As FinTech evolves, can financial services innovation be compliant?

The emergence and impact of regulatory sandboxes – in the UK and across Asia-Pacific
FinTech: organizations combining innovative business models and technology to enable, enhance and disrupt financial services.

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Introduction

A significant increase in the number of financial technology (FinTech) firms, and corresponding venture capital and corporate investment in the sector, is sure to have a profound impact on the evolution of the financial services industry.

According to the 2017 EY FinTech Adoption Index, FinTech has already been embraced by the mainstream. Across the 20 markets in the EY study, 33% of digitally active consumers are making use of FinTech products and services. While the UK leads in developed markets, consumers in China have the highest level of FinTech adoption, with 69% of respondents regularly using these services, more than double the global average. This is having a follow-on effect in other parts of Asia-Pacific. Leading Chinese FinTech players are impacting the surrounding markets directly, through international market entry, outbound investment and partnering; and indirectly, as FinTechs in other countries seek to replicate aspects of their success in local markets.

The rise of FinTech requires regulators to understand how to best apply regulatory principles to new settings created by new technologies and business models. For example, regulators may need to consider how to perform client due diligence in remote account opening environment via mobile banking, or how to ensure investment suitability when investors rely on robo-wealth advisors. Unless clear guidelines and precedents are provided or a means for running controlled experiments can be allowed, these new applications enabled by FinTech can create regulatory ambiguity.

Therefore, regulatory clarity is of critical importance to FinTech innovators. Regulations can impact anything from how money can be raised, to how advice can be given or how a service may be delivered. Unless innovators understand the regulatory context, it is almost impossible to bring compliant services to market.

Recognizing the difficulty of innovating without certainty, many regulators in the Asia-Pacific (APAC) region are starting to follow the global trend of developing a “regulatory sandbox”. In a regulatory sandbox, traditional and non-traditional financial institutions are able to test new technologies and business models in a live but controlled environment, giving regulators time to adapt legislation as needed.

This collaborative approach has the potential to be a highly effective way to take FinTech to market safely, in a manner that promotes consumer confidence in the new offering. However, not all sandboxes are created equal, with different markets demonstrating varying levels of commitment in line with market-specific objectives and policy regimes. Innovators interested in global mobility must have a clear understanding of not just their local geography, but also how other countries are regulating FinTech offerings, given similarities of regulatory regime in some countries.

This report examines regulatory considerations pertaining to FinTech innovation, as well as the different approaches being taken by regulators across the APAC region. Our primary focus is regulatory sandboxes, starting with how these collaborative endeavors work and the experiences of five companies in the first cohort innovating inside the pioneering environment offered by the UK’s Financial Conduct Authority (FCA) sandbox. This report also tracks the progress of APAC’s regulatory sandboxes, which since September 2016 have been progressively established in Hong Kong, Thailand, Malaysia, Singapore, Australia, and Indonesia.

We hope that this report will help FinTech innovators and their partners to understand market-by-market differences and the likely evolution of APAC’s regulatory sandbox environment – as well as best way to navigate these changes.

1. Our latest research in 2017 is based on more than 22,000 online interviews in 20 markets. Our surveyed population is drawn from a demographically representative sample of each market to the extent available, and all references to consumers relate to individuals who are active online, which we refer to as “digitally active”. http://www.ey.com/Publication/vwLUAssets/ey-fintech-adoption-index2017/$FILE/ey-fintech-adoption-index2017.pdf
Governments striving for “optimal” FinTech regulation

Regulatory clarity is critical for FinTech’s mass adoption. Governments know that FinTech has the potential to deliver economic benefits, by lowering the cost of operations and enhancing competition, and societal benefits, by boosting financial inclusion and delivering more convenient financial services. As a result, regulators around the world are targeting “optimal regulation” – an environment that encourages providers to harness emerging technologies without weakening the financial system or eroding consumer protections.

This attitude is common to all markets, regardless of the maturity of existing financial regulations. The UK’s Financial Conduct Authority (FCA), created in April 2013 during the wake of the global financial crisis, has fostered a collaborative relationship with innovators in the financial services industry to ensure both consumer protection and market competition. In 2015, the FCA launched the world’s first regulatory “sandbox” for FinTech startups at its London headquarters, allowing innovations to be tested under controlled conditions set and monitored directly by the regulator. The UK, already one of the world’s most mature financial regulatory environments, is now an established FinTech hub.

In China, a country that has often taken a more passive approach to financial services regulation, regulators are increasingly optimizing various aspects of the regulatory environment. This involves making regulation both more robust and more collaborative with industry participants. For example, in terms of strengthening FinTech regulation, after several fraud incidents, the People’s Bank of China (PBOC) has imposed stricter measures on peer-to-peer (P2P) lending. This is in the wake of scandals such as Ezubao, which used guaranteed interest rates to attract more than RMB50 billion from 900,000 investors, but abused their trust in high-risk investments. As elsewhere, regulators in China are also actively investigating the potential of replicating the regulatory sandbox approach to more closely manage FinTech development.
FinTech adoption rates across our 20 markets

Notes: The figures show FinTech users as a percentage of the digitally active population. All figures are shown in percentages.

*Belgium and Luxembourg
** Hong Kong SAR of China

While London, New York and Silicon Valley compete to position themselves as global FinTech hubs, China has leapfrogged ahead and was ranked top of the 2017 EY FinTech Adoption Index. As detailed in The Rise of FinTech in China, co-authored by EY and DBS Bank, the country’s facilitative regulatory environment has been conducive to the tremendous growth of non-traditional financial services players. Key growth areas have included third-party payment applications, alternative finance, and mutual funds. Now, the Chinese Government is implementing additional regulations affecting non-traditional lenders and payment providers, as well as asset managers, to ensure a sustainable and innovative “Internet Plus” economy.

Source: EY FinTech Adoption Index 2017

FinTech raises new regulatory questions

Banks and other incumbent financial institutions are keen to assess the viability of new FinTech opportunities, but are often constrained by regulatory uncertainty caused by the new questions raised by unconventional business models. To take just two of many possible examples:

- **Crowdfunding**: If a listed company wishes to raise money from public (crowdfunded) sources, what level of disclosure should it follow? If a high level of disclosure is required, given the cost of independent assessment, would crowdfunding be an attractive means of raising capital? If the disclosure requirement is low, how will regulations protect investors who may not be able to fully assess the risks of these early-stage companies? Given the higher risks in early-stage companies, how should the platform assess customers’ risk tolerance and avoid them taking significant risk exposure relative to their overall portfolio?

- **Robo-advisory**: Unlike conventional financial advice, robo-advisory services rely on algorithms and portfolio management to analyze investors’ data and automatically recommend investment portfolios. How can regulators be sure that asset allocation models generated by computers are accurate and can handle extreme “black swan” events? Will the information clients provide on their risk tolerance and level of income be sufficiently accurate to generate suitable advice? Given the differences in asset classes, underlying exposures and allocation models across platforms, how can clients be expected to assess the product risks effectively?

Answering these questions is further complicated by issues such as:

- **Uncertainty of new technology/business models** – e.g., blockchain offers multiple different use cases, from digital currencies to initial coin offerings as a means of raising capital.

- **Contradiction with existing regulations** – e.g., in its bid to provide low-cost financial advice and improve financial inclusion, robo-advisory might undermine client suitability protections if the process is optimized exclusively for digital channels.

- **Conflict with the interests of incumbents** – e.g., The European Union’s PSD2 (Second Payment Service Directive) will mandate banks to provide third party financial service providers access to their customers’ accounts through open APIs (application program interfaces) after receiving permissions from clients. This will create more competition by enabling third-parties to deliver value-added financial services on top of banks’ data and infrastructure.

This is why collaboration between regulators and innovators is vital. Achieving “optimal regulation” requires both sides to understand what the other is trying to accomplish and to work cooperatively to find a win:win solution.

Major financial institutions will increasingly harness innovation by partnering with FinTech startups while under regulatory supervision. To take one example, in December 2016, HSBC Bank reached out to its customers to trial a new SmartSave app developed in collaboration with FinTech start-up Pariti. The HSBC SmartSave app was launched as part of the FCA’s Regulatory Sandbox initiative, which aims to encourage organizations from all background to test innovative offerings in a live environment.

“The partnership with HSBC is a great example of how FinTechs and major banks can collaborate to deliver innovative and intuitive mobile services to banking customers. The collaboration is especially powerful as it leverages Pariti’s algorithmic intelligence whilst integrating deeply with HSBC to allow customers to save almost instantaneously without the effort usually involved.”

**Matthew Ford, CEO of Pariti**
Navigating FinTech regulation across Asia-Pacific

Each country in the region has approached FinTech regulation from different perspectives. However, in most markets, regulators have worked on several of the following four areas:

1. **Dedicated FinTech teams** – to ensure regulatory consistency between different departments and, where necessary, regulators in the same market.

2. **FinTech industry enablers/utilities** – led by regulators to develop common platforms that can improve system efficiency as a whole and manage the regulatory complexity. This can include developing a national digital identity for KYC compliance, centralized data sharing or common specifications of APIs across major banks. For example, Bank of England has set up their FinTech Accelerator program and the MAS in Singapore has set up their Financial Sector Technology and Innovation (FSTI) scheme, both of which facilitate proof-of-concepts of FinTech applications for the industry.

3. **FinTech regulations/standards** – to provide regulatory clarity on FinTech business models, mainly for electronic money, crowdfunding and P2P lending.

4. **FinTech regulatory sandbox** – to allow businesses to test new products, services, business models and delivery mechanisms within a controlled environment agreed between the participant and the regulator.

As FinTech evolves, can financial services innovation be compliant?
### Open Banking gathers momentum

In the UK, the Open Banking initiative, led by the Competition and Markets Authority (CMA), seeks to increase competition by driving innovation in the quality of products and services that bank customers receive. Imran Gulamhuseinwala, EY Global/EMEIA FinTech Leader, has been appointed as the Implementation Trustee for Open Banking.

Under the Open Banking regime, by early 2018, the largest retail banks will be legally required to create open standards for APIs, with full read and write functionality, making their personal and business current account data sets available to third parties.

As the CMA states, in effect, Open Banking requires firms to:

1. Make it possible for people to share their financial transactional data far more easily with third parties online.
2. Allow third parties to initiate payments directly from a person’s account as a bank transfer as an alternative to credit or debit card payments.
3. Make public and openly share their product information and importantly, their customer satisfaction scores and separately other “service level indicators.”

Similar data-sharing initiatives are also underway in Europe in line with the Second Payment Services Directive (PSD2). They are also beginning to take shape in the APAC region, starting in countries such as Australia and Singapore.

### Examples of Major FinTech Regulatory Development across APAC

<table>
<thead>
<tr>
<th>Selected Asian Hub</th>
<th>Dedicated FinTech teams</th>
<th>FinTech industry enablers/utilities</th>
<th>FinTech regulations/standards</th>
<th>FinTech regulatory sandbox</th>
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</thead>
<tbody>
<tr>
<td><strong>Hong Kong</strong></td>
<td>FinTech Contact Point by the Securities and Futures Commission (SFC)</td>
<td>Blockchain proof-of-concept (POC) on digital currency and trade finance</td>
<td>Stored Value Facility (SVF) to allow payment services such as P2P and mobile wallet</td>
<td>FinTech Supervision Sandbox by HKMA</td>
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<td></td>
<td>FinTech Facilitation Office by the Hong Kong Monetary Authority (HKMA)</td>
<td>Faster Payment System for round-the-clock inter-bank real-time payments</td>
<td>Non face-to-face account opening by using digital signature</td>
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<td></td>
<td>Future Task Force of Insurance Industry by the Insurance Authority (IA)</td>
<td></td>
<td>Guidance for online distribution and advisory platforms</td>
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<tr>
<td><strong>China (Mainland)</strong></td>
<td>FinTech Committee under the People’s Bank of China (PBOC)</td>
<td>PBOC digital currency project</td>
<td>Regulation on P2P lending, including advertisement, client disclosure, interest rate cap, student loans</td>
<td>Investigating the potential of a FinTech regulatory sandbox at both provincial and central levels</td>
</tr>
<tr>
<td></td>
<td>Third-party payments clearing and settlement network</td>
<td></td>
<td>Regulation on third-party payment, including segregation of client money into custodian account, central settlement system</td>
<td>Beijing Fangshan District has announced a regulatory sandbox</td>
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<td>Pilot developing a ‘social credit system’ with eight alternative credit scoring firms</td>
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<tr>
<td>Selected Asian Hub</td>
<td>Dedicated FinTech teams</td>
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<td>Singapore</td>
<td>FinTech &amp; Innovation Group under Monetary Authority of Singapore (MAS)</td>
<td>National KYC utility as collaboration between Ministry of Finance andGovTech</td>
<td>Consultation Paper on digital advice issued by MAS</td>
<td>FinTech Regulatory Sandbox by MAS</td>
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<td></td>
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<td>POC for putting SGD on blockchain for interbank payment</td>
<td>Regulation on P2P lending and equity crowdfunding</td>
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<td></td>
<td></td>
<td>API Playbook recommend guidelines for financial industry for developing APIs</td>
<td>Consultation Paper on payment roadmap issued by MAS</td>
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<td></td>
<td></td>
<td>Industry-wide projects such as decentralized record-keeping in trade finance supported by FSTI scheme</td>
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<tr>
<td>Malaysia</td>
<td>Financial Technology Enabler Group by Bank Negara Malaysia (BNM)</td>
<td>Investigating the potential of centralized digital identity, open APIs, etc.</td>
<td>Regulation on P2P lending and equity crowdfunding</td>
<td>Financial Technology Regulatory Sandbox by BNM</td>
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<td>Indonesia</td>
<td>Financial Services Authority/Otoritas Jasa Keuangan (OJK)</td>
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<td>FinTech Office of Bank Indonesia (BI)</td>
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<td>Thailand</td>
<td>Securities and Exchange Commission (SEC)</td>
<td>Standardization of QR codes between card networks</td>
<td>Regulation on equity crowdfunding and P2P lending</td>
<td>Regulatory Sandbox by SEC</td>
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<td></td>
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<td></td>
<td>Guidelines on simplified advice to relax fiduciary duties for independent investment advisors</td>
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<td>Korea</td>
<td>FinTech Center under the Financial Services Commission (FSC)</td>
<td>Open API platform and test beds to provide a common API applicable to banks for FinTech testing applications effectively</td>
<td>Regulation on equity crowdfunding and P2P lending</td>
<td>Robo Advisor Test Bed Center hosted by KOSCOM (mainly owned by Korea Exchange)</td>
</tr>
<tr>
<td>Australia</td>
<td>Innovation Hub by Australian Securities and Investments Commission (ASIC)</td>
<td>Plan to identify DLT application in payment, clearing and settlement, led by Reserve Bank of Australia (RBA)</td>
<td>Guidance on digital financial advice that includes robo-advice</td>
<td>Allow new B2C firms for “testing fintech products and services without holding an AFS (Australian financial services) or credit license” (regulatory sandbox)</td>
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<tr>
<td></td>
<td></td>
<td>New Payments Platform (NPP) infrastructure to allow fast and data rich payments</td>
<td>Guidance on marketplace lending and P2P lending (further revision to relax regulations)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Guidelines on evaluating distributed ledger technology (DLT)</td>
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<td></td>
<td></td>
<td></td>
<td>Plan to develop framework for opening up access of banks’ customer data after investigation from Productivity Council</td>
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Note: This table is only for illustrative purposes only and is not intended to be exhaustive.
How regulatory sandboxes work

Regulatory sandboxes proactively reduce regulatory constraints on innovative financial products and services. They enable financial services innovators — both incumbents and startups — to test new products or services in a “safe area” with greater flexibility or even exemptions from existing regulation. As a result, sandboxes can be highly valuable to financial services institutions by:

- Reducing the time and cost of getting innovation to market
- Giving innovators greater access to finance by reducing risks of client adoption and increasing returns on capital investment
- Enabling innovators to work with regulators to ensure new development of technology and business models aligns with regulations

Typically, regulators screen would-be sandbox participants at an early stage, putting conditions on companies such as the size of the business, level of innovation, the feasibility of the business model or the contribution to the local economy. However, not all sandboxes are the same, reflecting the differing maturity of individual financial systems, regulatory frameworks and risk tolerance.
### As FinTech evolves, can financial services innovation be compliant?

<table>
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<tr>
<th>Common features</th>
<th>Implications for innovators</th>
<th>Role of regulators</th>
</tr>
</thead>
</table>
| 1 Tests target new business models or technologies | • Regulators will test business model elements that challenge existing or ambiguous regulations.  
• Often, the technology focus for testing will differ from country to country. For example, South Korea’s sandbox focuses on the design and monitoring of robo-advisors due to the fast-growing wealth management industry. | • Identify FinTech models relevant to local development  
• Understand the financial and operational impacts of new models |
| 2 Tests have specific objectives and scope | • Scope and objectives vary in different markets.  
• Common tests include: applications enabled by blockchain, P2P lending risk management, robo-advisory design, security and stability of algo-trading, suitability test for a wealth management platform, biometric security. | • Identify areas that would benefit from "real-life" experiments |
| 3 Limited impacts to production environment | • Common customer safeguards will be set, depending on regulatory risk appetite, these could include: a limit on the number of users or a ban on testing risky or complex products. | • Specify objectives and customer safeguards for different FinTech models |
| 4 Rigorous testing from regulators before production | • Companies must submit regular status reports to assess risks on an ongoing basis and evaluate impacts brought by different business models.  
• Regulators reserve the right to terminate the test for any violation.  
• Regulators may issue special exemptions after the final test. | • Design an operating model, including target customers and selection criteria  
• Improve the current regulation based on sandbox experience |

### Inside the regulatory sandbox

Most sandboxes have a similar operation model:

**Application phase**

To participate in sandbox

- Submit the following, such as:
  - Innovation assessment
  - Commercial feasibility
  - Team background (funding, competences)
  - Legal and regulatory risks and mitigation measures
  - Contribution with financial institutions (some countries require banks to support the pilot)

**Preparation phase**

After accepting into sandbox

- Design testing parameters
- Identify measures to determine success of failure
- Identify areas that require further actions (e.g., cybersecurity measures, external auditor)
- Agree on measures for customer safeguards
- Provide exit strategy for failure
- Provide transition plan after the sandbox period
- Set the time period of sandbox

**Experimentation phase**

After agreeing on parameters

- Submit regular reports on testing results based on parameters agreed
- Fulfil further actions (e.g., hiring professional firms for audit and cybersecurity)
- Ensure compliance with customer safeguards set between participants and regulator

**Validation phase**

After completing the testing

- Apply required licenses or special individual licenses (if the current regulation is not up-to-date)
- Provide info to regulators in updating the future guidelines to increase regulatory clarity
- Stop service and inform existing clients, if fail to pass the test

**Product launch**

Regulator to review the proposal and decide its eligibility

Only allowed tests within agreed parameters and waived compliance checks

Source: EY Analysis.
Customer safeguards during sandbox trials

All sandboxes use similar customer safeguards, usually including a strict trial scope, a clear exit strategy, disclosure requirements and risk management measures, to insulate consumers should the experiment fail.

<table>
<thead>
<tr>
<th>Type</th>
<th>Common “customer safeguards”</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Boundary of sandbox environment</strong></td>
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<tr>
<td></td>
<td>• Fixed time period of the sandbox (e.g., usually half a year to full year)</td>
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<tr>
<td></td>
<td>• Number of customers</td>
</tr>
<tr>
<td></td>
<td>• Type of customers (e.g., retail/professional, age, income level)</td>
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<tr>
<td></td>
<td>• Exit strategy for test failure and discontinuation</td>
</tr>
<tr>
<td></td>
<td>• Transition plan for full deployment: standard license or exemptions to existing licenses</td>
</tr>
<tr>
<td>2</td>
<td><strong>Customer protection measures</strong></td>
</tr>
<tr>
<td></td>
<td>• Client onboarding requirements</td>
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<tr>
<td></td>
<td>• Disclosure requirements (about the test and the available compensation)</td>
</tr>
<tr>
<td></td>
<td>• Dispute resolution process (e.g., professional indemnity insurance)</td>
</tr>
<tr>
<td>3</td>
<td><strong>Risk management measures</strong></td>
</tr>
<tr>
<td></td>
<td>• System stability, cybersecurity and data privacy</td>
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<tr>
<td></td>
<td>• Organizational competence</td>
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</tbody>
</table>

Source: EY Analysis.

In addition, specific restrictions to ensure risk is not transferred from companies to consumers will depend on the type of product, business model and technologies being leveraged. For example, if the test involves selling insurance via a mobile app, the regulator may decide to limit the test to basic insurance (such as travel insurance), rather than allow more complex insurance products (such as life insurance). Similarly, for an investment product, regulators may require firms to stay away from testing complex investment instruments and set thresholds for total assets under management per client.

Licensing flexibility

For early-stage FinTechs with limited capital, stringent licensing requirements, such as management experience and minimum liquid assets, can be major hurdles to getting started. Recognizing this, regulators in countries such as Singapore, the UK and Australia are relaxing some licensing requirements on a case-by-case basis. Within the regulatory sandbox, some regulators observe and understand the business models before deciding whether to lift some requirements.
Inside the FCA’s regulatory sandbox

The FCA was the world’s first regulator to launch a sandbox, underlining its commitment to innovation. The idea grew out of the FCA’s Project Innovate, set up to foster competition and growth in financial services by supporting small and large businesses in developing products and services that could genuinely improve consumers’ experiences and outcomes.

On top of ensuring customer protection, the FCA also has a distinctive role to promote market competition. According to Christopher Woolard, Director of Strategy and Competition at the FCA, the challenge for the regulator is “how can we promote competition, free up the forces that drive innovation in the interests of consumers, but without falling into the trap of picking winners”.3 Launched in 2014, Project Innovate has attempted to experiment with new innovations through two programs:

1. **Advice unit** – offering informal advice, initially looking at automated advice models, but now expanding into other areas, including InsurTech and crowdfunding since May 2017. The unit gives businesses two forms of regulatory feedback:
   - **Individual regulatory feedback** – companies that meet eligibility criteria are given regulatory feedback on their model.
   - **Published resources for all firms** – the unit consolidates learnings and feedback from its experiences with individual organizations and publishes resources for all companies developing such offerings.

2. **Regulatory sandbox** – providing a “safe space” in which businesses can test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences of engaging in the activity in question. In the first cohort, 18 companies participated covering areas including blockchain, payments and investment platforms. The second cohort started in June 2017 has expanded to 31 companies and the recruitment of the third cohort is currently in process.

In assessing sandbox applications, the FCA requires businesses to explain their proposition and demonstrate their ability to meet the following eligibility criteria:

- Offers genuine innovation – either groundbreaking or significantly different
- Creates a measurable benefit to consumers – either direct or indirect
- Is intended for the UK financial services market
- Needs to be tested in the sandbox alongside the FCA
- Is ready to test, for example:
  - Testing plans are well developed with clear objectives, parameters and success criteria
  - Some preliminary testing has been conducted to date
  - The company has the tools and resources required to enable testing in the sandbox
  - The company has sufficient safeguards in place to protect consumers
Experiences of the first cohort (Nov 2016-Apr 2017)

After what an FCA spokesperson described as “an intense process for both firms and ourselves”, 24 candidates were accepted, including early stage startups, challengers and incumbent firms, from 69 applications. EY spoke with a number of the candidates from the first sandbox cohort to better understand the process and impact. Comments from their founders are included below:

**Payment**

**Luno (previously BitX)**

**Idea**

A cross-border remittance service enabled by blockchain. Luno’s Enterprise division is responsible for creating and executing the test.

**Scope of test under the regulatory sandbox**

Test the effectiveness of using decentralized digital currency compared to existing money transfer infrastructure. With full cooperation of various bank partners and regulators, Luno’s Enterprise team tested sending money from developed to emerging markets through licensed remittance companies. Bitcoin were used in the initial test given its high market liquidity. Transactions were monitored for price, speed and transparency and compared the same set of metrics with traditional ways of consumer remittance. As a part of the test, to tackle increasing bitcoin network fees, other off-chain settlement mechanisms like “Moonbeam” developed by Luno’s Engineering Team are also considered.

“Regulation around bitcoin and digital currencies in general has been gaining more clarity in a number of countries as efforts to bring into the system are seen as the more sensible approach. The UK’s FCA is arguably the leading FinTech regulator in the world and are starting to think about regulation in this sector. On our part, we work closely with many regulators around the world, educating them about the industry and discussing policy best practices. We believe regulation will be beneficial for the industry as a whole and help legitimize the asset class that is currently estimated at USD 100 billion globally.”

Vijay Ayyar
General Manager – Asia and Africa, Luno

**Insurance**

**Blink Innovation**

**Idea**

An insurance product with an automated claims process that allows travelers to instantly book a new ticket on their mobile device if a flight is cancelled. The insurance app immediately offers customers a range of flight alternatives to get to their destination at no extra cost.

**Scope of test under the regulatory sandbox**

Ensure terms and conditions related to customer protection are clearly defined and the underwriting engine works properly. The test is conducted by analyzing lives sales, assessing its system and collecting customer feedback.

“As Blink was founded in October 2016 and acquired by CPP Group, a specialist Insurance/Assistance company with strong Asian footprint in March 2017. To ensure an efficient innovative product launch we felt engaging in a constructive way with the regulator would be very positive. This was achieved with full support and collaboration with the FCA’s Sandbox programme.”

Paul Prendergast
Co-founder of Blink Innovation

As FinTech evolves, can financial services innovation be compliant?
Capital Market

Issufy

Idea
A web-based software platform that digitalizes ECM (equity capital markets) processes, such as Initial Public Offering (IPO) for banks, issuing companies and investors. The innovation provides a common digital platform to manage equity fundraising process for different parties. It enables real-time information sharing between banks, fundraisers and asset managers, with the ability to track and report on progress.

Scope of test under the regulatory sandbox
Ensure that digital processes, especially document submission procedures and communication frameworks in the equity capital market, fulfill the FCA’s requirements. Tested the solution through the application of the Issufy system on live transactions that list on the London Stock Exchange and affiliated exchanges.

Wealth Management

Oval Money

Idea
An app that helps users to build up savings by putting aside small amounts of money through simple rules. The savings can be invested into a marketplace of financial instruments or used to pay off existing loans early, saving on interest costs. The app deducts small amount of money from users every week, putting it towards the user’s nominated saving steps, with the money managed in a segregated digital account. Once the account has sufficient cash ready that meets the minimum threshold of fund investment or loan repayment, the system prompts users to act based on their profile and risk levels. Oval money worked with Oakam – a UK-based short-term money lender – to test the loan repayment piece of the idea in the sandbox.

Scope of test under the regulatory sandbox
Validate the model to understand if financial education can be compliantly delivered under this model. Before encouraging investment solutions, the user should first pay off their existing debt. The sandbox provided a four-month timeframe in which to test the hypothesis and to adapt the business model based on user feedback. All test clients were informed that they were part of the sandbox environment but were selected to give a diverse set of users that would provide a spectrum of feedback.

“The FCA sandbox is a great tool to work closely with the regulator to better understand the regulatory environment around an idea. For this reason even if we are Italian founders we chose to open our company in the UK, as we believe the FinTech environment is friendlier for entrepreneurs.”

Benedetta Arese Lucini
Co-founder of Oval Money

“Many financial processes are still using a communication and information gathering process that makes information asymmetric and not in sync. Although these processes can be easily automated, many firms hesitate as they are not sure if the new automated standards would match the regulators’ expectations. Working with the regulator and the client together helped to drive adoption of the new technology”

Nawaz Imam
CEO of Issufy
Regulatory sandboxes in Asia-Pacific

Since the UK proposed its regulatory sandbox regime in November 2015, APAC countries have been quick to follow suit. The region’s regulators appear to be united in their desire to facilitate innovation, while ensuring that society can enjoy the benefits of innovative FinTech offerings without undue risk. They are also aware of the need to protect the integrity of local financial services markets while at the same time ensuring those markets remain globally competitive.
The region's progress in implementing regulatory sandboxes can be seen in the table below. Over time, we expect regimes to change as regulators learn from testing their first cohorts and gain feedback from sandbox participants.

<table>
<thead>
<tr>
<th>Development</th>
<th>Progress to date</th>
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</thead>
<tbody>
<tr>
<td><strong>Sep 2016</strong></td>
<td><strong>Hong Kong SAR of China</strong>&lt;br&gt;The Hong Kong Monetary Authority (HKMA) established Financial Supervisory Sandbox (FSS).&lt;br&gt;As of Apr 2017, 6 banks have tested over 15 projects in the sandbox and 9 projects have completed. Meanwhile, the Securities and Futures Commission (SFC) set up the &quot;FinTech Contact Point&quot; to provide regulatory advice to financial institutions and fintechs interested to pilot new solutions.</td>
</tr>
<tr>
<td><strong>South Korea</strong>&lt;br&gt;Developed “Robo Advisor Test Bed Center” which used the sandbox approach to require banks and FinTech to test the fully automated robo-advisor algorithms and platforms in the KOSCOM’s testing environment before public launch.&lt;br&gt;In the first cohort from Sep 2016 to Apr 2017, 35 algorithms from financial institutions and FinTech have been tested. In the second cohort started from Mar 2017, another 22 algorithms are being tested.</td>
<td></td>
</tr>
<tr>
<td><strong>Thailand</strong>&lt;br&gt;Published the regulatory sandbox whitepaper and finalized the framework in late 2016.&lt;br&gt;Investment Advisor/private Fund sandbox and Clearing and settlement sandbox were launched. Insurance Commission is also considering having a similar sandbox scheme.</td>
<td></td>
</tr>
<tr>
<td><strong>Oct 2016</strong></td>
<td><strong>Malaysia</strong>&lt;br&gt;Established Financial Technology Regulatory Sandbox Framework.&lt;br&gt;In May 2017, Bank Negara Malaysia announced admission of four FinTech companies – covering financial comparison, insurance aggregation, money changing service, and remittance providers (a UK-based company).</td>
</tr>
<tr>
<td><strong>Nov 2016</strong></td>
<td><strong>Singapore</strong>&lt;br&gt;Established FinTech Regulatory Sandbox.&lt;br&gt;An insurance distribution platform participated in Mar 2017 and the expiry date of the test will end on 31 Aug 2017.</td>
</tr>
<tr>
<td><strong>Indonesia</strong>&lt;br&gt;Announced plans to develop the Regulatory sandbox under Bank Indonesia (BI) FinTech Office. Financial Services Authority or Otoritas Jasa Keuangan (OJK) also announced similar regulatory sandbox initiatives.</td>
<td>Regulators work closely with the industry and other regulators to develop regulatory policies.</td>
</tr>
<tr>
<td><strong>Dec 2016</strong></td>
<td><strong>Australia</strong>&lt;br&gt;Announced class waivers to allow eligible FinTech companies to distribute basic financial products and provide simplified investment service without license for one year, with the objectives to improve time to market and effectiveness of product testing.&lt;br&gt;As of Jul 2017, one share trading application has received the exemption license. Australia government also considers extending the scheme from one year to two years.</td>
</tr>
<tr>
<td><strong>Feb 2017</strong></td>
<td><strong>China</strong>&lt;br&gt;Beijing Government investigated the “regulatory approach” test in Fangshan District to test the application of new FinTech in the demonstrative zone. More planning activities in progress in other provinces and at central level.</td>
</tr>
</tbody>
</table>
Note: The definitions of FinTech and financial institutions vary among regulators. “FinTech” refers to early-stage or small-scale players. B2C FinTech usually provides solutions directly to consumers (such as lending, trade execution and wealth advisory), while B2B FinTech provides software and solutions to financial institutions (such as robo-advisor engine and payment technology).

<table>
<thead>
<tr>
<th>Coverage by participant</th>
<th>Structure</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2B FinTech</td>
<td>B2C FinTech</td>
<td>Traditional Financial Institutions</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Hong Kong SAR of China</td>
<td>Required to collaborate with banks and apply under their license</td>
<td>✔</td>
</tr>
<tr>
<td>South Korea</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Singapore</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Thailand</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Malaysia</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Australia</td>
<td>✔ (mainly early-stage financial institutions to test products in the market for one year with out full license)</td>
<td></td>
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</tbody>
</table>

• Not specified but the cohort application included a wide range of FinTech solutions
• FinTech solutions such as biometrics, authentication, securities trading services, API services, blockchain, chatbot and soft tokens have been tested
• Robo-advisor. Some discussion about expanding the regulatory sandbox to other types of FinTech categories
• Focus on six areas: (1) investment advisory (2) private fund management (3) derivatives agency (4) derivatives dealing (5) derivatives advisory, and (6) derivatives fund management
• The first cohort has included Financial comparison, insurance aggregation, money changing service and remittance provision
• Under its “fintech exemption license”, applicable to activities that require Australian Financial Services (AFS) license or credit license, such as financial product advisory and credit approval, and allow them to launch and test the service for one year

As FinTech evolves, can financial services innovation be compliant?
Sandbox focus areas and participants differ across geographies

The FCA’s regulatory sandbox permits testing by both incumbents and startups, across a broad range of technology, including bitcoin. Whereas, APAC sandboxes differ in terms of their approach to new technology and/or the type of organizations permitted to use the facility. For example, Korea has designed a sandbox focusing on robo-advisory, requiring firms to test the algorithms for seven months. Meanwhile, in Hong Kong, the HKMA requires FinTech startups to work with authorized institutions, as their mandate only covers licensed banks, but not securities firms and insurance which are governed by Securities and Futures Commission (SFC) and Insurance Authority (IA) respectively.

The difference also reflects various objectives and areas of focus. In particular, regulators with a mandate to promote market competition may have higher risk tolerance and the flexibility to innovate. For example, a key objective for the Australian Securities and Investments Commission (ASIC) is to enable early-stage financial institutions to validate their proposition much quicker without going through a full licensing process. The ASIC sandbox allows these firms to test services that would normally require an Australian financial services (AFS) license or credit license, such as credit assistance and financial product advice, within a confined period of time involving consumer thresholds such as only limiting to plain vanilla product.

Sandbox maturity curve

Different countries operate their regulatory sandboxes at varying maturity levels, depending on their objectives. At a basic level, the sandbox approach helps regulators to gain a deeper understanding of the risks surrounding emerging technologies or business models. In this regard, sandboxes enable an observation period, allowing regulators to evaluate whether existing regulations should be revised or whether additional regulations should be added.

Further up the curve, regulators take a more proactive approach, working with FinTech “inside the sandbox” to develop best practice in new business models/technologies and consistent reporting standards. For example, in April 2017, the FCA published the Discussion Paper on distributed ledger technology looking at potential regulatory impacts based on findings from participating firms in the first cohort of its regulatory sandbox. This approach is growing in importance. For example, with the growth of peer-to-peer lending and supply chain financing to SMEs, different alternative credit scoring based on factors such as social media profile and transaction history may also emerge without third-party independent assessment.

At the top of the curve, having an open attitude can assist in attracting overseas FinTech innovators to test in that market. As FinTech startups have limited capital, regulatory approval via the sandbox approach allows them to test the product more quickly and validate core assumptions. Notably, the FCA’s sandbox has attracted a number of firms headquartered overseas to expand their operations in the UK.
Future evolution of FinTech regulatory sandboxes

In future, we anticipate the:

1. Emergence of multiple regulatory sandboxes within a single jurisdiction

We anticipate the creation of multiple sandboxes with differing time horizons and testing parameters within a single jurisdiction. Emerging technologies with higher maturity and better defined scope such as biometrics, user comparison sites, P2P, and robo-advisors tend to be run with shorter approval processes and more specific testing parameters. Whereas less mature technologies with unclear business benefits require longer review processes.

In addition, we anticipate greater coordination within markets – both between regulators (by sector or by function) and with other governmental agencies.

2. Emergence of region-level regulatory sandboxes

More regulators are starting to build multilateral “FinTech bridges”. The FCA, for example, has formed partnerships with markets including Hong Kong, Singapore, Mainland China and South Korea. Similarly, Singapore has signed a number of FinTech cooperation agreements with other countries, including Australia, France, Switzerland, and South Korea. Beyond simple information sharing (e.g., regulatory best practice), the impact of such agreements is likely to be greatest over the medium-term.

In the nearer term, we anticipate the emergence of region-level regulatory sandboxes leveraging cultural similarities and established economic relationships. Such sandboxes will likely focus on providing clarity on FinTech with cross-border regulatory impacts, such as protection of offshore investors participating in local crowdfunding platforms, data privacy and cybersecurity in cross-border data sharing applications such as cloud and blockchain. In addition, more FinTech solutions leading to mutual economic benefits will likely be prioritized, such as cross-border remittance and financial product mutual recognition.

One example of a potential region-level regulatory sandbox might be:

- **Greater Bay Area** – It seems likely that government plans to deepen integration between Hong Kong, Macau, and Guangdong in southern China will include a FinTech component. Cooperation is already evident. For example, Hong Kong’s SFC published new regulations to allow non face-to-face account opening in October 2016, assuming investors from Mainland China have registered electronic signature certificates. Greater cooperation between regulators is likely to result in more and more cross-border use cases being developed.

3. Emergence of industry sandboxes and industry certification

Many FinTech solutions are currently built on different standards. This means, for example, that a mobile banking solution provider would need to build different adaptors according to the internal data architecture of their clients. To address this issue, in the UK, the FCA has commissioned Innovate Finance (an industry representative body) to develop an industry-led sandbox and work with industry players to agree on common data models, APIs and reference architecture. The objective is to not only raise the standards on security and data privacy, but also to allow scalable rollout of new FinTech solutions.

Industry sandboxes could be either single-jurisdiction (in the case of, for example, the Financial Services Commission in Korea) or region-level. One example of a region-level industry sandbox might be:

- **ASEAN** – The International Finance Corporation (IFC), a member of the World Bank Group, and the Monetary Authority of Singapore (MAS) are in the process of establishing an ASEAN Financial Innovation Network (AFIN). The new AFIN body, overseen by IFC and MAS, will establish a regional network to help financial institutions, fintech firms and regulators in the Association of Southeast Asian Nations (ASEAN) trading bloc address issues of cross-border compatibility in the region.

In addition to industry sandboxes, we anticipate the emergence of industry certification both within and across jurisdictions.

Establishing consistent reporting standards or industry certificates in areas requiring more specialized knowledge, such as investment performance standards in robo-advisors, security of cryptography in blockchain applications and credit scoring models in alternative lending, can help to facilitate cross-platform comparison and help client protection.
FinTech regulations developing outside sandboxes

Regulatory sandbox is only one of the approaches to manage FinTech and may not fit to circumstances in different jurisdictions. Therefore, innovators also need to be mindful that many regulators are issuing guidelines developed outside the sandbox process. For example, in Australia ASIC has issued guidelines on digital advice; in Hong Kong, the SFC issued a consultation paper addressing online distribution and advisory platforms. Whereas, in Korea, financial institutions and FinTechs are required to go through the “Robo Advice Test Bed” under the testing environment of KOSCOM before they are permitted to advertise robo-advice. Both approaches have merit, depending on the regulator’s priorities.

<table>
<thead>
<tr>
<th>Developing FinTech regulations</th>
<th>Opening up regulatory sandbox</th>
</tr>
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<tbody>
<tr>
<td>Use regulations to define the boundaries and set the rules for new technologies or business models</td>
<td>Test new technologies/business models in a controlled environment agreed by regulators to mitigate the risk of being published</td>
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</table>

### Measures

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<thead>
<tr>
<th>Measures</th>
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<tbody>
<tr>
<td>Legal guidance to provide official interpretation</td>
<td>Temporary exemption licenses or “no-enforcement” letter after observing the operation of FinTech for a nominated period</td>
</tr>
<tr>
<td>New regulations</td>
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<tr>
<td>Amendment to existing regulations</td>
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### Factor 1: Level of regulatory flexibility

<table>
<thead>
<tr>
<th>Factor 1: Level of regulatory flexibility</th>
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<tbody>
<tr>
<td>Lower</td>
<td>Higher</td>
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<tr>
<td>Require regular review to ensure the regulations adapt to new business models or technologies</td>
<td>Allow regulators to have sufficient time to conduct close monitoring</td>
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### Factor 2: Level of regulatory clarity

<table>
<thead>
<tr>
<th>Factor 2: Level of regulatory clarity</th>
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</thead>
<tbody>
<tr>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Mitigate risks due to subjective interpretation of multiple regulations</td>
<td>Involve certain levels of subjectivity in both the sandbox entry and assessment process</td>
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### Factor 3: Suitability

<table>
<thead>
<tr>
<th>Factor 3: Suitability</th>
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<tbody>
<tr>
<td>More established business model and technology (e.g., P2P lending)</td>
<td>Emerging business model and technology with high heterogeneity (e.g., blockchain, digital advice using more complex financial instruments)</td>
</tr>
<tr>
<td>Severe systematic risks for delayed regulation</td>
<td>Manageable risks for delayed regulation</td>
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### Approach

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<thead>
<tr>
<th>Approach</th>
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<tbody>
<tr>
<td>Regulate only after sufficient consultation</td>
<td>Set clear boundaries on what must be required and not allowed</td>
</tr>
<tr>
<td>Conduct regular post-implementation reviews</td>
<td>Publish case studies on approved models such as blockchain applications</td>
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</tbody>
</table>
Supporting FinTech innovators

Regulatory sandboxes will play an increasingly important role in encouraging financial institutions and startups to develop new FinTech products and services. Despite the country-by-country differences in sandbox structure, focus and approach, their net result is that most regulators are becoming more receptive to new financial services technologies and business models.

To make the most of this increasingly collaborative regulatory environment, established financial institutions looking to harness FinTech innovation should:

- **Understand where and how to partner with regulators** – consider the developing sandbox environment in your current and prospective markets.
- **Begin working with regulators early** – firms able to work with regulators to navigate and define the regulatory boundary will gain a first-mover advantage.
- **Develop a global view beyond your home market** – understand how local regulations and approaches may change based on overseas developments.
- **Prepare for cross-country collaboration** – decide how your solution can be scaled across borders in the design phase as regulators work more closely as they draft FinTech regulations and best practice guidelines.
- **Partner with FinTech startups** – some of the best early sandbox results have come from established financial institutions partnering with FinTech startups to verify new business models.
- **Get ready for sandbox testing** – streamline the decision making process across departments to improve agility. Ensure you have the right resources in place to support experimentation, including risk management, compliance, IT, cybersecurity and customer experience.
Our dedicated FinTech team is working with regulators, established financial institutions and emerging FinTech providers across the region. Contact us to learn more about how we support FinTech innovation.

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