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Regulatory Sandbox and Competition of Financial Technologies in Taiwan

By Andy C. M. Chen

(Chung Yuan Christian University)[1]

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Financial technology, or "FinTech" for short, has become the buzzword for today's digital economy. The rapid advancements of information technology and the Internet assist financial institutions to provide their products and services more efficiently and in a way more tailored to their customers' needs. Insurance companies, for example, have used telematics technology and big data analytics to better understand the risk preferences of their potential clients. This in turn has allowed insurance companies to design insurance policies more aligned with incentives that engage risk-taking activities by the insured and to contain the moral-hazard problem. In addition, FinTech enables and facilitates entry by non-financial firms into markets where regulated financial institutions have been conventionally viewed as essential intermediaries for transaction flows. FinTech gradually subverts this business model. Today, instead of lining up before an automatic teller machine or a bank counter, an increasing number of people surf online to make payment transfers with their mobile wallets. It is fair to say that FinTech is the primary driving force behind financial innovation.

To sustain the momentum of FinTech innovation, several jurisdictions, including the UK, Denmark, Canada, Singapore, Abu Dhabi, Malaysia, Hong Kong, Brunei, and Australia, have implemented "regulatory sandboxes" to encourage new FinTech experimentation, and Taiwan joined force in 2017. A regulatory sandbox offers a "playground" for innovators to test novel business ideas under the supervision of relevant regulators and with limited legal liabilities in case their experiments conflict with existing regulations.[2] A regulatory sandbox also allows regulatory agencies to stay informed of industrial developments and to re-examine and revise, if necessary, their existing regulatory frameworks. Currently, supervision of the regulatory sandbox by regulatory agencies is performed to maintain or promote consumer protection; it aims to ensure that the benefits from experiments are not achieved by compromising consumers' rights to transparency. Alternatively, I intend to provide in this paper a preliminary look at how competition issues might be included in the sandbox to broaden the horizon of regulatory review for FinTech experiments. I use the recent legislation of Taiwan as background information for our discussion. Nevertheless, I believe that the views presented herein could also be informative for other jurisdictions.

Regulatory Sandbox in Taiwan

Although a uniform definition for a regulatory sandbox may not exist, it typically consists of the following features:[3]

- Based on a case-by-case rather than a one-size-fits-all approach;
- Limited number of tested customers or clients and testing period;
- Rules aiming to safeguard consumers' interests during the testing period; and
- Limits on enforcement actions during the testing period.

On December 29, 2017, the Financial Technology Development and Innovative Experimentation Act (FTDIEA) was passed by the Legislative Yuan of Taiwan and took effect on April 30, 2018. Article 1 of the FTDIEA states that the purpose of the legislation is to create a safe environment for FinTech experimentation, to develop new financial products with the aid of new technology, to promote inclusive financing and the development of new financial technology, and to protect experimenters and financial consumers. Applications will be reviewed by the Financial Supervisory Commission (FSC) of Taiwan. The various rules and reviewing standards set forth in the FTDIEA can be summarized according to the four features described above.

1. Case-by-case approach

The requirements provided in the key provisions of the FTDIEA will be assessed and applied on an ad hoc basis. For example, an applicant needs to show the "innovativeness" and "the effects on improving efficiency of financial services, reducing operation and utilization costs, or enhancing the interests and rights of financial consumers and firms" to pass review (Article 7). Although the supplementary legislation, the FTDIEA Administrative Regulations ("Administrative Regulations"), attempts to provide specific definitions for these terms, their meanings still need to be ascertained by the FSC in individual cases.[4] Similarly, Article 15 authorizes the FSC to revoke an approval of experimentation if it later discovers during the experimentation period that the experimentation would have "gravely adverse impacts" on the financial market and on participants' interests and rights.

2. Limitations on experimentation

The number of participating customers and clients are not specified in either the FTDIEA or Administrative Regulations, and would be subject to an applicant's discretion. The amount of total experimentation funds should not exceed NT$100 million or the equivalent in foreign currencies, but could be increased to NT$200 million or the equivalent in foreign currencies if the FSC deems it necessary after review (Article 5 of Administrative Regulations). Except for professional investment institutions, the maximum amount of funds involved for *a single experimentation participant* is also limited according to the types of financial products or services that are being experimented with. In the case of insurance claims, the amount of experimentation funds is set at NT$1 million or the equivalent in foreign currencies. The experimentation period is limited to one year. However, the applicant can apply for an extension one month prior to the expiration of the approved experimentation. The total experimentation period should not exceed three years (Article 9 of the FTDIEA).

3. Safeguarding mechanisms

Safeguarding provisions in the FTDIEA can be classified into the following two categories. The first category involves rules to protect information security during experimentation periods. For example, Article 13 of the FTDIEA prescribes that the applicant should adopt proper and sufficient measures concerning information security to ensure the safety of information collection, processing, utilization, and transmission. Non-compliance could lead to revocation of approvals for experimentation. The second category contains non-waiverable rules aiming to protect participants' interests during experimentation periods and is represented by the entire fourth chapter of the FTDIEA. Article 21 describes several guiding principles for implementing participant protection. It requires the contracts between the applicant and participants during the experimentation periods to be fair and reasonable, equal and reciprocal, and should be made under the principle of good faith. Any evidently unfair contractual terms will be declared void and any disputes over their meanings will be interpreted in ways that are most favorable to the participants. Moreover, depending on the nature of contracts and in pursuance of the governing contractual terms and laws, applicants owe a duty of care and fiduciary responsibility to participants. Applicants are also prohibited from concealing information or providing fraudulent and misleading information in their publications, advertisements, and soliciting activities (Article 22). Applicants have the obligation to provide appropriate protective measures and mechanisms for exit by participants from the experimentations. They should also specify the scopes, rights and duties, and relevant risks of the experimentations in the experimentation contracts, as well as acquire participants' consent prior to commencing (Article 23).

4. Limitations on enforcement actions

Article 25 of the FTDIEA states that "Where the scope of an innovative experimentation involves regulations, orders, or administrative rules set forth by the competent authority or other government agencies (institutions), the competent authority may, based on the needs for an innovative experimentation to proceed *and after consulting and obtaining the consent of such other government agencies (institutions)*, grant exemption from such regulations, orders, or administrative rules in part or in whole to the innovative experimentation during the experimentation period and release the applicant from relevant administrative responsibilities." Nevertheless, the exemptions will not include the violations of the Money Laundering Control Act and Counter-Terrorism Financing Act. In addition, Article 26 of the FTDIEA also exempts the approved experimenters from criminal liabilities under a number of laws.

5. Post-experimentation actions

When a FinTech experimentation proves to be innovative and effective in reducing costs and enhancing the interests of consumers and business, the FSC should, after taking into account how the experimentation was implemented, undertake the following actions: (1) review and revise relevant financial laws and regulations; (2) provide assistance in creating a business or entering into a strategic partnership; and (3) refer to the relevant agencies, organizations, or capital funds that assist in the creation of a new business. When revision of laws and regulations is considered necessary by the FSC, it should submit the proposal of revision to the Executive Yuan for review within three months after the completion of the experimentation process.

FinTech and Market Competition at a Glance

FinTech affects competition in the financial industry in the following two ways. First, it enables firms to compete more efficiently with existing financial products. This is competition enhanced by *financial digitalization*. Second, FinTech brings disruptive innovations into financial markets to allow firms to compete on introducing new types of financial products. This is competition spurred by *digital financialization*. The competitive issues likely to emerge from FinTech applications are multifaceted. Several issues have been widely discussed or addressed by antitrust commentators and competition authorities and are likely to be addressed under current antirust tenets. Others could impose new and policy-driven challenges to the competition agency. I summarize in this section a streamlined framework for comprehending this fairly complicated topic.

1. Competition-in-the-market issues

Both *financial digitalization* and *digital financialization* may intensify competition among firms already in the relevant markets. In this context of competition-in-the-market, market power derived from possessing or controlling crucial FinTech platforms is typically considered the preliminary competitive issue needing to be addressed by the competition authorities. Market power may arise from owning intellectual property rights (IPRs) for the FinTech platform, such as patents for computer software that make more rapid investment analysis and consultation possible. It could also be attributable to the control of data, such as the information stored in the SIM card of a cellphone that could provide controllers with competitive advantages in the mobile payment markets. Moreover, market power could also be derived from network effects in digital platforms that implement FinTech. For example, a specific brand of third-party payments (e.g., PayPal) might gain popularity among buyers to the extent that it also attracts more sellers to choose that brand as the preferred payment method for online transactions, and vice versa.[5]

As the FSC has indicated that FinTech patents may be misused by patent holders to create market entry barriers and threaten financial competition,[6] the same competitive concern may be asserted in cases where FinTech market power is gained from the aforementioned non-IPR sources. FinTech firms may maintain or extend market power acquired through mergers. To be sure, mergers between financial institutions and FinTech companies or third-party payment providers may produce perceived efficiency gains from synergy. Similarly, lower operation costs resulting from mergers could serve the financial needs of small businesses or consumers that would not otherwise have been provided by banks. However, from the data they control and the analysis of those data, FinTech firms may be able to predict who their future competitors will be and exclude them from markets by conducting preemptive mergers.[7] Abuse of market power by FinTech companies may be practiced in the form of refusing to license IPRs or providing competitors with access to crucial financial data or facilities. In the context of payment systems, for example, the European Commission has expressed concerns over the possibility that major mobile operating system providers, such as Apple IOS or Google Android, may deny or restrict access of mobile wallets to their systems that belong to banks or third-party payment service providers.[8] With respect to market collusion, financial services powered by algorithms or blockchains may raise concerns about the facilitation of dissemination and sharing of sensitive business information and data vital to competition among market participants. The transparency and immediacy that characterize FinTech transactions can also significantly reduce the costs needed to detect cheating and impose retaliation.[9] These effects from the implementation of FinTech systems harness the instability problem prevalent in cartels.

2. Competition-for-the-market issues

The high fixed costs, network effects, and "winner take all" features that characterize the *digital financialization* process substantially enhance the importance of "competition for the market" for competition analysis. One of the most frequently debated issues in this regard is the competitive advantages provided to non-financial institutions over financial institutions by way of asymmetrical regulations. Provision of financial services and products by financial institutions are typically subject to a broad net of regulations, most notably licensing and prudence requirements. Business entities that are not established as banks or financial institutions are exempted from these regulations, even though they offer, with the assistance of financial technologies, most of the services that financial institutions provide. In reality, many non-financial FinTech companies base their business models on taking advantage of such less onerous regulatory environments.[10] In Taiwan, the issues from asymmetrical regulation in the financial industry were addressed in a passage of the Act Governing Electronic Payment Institutions in April 2015. The Act aims to narrow this regulatory gap by including in regulations businesses that intend to "accept, through a network or electronic payment platform, the registration and opening of an 'e-payment account' and use electronic equipment to connect and convey the receipt/payment information to engage in [specific businesses stipulated herein] in the capacity of an intermediary between payers and recipients" (Article 3). Similar to financial institutions now, e-payment platforms require approvals and licenses from the FSC to provide payment services. The criteria for granting approval include, *inter alia*, minimum paid-in capital and business format (limited to company limited by shares) requirements (Articles 5 & 7). In contrast, when an electronic payment institution is unable to continue its business and considers exiting the market, it also has the obligation to contact other electronic payment institutions to take over its business, subject to the approval of the competent authority. Where the institution fails to meet this obligation, the competent authority will designate other electronic payment institutions to assume its business (Article 37). Nevertheless, many more mobile and third-party payment platforms exist whose services do not involve money deposits and transfers via e-payment accounts and are thus not governed by this Act. In effect, the services provided by

Apply Pay and Google Pay are conceptually viewed as "extended" credit-card services in Taiwan and are not subject to the same entry and exit requirements that the e-payment providers are subject to.

Regulatory Sandbox in the Streamlined Framework

Once experimentation is approved, the applicant is by definition given the privilege to experiment with its technologies without intervention by the relevant laws. In this context, the approved experimenter could thereby be immune from competition in the market. Accordingly, it would also be reasonable to prioritize considerations for competition-for-the-market issues. I examine several of these in this section.

1. Case-by-case approach and reviewing uncertainty

Uncertainty in the case-by-case reviewing process may inflate entry costs and diminish incentives to apply for experimentation. For example, according to the FSC, if an application has been previously approved, subsequent applications with the same or similar *business nature* and implementing the existing patented or non-patented technologies in patently different technological and business models will be denied for lacking "innovativeness" as is defined under Article 6 of the Administrative Regulations.[11] The FSC further states that in judging whether the application is of the same or similar business nature, it will take into account the financial laws and regulations, technologies, *or* business models involved.[12] One question immediately arises: why are the factors of "technological and business models" repeatedly assessed in two separate requirements for innovativeness? To make sense of treating "business nature" as an independent requirement from that of the "patently different models", that the applicant's business is governed by different financial laws and regulations from those of the previously approved applicant seems to be the most decisive and perhaps, the only, requirement that the FSC needs to consider. However, such an interpretation could be problematic because one of the purposes of the regulatory sandbox is to review and even abolish financial laws and regulations rendered outdated by new technologies or business models. It is logically unsound to rely on something that is likely to be subverted by an experimentation to act as the threshold for commencing an experimentation.

2. Limitations on the subject matter of experimentation

In addition to limits set on experimentation funds and periods, Article 3 of the FTDIEA also limits experimentation to "financial businesses that require the permission, approval, or concession of the competent authority." Consequently, experimentations on technologies used for financial services that do not require the approval or concession of the FSC, such as peer-to-peer lending, are not qualified for FTDIEA application. This subject matter restriction appears to be overly broad and is averse to dynamic competition. The FSC attempts to justify this by asserting that businesses engaging in financial services not subject to approval or concession by the FSC are free to conduct any experimentations they desire. However, this view neglects the benefits gained from a less regulated business environment that is created by the regulatory sandbox in enhancing the incentives to innovate and the degree of technological competition.

3. Safeguarding mechanisms and the increased costs for competition

Both types of rules to protect information security and participants' interests under the FTDIEA require substantial investments by potential experimenters. Some have argued that it will significantly raise the experimentation costs for small innovators and disincentivize market entry.[13] In response, the FSC insists that an applicant should adjust the scales and scopes of their experimentations in proportion to their financial capability to manage risks and meet safeguarding requirements.[14] This regulatory view does not change the reality that small innovators with the same or better technologies than large innovators may be deterred from entering the market of experimentation for lack of financial resources to meet these safeguarding measures. One market-driven solution may be to rely on capital markets to garner funds necessary for experimentation, particularly if the returns from experimentation can be convincingly demonstrated to investors.[15] The other way of looking at this issue is for the FSC to be mindful of the possibility that safeguarding mechanisms such as measures for anti-money laundering could be exceedingly enforced. Recent efforts by the government to boost its international ranking for anti-money laundering serve as an example. Under instruction of the FSA, banks in Taiwan request their depositors to update their account information within specified time periods. Failure to make these updates accordingly will result in the accounts being temporarily suspended and no transactions through the accounts will be permitted until the depositors comply. This has evoked complaints about the measures being too intrusive to personal information and has caused inconvenience to depositors. The FSC responded by holding a meeting with the banks and now requires them to adjust these measures.[16]

4. The issue of competitive assessments for liability exemptions

In order to properly administer the consultation procedure under Article 25 of the FTDIEA before decisions on liability exemptions are made, the FSC organized an advisory group consisting of representatives from related government agencies. Surprisingly, the Taiwan Fair Trade Commission (TFTC) was not invited to join the group.[17] I do not know why the TFTC was not involved, but this should worry the competition agency. Implicitly, the FSC seems to hold the view that the regulatory sandbox is purely a regulatory matter. However, this is an incorrect interpretation of the FTDIEA. Not only are competition regulations part of the "regulations, orders, or administrative rules set forth by the [government agencies]" as described in Article 25, Article 7 has also included public interest as one of the purposes that the FTDIEA intends to pursue. Therefore, it is against the legislative intent of the FTDIEA if the law is enforced along a policy line that focuses exclusively on regulatory or industry considerations.

Conclusion

Being a recent financial legislation in Taiwan, it remains to be seen how the regulatory sandbox embodied by the FTDIEA will be used to facilitate the emergence of new financial technologies and products to provide consumers with increased financial choices. In this paper, I first highlighted the key features of the FTDIEA before providing a bifurcated framework to understand the types of competitive issues likely to arise from FinTech competition. I then conducted a preliminary analysis of the FTDIEA under this streamlined framework. I suggested that its reviewing standards be further clarified, subject matters of experimentation be broadened, and the requirement to safeguard mechanisms be implemented with care. Finally, I caution against viewing the regulatory sandbox as a sort of *carte blanche* for exempting antitrust liability. Competition law may still be highly relevant to ensure that FinTech experimentation is not undertaken at the price of limiting competition from equally or more efficient innovators. Competition can provide a litmus test to assist policy makers when evaluating whether an experimentation would be successful and beneficial to the welfare of society.

[1] Andy C. M. Chen is a Professor of Law, Department of Financial and Economic Law, at Chung Yuan Christian University, Taiwan.

[2] Khushboo Agarwal, *Playing in the Regulatory Sandbox*, THE NEW YORK UNIVERSITY JOURNAL OF LAW AND BUSINESS (January 8, 2018) *available at* https://www.nyujlb.org/single-post/2018/01/08/Playing-in-the-Regulatory-Sandbox

[3] *Id*.

[4] For example, Article 6 of the Administration Regulations defines "innovativeness" to include applying existing technologies or patented technologies to financial business *in patently different technological or business models*.

[5] See Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 481, 483(1998)("[A] network effect exists where purchasers find a good more valuable as additional purchasers buy the same good.")

[6] Financial Supervisory Commission of Taiwan, *FinTech Development Strategy White Paper* 47 (May 2016).

[7] MAURICE E. STUCKE & ALLEN P. GRUNES, BIG DATA AND COMPETITION POLICY 8 (2016).

[8] *See* European Commission, *European Initiative-Building a Competitive Data and Knowledge Economy in Europe*, *available at* https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0178&from=en

[9] OECD Competition Committee Annual Meeting, *Algorithm and Collusion: Background Note by the Secretariat* para. 4.3 (2017), *available at* http://www.oecd.org/daf/competition/algorithms-and-collusion.htm

[10] Nizan Geslevich Packin & Yaft Lev-Aretz, *Access to Payments and Credit in the Age of Big Data in* ELECTRONIC PAYMENT SYSTEM: LAW AND EMERGING TECHNOLOGIES 259, 263 (Edward A. Morse ed. 2018)

[11] Questions and Answers on FTDIEA by FSC *available at* https://www.mjib.gov.tw/userfiles/files/35-洗錢防制處/files/實務問答/02-06-13.pdf

[12] Statements for Article 6 of Administrative Regulations.

[13] *See supra* note 10.

[14] *Id*.

[15] *See e.g.* George Stigler, *Imperfections in the Capital Market in* THE ORGANIZATION OF INDUSTRY 113, 114-15 (George J. Stigler ed., 1968).

[16] *See* report by United Daily News on January 2, 2019, *available at* https://udn.com/news/story/11311/3566721 (in Chinese).

[17] The author has contacted and confirmed the information with the TFTC.