

Five Issues focused on Issuance and operation of Digital Fiat Currency

Ziheng Zhou

Issuing and operating Digital Fiat Currency (DFC) brings up countless questions, such as , demand and digital technology, who will be the issuer and decider of operation? DFC and its account, which is the corner stone? What's the relationship between DFC and current currency issuing system? What are the relationships between operating DFC with currency policy and financial stability? Is DFC singular or diversified? How will it affect financial activities and the whole economic system of the society? I commented on several crucial questions as following:

一. 数字法币的发行与运行取决于现实的货币需求，而非技术偏好

It is not the technology preference that decides the issuing and operating of DFC, but the currency demand in reality.

Digital Economy, especially the developed of digital payment, determines the scale and the level of DFC's demand, which is the real economic foundation for DFC's issuing. The real currency demand of DFC is the driving force for its issuing and operating; related digital technologies are only providing supplement for digital currency at some level, but not essential for generating the demand for currency.

So why can't private digital currency become digital fiat currency to satisfy the demand for digitalized currency? The differences between private digital currency and DFC are: 1. private digital currency cannot achieve fixed exchange rate of 1:1 with bank money, it is also the case for stable currency, which jeopardizes the singularity and stability of booking currency. 2. It is isolated or disturbed mutually, and not in favor for currency stabilization, in other words, it is separated from private scenarios. 3. Enterprises and the departments of government cannot use digital currency as booking currency. In fact, they can hardly offer any currency status besides digital assets, which means private digital currency is blocked for public scenes. Take China as an example, the total number of mobile payments in 2018 is 277.39 trillion. They mostly rely on private digital payment platforms; however, isolated from

private scenes, and sealed for public scenes. In other words, there are digital payments, but none is digital currency.

For private digital currency, they normally turn into speculative digital assets due to the reason that they are unable to attract corresponding currency demand, and cannot satisfy digital currency demand in real world, although they are advisable in terms of technology perspective. To point out that, it is a misconception and pure technical worship to consider private digital currency is more advanced in technology aspect in comparison with central banks etc.

Private digital currency and DFC do not form a fully and fundamentally competitive or replaceable relationship. It therefore accelerates the pace for central bank to issue legally admitted digital currency independently, in which to fulfill the need for the develop and stabilize the digitalization of social economic system.

二. 发行与运行数字法币，基于其账户体系，并非货币本身

To issue and operate digital currency is based on its own account system, not the currency itself

Digital payment and bank payment are belonged to two distinctive categories, which rely on different account system. It means that the residual balance in digital account is digital currency, the residual balance in bank account is bank note. Digital payment and bank payment based on different account activities, and there are no crossover payments and only exchangeable with each other.

Same as the residual in bank account that represents "bank note", the residual in digital account represents "digital currency". Bill in the bank possesses the independent digital labeled status, and coins are corrodingly under the labeled status. Nevertheless, the residual in bank account is only a digital number in whole, which does not represent any cash identity as independent entity. Digital currency only exists in accounts, shown in the account balance, there is nothing similar with bank money as "digital money" existing outside account system. The transactions of funds between digital currency accounts are digital payment activities, in practice they are booking account activities by central bank (direct or indirectly) according to the account owners' instructions . It is not necessary for assistance of independent currency

itself, but book-keeping currency units have to be ensured, while implementing booking activities.

It is not necessary to make billions of independent digital currencies in technical aspect for central bank to actually issue digital currency. It does not even require money circulation like bank account outside the digital currency system, only corresponding digital currency system and ledger system is required. Digital account system is therefore, the key to understand the issue and operation of DFC.

三. 数字法币不改变记账货币单位，通过兑换购买式发行，不直接影响货币总量

DFC does not change the units of book-keeping currency, it issues through exchange purchase, and does not affect the total amount of currency

Sovereign currency has to guarantee unified book-keeping currency units, or it will cause unnecessary and abominable currency turbulence. Therefore, the exchange rate between DFC and bank note has to be fixed as 1:1. There are three levels corresponding changes of currency operation after issuing DFC. 1. Book-keeping currency keeps singularity and two-dimensional changes will not happen when DFC issues. It is widely known, private digital currency is only for asset circulation due to that the price parity between private digital currency and DFC are unstable, and not suitable to circulate as a currency. 2. Two-dimensional structure occurs including DFC payment and bank currency payment; Digital currency replaces bank payment and supports digitalization of economic system. The exchange rate between the two parties is 1:1, but the exchange scale and speed are determined by the market. 3. Settling and clearing procedures changes correspondingly when DFC appears.

The relationship between DFC and bank currency is exchange relation. It means that DFC is "purchase" issue, demanders will buy through bank money while there is demand in circulation or in the market for DFC. Therefore, the total amount of currency will not change because of that, and in principal, there is no need to change currency policy if central bank issues DFC. Purchase issuing means that DFC partly replace of bank money in the market, there will be no change of book-keeping currency, nor dramatic change of total currency amount.

四. 数字法币与货币政策调节及金融稳定性

DFC and currency policy adjustment and financial stability

DFC is money in digitalized form, meaning at any-time DFC is confirmed being possessed by one certain holder. Completely different from the case of bank money, nobody pays anyone else's money with interest, DFC is considered to be interest-less or constantly equals to zero interest. Thus, in terms of interest rate structure of the two-dimensional system, DFC and bank money are entirely different which changes the foundation of interest rate for currency policy. The pressure of interest payment will be dramatically reduced by the large amount of capital transfers and deposits supported by DFC, and it is expected to be negative interest partially.

It is demonstrated that, the issue and operation of DFC will support central bank to carry out its currency policy more accurately and effectively, which also enhances the efficiency and stability of financial operation. It not only largely relieves the capital cost of the financial system's operation and raises its efficiency, but also structurally reduces financial risk especially systematic risk. To be predicted, the competition and cooperation relation between sovereign currencies and central banks' systems, will all historically step into DFC time.

五. 数字法币发行及运行将推进货币金融体系多元化，财务运行数字化

Issuing and operating DFC will promote the diversification of the financial system of currency and digitalization of finance.

The issuers of DFC can be diversified, which is not restricted to central bank. For instance, fiscal authority can issue digital bonds, post authority can also issue digital stamps, and officially valued bonds issued in digitalized form. They are all considered to be "legally digitalized securities". Therefore, central bank will not only issue one kind of DFC, but to issue DFCs depending on different circulating ranges and periods.

The diversification of digital currency and digital securities are the requisite trend and requirement of stabilization and development of digital economy, which is not exposed to technical obstacle and law arrangements. At the same time, book-keeping currency unit will be singular, and the basic digital account system will be based on the central bank DFC account system with diversified issuers and digital currencies. It makes the account system of

DFC becomes structural and stratified. In comparison with bank money system, DFC system will be more flexible, complicated and adaptable.

With the feature of 24-hour operation, in absence of over-night problem, and timely book-keeping, DFC is completely differentiated from bank money. It means that in the future, financial activities being digitalized, "real-time" and "none-gap (full-time)", and ongoing book-keeping cycle, accounting titles, financial accounting standards will all be substantially revolutionized with the issue and operation of DFC. Under current economic system, financial time rhythm is set by human and relies on bank schedules. The future digital economy is however full-time and real-time operation of currency economy.

It shows that, digital currency, especially DFC, is a unavoidable trend in the history of currency finance development, and an irreversible progress for social economic history.