDC. Wholesale CBDC attracts less attention and passion than its retail equivalent; but it is not less important. Its purpose (the “why” question) is probably even better perceived by market players than that of retail CBDC and I’ll hence start with its two very interesting applications, namely the tokenisation of assets and cross-border payments (I). Secondly, I will discuss the “how” question, the technicalities of how this might work. The Banque de France is actively conducting experiments at all levels to develop such a system (II).

I. Wholesale CBDC’s twin purposes and potential

A. Maintaining central bank money as a “safety pivot” in a tokenised world

The tokenisation of finance is a nascent trend, which is subject to a growing interest from the financial industry and its participants. Indeed, digital ledger technologies (DLT) could enhance the straight-through processing of trade and post-trade activities and hereby generate enormous savings both for the financial industry and end-users. To make this happen, new private settlement assets such as stablecoins are emerging in this tokenised ecosystem. Paypal's project of a global stablecoin for retail payments is a stark reminder that if we don't take the initiative, someone else will.

The need for a safe settlement asset has therefore become apparent. To date, tokenised finance has indeed lacked the anchor provided by central bank money, which reduces counterparty and liquidity risks, and crucially ensures the finality of payments. As a monetary anchor, tokenised central bank money would ensure convertibility between tokenised assets, exactly as central banks currently ensure the convertibility between commercial bank monies. In short, tokenised central bank money would provide a "safety pivot", and serve as a reliable basis of trust on which these new technologies could realise their full potential.

This is why it is in the interest of both European commercial banks and the public sector to work together towards a tokenised European framework. On the public side, this means advancing on the front of a wholesale CBDC. Since last April, the Eurosystem has started exploring new technologies for the settlement in central bank money, including the issuance of a first type of tokenised CBDC. The eligibility criteria and the call of interest will be published in the coming weeks, and experiments will be rolled out over the course of 2024, including trials with real transactions. Commercial banks and other financial actors will have a key role in the success of the exploratory work of the Eurosystem.

In this regard, the BIS has made a strong case for the concept of "tokenised deposits": recorded as a liability on the issuer's balance sheet, they differ from stablecoins, which are backed by a specific pool of assets and issued mainly by Bigtechs, not by banks. I invite European commercial banks to take ownership of "tokenised deposits" and experiment with its implementation. European players cannot lag behind: on the one hand, remaining a spectator of the surge of stablecoins issued by Bigtechs, none of which are European; on the other hand, not investigating the front of tokenised deposits, where American and Asian banks seem to be innovating faster. Private tokenised money providers could complement a wholesale CBDC; such a framework would replicate the two-tier monetary system, thereby ensuring a key role for commercial banks in the tokenised world.

B. Enhancing cross-border payments

Improving cross-border payments has been identified as one of the G20's priorities: the dedicated 2020 roadmap has been updated to regain momentum on this front by prioritising the building blocks with the greatest impact. Indeed, some projects could be quickly implemented with the aim of achieving results in the short and medium term, such as the Project Nexus. It aims at making people able to pay instantly across borders by connecting several fast payment systems from around the world, which are made interoperable through the Nexus gateway software.

This ongoing interlinking of domestic payment systems could form the basis of a longer-term approach based on the use of wholesale CBDCs: indeed, the emergence of DLT has been identified as a promising channel for improving cross-border payments. The use of wholesale CBDCs has the potential to address a number of friction costs and issues regarding deadlines and their opacity. This potential can be unlocked if the various wholesale CBDCs are properly designed to interoperate from the outset, for example by using common platforms based on common standards. Let us avoid the mistakes of the past so that we don't end up with different standards, as happened with real-time gross settlement systems. Ex ante interoperability is always easier than ex-post interoperability: as we are in the early stages of tokenisation, there is still room to develop international standards and ensure the future interoperability of wholesale CBDCs.

Let me now put these two purposes (tokenisation and cross border payments) together. International bodies

such as the BIS and the IMF are actively thinking about integrated platforms. Such platforms would bring together tokenised central bank money, tokenised deposits and tokenised financial assets such as tokenised bonds and securities. They could make domestic CBDCs natively interoperable, in order to significantly ease cross-border payments and avoid further fragmentation.

Because Europe needs to build its digital money sovereignty, and is attached to building a more multilateral monetary system, the Eurosystem should and could here have a new ambition to enrich its financial services offer. I would like to invite all of you – representatives from public as private entities – to reflect further and consider building an integrated European platform. This would provide European players with the most efficient payment and settlement system, while also helping the euro to play a greater role internationally. A European platform would be subject to specific European standards and governance rules, but interconnected with other regional or global platforms from the outset. Together with a wholesale and/or retail CBDC, this infrastructure could make the euro more attractive in trade finance activities or in the foreign exchange market.

II. The Banque de France's technical contribution: how to experiment a wholesale CBDC

A. 12 experiments conducted by the Banque de France

The Banque de France has indeed been very proactive, conducting twelve experiments in wholesale CBDC since November 2020. We have been exploring all identified use cases on all types of DLT (public and private) with a wide range of public and private partners. We truly believe in this learning by doing approach as a means of developing an operational framework, and here are a three of the practical lessons learnt so far.

First, experiments have shown that central banks will be able to steer the money supply of wholesale CBDC – which is a fundamental requirement for its potential deployment. A permissioned network together with smart contracts put central banks in a position to maintain their oversight of the network and even to enhance their ability to control the use and circulation of its CBDC. Controlling central bank money is not a final goal per se, but it is essential for ensuring the anchoring value of central bank money and hence financial stability.

Second, in moving towards CBDC, it is important not to prematurely favour any one specific technology or type of DLT. Following the path initiated in 2020, the Banque de France is committed to keep testing various technologies in its experiments. Indeed, while we continue to improve our own DLT [DL3S], we are also exploring in parallel alternative protocols and blockchains, be they private or public. In terms of governance, the focus should be on establishing common standards and protocols for DLT platforms and wholesale CBDCs, after evaluating all designs and technological options. Common standards will be essential to designing new financial infrastructures that are interoperable and can interact with existing conventional market infrastructures.

Third, the development of wholesale CBDCs must now take on board climate-related concerns. I truly believe that the tokenisation of finance could make a valid and effective contribution to the challenge of climate change, since it is expected to streamline the intermediation chain and to save energy-consuming processes. In that field, the design of wholesale CBDCs must be exemplary to enable the development of energy-efficient financial markets. In addition, financial stakeholders must leverage the transparency and automation offered by DLT to foster the development of green finance, for example by incorporating ESG

criteria into smart contracts.

B. We will continue our experiments at the Eurosystem and international levels

The Banque de France is now actively involved in the Eurosystem exploratory work on settlement of tokenised assets in central bank money, which was launched last April. We are providing one of the three solutions that will be used over the course of 2024 in experiments and trials with real transactions. What makes this solution different is that it is an actual CBDC, based on a proprietary DLT called DL3S developed by the Banque de France. Major financial entities have already successfully tested DL3S during our past 12 experiments. Thanks to the Eurosystem exploratory work, I now invite all European market participants to test this solution with real transactions.

Looking further ahead, the Banque de France is working internationally, notably with the BIS Innovation Hub and the IMF as well as with other central banks including the Monetary Authority of Singapore and the Swiss National Bank to improve cross border payments. And – surely more meaningful than any speech! – I invite you to watch the demonstration of the Automated Market Maker that we have developed as part of Project Mariana at the end of the conference.

To conclude, let me quote this wonderful poem by the Spanish writer Antonio Machado : “Traveler, your footprints // Are the path and nothing more; // Traveler, there is no path, // The path is made by walking”. Let us keep walking and experimenting together. One thing we can be sure of: if we don't pave the way for future payments infrastructure, others will. And we are determined to “mark out” a European path. The ensuing roundtables discussions on cross-border payments and the tokenisation of finance will contribute to this journey. Thank you for your attention.

ⁱ Kosse A., [Mattei I., Making headway - Results of the 2022 BIS survey on central bank digital currencies and crypto, BIS papers No 136, July 2023.](#)

ⁱⁱ ECB press release, [Eurosystem to explore new technologies for wholesale central bank money settlement, 28 April 2023.](#)

ⁱⁱⁱ BIS Annual Economic Report, Chapter [III. Blueprint for the future monetary system: improving the old, enabling the new, 25 June 2023.](#)

^{iv} Adrian T., Mancini Griffoli T., [The Rise of Payment and Contracting Platforms, IMF Fintech notes, 19 June 2023.](#)

^v Banque de France, [Whole sale central bank digital currency experiments with the Banque de France, New insights and key takeaways, July 2023.](#)