Digital RMB: All Show, No Substance

ASIA’S PATH FORWARD

By Chen Bing-Ming | 2 December 2020
With digital payments, the user sends transaction instructions to a financial institution, either directly or indirectly, via an electronic terminal, resulting in the transfer of money or capital. As mobile smart devices became ubiquitous, tech giants like Alipay and WeChat Pay have been pushing the mobile payment market. In 2019, 950 million users were using third-party mobile payment in China, transacting a total of 226 trillion yuan (33.6 trillion US dollars). Electronic payment has already become a part of daily life.\(^1\) Chinese public has been abuzz lately about the debut of a digital currency/electronic payment (DC/EP) system. Known as digital RMB or e-RMB, the system appears to be complete and ready to go public at any moment.

The central bank has been far ahead of the curve on digital currency. They started researching digital currency as early as 2014, and in 2016 formally established their Digital Currency Institute. When Bitcoin’s value surged in 2017, the market became more receptive to cryptocurrency, and a number of countries turned to learn from China about central bank digital currency (CBDC). 80% of banks are now exploring CBDC, and the People’s Bank of China has a head start on this global search.

CBDC is a systems engineering project and must therefore take into consideration a whole host of issues. In a January 2020 report, the World Economic Forum argues that a digital currency system must factor in the digital payments ecosystem, CBDC form, operational risks, financial inclusion, data protection, monitoring and compliance, macroeconomic and financial risks, CBDC design elements, technology choices and related risks, governance, and implementation strategy.\(^2\)

In November 2019, the People’s Bank of China announced that it had completed design of its CBDC and was preparing to launch trials. On March 24, 2020, the central bank announced that it had completed design of all of the basic functions of the e-RMB and was drafting plans for its implementation, and that pilot programs were underway in Shenzhen, Chengdu, the Xiong’an New Area, and Suzhou. The media reported that a portion of public servants working for the Xiangcheng District of Suzhou were already getting paid in e-RMB. On August 29, 2020, the “e-RMB Wallet” went live on the China Construction Bank app in select testing areas. However, despite broad public interest, the bank quietly ended the trial only hours later.

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All this demonstrates how far the e-RMB has come. Its technical framework and basic plan may already be complete, ready to debut as soon as the political conditions are ripe. Scrutiny of official information, however, reveals that the central bank's e-RMB has nothing in common with blockchain-based cryptocurrency, and that the consequences of implementing e-RMB may run counter to its professed policy objectives.

The dream of digital currency can be traced back to the advent of bitcoin in October 2008, born out of the exasperation with the 2007-2008 subprime mortgage crisis, when a group of libertarian-leaning cypherpunks let their imaginations run wild in search of a new paradigm. On October 31, 2008, Satoshi Nakamoto published the white paper "Bitcoin: A Peer-to-Peer Electronic Cash System," and bitcoin was born. In November [of that year], the bitcoin genesis block was created. Dissatisfied with national currency authorities' liquidity injections to stimulate the economy, Nakamoto capped the number of bitcoin at 25 million to protect against currency inflation.

Bitcoin's underlying technology is known as 'blockchain.' Blockchain is a set of multi-node, synchronized, encrypted strings of code. Blockchain is anonymous, decentralized, and unfalsifiable. As a distributed [public] ledger, blockchain can guarantee trust, transparency, unfalsifiability, and non-duplication of data. Together, these factors make blockchain a decentralized system of trust. Over the long decade of its development, blockchain has been used in many different fields, and bitcoin has spawned all kinds of cryptocurrency trends, generating billions of US dollars’ worth of crypto-capital. It may give rise to complex economic transactions, posing a serious challenge to the traditional currency system – the model monopolized by central banks.

Facebook, the quintessential tech giant, saw the prospects for blockchain and announced its own digital currency project, Libra, in 2019. Libra is a membership association comprised of influential commercial groups. Based on the enormous online presence of its member organizations and the multiple applications of the project, Libra could work across international borders, posing a threat to sovereign currencies. If Libra can realize its goals, it could reshape the international financial system.

Libra poses yet another challenge to the current system of currency issuance. In response to this challenge, central banks are picking up the pace of digital currency development, and the e-RMB is leading the pack. But a closer look at the e-RMB reveals just how unlike bitcoin and other cryptocurrencies it is. The e-RMB is centralized, is not encrypted, cannot be mined, and has no consensus validation based on federated chains. In other words, the digital RMB has nothing to do with blockchain.
Official statements describe the e-RMB as a centrally issued digital currency. Debts are assumed by the central bank. The e-RMB system has national credit, legal compensation, and equal value with legal tender. Its basic function is to stand in for RMB notes. Mu Changchun, director of the central bank's Digital Currency Institute, has clearly defined the e-RMB: "It works exactly the same as paper notes. The only difference is that it is digital"; "it is a digital payment tool with value characteristics.\(^3\)

The issuance structure of the e-RMB is centered on the central bank, with the Commercial Bank of China as the first tier. Thus, users process payments through the commercial bank. In other words, the central bank issues digital currency to the public through the commercial bank, while the central and commercial banks together safeguard the regular operation of issuance and circulation and are responsible for providing related services to bank customers.

Not only is the underlying structure of this process centralized; the central bank also has access to all circulation information. There is also no cap on the amount of e-RMB that may be issued. This runs counter to the concept of digital currency as exemplified by bitcoin. In the end, the e-RMB is just a digital payment system controlled by the central bank. The intent of this policy is to substitute e-RMB for bank notes, reducing the costs of issuing, circulating, and reserving cash, while simultaneously using the e-RMB's traceability to improve monitoring of money laundering, terrorist financing, and tax evasion.

In particular, e-RMB advocates believe digital currency confers at minimum the following benefits:

1. Reduction of transaction costs. If digital currency were to replace paper money, it would cut down on the costs of printing, circulating, and reserving money.
2. Increased financial inclusion. The e-RMB can provide basic payment services to people who have smartphones but do not have bank accounts.
3. By improving payment efficiency, e-RMB may be used offline as well, allowing e-RMB to be used in locations where there is no internet.
4. Improved efficiency of monetary policy transmission. In theory, e-RMB can be programmed and its usage directed, improving the design of central bank policy tools and the accuracy of the movement of capital according to fiscal and property policies. To a certain extent, this would create

\(^3\) "The Difference Between Digital Currency and the Third Party Payment Platforms" Sina News, October 29, 2020
the conditions for a new type of currency and new fiscal tools. Chinese monetary authorities finally have the tools to implement the targeted easing they have long sought.

5. e-RMB circulation is completely transparent and traceable, vastly improving monitoring capabilities while acting as a check on the use of large cash transactions to as a hedge against corrupt acts.

6. The e-RMB facilitates cross-border transactions, which benefits the internationalization of the RMB.

On closer inspection, however, the ideal state of the e-RMB is a double-edged sword. For every advantage described above, there is a corresponding disadvantage:

A. In reducing the cost of cash transactions, the e-RMB significantly increases user costs. There is a yawning digital divide in Chinese society. There are almost 200 million people who do not have "smart" devices and who cannot simply learn how to use an app in a short period of time. Many older adults have been unable to use the "health codes" that have come into use during the coronavirus epidemic, preventing them from using buses, subways, and other basic public services. Without a doubt, the e-RMB discriminates against the digitally disadvantaged.

B. The e-RMB is more financially inclusive, implying that the central bank directly faces the end-user. But the central bank does not have the infrastructure or manpower to meet the complex needs of millions of users. If the e-RMB is founded on the distribution model of a central bank and traditional commercial bank, then the user still needs to have a bank account, in which case there is no improved financial inclusion to speak of. If the central bank classifies mobile payment platforms like Alipay and WeChat Pay as digital currency distribution channels, then the platform would be the source of financial inclusion, not the digital currency itself.

C. To improve transaction efficiency, the e-RMB relies on an increasingly centralized system, which clearly makes the system more vulnerable. Upgrading a centralized system entails greater risk and is naturally more vulnerable to attack. These are latent systemic risks.

D. While the e-RMB strengthens the transmission of monetary policy, it also means increased intervention in the market. When the functions of a digital currency are not equivalent to other currencies, it is guaranteed to cause market chaos and to increase communication and transaction costs.

E. The transparency of the e-RMB implies that the masses will not only live under multitudinous forms of surveillance, but also that the central bank will control the direction of the cash flow. This poses an enormous threat to personal privacy and property. It is naive to think that transparency will curb
corruption. So long as power is unregulated, corruption will exist. As the Chinese saying goes, “virtue is one foot tall, the devil ten feet tall” – replacing cash only means that corruption will pay for itself by new means. The e-RMB by itself cannot stop embezzlement.

F. It is unrealistic to expect digital currency to promote the internationalization of the RMB. Issuing e-RMB does not mean that the RMB will be more widely accepted. Trust in the e-RMB will still come from trust in the sovereign state; it does not have an intrinsic system of trust like bitcoin. In addition, China’s digital currency can only realize effective cross-border payments if there are open capital accounts. If capital accounts cannot be freely converted, the e-RMB will have nothing to do with the internationalization of the RMB.

Among the many potential drawbacks mentioned here, the greatest concerns for the public are individual privacy, security of property, and the possible sea-change in the order of market transactions. As state power has expanded over the past few years, social and private spaces have been squeezed. This is why the public has expressed such anxiety and reservation about digital currency. Under such social pressure, central bank leaders have stated that research and development of the e-RMB will adhere to principles of stability, security, and control. There is no timeline for the launch of the e-RMB.

As mentioned at the beginning of this article, China’s digital payments ecosystem is already fairly mature, with Alipay and WeChat occupying the bulk of market share. The system created by these two companies and their vested interests are powerful and well-established. The e-RMB poses a potential threat to their market share and could even bring on market chaos. It is inevitable that these tech giants will make power plays to protect themselves.

As a stand-in for cash, the e-RMB lacks spark and imagination. It bears no relation to the concept of cryptocurrency as exemplified by bitcoin. It will not revolutionize the financial system. It is, in short, an empty play at innovation.
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