

# 8

## REGULATORY SANDBOXES

---

Oliver R. Goodenough  
and David L. Shrier

### 8.1 INTRODUCTION

The technology industry operates under the mantra of “move fast and break things.” While this approach has some merits for innovating a new kind of mobile phone or a new piece of software, it famously falls apart when applied to critical systems. Fintech regulatory sandboxes can bridge the gap between the tech start-up attitude of “build fast” and government needs to provide for consumer protection and financial stability.

There’s a well-known joke in computer (and auto) circles that describes an imaginary conversation between Microsoft founder Bill Gates and the CEO of General Motors, where Gates says, “If GM had kept up with technology like the computer industry has, we would all be driving twenty-five dollar cars that got 1,000 miles/gallon,” and GM’s CEO replies, “Yeah, but would you want your car to crash twice a day?”<sup>1</sup> The issue becomes equally sensitive in the financial services context, where a family’s ability to buy food and pay for housing is governed by their access to financial services or, at a minimum, cash. A digital cash wallet, for example, that had a bug and erased someone’s account could spell homelessness for a family relying on it. A new kind of securities trading and settlement system could destabilize markets if it went awry.

In addition, new regulations around data privacy and data portability, such as the General Data Protection Regulation, the California Consumer Privacy Act, and UK Open Banking, can be complex in application and difficult for companies to comply with. At the same time, the path for monetizing open data, the fine details of which are still unclear, has opened up,<sup>2</sup> and a number of companies are pursuing opportunities in the banking sector as a result.

The high degree of complexity and sensitivity to change that the financial sector presents has given rise to regulatory sandboxes, environments in which companies and governments can collaboratively explore the issues and impacts of new technologies in a safe environment. Regulators and policy makers need to understand how to design, build, and apply these tools, and the private sector needs to understand the benefits of capitalizing on this close access to regulators.

### **8.1.1 What Is a Regulatory Sandbox?**

A regulatory sandbox is a tool that governments can use to foster innovative approaches to commercial activity, such as the development and deployment of fintech applications. These innovative approaches can come from both established players and early-stage companies. The sandbox is permissive, in that it creates opportunities for experiments that might not fit within existing regulatory frameworks; it is also supervisory, in that it invites innovators to work within regulatory oversight, rather than ignoring it and asking for forgiveness later. Such a sandbox “allows FinTech startups and other innovators to conduct live experiments in a controlled environment under a regulator’s supervision.”<sup>3</sup>

A number of jurisdictions around the world have established these testing grounds. The United Kingdom is a leader in this movement. In 2015 its Financial Conduct Authority (FCA) issued a report<sup>4</sup> setting out both the rationale for a sandbox and suggestions for its shape and operations.

### 8.1.2 Rationale and Goals

Existing sandbox initiatives have identified a number of rationales and goals for their existence. We discuss a few of these below.

*Speeding productive innovation* Legacy regulatory regimes, however well intentioned, have necessarily been tailored to a set of practices and concerns growing out of the established customs of the targeted industry. As a result, they often mandate approaches that will block truly innovative steps. The process of removing these impediments through traditional legislative and regulatory revision is generally cumbersome. A lighter touch, which involves controlled, supervised experimentation, can be a quicker route to permitting—and regulating—productive innovation.

*Bringing innovation out of the dark* If the regulatory barriers remain high, innovators may be tempted to “seek forgiveness and not permission.” The example of Uber’s assault on the traditional taxi industry illustrates such a strategy. This approach is not optimal, either for society or for the companies involved. Rather, it is important that innovators and regulators engage in a productive dialog as new applications and business models are developed. The sandbox approach should be designed to encourage such an interchange.

*Regulatory education* A more collaborative approach will allow the regulators to learn directly about the functioning of the innovative companies and their creative applications and products. This will allow a government to be more nimble and accurate in allowing productive innovation and short-circuiting harmful practices. Rooting regulatory approaches in experience will also produce improved frameworks.

*Benefits to the consumers* The new products and services that become possible through fintech applications should not benefit just their suppliers. To be successful over the long haul, they

should also benefit consumers. Internet banking, while not a perfect application, has been adopted by millions of Americans because of its convenience and ease of use. Other innovations now entering the pipeline, or indeed not yet imagined, will have similar impacts. The process of speeding them to market, while continuing to protect the public interest, can be accelerated through the supervised experimentation that a sandbox permits.

*Financial inclusion* A common impact of technologically mediated innovation is the extension of benefits previously available only to the well-off to the more general public. This can be true in finance as well. By way of example, well-intentioned protective regimes have created a private marketplace for accredited investors that often makes much-higher-yield investments available to the wealthy than the vanilla deposits and returns available to nonaccredited investors. While the need for safeguards continues, tokenization and other technologies can assist in opening well-vetted investment opportunities with higher-yield possibilities to less well-heeled populations. The sandbox approach would allow exploring initiatives toward this goal.

*Jurisdictional head start and economic development* In addition to these directly related benefits, there is no question that there is jurisdictional competition over the direct economic development and the indirect benefits, such as increased tax revenues, that being a center of innovative commerce can bring to a domicile. If a government is seeking to host blockchain and fintech solutions, a sandbox would allow it to be at the front edge of the process. Demonstrating this capacity in turn signals to interested innovators both within and outside the country its receptivity to innovation.<sup>5</sup>

### **8.1.3 Concerns and Responses**

Legitimate concerns can arise when designing and implementing a blockchain/fintech sandbox. It should be designed

to maximize the benefits of innovation while minimizing the chance of serious harm arising. A good summary of these concerns and some potential solutions to them is offered by the Consultative Group to Assist the Poor in its discussion of sandbox approaches:

While there are good reasons to explore regulatory sandboxes, policy makers should be prepared to face challenges. Most importantly, operating a regulatory sandbox requires adequate human and financial resources to select proposals, provide guidance, oversee experiments and evaluate innovations. Regulators may lack these resources in many EMDE [Emerging Market and Developing Economies] countries. Therefore, policy makers need to pay attention to details and carefully consider their options. These may include various sandbox designs and other pro-innovation approaches that have been used successfully. For example, the test-and-learn approach enables a regulator to craft an ad hoc framework within which an innovator tests a new idea in a live environment, with safeguards and key performance indicators in place. A wait-and-see approach allows a regulator to observe how an innovation evolves before intervening (e.g., person-to-person lending in China).<sup>6</sup>

## 8.2 EXISTING INITIATIVES AND MODELS

There are a number of existing fintech sandbox initiatives around the world, most with a wider mandate than a purely blockchain-based initiative. The British initiative is perhaps the most developed sandbox. In the United States, Arizona has established a sandbox; Illinois proposed one in its last legislative session, but it was not enacted. At the federal level, the Consumer Financial Protection Bureau (CFPB) announced a sandbox initiative in July 2018.<sup>7</sup> The CFPB has announced plans to implement this through an existing program on “trial disclosure programs.”<sup>8</sup> The regulatory action was adopted September 10, 2019, and the sandbox is accepting applicants.<sup>9</sup>

A survey administered by Davis Wright Tremaine offers a useful background.<sup>10</sup> The following sections provide a brief

summary on some of these sandbox initiatives that are up and running.

### **8.2.1 The United Kingdom**

The impetus for the United Kingdom's adoption of the sandbox approach seems to have come from its FCA as part of its preexisting Project Innovate. The City of London has long been an international leader in the financial industry, and the financial community has been concerned about the need to digest and deploy fintech as a means of keeping that leadership. The idea of a sandbox was formally floated in a 2015 report by the FCA, titled *Regulatory Sandbox*.<sup>11</sup> The report was generally well received. The approach was formalized in 2016, and the first cohort accepted in 2017.<sup>12</sup> Twenty-four firms were accepted into that cohort, and eighteen tests were carried to completion. The program has been deemed sufficiently successful that five additional cohorts have been accepted, and the sixth cohort accepted applications through December 2019.<sup>13</sup> In 2017 the FCA declared that "early indications suggest the sandbox is providing the benefits it set out to achieve with evidence of the sandbox enabling new products to be tested, reducing time and cost of getting innovative ideas to market, improving access to finance for innovators, and ensuring appropriate safeguards are built into new products and services."<sup>14</sup>

With this track record, the FCA has learned some lessons from the experience and has, to some degree, refined its approach in each of the cohorts.<sup>15</sup> If a government is actively considering a fintech sandbox, a study of the UK approach would be a worthwhile exercise.

### **8.2.2 Arizona**

The first US application of the fintech sandbox approach was adopted by Arizona in 2018.<sup>16</sup> It was authorized by a legislative enactment (A.R.S. § 41-5601) and will be overseen by its attorney general, who is a supporter of the initiative.

Details on its operation are available on the website of the Arizona attorney general (<https://www.azag.gov/FinTech>). Its announced purpose, explained on that site, is familiar: “The Sandbox enables a participant to obtain limited access to Arizona’s market to test innovative financial products or services without first obtaining full state licensure or other authorization that otherwise may be required.” The program is seeking applications at this time. (The application form is available at <https://www.azag.gov/FinTech/application>.)

Interestingly, securities trading, insurance products, and services that provide solely deposit-taking functions are not eligible to enter the Arizona sandbox. These exceptions may reflect turf conflicts within the Arizona regulatory and business communities. Some of these gaps, particularly the gap on insurance products, may leave an opening for a government to be an early mover.

### **8.2.3 Singapore**

Singapore has a history as a financial center in Asia. Like the United Kingdom, it is actively seeking to protect and foster its status by staying at the forefront of fintech innovation. Its enthusiastic embrace of blockchain applications is one aspect of this; the adoption of a fintech sandbox is another. The Singapore sandbox initiative is under the authority of the Monetary Authority of Singapore (MAS). Its statement of purpose is as follows:

MAS is encouraging more FinTech experimentation so that promising innovations can be tested in the market and have a chance for wider adoption, in Singapore and abroad. The regulatory sandbox will enable FIs as well as FinTech players to experiment with innovative financial products or services in the production environment but within a well-defined space and duration. It shall also include appropriate safeguards to contain the consequences of failure and maintain the overall safety and soundness of the financial system.<sup>17</sup>

MAS has taken a nuanced approach, with a regular sandbox as well as an “express” version with fast-track approval for instances where “the risks are low and well understood by the market.”<sup>18</sup> A description of its guidelines is available on its website (<https://www.mas.gov.sg/development/FinTech/regulatory-sandbox>).

#### **8.2.4 Other Countries and the Global Financial Innovation Network**

A number of other countries have announced similar initiatives, and the Global Financial Innovation Network (GFIN) involving many of these has been announced.<sup>19</sup> Jurisdictions and NGOs listed as members include the following:

- Abu Dhabi Global Market
- Australian Securities & Investments Commission
- Autorité des marchés financiers (Canada)
- Central Bank of Bahrain
- Consultative Group to Assist the Poor
- Consumer Financial Protection Bureau (United States)
- Dubai Financial Services Authority
- Financial Conduct Authority (United Kingdom)
- Guernsey Financial Services Commission
- Hong Kong Monetary Authority
- Monetary Authority of Singapore (Singapore)
- Ontario Securities Commission (Canada)

#### **8.2.5 Conclusions and Takeaways**

As this introductory review indicates, the sandbox approach has been considered and adopted by a number of jurisdictions, and their design approaches and experience can be a useful guide to any initiative that a government chooses to establish. Furthermore, the longer-lived versions, such as that in the United Kingdom, have been deemed successes by their regulatory sponsors.



Taken as a whole, the experience of other jurisdictions makes a case for the possibility of a fintech sandbox to meet the complex goals of promoting change while providing protection against predation and other losses to the public.

### **8.3 POSSIBILITIES FOR A GOVERNMENT TO CONSIDER**

#### **8.3.1 Participating Departments/Leadership**

In order to be successful, any regulatory sandbox adopted by a government should include the principal regulatory stakeholders for fintech supervision. If these stakeholders can come to a coordinated approach to a sandbox, it will help provide the surety of application that the innovator will need. In addition, other ministries, departments, and/or supervisory bodies may need to be included. For example, national governments may wish to incorporate their information and communications technology ministries in addition to finance, because of the pervasiveness of digital finance and the growth of platform companies that use mobile communications for fintech.

#### **8.3.2 Market Segment Targets**

A government should decide which market segments would be productive to target. The targets should be considered broadly as an initial matter, which could lead to a wide variety of projects being submitted under the sandbox. Deciding which projects to pilot would provide a chance to explore a government's capacity to evaluate and oversee the experiments as they go forward. The point of the exercise in any sandbox effort is to be *surprised* by the creativity of the fintech and distributed ledger sectors, and not to artificially constrain the creativity in advance. That said, targets could include the following:

- InsureTech
- Real estate
- Securities, including “smart securities”

- Banking, settlement, “know your customer”
- Cryptocurrencies
- Tokenization and blockchain in noncurrency areas
- Recordation in property, collateral, and other areas
- Privacy/data protection
- Food and agriculture supply chains
- Energy generation, distribution, and conservation
- Health-care data
- Other categories of personal data; data self-sovereignty

### **8.3.3 Project Elements/Criteria**

A government desiring to establish a sandbox will need to have a reasonably well-defined set of goals and specific project elements that will inform whether to select a particular project. At a general level, a project should answer yes to the following questions:

- Does it truly foster innovation, or is it just a request for regulatory relief on existing approaches?
- Is there a strong likelihood of consumer or other public benefit from the proposed innovation?
- Will the proposed innovation provide utility to the company proposing its adoption, such as a good use case for testing the technology?
- Would the risks associated with the proposed innovation be adequately contained?
- Will the proposed innovation create economic activity and development for the citizenry of that domicile?

Other criteria, or different versions of the above, are set out in the various sandbox proposals already described, and those proposals should be considered when determining the goals for a sandbox initiative.

At the level of specific project applications, the following elements should be present:

- The proposal should be made with sufficient specificity so as to constitute an implementable project and not a general fishing expedition.
- The proposal should relate to a specific project and not seek a general variance.
- The project should be suitable to testing through a sandbox approach and not be a part of a full-blown rollout.
- The company should have both the financial and the managerial capacity to effectively carry out the proposed test.
- Consumer protection criteria should be clearly specified.
- There should be an appropriate nexus to the domicile, with a particular attention to economic activity. Connection with local governments could be encouraged.
- The time frame for the project and its test should be limited to a reasonably short horizon.

If a government develops a sandbox, the criteria established in other jurisdictions can provide a useful guide to its thinking.

#### **8.3.4 The Application Process**

In considering the application process, the government can create priority avenues for projects coming from verified supply channels. These could include projects vouched for by one of the various incubator programs, coworking locations, or maker spaces in the jurisdiction. The government could also give priority to projects emerging from its colleges and universities.

It can be useful to have a phased application process, with a first-stage initial inquiry to prequalify an idea as at least generally meeting the goals and criteria, followed by the second stage of an actual request, which would contain significantly

greater detail. Application forms for existing programs can provide guidance for this part of the process.

Attention should also be given to the number of projects that can be productively overseen in the sandbox, with the winnowing-down process aimed at getting to and maintaining that target.

### **8.3.5 Benefits and Opportunities**

The sandbox should provide the following possibilities, which will benefit the applicants:

- Unified application across participating departments
- Quick response
- Where appropriate, relief on a “no action” basis within existing rules
- Where appropriate, waivers or exemptions from existing rules, which can be limited by restrictions that are more appropriate to the tested approach
- Collaboration between the company and the regulator on the consideration for permanent rule-making/qualification criteria

## **8.4 NEXT STEPS**

For governmental stakeholders interested in seeing such an initiative go forward, the following is a possible road map for further action.

### **8.4.1 Form an Intra- and Interagency Consultation Group**

As mentioned above, a working group allowing such consultation should be formed and convened.

### **8.4.2 Determine Regulatory/Legislative Authorization**

Relatively early in the process, the group should determine what can be done at the agency level without legislation and

what will need legislative authorization. To the extent that legislation is necessary, it should be drafted in collaboration with the appropriate legislative committees. Some designated funding may also be needed, which would require legislative approval.

#### **8.4.3 Obtain Stakeholder Input**

A range of private and public stakeholders should provide information on opportunities and concerns that can help guide this process. Neutral third parties, such as university researchers with expertise in the area, can help balance competing interests and provide unbiased perspectives on the approach as it develops.

#### **8.4.4 Design the Program**

The program should be designed with careful consideration given to the goals and criteria described in this memorandum and further developed in the process. Existing sandbox programs in other jurisdictions can be mined to assist in the design process. Once a design is agreed upon, it should be adopted through the appropriate regulatory and legislative processes.

#### **8.4.5 Implement the Program**

Implementation of the program should include an allocation of resources for developing the website and other necessary resources to gather the applications, evaluate them, and work with the selected programs to maximize effectiveness and consumer protection. The government should also allocate resources for outreach into the technology and innovation communities and for publicity into the wider world of innovators.

#### **8.4.6 Determine Collaborations**

A government needs to carefully evaluate collaborators, which could include other governments; multigovernmental bodies

such as the GFIN, the Organisation for Economic Co-operation and Development, or the Commonwealth; and commercial entities, foundations, academic institutions, and others that might bring value to the effort.

#### **8.4.7 Evaluate the Program**

The program's outcomes should be evaluated periodically, with intentional determinations made as to whether to continue the program or modify it in light of experience.

### **8.5 CONCLUSIONS**

The fintech sandbox approach has been adopted by a number of jurisdictions worldwide and has proved successful in advancing the goals of promoting innovation while attending to consumer protection and assisting governments in their efforts to attract more jobs-creating innovative new firms to their jurisdictions. It offers governments a safe means of facilitating innovation, and offers start-up companies a mechanism to engage with governments that was previously unattainable because of the expense and expertise involved in a full-press government affairs program. Fintech sandboxes are powerful tools to create innovative new offerings for consumers and enterprises.

### **NOTES**

Portions of this chapter appeared in an earlier form as a research paper for the Distributed Ledger Governance Association, Inc.

1. D. Mikkelson, "General Motors Replies to Bill Gates," Snopes, 2010, <https://www.snopes.com/fact-check/car-balk/>.
2. P. Papamichael, C. Evagorou, and C. Antoniadis, "Anticipating the Challenges and Opportunities of PSD2," Deloitte, 2017, <https://www2.deloitte.com/cy/en/pages/financial-services/articles/anticipating-challenges-opportunities-psd2.html>.

3. BBVA Research, "What Is a Regulatory Sandbox?," <https://www.bbva.com/en/what-is-regulatory-sandbox/>, accessed April 26, 2018.
4. Financial Conduct Authority, *Regulatory Sandbox*, 2015, <https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf>.
5. Additional information on the sandbox approach is available at the following locations: *American Banker*: J. Henrichs, "Fintech Needs More Regulatory 'Sandboxes,'" April 26, 2018, <https://www.americanbanker.com/opinion/FinTech-needs-more-regulatory-sandboxes>. US Treasury: "Treasury Releases Report on Nonbank Financials, Fintech, and Innovation," press release, July 31, 2018, <https://home.treasury.gov/news/press-releases/sm447>; and "A Financial System That Creates Economic Opportunities: Nonbank Financials, Fintech, and Innovation," July 2018, <https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation.pdf>.
6. I. Jenik, "Regulatory Sandboxes: Potential for Financial Inclusion," Consultative Group to Assist the Poor (CGAP) blog, August 17, 2017, <http://www.cgap.org/blog/regulatory-sandboxes-potential-financial-inclusion>.
7. Consumer Financial Protection Bureau, "Bureau of Consumer Financial Protection Announces Director for the Office of Innovation," July 18, 2018, <https://www.consumerfinance.gov/about-us/newsroom/bureau-consumer-financial-protection-announces-director-office-innovation/>.
8. Consumer Financial Protection Bureau, "CFPB Office of Innovation Proposes 'Disclosure Sandbox' for Companies to Test New Ways to Inform Consumers," September 13, 2018, <https://www.consumerfinance.gov/about-us/blog/bcfp-office-innovation-proposes-disclosure-sandbox-FinTech-companies-test-new-ways-inform-consumers/>.
9. Consumer Financial Protection Bureau, "Policy to Encourage Trial Disclosure Programs," policy guidance and procedural rule, 2019, [https://files.consumerfinance.gov/f/documents/cfpb\\_final-policy-to-encourage-tdp.pdf](https://files.consumerfinance.gov/f/documents/cfpb_final-policy-to-encourage-tdp.pdf).

10. Davis Wright Tremaine LLP, “Fintech Sandboxes—Update on State Approaches” JD Supra, April 16, 2018, <https://www.jdsupra.com/legalnews/FinTech-sandboxes-update-on-state-80891/>.
11. Financial Conduct Authority, *Regulatory Sandbox*.
12. Financial Conduct Authority, “Regulatory Sandbox—Cohort 1,” June 15, 2017, <https://www.fca.org.uk/firms/regulatory-sandbox/cohort-1>.
13. Regulatory News, “FCA Regulatory Sandbox Open for Applications to Cohort 6,” Moody’s Analytics, October 23, 2019, <https://www.moodyanalytics.com/regulatory-news/oct-23-19-fca-regulatory-sandbox-open-for-applications-to-cohort-6>.
14. Financial Conduct Authority, “Regulatory Sandbox Lessons Learned Report,” October 20, 2017, <https://www.fca.org.uk/publications/research/regulatory-sandbox-lessons-learned-report>.
15. Financial Conduct Authority, “Regulatory Sandbox Lessons Learned Report.”
16. A. Stanley, “Arizona Becomes First U.S. State to Launch Regulatory Sandbox for FinTech,” *Forbes*, March 23, 2018, <https://www.forbes.com/sites/astanley/2018/03/23/arizona-becomes-first-u-s-state-to-launch-regulatory-sandbox-for-fintech/?sh=559a61591372>.
17. Monetary Authority of Singapore, “Regulatory Sandbox,” updated August 7, 2019, <https://www.mas.gov.sg/development/FinTech/regulatory-sandbox>.
18. Monetary Authority of Singapore, “Regulatory Sandbox.”
19. Financial Conduct Authority, “Global Financial Innovation Network (GFIN),” updated February 27, 2020, <https://www.fca.org.uk/firms/innovation/global-financial-innovation-network>.