

## Kiffmeister's Global Central Bank Digital Currency and Stablecoin Monthly Monitor (June 2021)

*According to my real-time tabulation, 55 central banks are exploring or have recently explored retail central bank digital currency (CBDC) and the pace of development is accelerating. The Monetary Authority of Singapore launched a Global CBDC Challenge, to seek innovative retail CBDC solutions to enhance payment efficiencies and promote financial inclusion, partnering with the International Monetary Fund and World Bank, among others. Stablecoin market capitalizations continue to increase although not at the torrid pace of recent months.*

### Retail Central Bank Digital Currency (CBDC) developments (see also table below)

Before jumping into the latest retail central bank digital currency (CBDC) developments, let's summarize where things currently stand. First, of the 65 central banks that responded to the Bank for International Settlements (BIS) [annual survey](#) carried out in the last quarter of 2020, 50 are actively engaging in retail CBDC work. According to my [real-time tabulation](#), 55 central banks are exploring or have recently explored retail CBDC, and I count 20 that the BIS didn't survey, so the real number may be at least 70. Now we have that trivia out of the way, here are June's retail CBDC developments.

BTW during the month, [I set out my definition](#) of what is and isn't a retail CBDC just so I could be clear that we're all on the same page. I started with a [BIS definition](#) that I adhere to: *a broadly available general purpose digital payment instrument, denominated in the jurisdiction's unit of account, that is a direct liability of the jurisdiction's monetary authority*. There was some discussion on [LinkedIn](#) that has led me to propose adding: *subject to the same rules and regulations as imposed on the jurisdiction's other units of account*. Furthermore, what do people think of adding something like *usable for peer-to-peer transactions* to the necessary conditions?

G7 Finance Ministers and Central Bank Governors remain focused on CBDC. They [committed](#) to work together on their wider public policy implications, noting that CBDCs could act as both a liquid, safe settlement asset and as an anchor for the payments system. Their objective is to ensure that CBDCs are grounded in long-standing public sector commitments to transparency, the rule of law and sound economic governance. CBDCs should be resilient and energy-efficient; support innovation, competition, inclusion, and could enhance cross-border payments; they should operate within appropriate privacy frameworks and minimize spillovers. G7 authorities will work towards common principles and publish conclusions later in the year.

The Monetary Authority of Singapore (MAS) launched the Global CBDC Challenge, to seek innovative retail CBDC solutions to enhance payment efficiencies and promote financial inclusion. Partners include the International Monetary Fund, World Bank, and the Organisation for Economic Co-operation and Development. Firms around the world [are invited](#) to submit innovative solutions that can address 12 problem statements centered on the CBDC instrument, distribution; and infrastructure. Finalists [will pitch their solutions](#) at November's Singapore FinTech Festival, and up to three winners will be selected, with each receiving \$50,000 in prize money. The deadline for application submissions is July 23.

The Bank of England [published](#) the feedback it received on the "[Central Bank Digital Currency: Opportunities, Challenges and Design](#)" discussion paper that was published in March 2020. In short, the feedback is encouraging the Bank to continue examining the case for a CBDC. But at the same time, it received clear feedback that the use case for a CBDC, which might justify its introduction, needed

further research, refinement, and articulation, to inform a comprehensive assessment of the pros and cons of what would be a major decision. Additionally, some respondents expressed doubt that a CBDC was needed at all, given they considered that the intended benefits could be achieved through other forms of payments innovation.

US Fed Vice Chair Quarles made it clear that he [is not a big fan of a digital dollar](#): "First, the U.S. dollar payment system is very good, and it is getting better. Second, the potential benefits of a Federal Reserve central bank digital currency are unclear. Third, developing a CBDC could pose considerable risks."

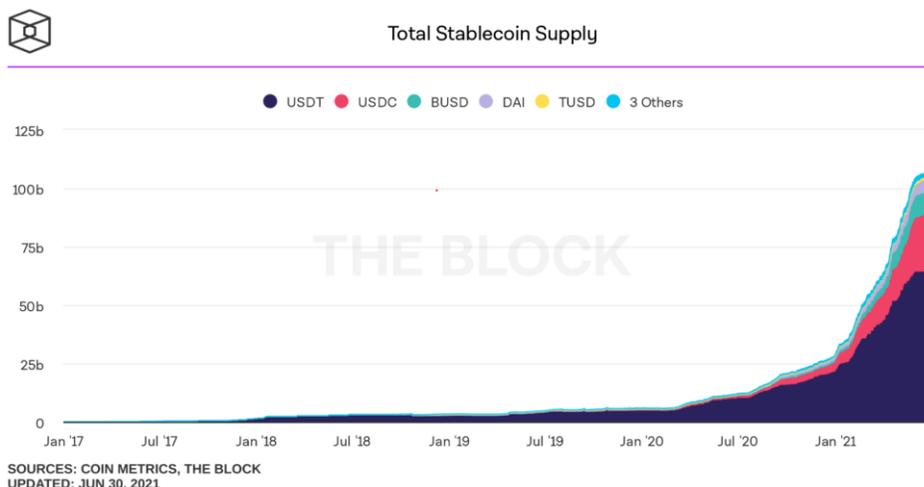
The People's Bank of China (PBOC) [revealed](#) the holding and transaction limit structures being applied to the wallets currently being used in its eCNY pilots. There are anonymous wallets that can be registered with only a mobile phone number, with maximum holding limits of 10,000 yuan, single transaction limits of 2,000 yuan, and daily cumulative payment limits of 5,000 yuan. And then there are less anonymous wallets with holding limits of 500,000 yuan, single transaction limits of 50,000 yuan, and daily cumulative payment limits of 100,000 yuan, requiring that the users link the wallets to a bank account and meet full know-your-customer (KYC) requirements. Also, users can open sub-wallets to limit payments, set up conditional payments, and control information sharing.

The Bank of Thailand [has hired Giesecke+Devrient](#) (G+D) for a CBDC proof of concept project. G+D's Filia platform is multi-tiered. The central bank creates and issues the data files that represent monetary value, while distribution is carried out by commercial banks or other payment service providers. Filia can be used through various forms of digital wallets, such as smartphones, smartwatches and smart cards, without a bank account or disclosure of private data. It also allows for consecutive offline payments.

For more CBDC developments, please see the Table 1 below. There is also a Table 2 that summarizes the month's many CBDC-related research reports.

### Stablecoin Developments

Stablecoin market [capitalizations](#) continue to increase although not at the torrid pace of recent months. Almost all are USD-pegged, and Tether's USDT remains dominant (\$63.1 billion, up \$11.5 billion from end-April), followed by USDC (\$25.2 billion, up \$10.5 billion), BUSD (\$10.2 billion, up \$2.6 billion), DAI (\$5.2 billion, up \$1.5 billion) and UST (\$1.9 billion, down \$0.1 billion). [According to](#) Tether CTO Paolo Arduino, USDT's demand has been impacted by a significant decrease in open interest for bitcoin futures. USDT is the dominant stablecoin on most crypto derivatives exchanges.



G7 authorities [committed](#) to international cooperation to ensure common global stablecoin standards, They continued to support the Financial Stability Board's (FSB's) ongoing work in reviewing regulatory, supervisory and oversight challenges to the implementation of its [high level recommendations for global stablecoin arrangements](#). They continued to support the implementation of the G20 Roadmap to enhance cross-border payments and welcomed the publication of the FSB consultation on [targets for addressing the four challenges of cross-border payments](#).

The Basel Committee on Banking Supervision [issued a public consultation](#) on preliminary proposals for the prudential treatment of banks' crypto-asset exposures. It divides crypto-assets into two groups. Group 1 is comprised of those eligible for treatment under the existing Basel Framework with some modifications (e.g., certain tokenized traditional assets and stablecoins). Group 2 is comprised of "other" crypto-assets, such as bitcoin, that do not fulfil the classification conditions. Banks would have to hold risk-based capital at least equal in value to their Group 2 crypto-asset exposures (i.e., the maximum of their long and short positions) to absorb a full write-off of the crypto-asset exposures.

The Bank of England [published a discussion paper](#) that set out its emerging thoughts on new forms of digital money, including systemic stablecoins. It builds on the Bank's previous [discussion paper on CBDC published in March 2020](#) and the Financial Policy Committee's expectations for stablecoins set out in the [December 2019 Financial Stability Report](#). Broadly speaking, the paper proposes that stablecoins should meet equivalent standards to those imposed on commercial banks.

According to [Coinmetrics](#), none of the major stablecoins became seriously unpegged during the May 19 crypto flash crash. As prices drop, investors often rush to trade their crypto-assets into stablecoins, while the liquidations can cause stablecoins being used as collateral to be sold. This sudden shift in supply and demand can potentially knock stablecoin prices from their peg and threaten their stability. Although I and some others [observed](#) some USD stablecoins below 90 cents on some trading screens, apparently none actually traded there (see figure below).

Stablecoin Prices, May 18th-20th, 2021



### Wholesale CBDC developments

The Bank for International Settlements (BIS) Innovation Hub, Bank of France and Swiss National Bank launched Project Jura that, together with a private sector consortium led by Accenture, will conduct an experiment using wholesale CBDC (wCBDC) for cross-border settlement on a distributed ledger technology (DLT) platform. The private sector consortium includes Credit Suisse, Natixis, R3, SIX Digital Exchange and UBS. It will involve the exchange of financial instruments against a euro wCBDC through a

delivery versus payment (DvP) settlement mechanism and the exchange of a euro wCBDC against a Swiss franc wCBDC through a payment versus payment (PvP) settlement mechanism. These transactions will be settled between banks domiciled in France and in Switzerland, respectively.

On June 18, the Banque de France [successfully conducted](#) a wholesale CBDC experiment with SEBA Bank, as part of the experimental program launched in March 2020. The CBDC was used to simulate the settlement of listed securities and trigger their delivery in the TARGET2-Securities (T2S) test environment, using T2S's conditional securities delivery (CoSD) feature. The Banque de France simulated CBDC issuance on a public blockchain, preserving control and confidentiality of transactions using a dedicated smart contract.

Table 1: <b>Other Central Bank Digital Currency (CBDC) Developments</b>
The PBOC continued to roll out more e-CNY pilots. The <a href="#">Beijing Local Financial Supervision and Administration Bureau</a> is <a href="#">gave away</a> 40 million yuan via 200,000 red envelopes, through apps of the Bank of China and the Industrial and Commercial Bank of China. The city of Shanghai <a href="#">handed</a> out 19.25 million yuan via 350,000 digital red envelopes. And more than 200 vendors at and around the venues for the 2022 games in Shijingshan are now <a href="#">supporting</a> payments made using e-CNY.
The Bank of Russia <a href="#">announced</a> the establishment of the first pilot group for testing the digital ruble, bringing together 12 Russian banks. The Bank also reaffirmed its plans to complete a prototype digital ruble platform by the end of 2021 and roll out testing in January 2022.
The <a href="#">Bank of Ghana</a> is in the advanced stages of <a href="#">introducing</a> a retail CBDC. The e-cedi will go through three phases before it goes into circulation. The first phase, which is now underway, is focused on the design of the CBDC, and the second phase will look at implementation. In the final stage, a pilot would determine whether the digital currency will be feasible before it goes into circulation.
The Central Bank of Nigeria (CBN) is <a href="#">reportedly</a> planning to launch a CBDC by the end of 2021. The CBN has been exploring CBDC for the last two years. One of the reasons the CBN is exploring CBDC is to make remittances travel easier from abroad to Nigeria.
The Banco Central do Brasil (BCB) is <a href="#">reportedly</a> pushing for more time on the rollout of its central bank digital currency (CBDC). BCB told CoinDesk that "according to the current BCB assessment, the conditions for the adoption of a Brazilian CBDC will be achieved in two to three years."
The National Bank of Rwanda is <a href="#">reportedly</a> studying the possibilities of issuing CBDC, according to John Karamuka, the Director of Payment Systems at the central bank.
The Bank of Israel has <a href="#">reportedly</a> conducted a pilot test of a digital shekel. However, a more recent <a href="#">Bloomberg report</a> implies that it's actually an Ethereum-based proof of concept test.
The Palestinian Monetary Authority is <a href="#">reportedly</a> studying the possible issuance of a CBDC. Palestine does not have a currency of its own. Instead, the Israeli shekel serves as the de facto currency, alongside the Jordanian dinar and the U.S. dollar.

Table 2: <b>Research reports focusing on CBDC</b>
Dinero Electrónico was a mobile payment system developed by the Banco Central del Ecuador that allowed citizens to transfer USD balances in real-time from person to person using basic cell phones. The program operated between 2014 and 2018. Key drivers of the program were increasing financial inclusion and reducing the need for the central bank to hold and distribute large quantities of USD notes. This <a href="#">paper</a> discusses reasons why the program was ultimately discontinued, including opposition to the program from private banks, and outlines lessons learned.
A European Central Bank (ECB) <a href="#">report</a> concluded that central banks that don't offer CBDC may face threats to their financial systems and monetary autonomy. Consumers and businesses in places that

don't have their own digital currency could end up being reliant on a small number of dominant payment-service providers, including foreign tech giants. That could affect the central bank's ability to fulfill its mandate and act as a lender of last resort.

The Hong Kong Monetary Authority (HKMA) [will strengthen](#) its research work to increase Hong Kong's readiness in issuing CBDCs at both wholesale and retail levels. In addition to the continued effort on wholesale CBDCs, the HKMA has been working with the Bank for International Settlements (BIS) Innovation Hub Hong Kong Centre to research retail CBDCs and will begin a study on e-HKD to understand its use cases, benefits, and related risks. The HKMA will also continue to collaborate with the PBOC in supporting the technical testing of e-CNY in Hong Kong with a view to providing a convenient means of cross-boundary payments for both domestic and mainland residents.

A BIS [paper](#) discussed the range of proposed CBDC architectures, how they could complement existing payment options, and what they imply for the financial system and the central bank of the future. It sets out the requirements for a "minimally invasive" CBDC design – one that upgrades money to current needs without disrupting the proven two-tier architecture of the monetary system, which involves both the private and public sectors. It finds that technological developments inspired by popular cryptocurrency systems – based on anonymity and lacking a central authority – do not meet the requirements for a retail CBDC. Instead, digital banknotes that run on "intermediated" or "hybrid" CBDC architectures show promise.

Another BIS [paper](#) explored initial thinking on the cross-border use of CBDC based on a survey of 50 central banks in the first quarter of 2021.

Yet another BIS [paper](#) examined how CBDCs can contribute to an open, safe and competitive monetary system that supports innovation and serves the public interest.

The European Blockchain Observatory and Forum (EUBOF) [published a report](#) identifying and evaluating eight alternative design architectures for the digital euro against the core principles and requirements set by the ECB. It considers how the digital euro will differ based on whether it will account-based or token-based, or whether it's implemented atop existing eurozone-wide payment rails or atop novel technological architectures, such as blockchain. The paper also explored whether a digital euro should be exclusively coordinated by the central bank or distributed and managed in collaboration with Europe's commercial banks and other financial institutions. It addresses interoperability and programmability features, regulatory aspects and end-user experience, along with potential financial stability implications.