Global Regulatory Sandbox Review
An Overview on the Impact, Challenges, and Benefits of Regulatory FinTech Sandboxes
November 21, 2017

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The Chamber of Digital Commerce is the world's largest trade association representing the digital asset and blockchain industry. Our mission is to promote the acceptance and use of digital assets and blockchain-based technologies. Through education, advocacy, and working closely with policy makers, regulatory agencies, and the blockchain industry, our goal is to develop a pro-growth legal environment that fosters innovation, jobs, and investment.

Chamber Working Groups and Initiatives

- **Token Alliance**
- **Smart Contracts Alliance**
- **Blockchain Intellectual Property Council**
- **Digital Assets Accounting Consortium**
- **Blockchain Alliance**
- **Global Blockchain Forum**
Global Regulatory Blockchain Landscape

• **Global Regulatory Uncertainty**: Mixed messages from various organizations.
  - **Federal Reserve Chair** Janet Yellen: “Blockchain is an important technology.”
  - **China** bans ICOs and token exchanges; historically, majority of mining and trading activity happening in China.
  - **Japan** recognizes bitcoin as legal method of payment post-Mt. Gox.
• **Skepticism**: Lack of general understanding.
• **Fear/Anxiety**: Narrow focus on criminal activity.
What is a Regulatory Sandbox?

- An initiative sponsored by a regulator to develop an environment for a specific period of time and conditions in which financial institutions and innovators may test financial technology (“FinTech”) that is not yet released to the public.
- The typical scenario includes relaxation of regulations and licensing requirements to allow the testing of these innovations.
Why is a Regulatory Sandbox Needed?

• **Innovation:** Technology is creating promising new systems for finance and consumer use.

• **Consumer Demand:** 50% of consumers globally are using at least 1 FinTech firm.*

• **Adoption Challenges:** Traditional firms have difficulty innovating:
  
  • Less than 3% of traditional firms have been able to implement FinTech strategies into their organizational culture.*
  
  • Only 44% of traditional firms’ executives are “very confident” about having a strategy in place to address FinTech challenges.*

• **Legal Barriers:** Regulations are not well-suited to address new technologies:
  
  • Complex regulatory frameworks.
  
  • Lack of regulatory clarity for FinTechs.
  
  • Innovators need customers to properly test concepts in the marketplace.

*Statistic provided by CapGemini
Benefits of a Regulatory Sandbox

- **Testing:** Enable companies to experiment responsibly with FinTech.
- **Decrease Risks:** Minimize regulatory risk of infractions, as well as minimize consumer harm.
- **Pro-Growth Regulations:** Regulators learn how new technologies work in a low risk environment, and can adapt examination procedures and regulations as needed.
- **Tap into a new wave of transformation within the financial industry:**
  - FinTech investments have increased from USD $1.8 B to $19 B in the last five years.
  - Market capitalization of all cryptocurrencies have increased 1,578% in the past 12 months from USD $14 B to $237 B (as of Nov. 20, 2017) (coinmarketcap.com).
  - Highest levels of FinTech usage: China (84%) and India (77%).*

*Statistic provided by CapGemini
Regulators’ Goals for Sandboxes

• Allow innovators to test developed technology protocols in a safe environment.

• Provide customer safeguards:
  • Consumer protection measured (informed consent)
  • Financial backstop (limiting the amount of financial loss)
  • Various risk controls (e.g., fraud detection, cyber security)

• Ensure financial stability.
Examples of Countries Offering FinTech Sandboxes

- Australia
- Hong Kong
- Indonesia
- Malaysia
- Singapore
- Thailand
- United Kingdom
<table>
<thead>
<tr>
<th>Jurisdiction/Agency</th>
<th>Australia Investment and Securities Commission (ASIC)</th>
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<tbody>
<tr>
<td>Timing</td>
<td>Consultation paper issued on June 8, 2016 and comments were due by July 22, 2016. Enhanced regulatory sandbox plans, including enhanced regulation and legislation, were released on October 24, 2017. The consultation on the exposure draft legislation (and accompanying explanatory memorandum) closed on November 3, 2017. The consultation on the exposure draft regulation is open until December 1, 2017. Sandbox is currently in effect.</td>
</tr>
<tr>
<td>Attractive to FinTechs</td>
<td>Businesses can rely on the licensing exemption following notification to ASIC. This model is more suitable for businesses not ready to conduct a full product launch or engage in wide scale testing, but would still like to validate their business model.</td>
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<tr>
<td>Eligibility Criteria</td>
<td>Businesses would be able to rely on the Australian Financial Services (AFS) licensing exemption by notifying the Australian Securities and Investments Commission (ASIC) that it intends to rely on the exemption from a specified date; cannot carry an existing license or be related to a licensee; cannot be banned from providing financial services. <strong>Client Limits:</strong> Limited to up to 100 retail clients; no limit for wholesale clients. <strong>Exposure Limits:</strong> The exposure of each retail client to deposit products, simple managed investment schemes, securities, government bonds and payment products does not exceed $10,000; The amount of credit under a credit contract does not exceed $25,000; The sum insured under a general insurance contract does not exceed $50,000; While there are no individual exposure or client limits, the total maximum exposure of all clients taking part in the testing must not exceed $5 million. <strong>Consumer Protection:</strong> Must comply with certain consumer protection and disclosure obligations. <strong>Dispute Resolution:</strong> Must be a member of an external dispute resolution scheme. <strong>Compensation:</strong> Must have adequate compensation arrangements for customers.</td>
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<tr>
<td>Permitted Timeframe for Testing</td>
<td>Currently up to 12 months. Draft regulations state that the timeframe will be increased to up to 24 months.</td>
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<tr>
<td>Jurisdiction/Agency</td>
<td>Hong Kong Monetary Association (HKMA)</td>
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<td>Timing</td>
<td>Fintech Supervisory Sandbox (FSS) launched on September 6, 2016 for Authorized Institutions (AIs) previously overseen by the HKMA. Sandbox is currently in effect. An enhanced FinTech Supervisory Sandbox (FSS 2.0) will be launched by the end of 2017.</td>
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<td>Attractive to FinTechs</td>
<td>AIs can begin trials immediately subject to discussion with the HKMA and compliance with the required principles. The HKMA offers a high level of engagement with each participant, including relaxing supervisory requirements on a case by case basis (builds in some supervisory flexibility). New features being considered: FSS 2.0 will include a FinTech Supervisory Chatroom to provide speedy feedback to banks and tech firms at early stages of their FinTech projects; tech firms may have direct access to the sandbox by seeking feedback from the Chatroom without necessarily going through a bank; the HKMA sandboxes, the Securities and Futures Commission, and the Insurance Authority will be linked up so that there will be a single point of entry for pilot trials of cross-sector FinTech products. As of October 31, 2017, 25 new technology products have been tested in the FSS. Four of these pilot trials have used distributed ledger technologies (DLT).</td>
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<tr>
<td>Eligibility Criteria</td>
<td>The sandbox is only open to HKMA AIs who are launching FinTech or other technology initiatives in Hong Kong. The conditions for conducting trials include the following: Boundaries: Defined scope and phases of trial, types of customers, services, timing, termination. Customer Protection Measures: Process to select customers, complaint handling procedures, compensation for losses/failures, customer withdrawal procedures. Risk Management Controls: Compensation controls to mitigate risks arising from less than full compliance with supervisory requirements. Readiness and Monitoring: Systems and processes ready trial in the sandbox, including close monitoring of trial.</td>
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<tr>
<td>Permitted Timeframe for Testing</td>
<td>Not specified.</td>
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<tr>
<td>Jurisdiction/Agency</td>
<td>Bank of Indonesia Financial Technology Office (BI-FTO)</td>
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<td>Attractive to FinTechs</td>
<td>There are four main functions to be performed by BI-FTO, namely: (i) act as a catalyst / facilitator for the exchange of innovative ideas for FinTech development in Indonesia; (ii) as business intelligence, where the BI-FTO will regularly provide updates through the dissemination of results of studies and meetings; (iii) monitor and map the potential benefits and risks of business model innovations and products offered. Assessment results will assist policy formulation; and (iv) to encourage the regulations to be similar throughout Indonesia.</td>
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<td>Eligibility Criteria</td>
<td>Sandbox is a laboratory used by businesses and regulators to examine their product or business model. Also used by Bank of Indonesia to facilitate innovation development and examine future policies. Must protect data and consumer information.</td>
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<tr>
<td>Permitted Timeframe for Testing</td>
<td>Not specified.</td>
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<td>Jurisdiction/Agency</td>
<td>Bank Negara Malaysia (BNM)</td>
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<td>Timing</td>
<td>Issued a framework for participating in regulatory sandbox in October 2016. Sandbox is currently in effect.</td>
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<td>Attractive to FinTechs</td>
<td>FinTechs with the potential to contribute meaningfully to job creation in Malaysia viewed more favorably. FinTech companies that collaborate with financial institutions could gain added advantages from guidance and support provided by financial institutions with respect to regulatory requirements and risk mitigations in applying to participate in the sandbox. In 2017, Bank Negara approved six firms to participate in the regulatory sandbox. The first firm on January 13, 2017; three more firms on May 25, 2017; and the two most recent firms on October 20, 2017.</td>
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<td>Eligibility Criteria</td>
<td>An applicant must demonstrate the following: The product/service/solution must improve financial services, enhance the efficiency and effectiveness of Malaysian financial institutions’ risk management, or address gaps in/open up new opportunities for financing or investments in Malaysian economy; The applicant has conducted an adequate and appropriate assessment to demonstrate the usefulness, functionality and associated risks; Applicant has resources to support testing; Applicant has a realistic business plan to deploy on a commercial scale in Malaysia after exit from the sandbox; The provision of the product, service or solution is either wholly or partly incompatible with laws, regulations or standards administered by the Bank; The applicant is led and managed by persons with credibility and integrity.</td>
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<tr>
<td>Permitted Timeframe for Testing</td>
<td>Up to a maximum of 12 months, with potential for extension.</td>
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<tr>
<td>Jurisdiction/Agency</td>
<td>Monetary Authority of Singapore (MAS)</td>
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| Timing              | Consultation paper issued on June 6, 2016.  
|                     | Sandbox announced November 16, 2016.  
|                     | Currently, one company is participating in the sandbox, which began on August 10, 2017 and will conclude on May 10, 2018. |
| Attractive to FinTechs | Sandbox is intended to interest firms that are applying technology in an innovative way to provide financial services that are likely to be regulated by MAS. Certain requirements can be relaxed on a case-by-case basis while receiving additional support from MAS if selected. |
| Eligibility Criteria | The product is technologically innovative or applied in an innovative way; The product addresses a significant issue or brings benefits to consumers or the industry; The applicant intends, and has the ability, to deploy the product in Singapore on a broader scale after exit; the test scenarios and outcomes are clearly defined and the applicant will report to the Central Bank on progress as agreed; The boundary conditions are clearly defined and will sufficiently protect the interests of consumers and maintain the safety and soundness of the industry; Major foreseeable risks arising from the product are assessed and mitigated; and the exit and transition strategy is clearly defined. |
| Permitted Timeframe for Testing | Not specified. |
### Examples of “Possible to Relax” requirements
- Asset maintenance requirement
- Board composition
- Cash balances
- Credit rating
- Financial soundness
- Fund solvency and capital adequacy
- Licence fees
- Management experience
- MAS Guidelines, such as technology risk management guidelines and outsourcing guidelines
- Minimum liquid assets
- Minimum paid-up capital
- Relative size
- Reputation
- Track record

### Examples of “To Maintain” requirements
- Confidentiality of customer information
- Fit and proper criteria particularly on honesty and integrity
- Handling of customer’s moneys and assets by intermediaries
- Prevention of money laundering and countering the financing of terrorism
<table>
<thead>
<tr>
<th>Jurisdiction/Agency</th>
<th>Bank of Thailand (BOT)</th>
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| Timing                 | Consultation paper issued on September 14, 2016.  
Sandbox formed on December 21, 2016.  
Commercial banks can apply 1st Quarter 2017.  
Non-bank financial institutions can apply 2nd Quarter 2017. |
<p>| Attractive to FinTechs | Pre-existing regulated entities go first, then suitable FinTechs afterward (1st Q 2017 / 2nd Q 2017). Intent of Sandbox is to address concerns that regulations create barriers to entry for FinTechs. Three out of the four companies approved by the BOT include the use of blockchain for letter of guarantee and cross-border transfer. |
| Eligibility Criteria   | FinTechs are reviewed according to three principles: (i) promote innovative, new financial instruments; (ii) have appropriate consumer protection; (iii) limit the damage that might occur to consumers and the system. FinTechs must have: (1) consumer protection measures; (2) sufficient risk management systems, including IT and cyber risk management; (3) disclosing to customers that service is being tested in regulatory sandbox; (4) and anti-money laundering/counter-terrorism financing procedures. |
| Permitted Timeframe for Testing | Limited period of time that is within reason. |</p>
<table>
<thead>
<tr>
<th>Jurisdiction/Agency</th>
<th>Financial Conduct Authority (FCA)</th>
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<tr>
<td>Timing</td>
<td>Consultation paper issued on November 10, 2015. Applications to be part of the first sandbox cohort were open from May 9, 2016 to July 8, 2016; second cohort application window closed January 19, 2017; third cohort window closed July 31, 2017. On October 20, 2017, the FCA released a report on lessons learned from the first year of operation.</td>
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<tr>
<td>Attractive to FinTechs</td>
<td>Open to regulated and unregulated institutions. Focus is on the product or service and how it will work, not on who will be regulated or what is expected of them as an institution. May be able to waive or modify an unduly burdensome rule for purposes of the test. Safeguards are bespoke to each test. At least 40% of firms which completed testing in the first cohort received investment during or following their sandbox tests.</td>
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<tr>
<td>Eligibility Criteria</td>
<td>The idea is a genuine benefit with consumer benefit; There is a need for sandbox testing (e.g, there are no alternative means of releasing the innovation to customers); The firm is ready for testing.</td>
</tr>
<tr>
<td>Permitted Timeframe for Testing</td>
<td>Two six-month test periods per year.</td>
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UK Regulatory Sandbox Deep Dive
Cohort One
UK Regulatory Sandbox Deep Dive

Goals of UK FCA Regulatory Sandbox

1. Reduce the time and cost of getting innovative ideas to market.
2. Help facilitate access to finance for innovators.
3. Test and introduce products to the market.
Eligibility

- Idea is a genuine innovation to support regulated business in UK financial services market.
- There is consumer benefit.
- There is a need for a Sandbox (no alternative means of releasing the innovation to customers).
- The innovation requires and is ready for testing.
UK Regulatory Sandbox Deep Dive (continued)

Testing Parameters

- **Number of Customers:** FinTech Sandbox is intended for small-scale testing.
- **Customer Selection:** Firms are expected to source customers themselves.
- **Customer Safeguards:**
  - Disclosures
  - Retail customers - should not bear the risk of sandbox testing
  - Sophisticated customers - consent to limited claim for compensation
  - FinTechs should not rely on the regulator to find a partner.
Eligibility

- Idea is a genuine innovation to support regulated business in UK financial services market.
- There is consumer benefit.
- There is a need for a Sandbox (no alternative means of releasing the innovation to customers).
- The innovation requires and is ready for testing.
- Three types of entrants into the Sandbox:
  (i) firms who need to be authorized to trial products and services;
  (ii) authorized firms; and
  (iii) technology firms that provide outsourced services to such firms.
Readiness for Testing

Accurately demonstrating your readiness for testing is a particularly important part of the application. Testing plan should include timelines, milestones, measures for success, customer safeguards, risk assessment, and exit strategy, among others.

Specifically focused on:
- the stage of development of the innovation and whether it can be tested in a live environment (including any functional testing);
- specific testing objectives and testing plan; and
- the major dependencies to begin testing and how they will be fulfilled (e.g., securing contractual agreement with a partner, securing a UK bank account, finalizing development of the product).
Applications received and considered in “cohorts”:

• Cohort 1
  • 69 applications received.
  • 24 applications were accepted.
  • 18 companies were tested - completed.

• Cohort 2
  • 77 applications were submitted.
  • 31 applications accepted.
  • 24 firms ready to test.

• Cohort 3 - Closed, assessing applications.
## Distributed Ledger Technology Participants in Cohort One

<table>
<thead>
<tr>
<th>Type of DLT Company Model</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Transfer</td>
<td>6</td>
</tr>
<tr>
<td>Private Placement/Corporate Shares</td>
<td>2</td>
</tr>
<tr>
<td>Identity</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note: Based on publicly available information. Some companies may have more than one function. We attempted to use the most appropriate category available. Not all companies are listed.*
• DLT can reduce costs, improve security and trust, and increase efficiency.

• Short-term debt instrument, removing the need for registrars and nominees.
  • Results: Effective reconciliation and auditing, enhance transparency, accuracy and clarity in relation to the ownership of assets.

• Digitally manage shares of a private company
  • Results: Better efficiency of operations and significant savings on legal costs.

• Digital currencies for peer-to-peer, cross-border payments
  • Results: Significant consumer benefits, reduced transaction times and better exchange rates (up to 50% cheaper than the best alternative).
Factors that have limited the success of DLT tests:

- Execution time uncertainty
- Volatility in the value of digital currencies
- Liquidity requirements
- Transaction fees and the availability of exchanges

“Firms will need to carefully manage these risks and others if these services are offered on a wider scale.” - UK FCA


Malaysia: https://www.myfteg.com/regulatory-sandbox


United Kingdom: https://www.fca.org.uk/firms/regulatory-sandbox
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