



**BANCO CENTRAL DO BRASIL**

**Apontamentos para o  
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## Introduction

- We are experiencing a period of unprecedented technological innovation in the financial system.
  - In today's digital world, people are looking for ways to represent anything that might have value in a digital format.
  - To this end, encrypted assets have been distributed on a ledger so that they become verifiable, transferable, and divisible.
  - This process of asset tokenization allows us to extract, in digital form, value from different types of assets, such as photos, art, properties, ideas and money.
    - Even virtual reality (VR) is being tokenized.
- This innovation process suggests that we are moving towards an increasingly tokenized economy, in which the negotiation of tokenized assets is the main transformation.
  - In the financial system, this process tends to lead to a growing dichotomy between what is account-based and what is token-based on banks' balance sheets.
  - Ultimately, these developments may lead to the creation of global, regulated, token-based and multi-asset networks.

## Agenda BC#

- It is within this context of innovation that the Banco Central do Brasil (BCB) has sought to promote its agenda of financial innovations – the Agenda BC#.
  - We have implemented over the last few years several innovation projects of our agenda of structural reforms for the financial system, such as:
    - The instant payments system (Pix); and
    - Open Finance.
  - In addition, we have other projects underway, such as:
    - The modernization of foreign exchange (FX) legislation; and
    - The Digital Real (central bank digital currency or CBDC).

- All these projects are different parts of an integrated agenda for the development of the financial system of the future.
  - The goal is to make the Brazilian National Financial System more efficient and modern and to promote the democratization of financial services through technology.

## Pix

- To date, Pix, the BCB's instant payment system launched in 2020, has far exceeded our expectations, and its use continues to increase month after month.
  - Since 2020, many new features have been added to Pix.
  - For instance, making payments on due dates or on a scheduled basis is now possible.
  - It is also possible to withdraw cash from a retailer, which enormously increases the capillarity of the withdrawal service.
  - Furthermore, new accessibility and safety mechanisms are already in operation.
- Even with all these new features, various other innovations will come along.
  - In the future, customers will be able to acquire some financial services currently available on the banking channel, as credit, using Pix.
  - Programmable operations with Pix will also be possible.
  - We also expect interconnections involving Pix and other instant payment systems, enabling Pix for international payments.

## Open Finance

- The Brazilian Open Finance environment is defined as the sharing of data, products, and services between regulated entities — financial institutions, payment institutions and other entities licensed by the BCB — at the customer's discretion.
  - This initiative is expected to enhance the efficiency of Brazil's credit and payment markets by promoting a more inclusive and competitive financial system.

- Our Open Finance model is a global benchmark, the largest in scope and the number of institutions involved.
  - Open Finance celebrates two years with 15 million customers, 22 million customer data-sharing consents, and more than 800 participations institutions.
  - This project has been implemented in phases.
  - For 2023, it is expected that the participating institutions will start:
    - Offering the sharing of data on new groups of products and services, such as investment, insurance, pension plans and foreign exchange; and
    - Promoting improvements in the data sharing and payment initiation journey.

#### Foreign exchange legislation

- The modernization of foreign-exchange legislation, in turn, will improve the business environment in Brazil.
  - It resulted from the passage of a new law by the National Congress of Brazil in late 2021.
  - The new regulatory framework will facilitate the insertion of Brazilian companies into international markets and increase the attractiveness of the Brazilian economy to foreign capital.

#### Brazilian CBDC and projects integration

- In the coming months and years, this innovation process will lead to a financial system in which competition will be not only by product but also by channel.
- This process will bring together all four projects: Pix, Open Finance, the internationalization of our currency and the Digital Real.
  - We envision these four building blocks giving rise to financial aggregators, allowing customers to access information and services from different banks using the same applications.

- Ultimately, we will move towards a new interoperable system, with all our initiatives interconnected on a single track.
- This integration will serve as the basis for establishing our digital currency.
  - We believe that the benefits of a CBDC go far beyond improvements in wholesale and cross-border payments or enabling instant payments.
  - Our view is that a CBDC is an important driver of new business models and innovation in the financial system.
  - The challenge for the Digital Real is to enable uses beyond the payment solutions available today.
- The Digital Real will promote the provision of financial services based on tokenized deposits.
  - The principle will be to transform deposits into tokens (stablecoins), which can be held by the public and have an equivalent value to a CBDC held by financial institutions and issued by the BCB.
  - The fact that banks will be the issuers of tokenized deposits will avoid financial disintermediation and problems on their balance sheets.
  - As the Digital Real will not be interest-bearing, it will not interfere directly in monetary-policy transmission or the macroeconomic framework.
  - At the same time, tokenized deposits will have the same regulatory principles as conventional deposits, ensuring the security of the financial system.
- Furthermore, the Digital Real is expected to enable a more efficient trading chain of tokenized assets, strengthening the migration to a token-based world.
  - It happens because the same technology developed by banks and payment institutions to tokenize deposits can be used to tokenize a diverse number of other assets.
  - Other positive outcomes include using new technologies to enhance banks' internal controls and settlement processes.

- Currently, we are assessing through a BCB initiative called LIFT Challenge Real Digital the execution of projects on the CBDC use cases proposed by banks, payment institutions and other market participants, involving solutions for:
  - Delivery versus payment (DvP);
  - Payment versus payment (PvP);
  - Internet of things (IoT); and
  - Decentralized finance (DeFi), among others.
- Our idea is to start a pilot project in 2023, and if everything goes as planned, the Brazilian CBDC could be up and running by late 2024 or the beginning of 2025.

### Data Monetization

- Data monetization is another important issue in our agenda.
  - Today, it is very difficult for users of the financial system to monetize their data.
  - As owners of their information, they should be able to do that.
  - We work to create ways to allow them to monetize their information in the future.
- In this sense, the financial aggregator could also be used as a data wallet, where the user could store data and choose the best way to monetize it.
  - For this, we need to track which data can flow in an organized and secure way.

### View of the Future

- In our view of the future, it is unreasonable to expect that people will have to handle many different apps to access information and services from different financial institutions.
- Our concept is to have an integrated process that allows people to choose a single app that integrates information and services from distinct players.
- In addition to serving as a digital wallet, this app will make it possible to make payments, investments, transfers and asset purchases; conduct cash management; and acquire many other financial services from different institutions.

- This aggregator would allow both online and offline transactions.

### The integration process

- The integration process of all these projects has a timeline with the following phases:
  1. Pix and Open Finance:
    - Payment initiator.
  2. Pix and other products:
    - Ex.: Credit etc.
  3. Pix and currency internationalization.
  4. Pix and Digital Real (CBDC):
    - Digital wallet and non-digital wallet.
  5. Digital Real (CBDC) and Open Finance.
  6. Financial aggregator:
    - Competition for channel.
  7. Build of a digital wallet.

### Conclusion

- Technological evolution has been one of the greatest BCB allies to ensure a more efficient financial system and to promote the democratization of financial services.
- In this sense, technology is one of the most effective instruments we have to reach these goals and design the financial system of the future.