

E-CNY: Development and Impact

數字人民幣：發展與影響

A successful pilot programme has paved the way for the launch of China's pioneering central bank digital currency
試點計劃大舉成功，
為中國率先發行央行數字貨幣鋪路

The E-CNY, issued by the People's Bank of China, is a significant step in the development of digital currencies around the world. Following the mass retail test of E-CNY in a number of pilot areas, the electronic RMB is moving closer to a full launch.

Market users will likely focus on its safety and development. So, what is the E-CNY? Is it different to WeChat Pay and Alipay? Will E-CNY replace cash? With these questions in mind, let's explore the development of E-CNY and its likely impacts.

What is E-CNY?

E-CNY is a sovereign digital currency issued by the People's Bank of China (PBOC), China's central bank. Its value will be as stable as the physical yuan, and it is designed to replace physical cash in circulation (known

in central banking parlance as M0).

In practice, commercial banks and electronic payment companies will deposit 100% worth of reserves at the central bank in exchange for digital currency, which they can then distribute to retail users.

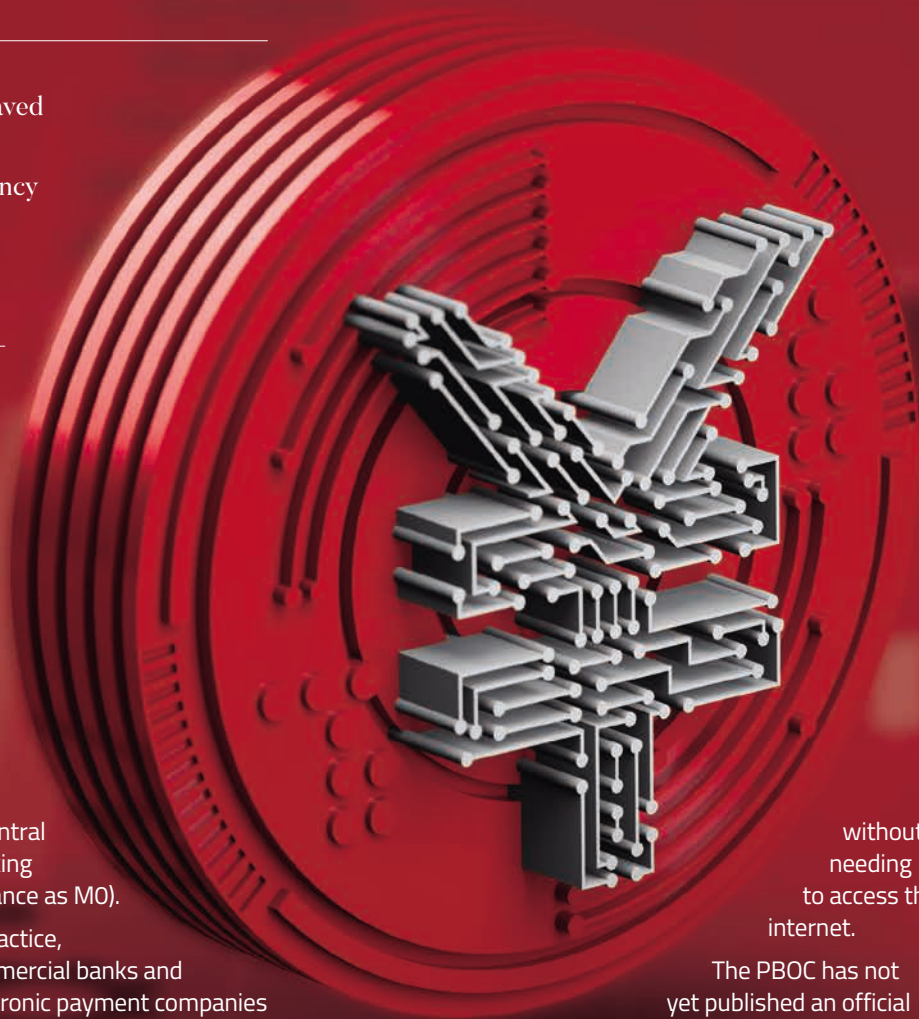
In the first tier, the PBOC will issue E-CNY to authorized agencies such as the big four state-owned banks and

other institutions such as Tencent and UnionPay. In the second tier, these authorized agencies will distribute to end users such as companies and individuals. Instead of using bank accounts, E-CNY will be stored in electronic wallets that can transfer E-CNY

without needing to access the internet.

The PBOC has not yet published an official white paper on the E-CNY infrastructure. However, it is possible to achieve "controllable anonymity" such that all transactions are only visible to PBOC and not in the other layers.

E-CNY can be seen as a digital payment that has equivalent





value to other forms of the yuan, such as bills and coins. E-CNY can be transferred without relying on a bank account. During a transaction, it simply verifies the value of the E-CNY, instead of verifying the account holder's identity. Compared with bank savings, the biggest difference is that holding E-CNY in a digital wallet won't accrue any interest.

Based on these features, we can understand the E-CNY as simply an electronic version of cash. The central bank's role is mainly to make changes to the currency's physical form, distribution and payment framework.

Motivations behind E-CNY

With changing technology, the form money has taken has moved from goods and commodities to metal and paper to electronic currencies. And the underlying value is no longer limited to monetary metals, but extends to credit money and high-liquidity financial assets.

Over 80% of 66 central banks around the globe are exploring the use of central bank digital currencies (CBDC), according to the Bank of International Settlements (BIS) statistics. These 66 countries cover 75% of the world's population and 90% of economic outputs. However, none have fully launched yet, so E-CNY makes China a pioneer in exploring the use of CBDC.

China has become the biggest

digital payment market in the world. A PBOC report showed that, in 2020, the volume and amount of mobile payment business increased by 21.48% and 24.5% year-on-year, respectively. In 2019, the adults who used electronic payments accounted for 85.37% of the total users, an increase of 2.98% over the previous year.

The fast growth in mobile payments has aided in economic development and involved social changes. It is now entering the mass adoption phase. Meanwhile, the Covid-19 pandemic has accelerated the evolution of the "no-cash economy."

The growth of the digital economy and virtual trading have fueled the development of digital currencies around the world. In the past 10 years, Bitcoin and other decentralized currencies have become widely accepted. But we can see that Bitcoin is very volatile because it has no fundamental price to fall back upon. Other cryptocurrencies in development maybe more stable.

The growth in use of such private digital currencies could replace the sovereign currency, or even threaten monetary sovereignty, in a foreseeable future.

The high costs of cash management and money laundering risks are the internal motivations of the PBOC in introducing the E-CNY. Using digital currency cuts the cost of producing

banknotes and coins. Its "controllable anonymity" can also effectively prevent money laundering, tax evasion, terrorist financing and other financial crimes, and help central banks to manage currency circulation and macro-economic operations.

Impact of E-CNY

E-CNY will bring positive change to the operations of traditional commercial banks. The digital currency can conduct end-to-end value transfer without bank accounts, reducing dependence on financial intermediaries and achieving "controllable anonymity." It may even boost earning potential for commercial banks since they, as the operator of E-CNY mobile wallets, can offer other value-added services.

In the long run, commercial banks will be able to leverage technologies such as blockchain, biometric identification and big data to manage their customers' financial data, helping to drive further innovation in the financial industry.

E-CNY will bring challenges to third-party payment agencies. Features of the popular WeChat Pay and Alipay include low cost and convenience, which will also be achieved by using E-CNY. The current costs for mobile payment is very low, but PBOC has said that payments and transactions in the future should be free of charge.

Not to mention that the central bank's digital currency can be used in the mobile wallets of PBOC and also of commercial banks. When the E-CNY is officially launched, it will probably occupy the current market share of third-party payments.

Since the E-CNY aims to replace physical cash in circulation in the short term, its impact on the RMB exchange rate will be minimal, given that digital payments are already prevalent in China. In the long run, as E-CNY could help advance the internationalization of the RMB, the RMB may appreciate, given higher external demand, especially against the currencies of countries along the Belt and Road Initiative.

However, since it will be easier for the central bank to monitor the two-way capital flow under the E-CNY, the PBOC is unlikely to allow sustained volatility in either direction.

E-CNY could promote the internationalization of RMB, especially in the areas where its growth is highly dependent on trade with China. E-CNY's peer-to-peer transactions could help to reduce cross-border settlement costs and remove the restrictions levied by correspondent banks with disparate systems. The adoption of CBDC in other countries could further increase the convertibility between E-CNY and other currencies while bypassing correspondent banks.

中國人民銀行發行數字人民幣，為全球數字貨幣發展邁出重要一步。隨着內地擴大數字人民幣試點範圍至零售領域，距離全面推行電子人民幣又近一步。

數字人民幣的安全性和發展將成為市場的關注焦點。那麼，數字人民幣究竟是甚麼？它與微信支付及支付寶有何不同？數字人民幣會否取代現鈔？下文將探討數字人民幣的發展及潛在影響。

何謂數字人民幣？

數字人民幣是由中國央行即中國人民銀行（人民銀行）發行的主權數字貨幣，與實體人民幣等價，用以替代市面流通的實體現鈔（央行稱為 M0）。

在實際運作上，商業銀行和電子支付公司先向央行全額繳納準備金以兌換數字貨幣，再由這些銀行和公司兌換予零售用戶。

數字人民幣採取雙層運作機制：在第一層由人民銀行向授權機構發行數字人民幣，例如四大國有銀行及其他機構如騰訊、銀聯等；在第二層由這些授權機構兌換予公司和個人等終端用戶。數字人民幣儲存於電子錢包而非銀行賬戶，故無需連接互聯網亦可轉移資金。

人民銀行至今仍未正式發表有關數字人民幣基建的白皮書，但有機會實現「可控匿名」，即只有人民銀行可看到所有交易。

數字人民幣為電子支付工具，與紙鈔和硬幣等價，無需依賴賬戶進行價值轉移，而在交易過程中亦只需驗證數字人民幣本身的價值，而無需綁定賬戶持有人身份。與銀行儲蓄相比，數字人民幣最大的分別在於不會產生任何利息。

基於上述特點，我們可以簡單地將數字人民幣理解為電子版現鈔。央行數

字貨幣主要改變的是貨幣形態、發放和支付結算方式。

數字人民幣的驅動因素

科技日新月異，貨幣形態亦隨之演變，從商品和大宗商品貨幣到金屬貨幣，再到紙幣，及至電子貨幣；其價值亦不再限於貨幣金屬，而是延伸至信用貨幣和高流動性金融資產。

根據國際清算銀行的統計，在全球 66 個國家的央行中，逾八成正探索使用央行數字貨幣。這 66 個國家覆蓋全球 75% 人口和 90% 經濟產出。然而，這些國家至今仍未全面推出數字貨幣，因此中國便成了探索央行數字貨幣應用的先驅。

中國已成為全球最大的電子支付市場。人民銀行的一份報告顯示，內地 2020 年流動支付業務的交易宗數和金額分別按年增長 21.48% 和 24.5%；在 2019 年，全國使用電子支付的成年人比例為 85.37%，較前一年上升 2.98%。

流動支付發展迅速，現已進入普及化階段，既帶動了經濟發展，亦為社會帶來改變。與此同時，新冠病毒疫情亦加速了「無現金經濟」的發展趨勢。

數字經濟和虛擬交易為全球數字貨幣的發展注入動力。過去十年，比特幣和其他去中心化貨幣已廣為市場接納，但由於比特幣沒有任何信用擔保，故其價格波動較大，相比之下，其他加密貨幣則較穩定。

這種私人數字貨幣一旦形成應用規模，在可見將來或取代主權貨幣，甚至對貨幣主權構成威脅。

現鈔管理成本高昂和洗錢風險，驅使人民銀行發行數字人民幣。採用數字貨幣既可省卻印發鈔票和硬幣的成本，其「可控匿名」特性亦有效防止洗錢、逃稅、恐怖分子融資和其他金融罪行，更有助央行管理貨幣流通和宏觀經濟運作。

數字人民幣的影響

數字人民幣將促進傳統商業銀行的運作。數字貨幣無須經銀行賬戶即可進行端對端價值轉移，減輕了交易對金融中介的依賴，實現「可控匿名」。商業銀行作為數字人民幣流動錢包營運商，還可通過提供其他增值服務，創造利潤空間。

長遠而言，商業銀行將可利用區塊鏈、生物識別和大數據等技術管理客戶的財務資料，進一步推動金融業創新。

數字人民幣將對第三方支付機構帶來挑戰。數字人民幣同樣具備微信支付和支付寶這些熱門支付工具低成本、便捷的優勢。現時流動支付成本甚低，惟人民銀行表示，未來支付和交易應為零成本。

此外，央行的數字貨幣可存放於人民銀行和商業銀行的電子錢包。數字人民幣正式發行後，很可能佔據目前第三方支付市場的份額。

由於數字人民幣僅為取代流通中的實體現金，觀乎電子支付已在內地盛行，故短期內對人民幣匯率的影響有限。長遠而言，由於數字人民幣有助推動人民幣國際化，加上外部需求尤其是「一帶一路」沿線國家對貨幣的需求增加，人民幣或會升值。

然而，由於人民銀行能夠更易監控數字人民幣的資金雙向流動，因此不太可能允許任何一方的資金流動持續流動。

數字人民幣可促進人民幣國際化的發展，尤其是高度依賴與中國通商來實現增長的地區。數字人民幣點對點交易既有助減低跨境結算成本，亦可消除採用不同系統的代理銀行所施加的限制。央行數字貨幣在國際使用，可進一步提高數字人民幣與其他貨幣之間的可兌換性。