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Central Bank Digital Currencies & Decentralized Finance – A Call for Action?

How should banks respond to the emergence of CBDC and DeFi, and how can they come to a thorough decision on what to do next?

Why CBDC and DeFi are relevant for Banking

Several studies of consumers' financial relationships conducted in recent years have shown that FinTechs and NeoBanks have gained in significance compared to primary banks. Many consumers no longer expect a single financial institution or company to meet all their financial needs.

Instead, they expect a seamless integration of their different financial relationships and a consistent customer experience. Furthermore, banks and financial institutions need to personalize their services much more and invest significantly in creating digital financial ecosystems to improve customer satisfaction and remain relevant to the next generation of customers and investors.

This development goes hand in hand with growing demand for crypto-related financial services that have emerged in recent years. Many FinTechs and NeoBanks already offer crypto-related services such as trading, custodian services, and other crypto-related financial services.

This paper sketches the current market situation with respect to Central Bank Digital Currencies (CBDCs) and Decentralized Finance (DeFi). Further crypto-related innovations and developments such as NFTs are not covered here. The definitions of stablecoins, CBDCs and DeFi are summarized in the text box on the following page.

Taking the provider perspective, traditional banks and financial institutions are either thinking about building crypto-related services or are already conducting proof of concepts and crypto-related projects to gain first experiences with the innovative infrastructures and technologies behind. Although this paper focuses on stablecoins and CBDCs, some of the implications are valid for other crypto-related technologies and token types as well.

Stablecoins are already established for many years and mainly used as an investment vehicle to transfer fiat-based stablecoins from one trading platform to another. The most popular dollar-based stablecoins are USDT (USD Tether), USDC (USD Centre), and BUSD (Binance USD), each trading in a multi-billion dollar per day range.

The recent collapse of the Terra Luna stablecoin illustrates the importance of trust for the stability of a stablecoin. Without going into the details, a stablecoin backed one-to-one by a fiat currency gains more trust than a coin implemented with an algorithm-based pegging mechanism.

Definitions

Fiat

Fiat money (from Latin: fiat, “let it be done”) is a type of currency that is not backed by any commodity such as gold or silver. It is typically designated by the issuing government to be legal tender (such as Dollar or Euro).

Cryptocurrency

A Cryptocurrency is a digital form of currency in which transactions are verified and records maintained by a decentralized system using cryptography and distributed ledger technologies (DLT), rather than by a centralized authority.

Stablecoin

A Stablecoin is any cryptocurrency pegged to a stable asset, such as a fiat currency, a whole basket of currencies, or even other assets, including government bonds and commodities such as gold. Stablecoins are often linked to a Decentralized Autonomous Organization (DAO) which controls the issuance and pricing. Stablecoins are designed to keep the value of the coins as stable as possible, making them less volatile.

Central Bank Digital Currency

A Central Bank Digital Currency (CBDC) is a special form of stablecoin, exclusively issued and backed by a central bank. It is closely pegged to the value of that country’s fiat currency. Please note that CBDCs are not just “digitalized cash”.

Decentralized Finance

Decentralized Finance (DeFi) describes a financial ecosystem based on DLT and blockchain technology. Typically, it enables users to buy, sell, lend, or borrow assets and financial services as a form of investment or financing without any intermediaries or middlemen interventions. They are mostly implemented by using smart contracts.

How CBDC and DeFi reshape the Banking Industry

Stablecoins allow simple and instantaneous cross-border payments, a tracking of all transfers to prevent fraudulent activities, combined with a low cost of issuance and maintenance. They enable the setup of new business models and ecosystem and can ease the access to tokenized assets. This attracts new investors and tech-affine user groups. As stablecoins are used by nearly all DeFi services they are also a crucial element of DeFi ecosystems.

DeFi in turn contributes to innovative economic concepts for the redefinition of value chains. Lending, borrowing, and staking services are already offered by many DeFi platforms and show high growth rates. Staking allows holders to monetize their crypto holdings like the traditional interest rates you receive for your fiat holdings.

In contrast to a stablecoin, a CBDC is a legal tender backed by a central bank and this way even more strictly regulated than a stablecoin. Many central banks such as China, USA, EU, Switzerland, Canada, and other central banks are currently exploring the possibilities of a CBDC by implementing own Proof of Concepts (PoCs). China, for example, is expected to publish a Digital Yen in about two years already.

The following overview table compares traditional fiat currencies, cryptocurrencies, stablecoins, and CBDCs along some of the most relevant criteria, such as transferability, usage costs, traceability, anonymity, and others.

Criteria	Fiat Currencies	Cryptocurrencies	Stablecoins	CBDCs
Inexpensive and instantaneous cross-border payments	✗	✓	✓	✓
Intermediaries are not necessary for payments/ money movements	✗	✓	✓	✓
Full tracking of currency to prevent forgery or fraudulent activities	✗	✓[1]	✓[1]	✓
Can help to prevent tax evasions or payments for corrupt practices	✗	✓[1]	✓[1]	✓
Largely resistant to volatility	✓	✗	✓	✓
Low cost of issuance and maintenance	✗	✓	✓	✓
Considered as legal tender backed by Central Banks	✓	✗	✗	✓
Supports anonymity, if necessary	✗[2]	✓	✓	✓
Exposed to regulation activities	✓	✗[3]	✗[3]	✓

1 - If KYC is implemented
2 - Only cash
3 - Not regulated for now, but will be in the future

A growing number of banks have already conducted PoCs based on DLT and blockchain technologies, but a broad adoption by the traditional banks has not taken place yet. CBDC-related PoCs are mainly conducted by central banks only. Although several traditional banks already offer crypto services to their end customers, many decision makers of banks are undecided as to whether they should act now or rather wait by further observing the market. By gaining first experiences with the custody and use of stablecoins, banks and financial institutions lay the ground to offer new services.

In fact, the programmability of assets and their conversion to stablecoins can enable completely new business and revenue models for financial institutions. The integration of stablecoins is also a crucial prerequisite of tokenizing investment assets such as real estate or large investment projects. This way, stablecoins are needed to split large investment vehicles into smaller units to make them accessible by a larger group of investors. In addition, new trading mechanisms, automated market maker pools, new coin-based derivates, and corresponding DeFi services are already available and successfully used by early adaptors.

What to do now – Is there a call for action?

We see several business risks for banks by following a strict wait-and-see strategy. Firstly, there is a risk of losing relevant market share if the business, technical, and infrastructure skills are not in place to participate in the emerging ecosystems. This risk is pushed by the demographic change currently observed in the market. More and more young high-affluent customers and digital natives switch to Neo Banks, DeFi, and trading platforms that already support the transfer and use of digital assets. This can harm the future business of traditional institutions, especially considering that lost customers are typically difficult to gain back.

From the provider's perspective, there is also a risk of having less influence on best practices, future market developments, and industry standards that are being implemented and introduced now.

Before a mass adoption of CBCDs and DeFi can take off, the market needs to become further regulated. The regulation of stablecoins is currently ongoing in many markets and regions. Regulation initiatives such as MiCA by the European Union does not only target cryptocurrencies in general but also includes stablecoins and CBDC. For example, EU regulators recently proposed a transaction limit of €200 million per day for stablecoins traded in the EU. Although this number seems to be high, it is much lower than the current transaction volumes of dollar based stablecoins in the EU.

Regulation is necessary and positive for a mass adoption of crypto innovations and related ecosystems. But on the other hand, a too strict regulation can stifle innovation and could shrink the relevance of the affected market compared to less regulated countries and regions.

But how to decide on how to proceed with CBDC and DeFi? We are aware that even in-depth market analysis and thoughtful recommendations cannot replace a thorough decision-making process tailored to a bank's individual situation, which is influenced by internal factors and external market conditions. Incidentally, the applied decision model is not decisive for finding the most suitable decision if your company already has a model that has proven successful. We support different decision models to identify the needed action points for dealing with CBDC and DeFi by following a hands-on approach.

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As a crypto enthusiast, he also coordinates Cognizant's DLT and DeFi practice in Switzerland.

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