

DIGITAL ASSETS AND DIGITAL FINANCE (PART II)

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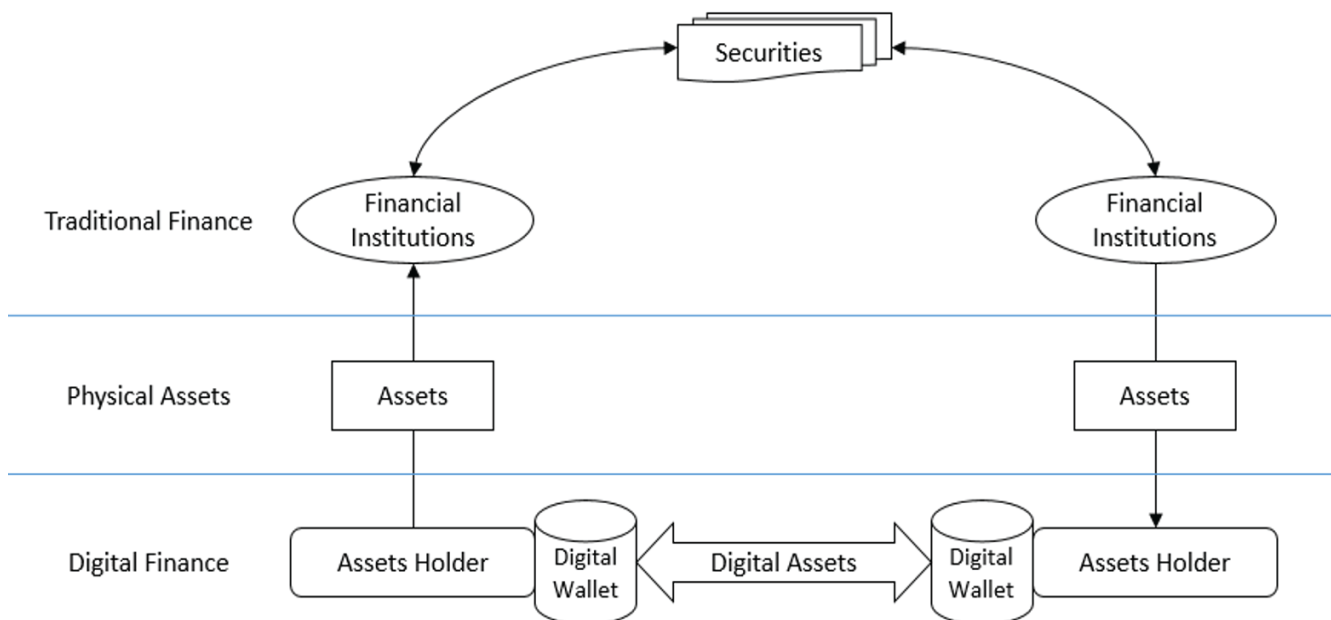
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III. Self-financing, Inclusive and Sharing

The production and circulation of digital assets are very different from the existing financial system. The deeper meaning of asset digitization is that data is native, penetrable and traceable, and that data can be self-validated and third-party validated, thus deriving the concept of self-financing. There are three typical characteristics of self-financing: first, users control their digital identities independently; secondly, users control their digital assets independently and take the responsibility of transactions as well; thirdly, users make point-to-point transactions among themselves, being independent of third-party intermediaries. Digital finance can be both self-disciplined and

imposed-disciplined. Although digital finance is a fintech system built on the full disclosure of the underlying information, it provides high degree of personal privacy protection. Users produce data, create digital assets and add various elements to the innovative digital financial services. Take asset securitization as an example. SMEs in China have been suffering from financing difficulties for a long time. This problem has attracted much attention. In the process of financing, SMEs face the problems such as complex counterparties, scattered information sources, complicated information of the underlying assets and disclosure difficulties, all preventing SMEs from using asset securitization as an effective financing



tool. How can SMEs get equal access to information and obtain independent financing capabilities? An effective solution is by distributed ledger technology and distributed file systems. By synchronizing all the native information of the underlying assets on the chain, using public-private cryptography key to realize the ownership and the transfer of assets, getting access through information operation providers and continuously disclosing the underlying transaction information. Digital assets are thus created.

Digitalization of Assets makes traditional assets fungible with a high degree of liquidity autonomy, which greatly improves the efficiency and authenticity of supply chain financial businesses. It also establishes a dynamic, complete, true and credible information disclosure mechanism for investors. This fundamentally solves the multi-layered information penetration problem of SMEs. SMEs can have a say in financing and carry out independent financing activities, without relying on enterprise credit scoring. On the other hand, financial institutions can obtain SMEs' underlying assets information directly from trusted distributed ledger technology, instead of relying on enterprise credit scoring.

This is the practical value and meaning of digitization of assets and self-financing model, which solves the financing problem of the disadvantaged groups in traditional finance systems. Financing system better serves the enterprises becoming more inclusive and sharing. With the support of modern technology, the new financing system is more secure than traditional financing. In regulatory aspects, it is also more convenient and efficient. Self-financing fills the gaps in existing financial services flexibly.

IV. Financial Integration, Free and Open

The development of digital finance will blur the boundary between on-site and off-site market. In a sense, one of the main reasons leading to the market stratification of on-site and off-site in the present is the lack of technology credibility. Traditional technology cannot solve

the trust problem of financial transactions. Hence, many transactions need to be carried out in the organized on-site market. Economies of scale is certainly another reason. The legal guarantees recognized by the state solve the credibility problem. With the development of modern digital finance technology such as blockchain, technology has become a supplementary means of legal credit enhancement. With the empowerment of trust technology, data and value, physical and logical parts, can be integrated as digital assets. Data is value and value is data, therefore the circulation of data is the circulation of value. With the trust technology, any assets can be digitized, circulated and activated, without relying completely on the traditional legal credit enhancement. As a result, there is no more boundary between on-site and off-site markets.

Digital finance may reconstruct the financial operation methods, service models and even the entire ecosystem. It is concise and efficient, free and open, transcending the boundaries of nations, time and space. It respects the autonomy and wills of market participants. Driven by technology, it does not need to rely on traditional financial intermediaries to make assets circulate and what is more, it retains the complete native information.

Large amounts of non-standard assets, such as warehouse receipts, intellectual property rights, contracts, etc., will regenerate financial "vitality", circulate with low cost and high efficiency, and create significant economic value. What is more revolutionary is that digitization of assets will start a revolution in retail finance. Just as the emergence of Internet incubating retail giants like Ali, the awakening of retail financial market will make more profound changes in financial world.

V. New Form of Currency, with Independent Control

Digital assets call for digital currencies. The private and the public sectors are working hard on it.

Virtual currencies are correcting the

fundamental defect of the lack of backing assets. From Bitcoin (lack of backing assets) to various stable coins (backed by fiat currency or tied to an algorithm), to the recent JPM Coin and Facebook Libra, the compliance and value volatility problem of virtual currencies are expected to be solved. It seems that the value of virtual currencies is backed by the central bank currency, but in fact, it is the process of "de-virtualizing".

Therefore, the concepts of cryptocurrencies and virtual currencies need to be reviewed. Cryptocurrencies are no longer necessarily virtual currencies. It is of great significance to distinguish between cryptocurrencies and virtual currencies.

Cryptocurrencies may have already become a real currency, but at the currency level, it is not necessarily M0, it may be a higher level of currency than bank deposits, say Mn. Compared with M0, the digitization of higher-level currencies such as M1, M2 ... and Mn, gives more room for imagination.

The central bank has always been considered unsuitable for the role as a digital currency supplier. In addition to the concern of narrowing banking system, the main concern is that the central bank will face great service pressure and costs when issuing digital currency to C (to retail clients, that is, the public). This is one of the major difficulties faced by countries in the developing of fiat digital currencies. Currently, digital currency trials conducted by various central banks worldwide are all still in the application scenario to B (to institutions), such as the project Jasper of the Bank of Canada, the project Ubin of the Singapore Monetary Authority, and the project Stella of the European Central Bank and the Central Bank of Japan.

According to the views of IMF economists Tobias Adrian, Tommaso Mancini-Griffoli and others, for Alipay and WeChat Pay, after depositing 100% provisions to the central bank, clients' transactions is backed by the central bank liabilities. It essentially makes Alipay and

WeChat Pay played the role as central bank digital currency. If this is the case, then China has long been the world's first big country to realize the digitalization of fiat currency. Of course, this is only the version 1.0. It should be noted that the 100% reserve assets proposed by Facebook's Libra white paper and the 100% provisions people usually referred to are not the same concept. The former puts the reserve assets in a third-party custodian, while the latter deposits all the funds in the central bank.

Technically, the 100% provisions mode means that the full life cycle of digital currency, issuance, circulation, recovery, and destruction must be attached to the traditional account system, especially the cross-institution central bank digital currency circulation. The central bank has to update the digital currency account system, and also has to deal with clearing and settlement between corresponding provisions accounts. This not only increases the pressure and complexity of the central bank's central system, but also makes it difficult to achieve the "account loosely coupled" requirement. Under such condition, it is hard to develop self-financing innovation. Also, the potential of cross-border payments would greatly shrink. In comparison, the Central Bank Crypto-Currencies (CBCC) allows customers to manage their own currency, instead of entrusting the currency to a third party. It also goes pass Swift and breaks a new ground for cross-border payment business. It seems to be the hottest focus at present.

Mark Carney, Governor of the Bank of England, believes that Libra-like digital currencies will be a better choice for global reserve currencies. My understanding is that digital currency is not just the digitization of fiat currency, as digital assets are not just as simple as the digitization of assets. The future digital currency needs to make up the shortcomings of the existing currency system, surpass the US dollar, and upgrade to a new level.

VI. Regulatory Technology in Response to New Ideas

The various characteristics of digital assets mentioned above, diverse in attributes,

integrated and innovative, technology-driven, free and open, have brought new propositions and challenges to financial regulation. The traditional regulatory system that monitors and manages financial institutions and their accounts by license mechanism needs to be reexamined.

First, the license management for institutional access should be transformed into the authority management for user access.

In the self-financing mode, users must pass the identity authentication and verification of relevant certification authorities. The business process must be isolated from the identity authentication. Identity and content privacy protection is achieved by cryptographic primitives and solutions. However, the regulatory department has the right to carry out penetrating supervision. On this basis, regulatory authorities of various countries collect their residents' digital identities and demarcate digital jurisdictions accordingly. Within their own digital jurisdictions, regulatory authorities should set up various types of business participation permissions based on KYC, AML / ATF and other financial regulatory policies for their residents.

Financial operations and transactions between residents and non-residents from different jurisdictions are regulated by regulatory authorities in accordance with their respective capital account and cross-border financial regulatory opening up policies. Such design could not only ensure the free and open self-financing business, but also comply with regulatory requirements of different countries. Take Calibra, Facebook's regulated financial subsidiary, as an example. Its first product is the Libra digital wallet. Facebook connects social users' identity information with Libra users' blockchain addresses through the Calibra wallet. In the self-financing mode, the wallet replaces the licensed financial institutions and becomes the object of supervision. The supervision strategy can be implemented according to the specific requirements of the jurisdiction, meeting both the requirements of user privacy

protection and regulatory compliance. Secondly, smart contracts should be verified and become part of business approval.

In the self-financing mode, traditional financial services will be logically encoded into smart contracts that are transparent, trustworthy, automatically executed, and enforced. Smart contracts carry various financial services and even one smart contract represents one format of financial business state. In a sense, controlling smart contracts means controlling the future self-financing business. On the basis of safe and efficient user identity authentication and authority management, smart contracts must be verified by relevant departments before going on chain. The program should be judged whether it can run in accordance with the regulatory policy expectations. When necessary, the authorities can prevent non-compliant smart contracts going on chain, or stop residents' authority to execute such smart contracts. Meanwhile, the authorities can set up regulatory intervention mechanisms to suspend or terminate execution.

In addition, setting parameters of smart contracts is also a regulatory means, just like using indicators such as statutory reserve ratio and capital adequacy ratio to prevent and manage banking risks. The regulatory authorities can control the business scale and risk exposure for self-financing business by adjusting or intervening parameters of smart contracts. It is a trend to adopt regulatory technology to respond to finance technology. The regulatory authorities of various countries have mixed concerns in view of new digital assets. On the one hand, the authorities appreciate the innovative significance, but on the other hand, they are worried about the uncontrollability. In essence, under the means of digital technology, digital assets can not only be controlled, but also be supervised in a more precise manner. In other words, the authorities should concern more about controlling too tight instead of worrying about the uncontrollability of the future.

Digital finance, characterized by the digitization

of assets, will follow the new development concepts of "innovation, coordination, green, openness, and sharing". Through the innovative application of modern science and technology, it is possible to revitalize existing assets at a higher level and activate edge assets in various fields, and deepen the structural reforms on the financial supply and promote the high-quality development of the real economy with prospering future. ■



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