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Research on the risks and regulation of financial technology

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Abstract

Financial technology (FinTech) refers to technology enabled financial solutions. While the benefit of FinTech is widely recognized, the risks inherent in FinTech also rise substantial considerations. This paper will examine the impact brought by FinTech on financial market risks and stability, including technological risks, legal risks and systemic risks, and the measures to deal with this phenomenon and risks created. Regulatory choice will be considered in the macro aspect of choice of regulatory regimes, as well as the possible regulatory ways in detail, including authorization, continuing supervision, resolution, market support and oversight. Further innovation of FinTech regulation and adoption of regulatory technology (RegTech) will also be discussed to contain and manage the new exposures created by the development of FinTech.

Key words: *FinTech; financial market; financial risks; financial regulation; RegTech*

1 Introduction

Financial technology (FinTech) refers to technology enabled financial solutions or to the use of technology to deliver financial solutions.[1] There are two main sectors within the conception of FinTech: one is the application of technology on traditional financial market sector, for example, the development of mobile payment and electronic banking, which significantly improves the efficiency and convenience of traditional financial services; the other is the expansion provided by new entrants in types of financial services and products, the emergence of peer-to-peer lending and crowdfunding is the typical example. Compared with traditional financial services and products, FinTech is regarded bringing enormous transformative power in the financial market. Such transformation mainly reflected in disrupting existing business models, creating opportunities for development, delivering better financial services, and improving the financial inclusion for people who were excluded before the emergence of FinTech.[2] For example, the automatic subscription service of money market fund provided by PayPal and Alipay help the financial customers conveniently manage their money precipitated in electronic consumer and online money transfer. And the online lending and equity financing services provided by peer-to-peer lending and crowdfunding platforms help start-ups with weak credit background alternative ways to fund their business, which will consequently benefit the creation and confidence of the economy. In addition to the market disruption and new financial products and service creation by FinTech, another advantage brought by the utilization of technology in the area of finance is the improvement of speed and capacity, as well as security and efficiency. These developments are supported by the essential characters of digital and internet technology. Although the innovative integrate of technology and finance benefits the financial market mentioned above, concerns of potential risks and instability in the sector of FinTech also arise.

2 FinTech: risks and challenges

Apart from common types of financial risks existing in financial market with both traditional and innovative sectors, the specific risks inherent in the innovation of FinTech could be summarized as technological risks, legal risks, systemic risks, and these risks will consequently impact the stability of financial market.

2.1 Technological risks

Because of the highly technological dependence in the business operations and internal systems and controls, the new developed technological risks on the operational perspectives may arise in the innovation of FinTech. The technological risks include FinTech model design risk, program flaw risk, hardware failure, network connection failure, data theft and leaking risk, hacking risk and systems failure. Such potential technological risks will substantially threat the normal operation of FinTech business and internal control systems, and in order to prevent such risks, much more cost will be spent to maintain the function and security of relevant programs and systems. Among the various technological risks, data security and technological dependence have become top concerns for the FinTech industry. As businesses increase their reliance on technology and continue to holding vast amount of sensible data, it becomes increasingly important as well as difficult to ensure that substitutive systems are in place when technology failure occurs and reinforced system is safe enough to prevent the sensible financial transaction data and consumers' private data from leaking and missing.

2.2 Legal risks

Legal risks also arise in connection with FinTech. According to the Basel consultative document, legal risks is a subset of Operational risk.[3] Although there is no standard definition, legal risks can be explained as the cost to ensure the compliance with relevant laws and enforceability of contractual documents. From the perspective of FinTech companies, the innovation on their business operation and financial service brings a ‘gap’ between the practice and application of current laws. In order to fulfill the gap and avoid legal compliant risks brought by it, the FinTech companies have the responsibility to review the financial regulation and licensing requirement on their products, services, as well as the process of business, including the legality of fund raising (registration, financial promotion and advertising, scale cap, etc.), investor credit and qualification, information disclosure and consumer protection, to ensure that the companies and their services or products comply with relevant general regulatory laws.

In addition to the compliance of relevant financial regulation laws, specific legal issues on private and public law should also be considered with regard to FinTech. For example, the validity of digital signature and the use and share of private information data should be reviewed in the scope of current contract laws and information protection laws. Public law issues would arise with regard to internal or external data theft and financial fraud, especially for the Ponzi scheme and information misrepresentation.

2.3 Systemic risks

According to the scale of services and products emerged with the development of FinTech, it is hard to say that FinTech is impacting the stability of the financial market and posing systemic risks to current financial system.[4] The traditional financial institutions, such as commercial banks, securities and insurance companies, are still taking substantial part of the current financial market, as well as the financial services and products provided by them. The development of FinTech today is generating more efficient and convenient service and diverse funding choices for financial consumers and small businesses, rather than displacing the incumbent financial services and industries. However, with regard to the functions of services and business models in the area of FinTech, such as payment services, peer-to-peer lending, crowdfunding, and other innovative trading platforms, the core functions of traditional financial institutions will be potentially carried out by the new entrants with further development. And as the economies of scale and scope of business models of FinTech grows, systemic risks will evolve.[5]

3 Choice of regulatory regime and possible regulatory ways

To contain and manage the new exposures involved in the area of FinTech and maintain the financial market stability, the capacity and effectiveness of general financial regulation should be reassessed. Development has been made in the area of regulatory regimes worldwide, and more detailed regulatory ways, which represent the lessons from financial crisis can also be adjusted to manage the new exposures of risks.

3.1 Restricted regulation or friendly regulation?

In spite of the application of technology in the traditional areas of financial services and products in order to improve the efficiency and customer experience in the process of business, the new types of financial services and products innovated by FinTech start-ups, such as payment and lending innovations are treated differently by different regions' regulators. In US, the innovators as well as their innovative financial services and products are involved in the general financial regulatory framework. A new financial service or product must comply with US regulatory regime and the innovators must devote significant time and cost to regulatory compliance. For example, the online lending service must comply with many of the same regulations that are applicable to the bank. In that case, the regulatory regime of FinTech applied by US has been regarded as restrict regulation, and it has been questioned because of the highly compliance requirement under such regulatory regime and the chilling effect of investment and innovation in FinTech.[6]

Compared with the regulatory choice of US, the regulation in UK in the area of FinTech is more 'friendly and active'. With the objective to promote competition in the interests of consumers, the Financial Conduct Authority (FCA) launched its Project Innovate in 2014 to support the development of positive, innovative FinTech start-up companies with their financial services and products. In the current regulatory regimes, FinTech innovative products and services in UK can receive relevant compliance advice from the FCA and be tested with temporary regulator's approval in the Regulatory sandbox. While the friendly regulation, especially the regulatory sandbox[7] has been highly recognized worldwide and followed by the regulators in Singapore, Australia, Malaysia and Hong Kong,[8] the balance between promoting innovation and the objective of investor protection and market stability still need to be carefully exercised under such regime.

With regard to the regulatory experience in US and UK, an appropriate balance of regulation and innovation must be further considered. Too restrict regulation might weaken the confidence of FinTech innovation, while the friendly regulation also face the question of the efficiency of risk management. What is more, regulatory compliance is of fundamentally important to FinTech companies, and can be a key competitive advantage. The FinTech industry and investment will tend to move into the regions with more friendly and costless regulatory requirement. In that case, the choice of the regulatory regime made by regulators will not only bring significant impact in the scope of the development of FinTech and market stability within their own regions, but also potentially effect the global market.

3.2 Possible regulatory ways

With regard to the specific risks emerged with the development of FinTech, namely the technological risks, legal risks and systemic risks, the possible regulatory ways may be considered in terms of authorization (market entry), continuing supervision in both micro-prudential and macro-prudential aspects, resolution (market exit), as well as market support.

FinTech regulation mainly refers to the regulatory requirements on the initial authorization of FinTech new entrants, especially new forms of financial service companies like online lending and crowdfunding platforms, as well as the services and products they provided. The authorization standard and process with regard to these new entrants should be made to safeguard the market. And current regulatory obligations on financial services and products should be extended and adjusted to keep the pace with the innovative development. For example, in 2012, US enacted Jumpstart Our Business Startups Act to address the regulatory omission brought by the emergence of crowdfunding, established regulatory provisions on crowdfunding activities and the portals. And subsequent regulatory rules has adopted by U.S. Securities and Exchange Commission (SEC) to implement the crowdfunding provisions of the Act.

Apart from the regulatory requirements, the supervisory aspect should be considered at the same time. Relevant authorities, for example, the Financial Conduct Authority (FCA) and Financial Policy Committee (FPC) within the Bank of England in the UK, should review their supervisory scopes, take new FinTech entrants into consideration, and carry on the supervisory obligations in the area of FinTech. The overall safety and soundness of the supervised FinTech institutions (micro-prudential), the stability of the financial system as a whole (macro-prudential) and the compliance with relevant laws and regulations should also be the supervisory objectives in FinTech area. The supervision can be carried out through examinations and inspections, review of reports and data, and coordination with other supervisory authorities.

In addition to the consideration on FinTech regulation and supervision in both micro-prudential and macro-prudential aspects, special procedures to deal with systemic important FinTech institutions in difficulty, similar with the resolution and recovery plans developed since 2007/2008 financial crisis could also be considered to deal with the potential risks of FinTech.

Finally, additional reserve, support or corrective mechanisms can also be maintained in the area of FinTech. For example, relevant FinTech deposit protection or insurance which guarantee minimum payments for FinTech consumers in the event of the collapse of the relevant institution can be adopted in the market in order to maintain the financial stability and protect the interest as well as the confidence of financial consumers. What is more, a new mechanism similar to the 'lender of last resort' (LLR) to the banking system can be built in FinTech area. The difference between the legacy and innovative mechanism is that the 'lender' changes to 'technology provider', and this assistance can be provided by regulator or central banks. Under such mechanism, the relevant regulators or central bank will provide emergency assistance to FinTech institutions in need of technology support or substitute systems when serious technology failure happens.

4 Future of FinTech regulation

The changes brought by FinTech in financial market has disrupted legacy regulatory systems under the name of innovation. While the framework of FinTech regulation today has been built by means of adjusting current regulatory regimes and extending regulatory rules, the policymakers and regulators still face the challenge to cope with high speed development of FinTech. Further innovation of regulation should be made both on the regulatory content and strategy, as well as regulatory technology.

4.1 Dynamic development process

With respect to the fast-growing FinTech industries and market, the expansion of detailed rules and adjustment of regulatory strategies made in the future should be in a dynamic development process when interacting with the development of FinTech. The reasons and patterns for such model of development are as follows:

Firstly, financial market is one of the most heavily regulated sectors in the modern economy.[9] While the heavily compliance burden may deter the development of innovation and weaken the confidence of creation, the regulators will still tend to take corresponding regulatory measures in the event of new financial services and products emerging. For example, to deal with the emergence of crowding, FCA has took the responsibility to regulate loan-based crowdfunding platforms and investment-based crowdfunding platforms, and has set out new rule for this activity.[10] In that case, with the development of FinTech bringing new financial services and products to the market, the regulatory rules content will be expanded as a reaction.

Secondly, according to the regulatory experience with regard to the fluctuation of economy and the explosion of financial crisis, financial regulation swings as a large pendulum, the regulation tightens after every financial crisis and loosens when the market require more liberty to boost the economy.[11] Such dynamic regulatory strategy can happen in the area of FinTech as well. Financial regulation, whether restrict regulation or friendly regulation should be adapted and further adjusted depending on the requirement of risk management, as well as the economic scale of market.

4.2 Application of RegTech

RegTech is a form of innovation in terms of regulatory tools. The most specific application of RegTech to date is in the context of reporting and potential risk analysis, for example, risk can be evidenced by real-time information from financial institutions that describes institutions' assets and liabilities and other exposures. The application of RegTech will offer tremendous compliant and monitoring cost savings to the financial services industry and regulators, and is regarded with the potential power to 'reconceptualization of financial regulation'.[12] In 2015, FCA issued a call for input and put the adoption and development of RegTech under consideration. According to the feedback of this project, further innovation of RegTech can be developed in the area of international coordination, compliance support and consumer protection.[13]

5 Conclusions

As discussed above, current regulation responses to FinTech can be separated into two specific types of regulatory choices. The restriction regulation took by US applies the same compliance obligation with legacy financial services and products on FinTech and has been questioned because of the burden of compliance under such regulatory regime chilling the investment and weakening the confidence of innovation in FinTech. On the contrary, the typically friendly regulation in UK faces the question of the efficiency of risk management and its potential impact on global market because of the preferential policies. In spite of the consideration of macro regulation regimes, more detailed regulatory ways in terms of regulation, supervision, resolution, and market support can be adapted to address the risks of FinTech. While FinTech regulation today is developing by means of adjusting current regulatory regimes and extending regulatory rules, further innovation on financial regulation should be made to cope with the fast development of FinTech. The innovation of financial regulation in the area of FinTech can be represented in a dynamic development process, in which the content of financial regulation will be extended to deal with the newly emerged business and the regulatory strategy will be adjusted according to the requirement of risk management and economic scale of FinTech market. In the meantime, financial regulation will be improved by the application of RegTech in the area of real time reporting and big data analysis. Regulatory efficiency and capacity of risk control and management in FinTech area will benefit substantially from the RegTech innovation.

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