

Economic Watch

China | All you need to know about the Central Bank Digital Currency e-CNY

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The background of the PBoC to barrel ahead Central Bank Digital Currency e-CNY

China has been always at the frontier among the main economies in the world to barrel ahead Central Bank Digital Currency (CBDC) which is the so-called e-CNY, based on its well-established prevailing digital payment system dominated by the two largest private Fintech giants AliPay and Wechat Pay and the gradually formed “no-cash society”. In the time of digital economy transformation, authorities in China deem quite imperative for the PBoC to press ahead the CBDC.

The underlying reasons of pushing forward CBDC research and applications by global central banks are multi-faceted. Chief among them is the competition with other type of cryptocurrencies. As technology advancement and financial innovation have created a series of cryptocurrencies (“quasi-currency”) comprising Bitcoin and Facebook’s Libra and Global StableCoins (GSC) etc., which might threaten global financial stability and the national fiat money’s position. According to some recent statistics, there are over 10,000 kinds of cryptocurrencies which have gained some influence, whose total value exceeds USD1.3 trillion. The ever-increasing number of cryptocurrencies has prompted central banks in the world to assess issuing their own digital currencies to compete with those cryptocurrencies provided by these private sectors.

Beyond that, amid the fast development of Fintech and the digital economy, individual consumers increasingly demand a safe, convenient, inclusive and privacy-protected retail payment infrastructure. In addition, the catastrophically devastating Covid-19 pandemic has also speeded up the digitalization of people’s work and life, increasing the call for a “non-cash society” to reduce any potential contagion through cash transactions and to foster further the ongoing digital transformation.

A more particular reason for the PBoC to press ahead the development of e-CNY is also related to the already existing “non-cash society” in China supported by the oligopolistic market of digital payments dominated by Tencent’s Wechat Pay and Alibaba’s AliPay. These two digital payment giants, operated by private firms, take more than one billion users in China, dominating the whole non-cash mobile payment market. On top of digital transactions, these firms also conduct various “shadow banking” activities which remain outside the central bank’s traditional banking regulation framework. In order to effectively regulate the financial sector, particularly shadow banking, the PBoC intends to compete against these two digital payment giants in a bid to provide a safer and more inclusive retail payment infrastructure and thus try to move the digital payments back to the traditional banking regulation framework.

The development of e-CNY started as early as in 2014, when the PBoC set up a task force to delve into digital fiat currency, such as its issuance, technology requirement, circulation, and international experience. In 2016, the PBOC established its Digital Currency Institute, which developed the first-generation prototype of digital fiat currency. At the end-2017, upon the approval of the State Council, the PBOC began to work with commercial

institutions to test e-CNY. Now the system’s testing is almost complete, and the PBOC has initiated e-CNY pilot programs in some provinces of China to make sure the e-CNY could be operated stably and safely.

China’s wide usage of digital payments, which accumulate a lot of precious experience for the PBoC to promote the e-CNY, especially when compared with most global central bank counterparts, the PBoC is indeed a pioneer in launching the e-CNY trials and experiments. According to the survey conducted by the Bank for International Settlements (BIS) on central banks from 65 countries, 86% have started research on digital currencies. And the proportion of central banks experimenting or developing prototypes increased from 42% in 2019 to 60% in 2020. In particular, the central banks of the US, the UK, France, Canada, Sweden, Japan, Russia Singapore and ECB have all disclosed their plans regarding CBDC, and the PBoC heads to be the first central bank to carry out the real application and pilot trial program among them.

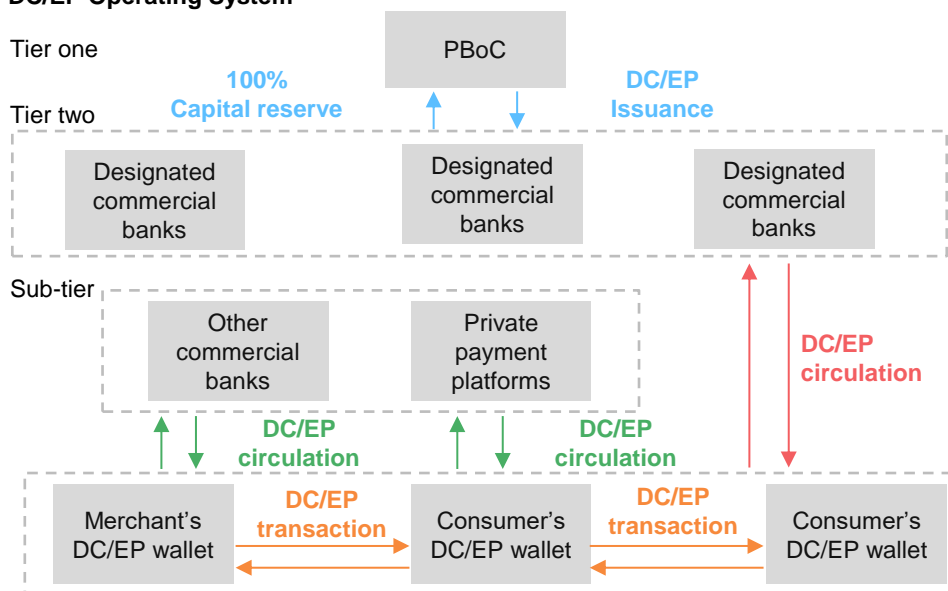
How do we define e-CNY and how it operates?

E-CNY is the digital version of Chinese fiat currency issued by the PBOC and operated by authorized commercial banks. It is a value-based, quasi-account-based and account-based hybrid payment instrument, with legal tender status while is loosely linked with bank accounts.

The official objective for the PBoC to promote e-CNY is to diversify the forms of cash provided to the public in a bid to satisfy the public’s demand for digital cash. It also aims at supporting financial inclusion, which means everyone, regardless of having access to Wi-fi or mobile phone, shall have equal opportunities to use digital currencies. In addition, it also aims at providing an efficient and safe retail payment services while reducing the abundant costs of the paper money circulation.

Figure 1. CHINA’S CBDC OPERATIONAL SYSTEM

Two-Tier DC/EP Operating System



Source: Fitch Ratings

As the fiat currency, e-CNY has all the basic functions of the traditional physical CNY, such as unit of account, medium of exchange and storage of value etc. All of these functions are backed by China’s sovereign credit. Same

as the paper money, e-CNY is China's legal tender which represents the central bank's liabilities to the public. Intrinsically, e-CNY is simply the digital version of China's fiat currency, which is of no difference with previous historical forms of money, from gold, silver, metal coins to banknotes. Thus, the issuance and circulation of e-CNY is by principle identical to physical CNY.

Regarding its operation, e-CNY adopts a centralized management model and a "two-tier" operational system. The PBOC is responsible for its issuance and disposal, inter-institutional connections and digital wallet management. In addition, it prudently selects commercial banks with advantages in capital management and technology as the authorized operators to take the lead in providing e-CNY exchange services. That means, it is the authorized commercial banks and other commercial institutions that exchange and circulate e-CNY to the public. (Figure 1)

Several perspectives of e-CNY are particularly noteworthy:

First, e-CNY is mainly a substitute for cash in circulation (M0), and it shall coexist with physical CNY for a long time. Both e-CNY and physical CNY will be issued simultaneously and have the same legal status and face-value. As China is a large country with vastly different territories at different development stages and each counting with large populations, people's payment habits vary significantly. Therefore, physical CNY will continue to enjoy certain advantages that will not be replaced by e-CNY overnight. The PBOC will neither stop supplying physical CNY, nor replace it through the administrative order. The reduction of physical CNY circulation will be decided by the market in a natural long-term process.

Second, e-CNY will mainly serve domestic retail payments, rather than wholesale payments. There are basically two kinds of CBDC, wholesale and retail. Wholesale CBDC is issued to institutions such as commercial banks to facilitate settlements, while retail CBDC is issued to the public for daily small amount transactions. Major countries and economies vary in their priorities of developing digital currency for wholesale transactions or retail ones. Thus, we have to emphasize that e-CNY is a retail CBDC which is to meet the public's daily payment needs and to improve the efficiency of retail payments.

Third, unlike the current dominant digital payment methods of Alipay and Wechat Pay, e-CNY could be transacted off-line and could be settled immediately upon payment. Offline payment means it could alleviate the hardship of non-wi-fi environment. This special characteristic of e-CNY is a clear advantage when compared with the two dominant existing digital wallets, as it could circumvent the embarrassment of not conducting a payment under non-wi-fi circumstances. In addition, unlike Alipay and Wechat Pay, where consumers need to wait at least one day to settle any purchase, the e-CNY will settle any transfer immediately upon payment.

Finally, many have manifested concern about e-CNY's "managed anonymity" feature.. By principle, e-CNY is anonymous for small-value transactions but traceable for large-value and suspicious transactions. It indeed aims to meet the public demand for anonymous small-value payment services. By contrast, it is necessary for the PBoC to detect the misuse of e-CNY in illegal activities, such as tele-fraud, internet gambling, money laundering, and tax evasion. By nature, the e-CNY system collects much less transaction information than traditional electronic payment (Alipay and Wechat Pay). More importantly, unlike either of those two methods, it does not provide information to any third parties or other government agencies unless the transactions are suspicious.

Will e-CNY entail financial disintermediation or disrupt financial stability?

When China's central bank started to delve into CBDC as early as 2014, there have always been concerns regarding CBDC's potentially negative impact on financial system stability and banking industry. There are at least three kinds of concerns:

First, as the retail CBDC is more attractive than traditional deposits in commercial banks, it may entail financial disintermediation and credit squeeze, as people might easily move their deposit to CBDC; Second, CBDC, as the safest asset, could exacerbate bankruptcy in times of crisis, because when systemic risks emerge, CBDC will serve as the quickest channel for the public to switch their bank assets to CBDC; Third, there is some argue that in order to encourage people to change from Alipay and Wechat Pay, which have a lot of merchandise discounts to attract users, the PBoC would probably need to offer similar promotions or provide other forms of benefits to users – a move that might lead to a waste of large amount of national capital or deteriorate China’s fiscal balance.

In designing CBDC, all central banks should consider these potential risks. To reduce the competition with bank deposits and ease the crowding-out of bank deposits, the PBoC has carefully designed e-CNY as equivalent to traditional physical CNY - that means it is a substitute for M0 and pays no interest. It circulates in the same way as the physical CNY in the “two-tier system” under which commercial banks exchange e-CNY for and with the public.

In addition, in order to mitigate the possible bankruptcy risk in time of crisis, the PBOC has come up with a tiered design of e-CNY wallet with caps on transactions and balances for different types of e-CNY wallets. Meanwhile, the PBOC has set some system frictions to prevent the rapid spread of bank runs. Last but not least, the PBOC has already built up a framework of big data analysis, risk monitoring and early warning for e-CNY to enhance the safety and effectiveness of e-CNY management.

e-CNY and China’s RMB internationalization

Markets are now assessing whether e-CNY will help promote the internationalization of RMB. Our assessment is not that positive, as we do not observe any intent from the PBoC to promote RMB internationalization - especially through any direct cross-border usage of e-CNY.

But we agree that both Alipay and Wechat Pay indeed help promote RMB internationalization, as they force foreign banks to gain experience with overseas RMB settlements. If the PBoC pushes forward cross-border usage of e-CNY, it will compete with these private digital payment giants, reducing their enthusiasm to develop cross-border business and hurting progress in RMB internationalization..

Moreover, cross-border payment involves various complicated issues which are fraught with uncertainties, such as monetary sovereignty, foreign exchange policies, as well as regulatory and compliance requirements, which we believe are not a priority for the PBoC at the current stage.

RMB internationalization shall continue developing as a natural process of global market selection and hand-in-hand with China’s financial liberalization. The international status of a country’s currency depends on its economic fundamentals, the depth of financial market, and the openness of its financial market. But all of these factors are independent of whether China uses e-CNY or traditional physical CNY to conduct the cross-border transactions.

Thus, although the e-CNY is technically ready for cross-border usage, it has been presumably designed mainly for domestic retail payments at the current stage. Thus, we do not think e-CNY will affect the ongoing progress of RMB liberalization and China’s trotting ahead of financial liberalization reform, such as the capital account opening, interest rate liberalization or clean float of exchange rate.

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