

Tsui, Yvonne; Chen, Hongyi; Ip, Chris; Lee, Bernia

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## **ADB Working Paper Series**

### **FINTECH DEVELOPMENT IN HONG KONG, CHINA**

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Yvonne Tsui, Hongyi Chen,  
Chris Ip, and Bernia Lee

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Yvonne Tsui is a senior manager at the Hong Kong Monetary Authority. Hongyi Chen is a senior economist at the Hong Kong Institute for Monetary and Financial Research. Chris Ip is an assistant economist at the Hong Kong Institute for Monetary and Financial Research. Bernia Lee is an officer at the Hong Kong Monetary Authority.

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Please contact the authors for information about this paper.

Email: [fintech@hkma.gov.hk](mailto:fintech@hkma.gov.hk), [hchen@hkma.gov.hk](mailto:hchen@hkma.gov.hk), [ckcip@hkma.gov.hk](mailto:ckcip@hkma.gov.hk),  
[fintech@hkma.gov.hk](mailto:fintech@hkma.gov.hk)

Asian Development Bank Institute  
Kasumigaseki Building, 8th Floor  
3-2-5 Kasumigaseki, Chiyoda-ku  
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500  
Fax: +81-3-3593-5571  
URL: [www.adbi.org](http://www.adbi.org)  
E-mail: [info@adbi.org](mailto:info@adbi.org)

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**Abstract**

Major fintech advancements in recent years have attracted the attention of financial regulators around the world, including the Hong Kong Monetary Authority (HKMA). HKMA stands ready to embrace technology and innovations that emerge in the course of fintech development. In particular, HKMA adopts a risk-based and technology-neutral approach in its supervision. To achieve that, HKMA emphasizes three key factors: its willingness to learn about and understand fintech; its ability to maintain close contact with the industry and other stakeholders; and its ability to achieve a good balance between market development and customer protection. HKMA also maintains close contact with the industry and regulators in other jurisdictions to ensure the existing regulations are up to date.

The most recent fintech developments spearheaded by HKMA include: (1) open application programming interface for banks; (2) faster payment system (FPS) and common QR code standard for retail payments; (3) trade finance initiatives; and (4) virtual banking. HKMA has devoted substantial resources to research and application. Some of the research output has already been adopted and is being used by the industry.

**Keywords:** fintech; trade finance initiatives; virtual banking; Hong Kong, China

**JEL Classification:** B27, G23, O16, P33, P45

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## 1. INTRODUCTION

Fintech's contribution to financial services is continuing to grow rapidly as it moves the industry into an exciting new era. Keen interest from investors saw global venture investment in fintech companies reach \$27.4 billion in 2017, an 18% growth from 2016 (Alun 2018).

As a principal financial center in the region, Hong Kong, China, is experiencing significant fintech growth. In particular, venture capital investment in Hong Kong, China-based fintech companies jumped from \$215.5 million in 2016 to \$545.7 million in 2017 (Alun 2018), representing a 150% increase year-on-year. In terms of collaboration, 82% of banks and other financial institutions in Hong Kong, China, are aiming to enter into or strengthen a partnership with a fintech business in the next 3 to 5 years (PwC 2017). Furthermore, a growing number of payment service companies are operating in Hong Kong, China, with 18 stored value facility (SVF) licences issued (HKMA 2019b). Electronic payment platforms are also becoming increasingly popular.

## 2. FINTECH FACILITATION OFFICE

HKMA's Fintech Facilitation Office (FFO), set up in March 2016, facilitates the healthy development of the fintech ecosystem in Hong Kong, China, and promotes the city as a fintech hub in Asia. FFO serves as an initiator of industry research in potential applications and the risks of potential fintech solutions; a platform for exchanging ideas of innovative fintech initiatives among key stakeholders and conducting outreach activities; an interface between market participants and regulators within HKMA; and a facilitator to nurture talent to meet the growing needs of the fintech industry in Hong Kong, China.

## 3. SEVEN SMART BANKING INITIATIVES

To expedite Hong Kong, China's move into a new era of smart banking, HKMA announced in September 2017 the seven smart banking initiatives (HKMA 2017c):

1. full connectivity of digital retail payments through the FPS;
2. upgrading the existing fintech supervisory sandbox (FSS) to version 2.0;
3. facilitating virtual banking in Hong Kong, China;
4. introducing a new Banking Made Easy initiative to reduce regulatory friction and improve customer experience;
5. development of an Open API framework;
6. stepping up cross-border collaboration in fintech; and
7. enhancing research and talent development.

Together with the banking departments of HKMA, the FFO plays a pivotal role in driving these initiatives.

Before going into details of the smart banking initiatives and other projects, we would like to summarize some of HKMA's major achievements, which have been well received by the industry and the public.

## **4. MAJOR ACHIEVEMENTS**

### **4.1 Open API**

To facilitate the development and adoption of Open API by the banking sector, following the completion of a public consultation, HKMA published a framework in July 2018 that adopts a risk-based principle and a four-phase approach. Under Phase I, 20 retail banks launched over 500 Open APIs in January 2019, covering information on banking products and services such as deposits, loans, insurance, and investments. Banks are also working to open up more functionalities in subsequent phases (HKMA 2018d).

### **4.2 FPS and Common QR Code**

FPS is a payment infrastructure introduced in September 2018 by HKMA and operated by Hong Kong Interbank Clearing Limited. It supports multi-currency (Hong Kong, China, dollar and yuan) instant payments on a round-the-clock basis, with full connectivity between banks and SVFs. The public can easily transfer funds across different banks and SVFs using a mobile phone number or email address as an account proxy. Currently, a total of 22 banks (including most retail banks) and 10 SVFs in Hong Kong, China, have participated in the system to provide FPS services for their customers.

In September 2018, HKMA also announced a common QR code standard for retail payments in Hong Kong, China, together with the launch of a free mobile application tool. The app can convert multiple QR codes from different payment service providers into a single, combined QR code, providing greater convenience to both merchants and customers and in turn facilitating a wider adoption of mobile retail payments in Hong Kong, China (HKMA 2018c).

### **4.3 Trade Finance**

With a view to improving trade efficiency and reducing errors and fraud risks, a blockchain-based trade finance platform named eTradeConnect was launched in October 2018 to share digitized trade documents and automate processes. The platform was fully funded by a consortium of major banks in Hong Kong, China, and facilitated by HKMA.

To promote cross-border trade, HKMA has been exploring opportunities to connect eTradeConnect with trade platforms in different regions. In October 2018, a Memorandum of Understanding (MoU) was signed between the operators of eTradeConnect and we.trade, a blockchain-based platform available across 14 European countries, to conduct a proof-of-concept (PoC) on connecting the two platforms (HKMA 2018b).

In addition, HKMA signed an MoU with the Monetary Authority of Singapore in November 2017 to jointly build the Global Trade Connectivity Network, which will connect Singapore's Networked Trade Platform with eTradeConnect to form a cross-border distributed ledger technology (DLT)-based open trade finance network, making trade finance processes safer, more efficient, and cost-effective (HKMA 2017b).

## 4.4 Virtual Banking

The banking sector in Hong Kong, China, is now working on developing its virtual banking arm, an area closely linked to the interests of the general public. Apart from promoting fintech and innovation in Hong Kong, China, virtual banks could offer a new kind of customer experience. They could also encourage financial inclusion as they normally target the retail segment, including small and medium-sized enterprises.

After a public consultation, in May 2018, HKMA issued the revised Guideline on Authorization of Virtual Banks, which sets out the principles that HKMA will take into account in deciding whether to authorize virtual banks applying to conduct banking business in Hong Kong, China (HKMA 2018a). HKMA granted eight virtual banking licences from March to May 2019, with the banks intending to launch their services around 6 to 9 months after authorization (HKMA 2019c).

## 5. OTHER FINTECH INITIATIVES

### 5.1 Research and Application

As technological innovation is one of the key elements of fintech development, HKMA has devoted substantial resources to various research projects. Some of the research output has already been adopted by the industry.

HKMA conducted comprehensive research on DLT and published white papers in November 2016 and October 2017. The first white paper explained the technology, as well as the three PoCs that HKMA carried out with banks on trade finance, digital identity management, and mortgage applications, along with their implementation issues (ASTRI, HKMA 2016). The second white paper continued to share the lessons learned from the three PoCs, and, with the help of professionals and experts, offered advice on the implementation issues of governance, legal and compliance, and general control principles for deploying DLT in the banking and payment industries (HKMA 2017d). Riding on the success of the trade finance PoC, the blockchain-based trade finance platform eTradeConnect was developed and subsequently launched in October 2018.

In collaboration with the three note-issuing banks, Hong Kong Interbank Clearing Limited, and the R3 consortium, HKMA conducted a study on central bank digital currency (CBDC) in March 2017 to better understand its feasibility, implications, and possible benefits through exploring its use in domestic inter-bank payments, corporate payments at wholesale level, and delivery-versus-payment debt securities settlement. HKMA is exploring and studying the development and impact of CBDC with other central banks in international organizations and meetings.

Against the backdrop of growing cyber-threats, cyber-risks remain a supervisory focus of HKMA. The Cybersecurity Fortification Initiative was implemented in December 2016 to raise the cyber-resilience of Hong Kong, China's banking system. The initiative is founded on three pillars: (i) Cyber Resilience Assessment Framework; (ii) Professional Development Programme; and (iii) Cyber Intelligence Sharing Platform.



## 5.2 Industry Liaison

HKMA has launched different projects in order to promote communication with and within the industry both locally and globally. In March 2017, HKMA, in collaboration with Cyberport, launched the Haccelerator program, which offers banks and SVF operators a platform to run fintech-related competitions such as hackathons and accelerators to explore innovative solutions, identify talent, and seek cooperation opportunities with start-ups and innovators. As of the end of May 2019, four banks and one SVF operator have organized competitions using the platform.

By the end of May 2019, the FFO had organized 43 events since its inception, attracting more than 15,000 participants locally and from around the world. During the same period, HKMA representatives had attended, as keynote speakers and panellists, 171 fintech-related events and held 615 meetings with other regulators, the private sector, and industry organizations.

## 5.3 Regulatory Interface

HKMA has launched several initiatives to help improve the industry's understanding of the regulatory landscape. Listed below are some examples of the initiatives.

Launched by HKMA in September 2016, the FSS (HKMA 2019e) allows banks and their partnering technology firms to conduct pilot trials of fintech initiatives in a controlled environment without the need to achieve full compliance with HKMA's supervisory requirements. As of the end of May 2019, 53 fintech or technology products had been allowed in the FSS. Of these cases, 34 pilot trials were completed, and the products were subsequently rolled out.

As a result of the experience gained through the FSS, in 2017 HKMA upgraded it to enhance coverage and linkages with other relevant parties. The enhanced FSS has three new features: (i) a fintech supervisory chatroom (Chatroom) to provide supervisory feedback to banks and technology firms at an early stage of their fintech projects; (ii) tech firms' direct access to the FSS by seeking feedback from the Chatroom without going through a bank; and (iii) the sandboxes of HKMA, the Securities and Futures Commission, and the Insurance Authority are linked to provide a single point of entry for pilot trials of cross-sector fintech products. As of the end of May 2019, HKMA had received a total of 304 requests to access the Chatroom.

To develop the regulatory technology (regtech) ecosystem, the FSS has been open to projects or ideas raised by banks and technology firms starting from September 2018.

HKMA also launched a Banking Made Easy initiative in September 2017 to streamline regulatory requirements and enhance customer experience, namely remote on-boarding, online finance, and online wealth management. The scope of the initiative was expanded in September 2018 to facilitate regtech development in Hong Kong, China, focusing on anti-money laundering/counter-terrorism financing surveillance technologies; regtech for prudential risk management and compliance; and a study on machine-readable regulations.

In November 2016, HKMA established in collaboration with the Hong Kong Applied Science and Technology Research Institute (ASTRI) the HKMA-ASTRI Fintech Innovation Hub (Hub) to provide a neutral ground for evaluating new fintech solutions. As of the end of May 2019, seven projects had used the Hub for development and demonstration of fintech solutions such as optical character recognition, DLT, soft-token authentication, and trade finance. Three tech firms had also made use of the Hub to provide technical workshops on artificial intelligence and other technologies to banks.

## 5.4 Talent Development

Talent development is an essential element of the fintech industry. Launched in partnership with the ASTRI, the Fintech Career Accelerator Scheme (FCAS) (ASRTI, HKMA 2019) aims to nurture talent to meet the growing needs of the fintech industry in Hong Kong, China. Students can work full-time on fintech-related projects for either 6 months or 1 year at banks and HKMA. For the first intake in 2017–18, more than 3,000 applications from 421 applicants were received, and 74 students accepted offers to work in 12 banks and HKMA.

As part of the Smart Banking initiatives, FCAS was upgraded in January 2018 to expand the talent pool and nurture young individuals at different stages of their career development. With more partners, more participating employers, and coverage beyond Hong Kong, China, FCAS 2.0 was expanded into four programs: (i) Cyberport University Partnership Programme; (ii) Shenzhen Summer Internship Programme; (iii) Gap Year Placement Programme; and (iv) Fresh Graduate Programme.

## 5.5 Cross-Border Collaboration

In terms of collaboration with the People's Republic of China, in June 2017 HKMA and the Shenzhen Municipal Financial Regulatory Bureau (formerly called the Office of Financial Development Service, the People's Government of Shenzhen Municipality) agreed to strengthen collaboration on reciprocal soft-landing support, internship opportunities, and fintech events (HKMA 2017a). As a start, the two authorities jointly organized the first Shenzhen-Hong Kong Fintech Award in 2017 to recognize and reward outstanding fintech products and solutions in the two cities. The Award was co-organized for the second time in 2018 (HKMA 2018e). In addition, in collaboration with the Shenzhen Municipal Financial Regulatory Bureau, the Shenzhen Summer Internship Programme enabled 50 Hong Kong, China, students to experience the fintech ecosystem in Shenzhen by working with eight renowned firms for 6 weeks in summer 2018 and 2019 (HKMA 2018f).

In international collaboration, as of the end of May 2019, HKMA had entered into fintech cooperation agreements with regulators or governments in the UK, Singapore, the Dubai International Financial Centre, Switzerland, Poland, Abu Dhabi Global Market, Brazil, and Thailand. Together with other members of the Global Financial Innovation Network, which is an initiative that seeks to create a framework for cooperation between financial services regulators on innovation-related topics, in January 2019 HKMA launched a pilot scheme for firms that wish to test innovative products and services across international markets (HKMA 2019a). HKMA also held high-level international events from time to time to foster fintech collaboration between jurisdictions. For example, in January 2019 HKMA organized a well-attended fintech roundtable titled *From Mutual Understanding to Global Collaboration* (HKMA 2019d).

## 6. CONCLUSION

Major advancements in fintech in recent years have attracted the attention of financial regulators around the world, including HKMA. HKMA stands ready to embrace technology and innovations that emerge in the course of fintech development. It also puts great effort into striking a right balance between retaining appropriate flexibility for innovations, while making sure that customer interests are properly safeguarded.

In particular, HKMA adopts a risk-based and technology-neutral approach in its supervision. This means that the intrinsic characteristics of the financial activities or transactions and the risks arising from them will be HKMA's main considerations when developing and implementing the regulatory framework and requirements. To achieve that, HKMA emphasizes a willingness to learn about and understand fintech, an ability to maintain close contact with the industry and other stakeholders, and an ability to achieve a good balance between market development and customer protection. HKMA will also maintain close contact with the industry and regulators in other jurisdictions to ensure the existing regulations are up to date.

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