

# Driving Growth in Digital Securities through Central Bank Digital Currencies

Atlas One Research

Central Banks around the world are researching or piloting Central Bank Digital Currencies (CBDCs). In 2018, the Bank for International Settlements (BIS) identified 63 central banks which started research in digital currencies<sup>1</sup>. By January 2020, BIS's study showed 80% of the worldwide central banks were engaged in CBDC projects.<sup>2</sup> Many Central Banks are exploring CBDCs to improve payments efficiency or expand financial inclusion. We argue in this report that CBDC development will be key to driving growth of digital assets, particularly Digital Securities Offerings (DSOs), through the creation of instant digital asset settlement.

## CBDC Overview

What is a CBDC? A central bank digital currency is a national currency that is represented by digital tokens using blockchain technology. CBDC is centralized and would be regulated by the country's monetary system.

Central Banks have been looking at CBDCs as a potential solution to further digitize transactions in the economy, reduce the role of cash, and increase the efficiency of payments and settlement infrastructure. Cash transactions have been declining for years, a trend that accelerated during the global pandemic. According to a study by Deloitte, in 2020 only 41% of respondents said they have never paid using their smartphones, a decrease from 73% in 2017. Furthermore, 44% reported a decrease in their use of cash compared to before the pandemic.<sup>3</sup> While most transactions are now electronic, settlement times are still not instant, creating significant credit risk within settlement and clearing systems. CBDCs could be a solution for this problem.

## CBDC Pilots and Programmes

CBDC initiatives are occurring in numerous countries. China has experimented by offering \$1.5 million in digital currencies this past October. Singapore launched project UBIN, testing digital currencies in the settlement of payments and securities. North American jurisdictions are also dabbling into the world of digital currencies, with the Bank of Canada researching "potential system designs and business models for a digital currency that, like a banknote, would be widely accessible, secure and denominated in Canadian dollars."<sup>4</sup>

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<sup>1</sup> <https://www.brookings.edu/blog/techtank/2019/12/13/the-current-landscape-of-central-bank-digital-currencies/>

<sup>2</sup> <https://jonasgross.medium.com/cbdc-pioneers-which-countries-are-currently-testing-a-retail-central-bank-digital-currency-49333be477f4>

<sup>3</sup> <https://www2.deloitte.com/ch/en/pages/consumer-industrial-products/articles/cash-is-no-longer-king-in-times-of-covid19.html>

<sup>4</sup> <https://www.bankofcanada.ca/2021/02/canadian-universities-propose-designs-central-bank-digital-currency/>

<sup>5</sup> <https://www.bitsofblocks.io/post/central-bank-digital-currencies-around-the-world>

<sup>6</sup> <https://www.cnn.com/2019/02/13/p-morgan-is-rolling-out-the-first-us-bank-backed-cryptocurrency-to-transform-payments--.html>

<sup>7</sup> <https://steemit.com/cryptocurrency/@sirwinchester/japan-plans-to-launch-their-own-digital-currency-j-coin-by-2020>

<sup>8</sup> <https://www.thetradejournal.com/utility-settlement-coin-project-banks-can-get-behind/>

<sup>9</sup> Atlas One Research

The G20 organization of finance ministers and central bank governors are collaborating with the International Monetary Fund (IMF), the World Bank and BIS to formalize the use of central bank digital currencies (CBDC) in banking systems.

Summary of major CBDC development globally:

- **Canada - Project Jasper:** The first experiment to test the future of the payment industry was conducted by Bank of Canada, Payments Canada, and several private financial institutions in four phases in 2016. Project Jasper also partnered with the Monetary Authority of Singapore and the Bank of England to work on a cross-border, cross-currency settlement system. The collaboration combined with Singapore's Project Ubin to use DLT to make cross-border payments faster and less expensive.
- **Singapore - Project UBIN:** The Monetary Authority of Singapore validated smart contracts in payments network prototype in cases such as Delivery-versus-Payment (DvP) settlement, thereby creating a milestone in the payment industry. Singapore is currently collaborating with People's Bank of China (PBoC) to work towards reducing cross border payment costs, speed up settlement and ensure security.
- **China - Digital Currency Electronic Payment (DCEP):** The PBOC has reportedly filed 84 patents relating to its CBDC initiatives, revealing that the central bank has major plans to integrate digital currency wallets into existing retail bank accounts in the short-medium term.<sup>5</sup> Over the last decade, private companies with online payments such as Alipay by Ant Group and WeChat Pay by Tencent have been growing rapidly and stand to benefit from CBDC adoption.
- **USA - Digital Dollar:** With competition from China's digital Yuan, the US announced that the Federal Reserve would authorize the "Digital Dollar Account Wallets," which similar to China's DCEP would provide U.S. residents and businesses a platform to carry out financial activities via an app on their mobile phone. However, the actual implementation date for the kick start of the Digital Dollar is under development.
- **Switzerland - Project Helvetia:** Just as Canada and Singapore did, Switzerland carried out an experiment called Project Helvetia which successfully tested the integration of tokenized digital assets and central bank money. Switzerland tested both technical and legal aspects of the wholesale payment system with SIX Digital Exchange (SDX), the Swiss National Bank (SNB) and BIS Innovation Hub (BISIH).

### **Stable Coins from Regulated Players Emerging**

With the world moving toward a cashless future, leading banks have started investing time and resources to come up with their own digital currencies - which we will refer to as financial coins to differentiate from stable coins. JP Morgan Chase & Co. created its own financial coin called the "JPM Coin", and established a whole new business unit called 'Onyx by J.P. Morgan' that focuses on blockchain technology and digital currency. JPMorgan is the biggest settlement bank in the world, moving more than \$6 trillion a day across more than 100 countries.<sup>6</sup> The impact of the migration to JPM Coin will be felt globally.

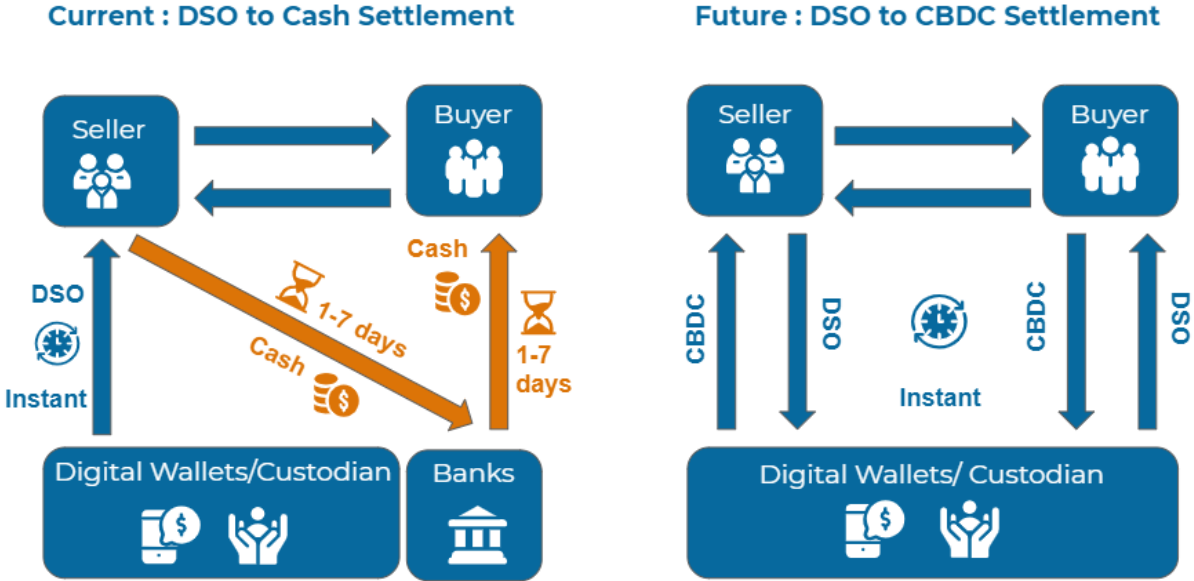
Similar to JP Morgan, Japanese banks started to work on their cashless financial system, considering economy functions 70% on cash - a number that is much larger than other developed nations. The 'J Coin' is a collaboration of some of the major Japanese banks such as Bank Mizuho Financial Group and Japan Post Bank, and it is supported by the Japanese central bank.<sup>7</sup> By using smartphones to scan a QR code, consumers will make payments "anytime – anywhere – free". The J-Coin would be exchanged at a 1:1 ratio by banks with Japanese Yen.

The Utility Settlement Coin initiative was started to regulate a network of distributed Financial Market Infrastructures (dFMIs) to support the global exchange of value transactions by tokenizing fiat currencies on an Ethereum-based blockchain technology. Five financial coin currencies are in scope – CAD, EUR, GBP, JPY and USD. The goal is to provide a platform where multiple currencies can be exchanged 24/7.<sup>8</sup>

Another noteworthy financial coin is the Diem. Formerly known as Libra, Diem is a dollar-based digital currency started by the American social media company Facebook, Inc. The Diem is a centrally managed financial coin and triggered numerous controversies with regulators. Once Facebook receives the required regulatory approvals, their financial coin will be available through WhatsApp and Facebook Messenger.

**CBDCs are key to enabling digital assets**

With all the developments in CBDCs and related financial coins, the prospect for catalyzing digital securities growth is strong. The key benefit CBDCs bring to the DSO market is to collapse the settlement time of transactions from several days (or even weeks) to instant.



As the chart above shows, traditional DSO to Cash settlement typically involves a lengthy cash leg to complete the transaction. This leg can last from 1 day to weeks, depending on the type of payment or clearing system used. For primary issues, investors often need to initiate wire or electronic funds transfers from their bank, adding an additional set and lag time for

settlement. In Canada, Atlas One has reduced this friction by offering bill payment from investor bank accounts, which can substantially reduce the time and cost of fund transfers.

Exchanges and broker-dealers can reduce settlement times experienced by investors through offering funded cash accounts, where an investor has to place funds before buying digital assets. While this creates the appearance of faster settlement, all it really does is shift the settlement burden to broker-dealers, custodians and exchanges. This problem was recently apparent with Robinhood, a fast growing e-broker, which had to halt buying of certain “meme-stocks”, which resulted in sharp criticism by investors. The core reason was that the publicly traded shares Robinhood offered settled at T+2, or 2 days after trade, requiring clearinghouses to force brokers like Robinhood to post collateral in case any trades failed to settle in those two days. The frantic trading in meme-stocks created a collateral requirement Robinhood could not meet resulting in the trade halts.

As the chart above shows, CBDCs allow for instant settlement and, therefore, the elimination of both the friction and inconveniences of cash settlement, and the risk for brokers, exchanges and custodians. Our belief is that instant settlement will dramatically increase secondary trading of DSOs, which in turn will drive the growth of the whole market. The crypto-currency market provides a good example of how instant settlement can drive volumes. Overall crypto-currency daily volumes regularly exceed \$200B in 2021, up 174% since January 2020. A majority of that volume is settled crypto-to-crypto, therefore instant. Stable coins like USDT/USDC, which account for \$72.5B<sup>9</sup> per day of volume (past 3 months average), were also common trading pairs versus crypto-currencies. USDT's average daily trading volume is up 60% year-over-year<sup>9</sup>. If all crypto trading had to be settled in cash, it is unlikely volumes would have been able to scale so dramatically.

### **Conclusion: CBDCs or Stablecoins from Regulated Entities are Key**

Many might suggest using crypto assets to create the instant settlement needed to drive DSO growth. The challenge with even stablecoins like USDT/C is they are not readily usable in the real world and they still have uncertain value. Although adoption of Bitcoin is rising, institutions with fiduciary responsibilities will still be reluctant to hold stablecoins as settlement for DSO purchases. CBDCs will bring a regulated standard to the stablecoin ecosystem, increasing institutional trust in blockchain-based official currencies. Our view is that a mix of both cryptocurrencies and regulated digital currencies will likely make up the settlement instrument universe. Both would be positive for driving the growth of digital securities.

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