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Understanding policy diffusion mechanism of financial regulatory innovation: the experience of Taiwan

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ABSTRACT


This paper thoroughly examines the adoption of the financial regulatory sandbox regime in Taiwan. As the first civil law country that has promulgated a new law to implement this regime, Taiwan contributes towards and embodies an archetype of policy diffusion mechanisms of financial regulatory innovation. The discussion on sandbox diffusion remains incomplete in the literature, and this paper is an attempt to fill in the gaps. Our analysis suggests that financial regulators, the legislative branch, foreign regulators, government-supported fintech hubs, and private institutions are all affiliated in this process of policy diffusion. Forerunner states provide essential references and sometimes offer direct assistance to help promulgate the sandbox regime. This paper also explores the three main diffusion mechanisms: competition, learning, and emulation, which have all played different roles in this process of diffusion. Despite different and sometimes conflicting interests, stakeholders are concerned with fintech-related regulatory issues. Their shared interests in the regulatory sandbox regime result from a strong consensus, thus leading to the successful enactment of sandbox legislation. Taiwan's case study holds policy implications on how a civil law country adopts financial regulatory innovation and through which mechanisms the popular regulatory sandbox was diffused into the country.

KEYWORDS

Regulatory sandbox; policy diffusion; sandbox act; fintech regulation; legislative process

I. Introduction

Regulating fintech has been a crucial topic for regulators around the globe in the past few years. Various measures had to be taken into account, and the main challenges that regulators were faced with were the balance between facilitating innovation and maintaining financial stability.¹ The financial regulatory sandbox is arguably the most popular regulatory solution worldwide thus far. Since the UK's Financial Conduct Authority announced its regulatory sandbox in 2015, regulators around the world have established over 60

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¹David Lipton, 'A Balanced Approach to Fintech Regulation and Innovation – at Home and Abroad' *IMF* (1 April 2019) <<https://tinyurl.com/y2d9dx8b>> accessed 27 January 2022.

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sandbox regimes.² Although their sandbox regulations vary, it is evident that the UK sandbox has provided a template for other regulators.³ Regulators rushed to embrace financial regulatory innovation, but it is still not entirely clear as to why many agencies choose the regulatory sandbox as the primary regulatory solution. Moreover, it is not clear how regulatory agencies learned this particular regulatory design and how they evaluate whether to adopt it or not. Hence, this paper aims at understanding the diffusion process of financial regulatory innovation. In particular, it focuses on regulatory reforms that establish a regulatory sandbox.

The authors argue that it is unlikely that governments made their decision without consulting other governments or private institutions. In addition, it is also unlikely that regulators simply copy the sandbox regime from other states. The diffusion of the financial regulatory sandbox is a social process. Financial regulators seek solutions to regulate fintech companies properly. They receive guidance and recommendations during the engagement with their counterparts in various IGOs, INGOs, or G-SSBs (Global Standards-Setting Bodies). They aim to better understand the needs of the private sector. In addition, the establishment of a sandbox is a competition between political elites. This is particularly profound in civil law countries since regulatory innovation is largely subjected to the supervision of Congress, which creates opportunities for private actors to lobby their positions. The relations between the regulators, legislators, financial institutions, fintech startups, and foreign regulators determine the efficiency of producing an operational regulatory sandbox regime. Each stakeholder is motivated by their positions and interests. Their interactions produce an internalized consensus about the regulatory sandbox, which in turn impels regulators to establish and implement financial regulatory sandbox regimes.

This paper focuses on and examines the regulatory sandbox of Taiwan by applying the theory of transnational policy diffusion. The case is particularly informative regarding civil law countries since Taiwan is the first civil law jurisdiction to implement the sandbox regime statutorily.⁴ To operate the sandbox regime under its legal system, Taiwan enacted a new law, together with a set of enabling regulations, in early 2018. This paper studies and learns the formation of Taiwan's sandbox regime from publicly available information as well as government officials, academic scholars, and fintech players.

Taiwan's experience demonstrates the channel of policy diffusion as well as a cooperative partnership between the regulatory agency and Congress, and between the industry advocates and regulators. Foreign countries have also played a role. This paper concludes with an elaboration of the policy diffusion pattern of the regulatory sandbox regime. The result shows that financial regulators would be able to initiate or drive policy diffusion by actively and strategically engaging foreign regulators, and promoting regulatory thinking and standards which are aligned with their national interests. The diffusion pattern identified by this study, together with lessons learned from the case study of Taiwan, informs

²Some countries have multiple sandbox regimes. World Bank Group, 'How Regulators Respond to Fintech Evaluating the Different Approaches-Sandboxes and Beyond' (2020) 5 Finance, Competitiveness & Innovation Global Practice Fintech Note 20 <<https://tinyurl.com/yxna4du8>> accessed 27 January 2022.

³Chang-hsien Tsai, Ching-Fu Lin, and Han-Wei Liu, 'The Diffusion of the Sandbox Approach to Disruptive Innovation and Its Limitations' (2020) 53(3) Cornell Int'l LJ 10.

⁴For the effect of the legislature, see Chang-Hsien Tsai, 'To Regulate or Not to Regulate: A Comparison of Government Responses to Peer-to-Peer Lending among the United States, China, and Taiwan' (2018) 87(4) University of Cincinnati Law Review 1077.

and demonstrates to worldwide regulators how to diffuse or adopt financial regulatory sandbox regimes, and perhaps other forms of regulatory innovations.

II. The rise of the regulatory sandbox

A. Origin and the rationale for regulatory sandbox

Fintech can be understood as ‘technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services’⁵ The range of fintech can be very broad to include activities or services such as crowdfunding (in the form of equity or loan), digital banking, e-money, and mobile payments, Robo-advice, crypto-assets related financial activities, and InsurTech.⁶ The world has witnessed a rapid rise of fintech innovations in the past few years. The main driving force has not been the traditional financial intermediaries but technology firms that apply new technology to financial services.⁷ Fintech poses many classical and similar risks to the financial system with its traditional counterparts.⁸ What makes fintech different lies in three dimensions: First, it involves service provisions by non-financial firms to enable innovation and advance inclusion. This character introduces challenges to regulators because they have to decide whether to grant market access to these non-financial firms while ensuring stability and healthy competition of the financial market.⁹ Second, it involves deeper, diverse, and more frequent use of information technologies to understand customers’ needs better and offer valuable services accordingly. This character poses challenges to regulators’ ability to identify risks arising from the uses of technologies, and their capability to mitigate the risk and handle crises when things go south. For example, a bank’s use of machine learning technology to refine its lending decisions may be difficult to explain due to the technology’s ‘black box’ feature, not to mention being audited effectively by bank examiners and regulators. Third, it involves unprecedented collaborations between financial institutions and non-financial firms in many regards, such as proofing new concepts, adopting innovative technologies, introducing different business operations, and launching novel services. Such collaborations challenge regulatory boundaries and introduce complex legal issues that could potentially involve interactions between financial law, competition law, data privacy law, cyber law, and consumer protection law.

These three challenges require financial authorities to work out an effective mechanism to weigh on market entry regulation, to learn the use of new technologies and mitigate potential risks, and to solve complex cross-sector legal and regulatory issues. There is

⁵Financial Stability Board, ‘Financial Stability Implications from FinTech, Supervisory and Regulatory Issues that Merit Authorities’ Attention’ (2017) <www.fsb.org/wp-content/uploads/R270617.pdf> accessed 27 January 2022.

⁶Johannes Ehrentraud and others, ‘FSI Insights on Policy Implementation No 23 Policy Responses to Fintech: A Cross-Country Overview’ (2020) <www.bis.org/fsi/publ/insights23.pdf> accessed 27 January 2022.

⁷Financial Stability Board (n 5).

⁸In Lee and Yong Jae Shin, ‘Fintech: Ecosystem, Business Models, Investment Decisions, and Challenges’ (2018) 61 *Business Horizons* 35, 43–45.

⁹World Economic Forum, ‘Balancing Financial Stability, Innovation, and Economic Growth’ (2017) <www3.weforum.org/docs/IP/2017/FS/WEF_Whitepaper_FSIEG.pdf> accessed 27 January 2022; Magyar Nemzeti Bank, ‘Innovation and Stability Overview of Fintech in Hungary’ (2017) <www.mnb.hu/letoltes/consultation-document.pdf> accessed 27 January 2022.

no panacea. One mechanism which arguably comes close to a solution is the regulatory sandbox. The idea of the regulatory sandbox was first introduced by the UK in November 2015. The UK's Financial Conduct Authority proposed its first version of a regulatory sandbox under the presumption that it is feasible to reduce existing regulatory barriers to firms, while also maintaining safeguards.¹⁰ The primary goal of launching a regulatory sandbox is to promote 'effective competition in the interests of consumers'.¹¹ Therefore, a sandbox regime should have the potential to enable greater and cost-effective access to the financial market innovators and ensure proper consumer safeguards.¹²

Regulatory sandbox regimes help regulators resolve the 'capital-authorization' dilemma. A non-financial innovator may need the authorization to be allowed to enter the financial market. However, in acquiring authorization, a firm must satisfy the minimum capital requirement set forth by the law or its enabling regulation. Fintech start-ups typically do not have sufficient capital to meet the authorization or licensing requirement, especially since the financial service industry is a highly regulated one. This makes startups even more difficult to access the venture capital market because prospective investors would choose not to invest in the financial services industry unless they have a high level of certainty that the startup which asks for funding indeed has the chance to obtain the regulator's approval.

A fintech startup needs capital to get authorization, but at the same time, it requires authorization to attract capital. A sandbox regime solves such a dilemma by granting the accepted testing firm a temporary or limited authorization, which allows the testing firm to further attract funding from the market when testing in the sandbox. Indeed, a very recent empirical study also echoes this argument by concluding that 'the innovative business model of fintech ventures commercialized through the regulatory sandbox can be an attractive investment factor for venture capitalists and corporate venture capitals'.¹³ The same study also highlights the UK's experience by noting that '[i]n the United Kingdom ... 30% of venture companies that graduated from the regulatory sandbox received venture investment, and the average investment amount increased 6.6 times'.¹⁴ With many countries joining the UK to launch regulatory sandboxes, the functions and benefits have become diverse. First, a sandbox regime serves as a tool for regulators to engage in marketplace innovation and develop a more informed and empirically-based long-term policy.¹⁵ Second, a sandbox regime sends a signal to the market that the adopting regulator is deeply committed to innovation and embraces an open-minded culture.¹⁶ Such a signal will

¹⁰Financial Conduct Authority, 'Regulatory Sandbox' (2015) <www.fca.org.uk/publication/research/regulatory-sandbox.pdf> accessed 27 January 2022.

¹¹Ibid, 2.

¹²Ibid.

¹³Jayoung James Goo and Joo-Yeun Heo, 'The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation Between Regulatory Sandboxes and Open Innovation' (2020) 6(43) J Open Innov Technol Mark Complex 16.

¹⁴Financial Stability Board (n 5); Goo and Heo (n 13).

¹⁵UNSGSA FinTech Working Group and CCAF, 'Early Lessons on Regulatory Innovations to Enable Inclusive Fintech: Innovation Offices, Regulatory Sandboxes, And Regtech' (UNSGSA Survey, 2019) <https://responsiblefinanceforum.org/wp-content/uploads/2019/10/UNSGSA_Report_2019_Final-compressed.pdf> accessed 27 January 2022.

¹⁶Ibid, 30. Some scholars even argue that 'the most important function of any sandbox for a regulator is the strong message that having it sends to the market'; Ross P Buckley, Douglas Arner, Robin Veidt, and Dirk Zetzsche, 'Building Fintech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond' (2020) 61 Wash U J L & Pol'Y 55, 60.

help the adopting jurisdiction to attract talents and capital from across the globe. Therefore one can think the regulatory sandbox has been employed as a state's strategy to compete with foreign regulators, especially those who locate in markets where social-economic conditions and cultural backgrounds are similar to the adopting jurisdiction.¹⁷ Third, a sandbox regime has the potential to promote financial inclusion directly and foster market developments.¹⁸ Lastly, as Tsai, Lin, and Liu suggest, establishing a sandbox in a financial area can have a spillover effect as the idea of the sandbox experiment may apply to another regulatory conundrum.¹⁹

Of course, the sandbox regime has its limitations. First, a worldwide survey concludes sandboxes 'are neither necessary nor sufficient for promoting financial inclusion'.²⁰ Some scholars even argue that '[w]hile sandboxes tend to attract the headlines and attention, the real work of promoting and facilitating innovation in financial services tends to be done, in virtually all jurisdictions where it does occur, by some form of innovation hub'.²¹ This line of arguments highlights that a sandbox regime might need to come with other innovation facilitators, such as an innovation hub that serves as a platform to facilitate regulator-industry dialogue.²² The second limitation of a sandbox regime is that it is a highly resource-intensive process. The *development* of the sandbox regime in itself takes human resources, money, and time. A survey finds that the development of the sandbox regime took at least 18 months in a developing economy. The process 'has ... involved significant internal consultation, estimated at around six days each for 10–15 members of senior management and a three-day workshop for around 18 staff members'.²³ In advanced markets, the development usually takes a minimum of six months.²⁴

The *implementation* of sandbox tests is likewise costly and resource-intensive. Many regulators recognized that they had underestimated the resources required to operate a sandbox regime. Many were also surprised to find they were overwhelmed by the number of sandbox testing applications.²⁵ Even in an advanced economy, some also find it takes around ten full-time staff to support the sandbox functions.²⁶

Despite its limitations and challenges facing regulators, the regulatory sandbox has been a worldwide trend that attracts many jurisdictions to follow suit. Some jurisdictions create a sandbox regime under the mandates given by the existing laws, whereas some passed new legislations to give birth to a sandbox regime. Many also established various supporting mechanisms to facilitate the operation of the sandbox regime, such as a

¹⁷See Buckley and others (n 16) 76. (Observing that 'at the global level, sandboxes have added to the competition among financial centers seeking to become the world's preeminent fintech hub. The sandbox, as an institution, challenges reluctant regulators without sandboxes and pushes them to publish and possibly review their dispensation policies.')

¹⁸Ibid, 28.

¹⁹Tsai and others (n 3) 14–15, 32–36. They illustrate unmanned vehicles, healthcare, data protection, and AI development as examples.

²⁰Ibid, 30.

²¹Buckley and others (n 16) 59.

²²For example, a recent European study observes that regulatory sandbox and innovation hubs 'are not mutually exclusive, with many jurisdictions having put in place more than one type or mixed models'. And some European Union member states 'who have at first established innovation hubs, are now increasingly moving to testing in sandboxes'. Radostina Parenti, 'Regulatory Sandboxes and Innovation Hubs for FinTech' European Parliament Think Tank, Luxembourg (30 September 2020) 19, 22 <<https://tinyurl.com/yfjm9ovk>> accessed 27 January 2022.

²³UNSGSA Survey (n 15) 31.

²⁴Ibid.

²⁵Ibid.

²⁶Ibid.

hotline, a chatroom, or a regulatory clinic where fintech firms can seek regulatory and compliance consultation. They also establish innovation hubs at which fintech innovators can have a single portal to access financial regulators and understand the complex financial regulatory frameworks.

B. Sandbox and innovation hub

A sandbox standalone is not sufficient to enable financial innovation and advance financial inclusion. It is widely recognized that extensive interaction between regulators and market participants is vital and necessary for cautious experimentation.²⁷ Since 2015, communication between regulators and fintech firms has increasingly been institutionalized through the development of innovation departments within regulatory agencies.²⁸ These institutional access points have been established in over 30 jurisdictions to date and are widely referred to as ‘innovation hubs’.²⁹ An innovation hub can be understood as ‘a portal, a means by which industry can readily access regulators to discuss their proposed fintech innovations, gain some guidance on navigating regulatory requirements, and potentially seek dispensations or adjustments in the specific regulations to which they will be subject’.³⁰ Scholars maintain the view that regulatory authorities need to make their staff readily available to interact actively with the industry and issue waivers or relaxations when necessary to promote genuine innovation.³¹

The authors share similar views and argue that a regulatory sandbox, ideally, should serve two essential functions: first, a set of rules for all the experiments to carry out in a safe and controlled manner³²; Second, a mechanism that effectively distinguishes between those who need and need not undergo a regulatory experiment.³³ The former is a typical function for ordinary sandboxes and the latter requires a platform through which a potential applicant can access regulatory consultation and make judgments as to whether to apply for formal sandbox testing or not.

Innovation hubs fulfil the latter function well and prevent unnecessary waste of regulatory resources. Generally speaking, both regulatory sandboxes and innovation hubs consume a substantial amount of regulatory resources. A nuance between the two mechanisms lies in that the sandbox testing requires a considerable amount of human resource input on the side of regulators because allowing a firm to test in the sandbox is essentially subjecting that firm to the regulator’s direct supervision,³⁴ whereas offering consultation in an innovation hub can still let regulators and the industry player collaborate on an equal footing. To wit, by working with the industry in an innovation hub, the regulator acts more like a *partner* instead of a supervisor to the industry and, therefore, offering to make and give fintech firms an agreeable supportive role when it comes to activating innovation. The best strategy, consequently, is to support the innovation of a fintech

²⁷Dirk Zetsche and others, ‘Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation’ (2017) 23 Fordham J Corp Financ Law 31, 38–39.

²⁸Ibid, 39.

²⁹UNSGSA Survey (n 15) 21.

³⁰Buckley and others (n 16) 58.

³¹Ibid, 59.

³²Zetsche and others (n 27) 64.

³³See *ibid*, 69–71, for the Entry test of sandbox.

³⁴Buckley and others (n 16) 78–79.

ecosystem by integrating the use of a sandbox regime and an innovation hub.³⁵ The combined employment of a sandbox regime and an innovation hub becomes a popular norm for many countries, including Taiwan. Therefore, the following discussion on Taiwan's sandbox regime also encompasses functions and the interplay of both mechanisms.

III. Policy diffusion of the regulatory sandbox

As Simmons points out, global financial regulatory harmonization is mainly driven by major players in global finance such as the US and the UK.³⁶ The regulatory response of dominant players sets an example for other states. This stands true in regulatory innovation under the rise of fintech. Since the UK established a regulatory sandbox in 2015, regulators around the globe have gained significant interests in such a regime. Sandbox regimes and innovation hubs burgeoned quickly. Despite its popularity, the mechanism for which regulators adopt the sandbox remains largely unexplored. This is because creating a sandbox regime is usually considered a regulator's careful decision to cope with fintech challenges. However, financial regulators are highly connected as their financial markets are tied closely. The partnership between regulators and the fintech industry also suggests that the private sector plays an important role in regulatory innovation. It is thus important to understand the process of sandbox diffusion, including the actors involved, the direction of diffusion, and the role of forerunners: those who already established the sandbox.

The decision of introducing a sandbox does not depend solely on regulators. Domestic and foreign political elites, fintech firms, and financial intermediaries all participate in the decision making process. Domestic and foreign stakeholders create a complex, multi-directional network where they exchange ideas, experiences, recommendations, and dis-sents. This interactive social process includes an introduction of regulatory innovation, a discourse and persuasion of the usefulness of this innovation, and finally the internalization and implementation of the innovation. As a result, regulatory sandbox diffuses into other countries.

Literature on socialization has provided a theoretical foundation explaining policy diffusion. In a widely recognized paper, Simmons, Dobbin, and Garrett list four policy diffusion mechanisms: *coercion*, *competition*, *learning*, and *emulation*.³⁷ These mechanisms, as they put it, explore 'how a given country's policy choices are affected by the prior choices of other countries', which serve as the main drivers behind policy convergence.³⁸ The following discussion applies these mechanisms to examine sandbox diffusion. The mechanisms provide explanations for the incentive and interests behind the diffusion behaviour of key stakeholders.

³⁵Ibid, 83.

³⁶Beth A Simmons, 'The International Politics of Harmonization: The Case of Capital Market Regulation' (2001) 55(3) International Organization 589.

³⁷Beth A Simmons, Frank Dobbin, and Geoffrey Garrett, 'Introduction: The International Diffusion of Liberalism' (2006) 60 (4) International Organization 781. See also Fabrizio Gilardi and Fabio Wasserfallen, 'Policy Diffusion: Mechanisms and Practical Implications' (Paper for Presentation at the Governance Design Network Workshop, National University of Singapore, Singapore, February 2017); Charles R Shipan and Craig Volden, 'The Mechanisms of Policy Diffusion' (2008) 52 (4) American Journal of Political Science 840.

³⁸Simmons Dobbin, and Garrett (n 37) 782.

There are at least five types of stakeholders involved in the creation and diffusion of the sandbox regime: financial regulators in the adopting country, foreign regulators, fintech firms, incumbent financial institutions (mostly banks), and the legislators in the adopting country. These self-interested actors are motivated by their goals in financial governance to advocate, support, or consider applying regulatory sandbox. The role of legislators is particularly salient for civil law countries where regulations need to obtain authorization from Congress. The following sections elaborate on how different diffusion mechanisms apply to each stakeholder. They advocate or resist regulatory sandbox based on their roles and goals in financial markets.

A. Coercion

The *coercion* mechanism is based on the policy preference of the stronger states. These powerful states use either political or economic coercive threat to force weaker actors to change or adopt policies. Coercion is not common in financial regulatory innovation because innovation does not necessarily require policy convergence to take effect. In terms of a financial regulatory sandbox, there is a lack of interest to demand other regulators to impose regulatory sandbox from regulators in strong states because a sandbox mainly focuses on the domestic impact. Coercive policy changes, however, occur in the global anti-money laundering regime.³⁹ States comply with regulatory requirements designated by the Financial Action Task Force for fear of being blacklisted. There generally lacks of a similar coercive mechanism in the regulatory sandbox.

B. Competition

The *competition mechanism* delineates a policy diffusion under peer pressure. States compete with each other and adopt policies due to expected benefits. Successful financial policies give a state a competitive advantage to develop its financial market, attract foreign capital, and establish a reputation among peers. Competition is not necessarily zero-sum, but states seek to maximize their gains utilizing policy innovation.⁴⁰ States facing competitors who share similar market characteristics or similar policy goals are likely to experience heavier peer pressure.⁴¹ Their regulators are therefore more likely to invest in policy innovation and adopt sandbox.

Fintech firms and incumbents are driven by competition motives to advocate regulatory sandbox. Fintech innovation is the key for these actors to establish a competitive advantage in financial markets. It is possible that the incumbents in the market, namely banks, would hamper competitors by opposing financial regulatory sandbox. However, banks and fintech firms share a common goal to apply fintech-based services. They

³⁹Daniel W Drezner, 'Globalization, Harmonization, and Competition: The Different Pathways to Policy Convergence' (2007) 12(5) *Journal of European Public Policy* 841; JC Sharman, 'Power and Discourse in Policy Diffusion: Anti-Money Laundering in Developing States' (1 September 2008) 52(3) *International Studies Quarterly* 635.

⁴⁰Zachary Elkins and Beth Simmons, 'The Globalization of Liberalization: Policy Diffusion in the International Political Economy' (2004) 98(1) *American Political Science Review* 171; Xun Cao and Aseem Prakash, 'Trade Competition and Environmental Regulations: Domestic Political Constraints and Issue Visibility' (2012) 74(1) *The Journal of Politics* 66.

⁴¹Xun Cao, 'Global Networks and Domestic Policy Convergence: A Network Explanation of Policy Changes' (2012) 64(3) *World Politics* 375.

have the incentive to cooperate and call for regulatory relaxation. Moreover, banks enjoy an advantage in developing fintech due to their market share, customer base, and infrastructure. They are more likely to benefit from regulatory innovation such as a sandbox. In that case, incumbents and non-financial firms share an interest in pushing for a regulatory sandbox regime.

Regulators face peer pressure because they have an interest in developing their respective financial market or establishing/maintaining its advantage in the global financial system. Regulators embrace fintech to introduce financial innovation, sometimes aiming at improving financial inclusion.

Foreign regulators play a unique role in policy diffusion. Although it is not their responsibility for formulating regulatory sandbox overseas, they sometimes are dedicated to helping other regulators to understand it. Foreign regulators are motivated to maintain or achieve their leading roles in global finance. This is particularly true for regulators from more developed financial markets. They implement financial innovations such as regulatory sandbox to keep up with the changing financial market. By offering information and recommendations to other regulators, foreign regulators establish a reputation as problem-solvers and reliable consultants. Their role in helping other regulators further consolidates their leading position in global finance. This helps their states to enjoy agenda-setting power in Global Standards-setting Bodies (G-SSBs).

Another incentive for foreign regulators to diffuse sandbox is helping their fintech firms to gain a competitive advantage. The home country of fintech firms may advocate regulatory sandbox to help local government accommodate these firms. Successful policy diffusion helps foreign fintech firms to operate in local markets.

C. Learning

The *learning mechanism* is a process of solving informational problems when states make policy choices. A regulator learns a regulatory innovation from other regulators, including cost, effectiveness, and viability. A regulator carefully considers the functional needs of its state and then proceeds to eliminate potentially harmful options to tailor a suitable policy.⁴² Learning is a socialization process where regulators will adopt similar policies due to a shared identity in global financial governance. It can be a social construction process where common identity derives from geographic proximity and similarity of the financial market, or it can build on cultural, language, and ideological similarity.⁴³ A positive view on the sandbox regime is formed during their regular interactions, contributing to the change of belief among regulators.

Learning mechanism mainly affects regulators and legislators. Both stakeholders face regulatory challenges from the rise of fintech. They are responsible for assessing the

⁴²Fabrizio Gilardi, Katharina Füglistner and Stéphane Luyet, 'Learning From Others: The Diffusion of Hospital Financing Reforms in OECD Countries' (2009) 42(4) *Comparative Political Studies* 549; Elkins and Simmons, 'The Globalization of Liberalization' (n 40).

⁴³Zachary Elkins and Beth Simmons, 'On Waves, Clusters, and Diffusion: A Conceptual Framework' (2005) 598(1) *The ANNALS of the American Academy of Political and Social Science* 33; Lawrence J Grossback, Sean Nicholson-Crotty and David AM Peterson, 'Ideology and Learning in Policy Diffusion' (2004) 32(5) *American Politics Research* 521; Kurt Weyland, 'Theories of Policy Diffusion Lessons from Latin American Pension Reform' (2005) 57(2) *World Politics* 262; Jack S Levy, 'Learning and Foreign Policy: Sweeping a Conceptual Minefield' (1994) 48(2) *International Organization* 279.

impact of the fintech industry and search for regulatory solutions.⁴⁴ The experience of other states is an important reference since they have overcome similar challenges. Regulators may incline to learn from countries that have similar regulatory systems, similar historical/cultural ties, or neighbours in the same region. Due to the pattern of global financial governance, they are more likely to seek advice from regulators who supervise major markets. The regulatory sandbox has been the solution that most of these forerunners adopt. Under this trend, the advantage of the regulatory sandbox has become a prevalent idea among regulators, creating a socialization force that compels regulators to study sandbox regimes.

As for foreign regulators, they provide information, experience, and help evaluate the impact of the regulatory sandbox. To this end, foreign regulators promote positive views about the sandbox regime. Foreign regulators also help local stakeholders to assess whether sandbox is a viable option. This motive encourages foreign regulators to take the initiative to interact with local stakeholders.

Learning also applies to fintech firms and incumbent financial institutions. They also seek regulatory measures that allow them to conduct innovation. They are likely to obtain information from foreign governments, legal consultants, and their business peers at home and abroad. They have an incentive to explore how sandbox facilitates financial innovation. They will approach the regulators with the experience of their business peers overseas and provide policy recommendations.

D. Emulation

The *emulation mechanism* explains why states adopt policies without a comprehensive survey of their situation. Research policy innovations are costly and time-consuming. Emulating successful policies that are already in force is an efficient option. States, therefore, search for role models in other states.⁴⁵ The experience of other states serves as a cognitive shortcut or a 'heuristic' decision making.⁴⁶ Emulation is particularly important for countries that lack expertise or financial resources to evaluate different policies. Sometimes a successful role model can be defined through a social construction process rather than quantifiable policy effectiveness.⁴⁷ Those who manage their financial market well, innovating their regulatory measure regularly, or having a strong fintech industry, are highly reputed in financial governance. Regulators will emulate these states due to their trust in successful regulators.⁴⁸

Emulation mainly applies to decision makers.⁴⁹ As the popularity of the sandbox increases, regulators and legislators may emulate the forerunner states to establish

⁴⁴Douglas W Arner, Janos Bareris and Ross P Buckley, 'FinTech, RegTech, and the Reconceptualization of Financial Regulation' (2017) 37(3) *Northwestern Journal of International Law & Business* 371.

⁴⁵Craig Volden, 'States as Policy Laboratories: Emulating Success in the Children's Health Insurance Program' (2006) 50(2) *American Journal of Political Science* 294; Colin J Bennett, 'What Is Policy Convergence and What Causes It?' (1991) 21 (2) *British Journal of Political Science* 215.

⁴⁶Jack L Walker, 'The Diffusion of Innovations among the American States' (September 1969) 63(3) *American Political Science Review* 880.

⁴⁷Chang Kil Lee and David Strang, 'The International Diffusion of Public-Sector Downsizing: Network Emulation and Theory-Driven Learning' (2006) 60(4) *International Organization* 883.

⁴⁸David H Bearce and Stacy Bondanella, 'Intergovernmental Organizations, Socialization, and Member-State Interest Convergence' (2007) 61(4) *International Organization* 703.

⁴⁹Giuseppe Labianca and others, 'Emulation in Academia: Balancing Structure and Identity' (2001) 12(3) *Organization Science* 312.

Table 1. Diffusion mechanisms of the regulatory sandbox.

Stakeholders	Diffusion mechanism			
	Coercion	Competition	Learning	Emulation
Regulators		✓	✓	✓
Regulators in foreign country		✓	✓	
Fintech firms		✓	✓	
Incumbent financial institutions		✓	✓	
Legislators			✓	✓

their version of a sandbox. Emulation is particularly useful when they try to promulgate sandbox regulations. The designs of the sandbox regime vary between states as each state takes into account their respective needs. Regulators and legislators lack the resources to examine all the sandbox regulations. It is more efficient to mimic the regulatory design of key forerunners such as their experiment scope, review standards, test period, etc.

Table 1 shows the four major mechanisms through which each stakeholder helps diffuse regulatory sandbox. No stakeholders diffuse sandbox through coercion. Regulators are motivated by competition, learning, and emulation to adopt sandbox. Foreign regulators diffuse sandbox for reasons of competition and learning. Promoting sandbox helps them establish a reputation and consolidate their leading role in global finance. Fintech firms and incumbent financial institutions lobby for regulatory sandboxes under the effect of competition and learning. Legislators are incentivized to learn and emulate from foreign countries. Legislators would like to obtain specific details and the cost-benefit analysis of different sandbox designs, which helps them promulgate specific regulations.

IV. Research method

A. Understanding the diffusion process

This paper applies the theory of global policy diffusion and proposes an analytical framework to study the diffusion of financial regulatory sandbox. Since regulatory innovation depends on the scrutiny of regulators, the paper aims to clarify the channel of policy diffusion, including influence from a regulatory network, contemplation of regulators, and advocacy efforts of private institutions.⁵⁰ We focus our analysis on the key stakeholders in the case. The discussion centres around the regulator, but legislators, fintech firms, incumbent financial institutions, and foreign regulators are also included. Using an elaborated case study, this paper intends to reveal how different stakeholders advocate regulatory solutions to the rise of fintech. The analysis reveals a cross-border socialization process where stakeholders learn the trend of regulatory innovation abroad and gradually reach a consensus to establish a financial regulatory sandbox. As they move on to the promulgation of the sandbox regime, regulations of foreign countries remain a key reference.

⁵⁰For the literature on personal relations and policy network, see Robert L Crain, 'Fluoridation: The Diffusion of an Innovation among Cities' (1 June 1966) 44(4) *Social Forces* 467.

The main evidence is based on secondary materials, namely, news reports, official documents and statements, and publicly available policy platforms. It is also based on knowledge learned from or verified by several key stakeholders, including financial regulators, financial service industry associations, state-sponsored fintech hubs, and former legislators who were closely involved in the legislative process.

The following empirical section investigates Taiwan's stakeholders during the establishment of a financial regulatory sandbox. The period of investigation is between mid-2015 and late-2017. In 2015, the regulators in the Financial Supervisory Commission (FSC) of Taiwan became aware of the rise of fintech and initiated a series of actions to promote fintech businesses.⁵¹ At the same time, the FSC recognized that they would encounter regulatory challenges. Until the end of 2017, the FSC had gone through a process of learning, self-reflection, and action-taking to seek a regulatory solution.

This study by no means makes a theoretical generalization of sandbox diffusion. It also does not address the effectiveness of the financial regulatory sandbox. However, this study offers an analytical framework based on the diffusion theory. The case demonstrates how financial regulators connect themselves with regulatory networks by studying and sometimes consulting directly with foreign regulatory agencies. It points out the pathways of diffusion as well as how local regulators review their challenges. The case also provides a useful reference for civil law countries regarding the challenges during the law-making process.

B. Case selection

Taiwan's sandbox diffusion experience is noteworthy and informative for the following reasons. First, Taiwan has weak domestic pressure to innovate its regulatory measures compared with other financial markets. The FSC appreciates the importance of fintech, but it also has a reputation of strongly valuing financial stability. They are not prone to accept new regulatory techniques. The FSC does not consider financial innovation as the main strategy to improve the competitiveness of its market. The FSC thus has a low incentive to accept or introduce new regulatory measures.

Secondly, as a civil law country, the FSC lacks the authority to establish a regulatory sandbox through merely promulgating regulations. This creates a variety of choices for the regulators. It took a significant time searching for and debating on regulatory solutions. When a regulator decides to promulgate a new law, it needs to pass the legislative process of that country. Regulators or policymakers face a political risk if such a process is required. The problem mainly lies in the divergent interests of different parties over the draft bills. The government proposal may also meet challenges from different interest groups, who lobby legislators to support their interests. The struggle between political parties may also create issue-linkage with other legislations. In the case of Taiwan, there was a political struggle between the relative parties. Even though the major parties agreed to establish a sandbox, their expectation differed.

⁵¹Teng-Yu Gu, 'Taiwan Finally Keeps Up with the FinTech Trend, and have Gradually Moved Beyond the Financial Transition by the Four Major Policies' *iThome* (21 November 2015) (辜騰玉, '臺灣終於跟上FinTech風潮, 4大政策跨出金融轉型第一步', 《iThome》, 2015年11月21日) <www.ithome.com.tw/news/99941> accessed 27 January 2022.

Third, not only the decision making within the FSC took a long time, there was a political turnover in Taiwan. The idea of a regulatory sandbox had emerged during Kuomintang's (KMT) rule. In the 2016 election, the opposition party, Democratic Progressive Party (DPP), won both presidential and legislative elections. The process also involved five chairpersons of the FSC. The change in leadership inevitably brought inconsistencies to the FSC's positions in Taiwan, thus illustrating the forces of political struggle and cooperation between parties and those within the bureaucratic system. However, the promulgation of the sandbox legislation was met with very few obstacles. Although such a dynamic does not necessarily appear in other nations, it is important to investigate why Taiwan had this advantage. As the case will show, the incentive to diffuse regulatory sandbox plays an important role.

V. Financial regulatory sandbox: the experience of Taiwan

A. Fintech and regulatory issues in Taiwan

The FSC of Taiwan started to introduce the study of fintech and its potential challenges to regulators in 2015. Both non-financial fintech firms and financial institutions would like to introduce fintech solutions to innovate their services.⁵² However, the regulatory barrier was rigid. The FSC's support for the fintech industry emerged fairly early, but such support was limited to encouraging fintech development. It took more than a year before the FSC decided to adopt a regulatory sandbox. During this period, the Legislative Yuan (the Congress) played a role in pressuring the FSC to research and deliberate solutions on fintech-related regulatory issues.⁵³ Political turnover and leadership changes also had impacts on the FSC's policymaking. The timeline in [Figure 1](#) briefly summarizes the major events of Taiwan's case.

B. Early efforts to promote fintech

The first step of regulatory support came from the FSC. Inspired by the UK's report on the regulatory sandbox, the then FSC chairperson Ming-Chung Tseng (曾銘宗) instructed internal researches on fintech and its related regulatory issues as early as 2015. Under Tseng's auspice, the FSC established the FinTech Office in September 2015.⁵⁴ The FinTech Office was run by the FSC's Department of Information Management (DOIM). DOIM was not a research institute, nor was it responsible for promoting financial innovation. The FinTech Office held three consultative meetings. It aimed to promote fintech-related services such as electronic payments and the use of biometrics in financial services.⁵⁵ Overall, the main task of the Office was encouraging the use of

⁵²PwC Taiwan, '2017 Global Fintech Survey-Taiwan Summary' (2017) 5. (資誠台灣, '2017年全球金融科技調查台灣概要', 2017年) <www.pwc.tw/zh/publications/assets/2017-fintech-taiwan-report.pdf> accessed 27 January 2022.

⁵³Yi-Yun An, 'Promotion of Regulatory Sandbox' (Analysis of Legislative Yuan, 10th appointed legislators 2th session, February 2017) (安怡芸, '監理沙盒制度之推動情形', 立法院第10屆第2會期議題研析, 2017年2月) <www.ly.gov.tw/Pages/Detail.aspx?nodeid=6590&pid=85384> accessed 27 January 2022.

⁵⁴FSC, 'The FinTech Office was Formally Established and Inaugurated' (24 September 2015) (金管會, '金管會金融科技辦公室正式成立並揭牌運作', 2015年9月24日) <<https://tinyurl.com/y6cpt2xe>> accessed 27 January 2022.

⁵⁵FSC, 'The First Meeting of Fintech Council Initiate the Project on Doubling Down Domestic Electronic Payment' (2 November 2015) (金管會, '金融科技諮詢委員會第1次會議, 啟動國內電子支付倍增計畫等措施', 2015年11月2日) <<https://tinyurl.com/y92vc37x>> accessed 27 January 2022.

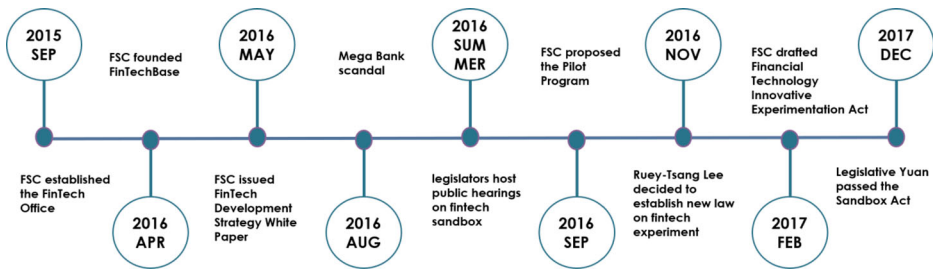


Figure 1. Timeline for Taiwan's financial regulatory sandbox.

fintech in the traditional banking business. It did not address regulatory barriers that fintech businesses were most concerned about.

At the time, the FSC was in the process of conducting researches on fintech, its regulatory challenge, and viable solutions. Tseng stepped down after the legislative election in early 2016. He became a legislator of KMT (the ruling party back then). He soon joined the finance committee in the Legislative Yuan. He and other legislative members started to push for the idea of a regulatory sandbox from the legislative branch. Li-Ling Wang (王麗玲) succeeded Tseng as the chairperson. Her tenure was short because the DPP won the presidential and legislative elections in 2016. However, Wang strongly advocated for the promotion of fintech. During her tenure, the FSC published its first roadmap document: 'FinTech Development Strategy White Paper (the White paper)'.⁵⁶

The White paper was an indication of the FSC's assessment on fintech. It also sets up plans for the Taiwan government to promote fintech in the future. The FSC addressed talent incubation and committed policy support to fintech startups. It recommends to tag along with the government's *ide@Taiwan 2020* project (創意臺灣政策白皮書) to invite foreign talents and investment.⁵⁷ It marked the FSC's support for a fintech incubator. The White paper also pledged to re-examine and relax financial regulations through a consultation mechanism with private actors. The White paper addressed the regulatory measures of few foreign countries such as the UK.⁵⁸ It was clear, though, that the FSC had not decided its regulatory response to the rise of fintech. Wang left office not long after the paper was published. Her successors, Ke-Hua Ding (丁克華), were mired in the suspected money-laundering case of Mega Bank.⁵⁹ Ding resigned in four months without making substantive progress on cultivating a sandbox regime.

The call for planning an adequate regulatory framework over fintech did not wane. The pressure mainly came from the Legislative Yuan. Several legislators turned their attention to fintech and regulatory sandbox. This included Ming-Chung Tseng, Wan-Ju Yu (余宛如), Yu-Jen Hsu (許毓仁), Yung-Chang Chiang (江永昌), and Kuo-Chang Huang (黃國昌).

⁵⁶FSC, 'FinTech Development Strategy White Paper' (12 May 2016) (金管會, 金融科技發展策略白皮書, 2016年5月12日) <www.fsc.gov.tw/ch/home.jsp?id=517&parentpath=0,7,478> accessed 27 January 2022.

⁵⁷National Development Council, 'ide@Taiwan 2020 project' (國家發展委員會, 'ide@Taiwan 2020 (創意台灣) 政策白皮書') <www.ndc.gov.tw/Content_List.aspx?n=CE8524192720696F&upn=FFBA69B8D9791D2D> accessed 27 January 2022.

⁵⁸In the meantime, the White Paper specifically investigated the United States, Singapore, South Korea, and Australia concerning their support for fintech development.

⁵⁹FSC, 'FSC's Explanation on the Sanction of Mega Bank by the FSA of New York' (19 August 2016) (金管會, 金管會對兆豐國際商業銀行遭美國紐約州金融監理機關裁罰一事之說明, 2016年8月19日) <<https://tinyurl.com/y297tavx>> accessed 27 January 2022.

These legislators raised inquiries directly against the FSC officials concerning fintech issues. They urged the FSC to formulate proposals of regulatory changes that would create a friendly environment for fintech firms in Taiwan. Some legislators worried that Taiwan's banking business would not be able to adopt fintech in time to compete with foreign counterparts; some showed an interest in the risk fintech might bring to consumers or the financial system as a whole. The FSC had to respond to these inquiries. Such pressures forced the FSC to consider strategies promoting fintech as well as regulating it. The idea of a regulatory sandbox was raised during those inquiries. To respond to legislators, the FSC officials needed to learn about the development of regulatory sandboxes in other countries. They also had to evaluate different options of regulating fintech services ranging from electronic payments, P2P lending, crowdfunding, initial coin offering (ICO), and the regulatory sandbox.⁶⁰

Although the FSC was indecisive about adopting a regulatory sandbox, it took actions to support fintech. The FSC delegated the Taiwan Financial Services Roundtable (TFSR), an industry association that bridges communications between financial institutions, regulators, and legislators, to establish the 'Financial Technology Development Fund' in late 2015. TFSR raised 200 million NTD from its members, which consisted of financial infrastructures and financial business associations.⁶¹ The TFSR then outsourced the Institute of Information Industry (III), an ICT think tank of the Ministry of Economic Affairs, to found the FinTechBase.⁶² The FinTechBase was similar to a virtual fintech hub or innovation hub. It fostered fintech innovation by providing fintech startups with funding supports, customized acceleration, and advice.⁶³ FinTechBase bridged fintech businesses and regulators. For example, FinTechBase and the FSC hosted a forum back in late 2016.⁶⁴ The FSC sent officials from various bureaus to discuss the needs of fintech firms. The FinTech community urged the FSC to implement the financial regulatory sandbox.

C. Decision making of a regulatory response

The year 2016 was a key year for Taiwan to learn about the financial regulatory sandbox. Political turnover brought uncertainty to the leadership circle in the FSC, but the internal research and learning were not interrupted. The FSC started to think about emulating the UK. It had an internal study on the UK sandbox; the FSC's London office also approached the FCA to acquire information on the UK regulatory measures. The launch of Singapore's sandbox was another catalyst. Singapore was the first Asian country to adopt a sandbox.⁶⁵ It raised a discussion among the business community and regulators. FinTechBase and the

⁶⁰Legislative Yuan, 'The Legislative Yuan Gazette' 105(45) (22 June 2016) (立法院, '立法院公報105卷第45期', 105年6月22日) <https://lci.ly.gov.tw/LyLCEW/communique1/final/pdf/105/45/LCIDC01_1054501.pdf> accessed 27 January 2022.

⁶¹Taiwan Financial Services Roundtable, 'Financial Technology Development Fund' (7 April 2016) (台灣金融服務業聯合總會, '金融科技發展基金', 2016年4月7日) <www.tfsr.org.tw/Home/NewsContent/53?Kind=公益及發展基金> accessed 8 February 2021.

⁶²'Cultivating Talents Actively – FinTechBase Recruits the Second Cohort of Startups' *CNews* (17 August 2016) ('積極培育人才 FinTechBase招募第二梯新創團隊', 《匯流新聞網》2016年8月17日) <<https://cnews.com.tw/%E7%A9%8D%E6%A5%B5%E5%9F%B9%E8%82%B2%E4%BA%BA%E6%89%8D-fintechbase%E6%8B%9B%E5%8B%9F%E7%AC%AC%E4%BA%8C%E6%A2%AF%E6%96%B0%E5%89%B5%E5%9C%98%E9%9A%8A/>> accessed 27 January 2022.

⁶³The FSC was hesitant to take such a role since it would be inappropriate for regulators to fund private enterprises.

⁶⁴'The FSC Finally Opened Its Arms to FinTech Startups. There are Four Urgent Needs' *iThome* (9 December 2016) ('金管會終於敞開雙臂, 與FinTech新創面對面, 四大需求最急迫' 《iThome》, 2016年12月9日) <<https://tinyurl.com/y24dhko8>> accessed 27 January 2022.

firms it supported assisted in helping the FSC officials to understand fintech better. The FSC officials approached fintech businesses via FinTechBase, tried to understand their regulatory problems, and got their feedbacks about the regulatory sandbox. During the summer of 2016, albeit the FSC's Department of Information Management remained in charge of the operation of the FSC's FinTech Office and the development of fintech policy, the FSC's Department of Planning started researching the regulatory sandbox regime. The operation of the FinTech office was later transferred to the Department of Planning in February 2018. The Department of Planning is responsible for policy research and formulating medium and long-term strategic plans for financial supervision. This change indicated that the FSC no longer saw fintech as a technological agenda. Regulating fintech required FinTech Office to onboard the different bureaus and formulate strategies together. The Department of Planning was certainly a more fitting agency.

However, in 2016, the FSC was still indecisive about adopting the regulatory sandbox. Although sandbox might be an option, chairperson Ding preferred another option called Pilot Program (領航計畫).⁶⁶ This Program would have allowed licensed financial institutions to test fintech services under the precondition that those services did not violate existing laws and regulations. It did not provide temporary relaxation of regulations. The reason for this, Ding explained, was that the FSC had no authority to support law-breaking services. He emphasized that the UK-style regulatory sandbox did not apply to Taiwan because Taiwan had a civil law system.⁶⁷ The Pilot Program attracted many criticisms from industry and academics.⁶⁸ The FSC eventually abandoned the Program.

Dissatisfied by the stalling from the executive branch, the legislative branch took actions to introduce the regulatory sandbox. During the latter half of 2016, four legislators, Ming-Chung Tseng, Yu-Jen Hsu, Wan-Ju Yu, and Shyh-Bao Lai each proposed their versions of regulatory changes to accommodate sandbox experiments in Taiwan. All these proposals covered up to eight Financial Acts. Wan-Ju Yu further proposed to amend the Financial Consumer Protection Act. There was a total of 25 amendments.⁶⁹

The complexity of these amendments revealed one fundamental obstacle in establishing the financial regulatory sandbox in Taiwan. Taiwan adopts a *de facto* institutional regulatory model under which the supervisory jurisdiction was allocated according to the legal status of different institutions, namely banks, securities firms, and insurance

⁶⁵Monetary Authority of Singapore, 'MAS Issues "Regulatory Sandbox" Guidelines for FinTech Experiments' (16 November 2016) <<https://tinyurl.com/r5yqa7a>> accessed 27 January 2022.

⁶⁶Financial Supervisory Commission, 'Collaboration of Finance and Technology and the Upgrade of Fintech' (9 September 2016) (金融監督管理委員會, '金融與科技攜手, fintech升級', 2016年9月9日) <<https://tinyurl.com/yd2y7sdx>> accessed 27 January 2022.

⁶⁷Chen-Ling Peng, 'Piloting Fintech: Don't Forget the Importance of "Horizontal Coordination"', *Commonwealth Magazine* (22 September 2016) (彭禎伶, '金管會將推台式監理沙盒', 《工商時報》, 2016年09月10日) <<https://tinyurl.com/jys8syjrj>> accessed 27 January 2022.

⁶⁸Shao-Heng Ma, 'Piloting Fintech: Don't Forget the Importance of "Horizontal Coordination"', *Commonwealth Magazine* (22 September 2016) (馬紹恆, 'FinTech領航, 別忘了「橫向協調」的重要', 《天下雜誌獨立評論》, 2016年9月22日) <<https://opinion.cw.com.tw/blog/profile/52/article/4802>> accessed 27 January 2022.

⁶⁹Legislative Yuan, 'The 801th Agenda Related Documents of Legislative Yuan, 9th appointed legislators 4th session, 15th sitting' (2016) (立法院, '立法院第9屆第4會期第15次會議議案關係文書院總第801號', 2016年); Legislative Yuan, 'The 1662th Agenda Related Documents of Legislative Yuan, 9th Appointed Legislators 4th Session, 15th Sitting' (2016) (立法院, '立法院第9屆第4會期第15次會議議案關係文書院總第1662號', 2016年); Ting-An Shen, 'The Revised Law Covers 8 Fields, Supervises the New Direction of Sandbox, and Specializes in Financial Consumer Protection Law', *iThome* (24 November 2016) (沈庭安, '修一法涵蓋8領域, 監理沙盒新方向, 專攻金融消費者保護法', 《iThome》, 2016年11月24日) <www.ithome.com.tw/news/109790> accessed 27 January 2022.

companies. Accordingly, each type of financial institution has corresponding laws that govern their establishment, behaviours, and closures. Fintech, however, could cover different grounds or involve more than two business functions. To establish a regulatory sandbox, the FSC needed to coordinate different bureaus within itself. Different bureaus might have different attitudes toward fintech.

Against this backdrop, the FSC studied four options. The first one was revising the eight financial Acts altogether. It would be a time-consuming process since it re-examines all major financial Acts. The second option was revising the Financial Consumer Protection Act. The FSC and the legislators shared the opinion that this option was not viable since the Act only addressed consumers rather than the fintech industry. The third option was revising the Organic Act Governing the Establishment of the Financial Supervisory Commission. Revising this Act would extend the authority of the FSC. It would establish a new bureau to administrate the sandbox. However, such an arrangement encountered an administrative problem. The number of bureaus in the government of Taiwan had a maximum number of 70 according to the Basic Code Governing Central Administrative Agencies Organizations. It would be difficult for the FSC to get permission from the Executive Yuan to set up a new bureau. Besides, setting up a new bureau required a large amount of financial and human resources. It did not seem to be a viable option.

The fourth option was promulgating a new law that would be dedicated specifically to creating and operating a financial regulatory sandbox. The downside of this option, however, was that promulgating a new law could be time-consuming due to the lengthy legislative process. In addition, even though legislators from both the ruling party and opposition parties had voiced supports for a financial regulatory sandbox, the opposition parties might block this law in exchange for the passage of other laws.

Simply put, there was no easy way for the FSC to establish a regulatory sandbox. Nevertheless, there was a clear consensus between the executive and the legislative branch that Taiwan should establish regulatory arrangements to facilitate the development of fintech. Ruey-Tsang Lee (李瑞倉) took over the position of chairperson after Ding's tenure.⁷⁰ Lee decided to promulgate a new law on the financial regulatory sandbox.⁷¹

By the end of 2016, the FSC started to focus on drafting a bill. The FSC did not build the law on its own. It learned from the experience of forerunner states and received consultation from various actors. This included scholars, foreign representative offices in Taipei, and publicly available reports issued by various countries that had already implemented a regulatory sandbox. The experience of other countries was an important reference for the FSC. The experience of the UK, Singapore, and Australia was particularly influential.

The FSC drafted the 'Financial Technology Innovative Experimentation Act (金融科技創新實驗條例, thereafter the draft Act)' in February 2017. The Executive Yuan then approved the bill in May and it was scheduled to pass the legislative process by the end of the year.⁷²

⁷⁰Tien-mu Huang (黃天牧) briefly served as acting chairperson before Lee stepped in. Huang became the chairperson in 2020.

⁷¹Digital Nation & Innovative Economic Development Program, 'FSC Supports the Legislation of Regulatory Sandbox' (16 November 2016) (行政院數位國家創新經濟推動小組, '金管會擬監理沙盒立法', 2016年11月16日) <<https://digi.ey.gov.tw/Page/1538F8CF7474AB4E/3e3b4668-1310-490e-a156-65b8477e8a20>> accessed 27 January 2022.

D. Legislative challenges

As the executive branch promulgated the new law, the legislative branch also started to further examine sandbox and relevant legislation. Legislators such as Wan-Ju Yu and Ming-Chung Tseng hosted public hearings in the Legislative Yuan.⁷³ The hearings allowed various businesses to express their recommendations about the operational details of the regulatory sandbox.⁷⁴ Those discussions were generally very informative and specific.

To make proper laws, lawmakers also had to learn about the regulatory sandbox, especially the experience of other countries. However, they had limited resources in the Legislative Yuan. The Organic Law and Statute Bureau, a congressional research agency, could not offer the latest information or a comprehensive study of the regulatory sandbox. According to a former legislator, the lawmakers often had to rely on their connections to fully understand the sandbox regime. Helpful sources include the studies of assistants in Congress, researches done by academic scholars, and assistances from consultancies. Scholars and lawyers who were interested in fintech issues provided professional opinions about the design of sandbox. Their suggestions were valuable during the legislative process.

The Legislative Yuan was going to deliberate the draft Act in the second legislative session between September to December 2017. Meanwhile, the FSC had another leadership change. Li-Hsiung Koo (顧立雄), a professional lawyer, became the chairperson in September 2017. He played an important role during the establishment of the draft Act. Being an expert of law, Koo quickly grasped the essence of the regulatory sandbox and gave his full support.⁷⁵ The challenge during his tenure was twofold: The legislative process had been long and arduous. It had been difficult to pass legislation during the formal legislative session due to party competition. The sandbox legislation might be delayed by other Acts due to a political impasse. The FSC would have to coordinate its preferences with that of legislators and the fintech industry.

In addition to the version proposed by the FSC, the legislators proposed five versions of the sandbox Act. The main proposers were Ming-Chung Tseng, New Power Party (Kuo-Chang Huang), Wan-Ju Yu, Su-Mei Chen-Lai (陳賴素美), and Yu-Jen Hsu.⁷⁶ Their proposals were sent for further discussion in the finance committee of the Legislative Yuan. The differences between their drafts were narrow, but each draft reflected the concerns the legislators had paid most attention to.

⁷²Hui-Ling Chen, 'The Financial Technology Innovative Experimentation Act is Expected to be Reviewed by Legislative Yuan in February' *Anue Fund* (10 February 2017) (陳慧菱, '發展監理沙盒 金融科技專法新增2大重點 拚2月底送進立院審查', 《鉅亨新聞》, 2017年2月10日) <<https://tinyurl.com/y68tsgpw>> accessed 27 January 2022.

⁷³Wan-Ju Yu, 'Regulatory Sandbox Public Hearings' ACCUPASS (31 August 2016) (余宛如, '「啟動沙盒, 政府的配套是什麼?」公聽會', 《ACCUPASS》, 2016年8月31日) <www.accupass.com/event/1608291028284180519520> accessed 27 January 2022.

⁷⁴Ting-An Shen, 'FinTech Innovation Is Struggling with Blurred Financial Regulation, Calling for the Promotion of Regulatory Sandbox as soon as Possible' *iThome* (18 September 2016) (沈庭安, 'Fintech新創受困金融法規模糊, 各界呼籲儘速推動監理沙盒', 《iThome》, 2016年9月18日) <www.ithome.com.tw/news/108459> accessed 27 January 2022.

⁷⁵Tzung-Han Yu, 'An Exclusive Interview of Gu Li Shiung About Sandbox Experiment' *Knowing News* (20 December 2017) (余宗翰, '《專訪》顧立雄: 監理沙盒最長三年的實驗時間是為了做法規調適', 《Knowing新聞》, 2017年12月20日) <<https://tinyurl.com/y4mo5nfj>> accessed 27 January 2022.

⁷⁶Chen-Lai's and Hsu's drafts came a little later than the other three. The full name of each draft bill varied slightly. For example, Tseng's initial draft Act was 'Financial Innovation Experimentation Act'; Yu's draft Act was 'Financial Technology Innovation Experimentation Act'. These titles, however, reflected the preferences of different legislators.

Members of the finance committee reached a consensus on most of the articles in the draft Act after a long consultative discussion on 8 November 2017. Despite numerous versions, the FSC and legislators did not have disagreements over the draft Act. The main differences were whether the draft Act would give the FSC more power to supervise the experimentation process or whether it would grant participants more time and freedom to test their services. Therefore, the FSC quickly merged different drafts. The consensus among legislators on the draft Act was extraordinary. Both the ruling party and opposition parties decided to support the draft Act. Chairperson Koo's attentive responses significantly facilitated the discussion. He merged the different drafts to accommodate both the FSC's position and the legislators' concerns and successfully avoided lengthy struggles within the finance committee. The committee resolved several key disagreements like the duration and extension of an experiment, the number of external members in the application review committee, consumer protection, etc.⁷⁷

The result of the consultative session became the basis of the final Act. This version only took one hour to pass on 18 December 2017.⁷⁸ The process of the consultative session showed that the members of the finance committee gave the Act significant support. Both incumbent and opposition parties gave high priority to this legislation. The draft Act was scheduled to pass on 26 December, but the leader of the DPP Caucus suddenly proposed to halt the Third Reading procedure due to concerns about anti-money laundering measures.⁷⁹ DPP's move put shadows on passing the draft Act since it was the last week of the formal session. The DPP whip Chien-Ming Ker (柯建銘) hosted another consultation between key stakeholders two days later.⁸⁰

The reason behind DPP's demand was unclear. It could be that the draft Act raised the attention of the Ministry of Justice due to AML concerns. When the draft Act was discussed, Taiwan was on the 'reinforced follow-up list' of Asia-Pacific Group on Money Laundering (APG) and was about to undergo an on-site review with the hope to be removed from that list. In November 2017, Taiwan just finished the third round of on-site review by APG and the result was promising. The Justice department might want to make sure that the Act would effectively prevent money laundering. It is noteworthy, however, that the consultation spent much time discussing the proportion of external reviewers in the review committee that would review sandbox applications.⁸¹

The consultation eventually reached an agreement. The opposition parties agreed to send the version proposed by DPP, but they would voice and vote against the articles

⁷⁷The 12th Proceedings of Legislative Yuan, Finance Committee, the 9th Appointed Legislators, 4th Session' (2017) 4508 *The Legislative Yuan Gazette* 37 (立法院, '第9屆第4會期財政委員會第12次全體委員會議紀錄', 《立法院公報》, 第106期104卷, 2017年12月13日).

⁷⁸Pei-Ling Hong, 'Supervision Sandbox Mechanism Is About to Legislate, Taiwan Takes a Big Step in Fintech' *Business Today* (19 December 2017) (洪佩玲, '監理沙盒機制即將立法, 台灣在金融科技邁進一大步', 《今周刊》, 2017年12月19日) <www.businesstoday.com.tw/article/category/80392/post/201712190020/監理沙盒機制即將立法%20台灣在金融科技邁進一大步> accessed 27 January 2022.

⁷⁹Yu-Jen Hsu, 'The Suspension of Regulatory Sandbox Legislation' *Common Wealth Magazine* (26 December 2017) (許毓仁, '金融監理沙盒立法喊卡! 許毓仁投書: 勿讓台灣fintech成為政治算計的犧牲品', 《天下雜誌》, 2017年12月26日) <<https://tinyurl.com/y3c9ga3r>> accessed 27 January 2022.

⁸⁰Ting-An Shen, 'Taiwan's Financial Innovation Has Made a Great Leap, and the Financial Regulatory Sandbox Has Passed the Third Reading! Three-Year Experimental Period, the World's Longest' *iThome* (29 December 2017) (沈庭安, '臺灣金融創新大躍進, 金融監理沙盒今三讀過關! 3年實驗期, 全球最長', 《iThome》, 2017年12月29日) <www.ithome.com.tw/news/120000> accessed 27 January 2022.

⁸¹Legislative Yuan, 'Consultative Discussion of Legislative Yuan, the 9th Appointed Legislators, 4th Session' (2017) 4534(3) *The Legislative Yuan Gazette* 197, 200–03 (立法院, '第9屆第4會期黨團協商會議紀錄', 《立法院公報》, 第107期第9卷(下), 2017年12月28日).

they disagreed with during the second readings of the formal session. The Financial Technology Development and Innovative Experimentation Act (the 'Sandbox Act') was passed the next day on 29 December. Despite the nay votes from the KMT legislators, all parties looked forward to the passage of the Sandbox Act. The legislative process was a lot smoother than most of the bills.⁸²

E. Policy diffusion in Taiwan

Taiwan was the first civil law country to adopt a financial regulatory sandbox through legislation. The legislative process was time-consuming and difficult. It took the executive branch over a year to send out a legislation draft. Followed by the legislative process which took eight months after the executive branch sent its draft for legislative review. Nevertheless, this process was unusually fast. As described by legislator Yung-Chang Chiang, the Act was passed at a 'light speed'.⁸³ However, this was still much slower compared to common law countries. Singapore, for example, took less than 6 months. Both the FSC officials and legislators acknowledged that sandbox would be an important step to develop the financial industry.⁸⁴ To be clear, the Legislative Yuan did not alter the procedural rule for passing this Act. The party consultation was in general smooth despite some minor disagreements. Each political party offered concessions during the negotiation of the Act, and the FSC was opened to legislators' suggestions.

Table 2 shows that *competition, learning, and emulation* all played a role behind policy diffusion in Taiwan. It corresponds to Table 1 except that foreign regulators in this case do not diffuse policy through learning. They took a more passive role in Taiwan.

The strong consensus between the government and legislators was mainly driven by the worries of the changes fintech would bring. The competition mechanism played a primary role. The political elites in the executive and legislative branches recognized that Taiwan could not afford to stand aside while other countries have taken steps to foster friendly regulatory environments for fintech firms. For example, legislator Wan-Ju Yu once warned that Taiwan would have fallen behind without digital economy innovation.⁸⁵ This worry of 'falling behind' was socialized among political elites. Even if the FSC had not decided its regulatory response, Chairperson Tseng decided to study fintech challenges by establishing an Office. The FSC then began to search for regulatory solutions. It quickly turned to the forerunners in the world and studied their responses. There was strong evidence of diffusion through learning and emulation during 2015-2016. The White paper established several principles that paved the way for a regulatory sandbox.

Foreign regulators were not directly involved, but they certainly played a role during the learning process. The UK's role is particularly significant. London has been the

⁸²Legislative Yuan, 'The 15th Proceedings of Legislative Yuan, the 9th Appointed Legislators, 4th Session' 80-82 (立法院第9屆第4會期第15次會議議事錄, 2017年12月29日) (29 December 2017) <<https://tinyurl.com/y448hoqt>> accessed 27 January 2022.

⁸³Legislative Yuan, 'The Record of 15th Sittings of Legislative Yuan, the 9th Appointed Legislators, 4th Session' (2017) 4534(1) *The Legislative Yuan Gazette* 105 (立法院, 第9屆第4會期第15次會議紀錄, 《立法院公報》, 第107期第9卷(上), 2017年12月29日).

⁸⁴Yi-Yun An (n 53).

⁸⁵Wan-Ju Yu, 'Dispel the 8 myths of fintech' (31 October 2016) (余宛如, '破除fintech 8迷思 余宛如推監理沙盒8法', 2016年10月31日) <<https://tinyurl.com/y24joyn7>> accessed 27 January 2022.

Table 2. Diffusion mechanisms applied in Taiwan.

	Diffusion mechanism		
	Competition	Learning	Emulation
Regulators	✓	✓	✓
Regulators in foreign country	✓		
fintech firms	✓	✓	
Incumbent financial institutions	✓	✓	
Legislators		✓	✓

leading global financial centre. Its policy proposal and supervisory strategies have been the model of other countries. The FSC has an office in London. The FSC has paid close attention to the UK financial regulatory framework through its London office. Its representatives in London also reached out to the UK's FCA to acquire information about its regulatory sandbox. The information was incorporated in the White paper and became an important reference during the legislative process.

More importantly, the UK has been willing to share information. British Office Taipei, for example, was said to provide substantive help during the legislative process. To be specific, they explained to legislators the composition of the review committee that examines sandbox applications.⁸⁶ Albeit information like this is not confidential, the operational details of a sandbox regime are difficult to clarify through public sources. This information helped resolve the dispute between incumbent and opposition parties at the final stage of legislation as they disagreed with whether the review committee should include external experts.

The welcoming attitude of the UK shows that foreign regulators have the interest to help policy diffusion. They are willing to share information and provide consultation because sandbox diffusion does not harm their competitive advantage or financial stability.

Fintech firms and incumbent financial institutions in Taiwan had a common interest pushing for more relaxed regulation on fintech as they easily trip on existing regulations. Since they were both eager to innovate their services through fintech, they pressured the FSC to make a regulatory breakthrough.⁸⁷ Domestic firms and banks began to advocate financial regulatory sandbox because they understood the FSC would not bear the risk of regulatory relaxation. They had expected to get licenses and permissions after experiments. They, therefore, familiarized themselves with the financial regulatory sandbox and raised concerns and recommendations to the FSC as well as legislators.

Legislators in Taiwan learned from and emulated the regulations of foreign countries. The legislators lacked the resources to make proper legislation. They received helps from the public information provided by the FSC, fintech firms, and foreign governments. As they studied other sandbox regimes, they formed their stakes and established goals that were absent in the FSC's proposal. They successfully included changes

⁸⁶Wan-Ju Yu visited British Office Taipei for consultation on November 7th. The British office gladly supported and was willing to share its experiences with Taiwan <<https://fb.watch/53ZCto5nHW/>> accessed 27 January 2022.

⁸⁷In the case of Taiwan, banks and fintech startups shared a common interest of developing fintech. Banks and fintech firms usually voiced their needs for regulatory innovation together. See for example, Ting-An Sheng, 'Fintech Forum Debut' *iThome* (10 August 2016) (沈庭安, '首場金融科技座談會登場', *iThome* 2016年8月10日) <<https://tinyurl.com/yzmkglnk>> accessed 27 January 2022.

in the Sandbox Act that would make the FSC accountable for facilitating fintech development.

VI. Conclusion

This paper shows that the three main diffusion mechanisms all have played a role in the decision making process behind Taiwan's creation of the sandbox regime, but different stakeholders were affected by different mechanisms. Taiwan's regulator was affected by all three mechanisms. Private institutions were driven by competition and learning to advocate for the sandbox regime. Legislators were mainly affected by learning and emulation mechanism. They pushed the regulators to commence regulatory reforms. Being a channel of domestic interest groups, legislators voiced for the fintech industry and consumers. Together, they formed an intense policy debate before the FSC finalize the decision to promulgate a new law. Even during the legislative process, these stakeholders continued to learn from forerunners of the sandbox regime and provided suggestions to the Legislative Yuan and the FSC.

This paper finds that foreign regulators can also play an important role in policy diffusion. Financial regulatory innovation is highly professional and requires experience and careful assessment. The forerunners in the sandbox regime serve as models for other countries. Regulators, legislators, and the fintech industry in Taiwan all took reference from the FCA's experience and advice. During the legislative process, the UK gladly provided consultation to facilitate the promulgation process in Taiwan.

This paper also finds that a civil law country does face the problem of insufficient authorization. Promulgating a new law is time-consuming and the result might be unpredictable. This can indeed decrease the regulators' desire to adopt sandbox. Even if the legislators from all major parties were willing to pass the Sandbox Act, they struggled and sometimes demanded, the FSC to accept their preferences. Taiwan's success would not be possible without the incumbent party's majority in Congress and the opposition party's concession.

The problems and difficulties Taiwan's regulators faced probably do not apply to all civil law countries. Our observation, though, is that financial regulators nowadays might well have greater incentives and pressures, to push for, or, at least respond to the rising needs of regulatory innovation due to the elevating interconnectedness among different financial markets. If that is the case, financial regulatory innovation will become more diffusive. This explains why the sandbox regime has diffused quickly in the past few years.

This suggests that regulators have more opportunities to share their experience and influence decision making in other countries. A sovereign's policymakers can learn how to lever this to exert influence in the governance of global finance. This leverage can become their tool to build a reputation as well as cross-national cooperation between regulators. The establishment and expansion of the Global Financial Innovative Network (GFIN) is an example. The leading role the UK played in GFIN shows how the forerunners can consolidate their impact on the global regulatory network and therefore making their markets more competitive and attractive. Future research can further explore how sovereigns utilize institutional regimes like GFIN to diffuse

financial regulatory innovation, and its effectiveness and implications for local financial regulators.

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