

Regulatory sandbox lessons learned report

October 2017



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Annex 1

Abbreviations used in this paper

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1 Introduction

1.1 The regulatory sandbox ("sandbox"), part of Innovate, allows firms to test innovative products, services and business models in a live market environment, while ensuring that appropriate safeguards are in place. It was established following a feasibility report published in November 2015 to support the FCA's objective of promoting effective competition in the interests of consumers.¹ The November 2015 report set out the potential benefits of the sandbox that would support this objective as:

- reducing the time and, potentially, the cost of getting innovative ideas to market
- enabling greater access to finance for innovators, by reducing regulatory uncertainty
- enabling more products to be tested and, thus, potentially introduced to the market
- allowing the FCA to work with innovators to ensure that appropriate consumer protection safeguards are built into new products and services

1.2 The sandbox is an experiment for us as well as for the firms testing in the sandbox. It is the first time we have allowed firms to test in this way, and as such at the start of the sandbox we undertook to publish lessons learned from its early stages of operation. In our Mission document² published earlier this year, we also emphasised the importance we place on evaluating the success of our interventions.

1.3 This report reflects on how the sandbox has met its objectives over the first year of operation. It will:

- further explain how the sandbox operates
- discuss the impact on the market and our insights from testing over the first year of the sandbox
- explain limitations firms have faced when testing in the sandbox

1 www.fca.org.uk/publication/research/regulatory-sandbox.pdf

2 www.fca.org.uk/publication/corporate/our-mission-2017.pdf



2 Overview of year one

What is the sandbox?

- 2.1** The sandbox aims to promote more effective competition in the interests of consumers by allowing firms to test innovative products, services and business models in a live market environment, while ensuring that appropriate safeguards are in place. The initiative was introduced in our regulatory sandbox report in November 2015, and took effect from June 2016 when we first opened for applications.
- 2.2** The sandbox operates on a cohort basis with two six-month test periods per year. To test in the sandbox, firms must submit an application setting out how they meet our eligibility criteria for testing.³
- 2.3** Firms in the sandbox may be provided with 'sandbox tools'⁴ to conduct the test within the regulatory framework. Successful applicants are assigned a dedicated case officer, and must submit a final report summarising the outcomes of the test before transitioning out of the sandbox.

Our role

- 2.4** The sandbox provides access to regulatory expertise and a set of regulatory tools to facilitate testing. Sandbox firms are assigned a dedicated case officer who supports the design and implementation of the test. This close contact enables case officers to help firms understand how their innovative business models fit within the regulatory framework. It also ensures that appropriate safeguards are built into innovative products and services during and after testing.
- 2.5** While the majority of sandbox firms have required authorisation in order to conduct testing, the sandbox is open to any firm that will be carrying out, or is directly supporting another firm in carrying out, regulated financial services activities. Large authorised firms have tested innovations in the sandbox that, following a successful test, they have gone on to make available to their wider customer base. We discuss sandbox test examples later in this report.
- 2.6** We work closely with firms to ensure sufficient safeguards are put in place to mitigate potential harm during and after testing. These safeguards are bespoke to each test and examples from the first two cohorts include extra capital requirements, systems penetration testing and secondary review of robo-advice by a qualified financial adviser, among others.

3 (i) carrying out or supporting financial services business in the UK (ii) genuinely innovative (iii) identifiable consumer benefit (iv) need for sandbox testing (v) ready to test

4 (i) restricted authorisation (ii) rule waivers (iii) individual guidance (iv) no enforcement action letters
www.fca.org.uk/firms/regulatory-sandbox

Progress

- 2.7** The first year of operation provides an early indication that the sandbox has been successful in meeting its overall objective.

Access to the regulatory expertise the sandbox offers has reduced the time and cost of getting innovative ideas to market

- 2.8** Each firm's case officer works with them to develop a test, and facilitates engagement with subject matter experts from across the FCA. Direct feedback from firms both during testing and following testing in their final reports indicates that this aspect of the sandbox programme is valuable in helping them to understand how the regulatory framework applies to them, accelerating their route to market and reducing expenditure on external regulatory consultants. For larger firms, we have seen involvement in the sandbox accelerating firms' governance and product development cycles allowing them to test innovative ideas more quickly.

- 2.9** Indicators of success:

- 75% of firms accepted into the first cohort have successfully completed testing.
- Around 90% of firms that completed testing in the first cohort are continuing toward a wider market launch following their test.
- The majority of firms issued with a restricted authorisation for their test have gone onto secure a full authorisation following completion of their tests.
- 77% of firms accepted into the second cohort have progressed toward testing. We anticipate that a similar proportion of the second cohort will take these propositions to market as we have experienced in the first cohort.

Testing in the sandbox has helped facilitate access to finance for innovators

- 2.10** An area of consideration for investors is the regulatory certainty of the firms they are considering investing in. Feedback from sandbox firms indicates that taking part in the sandbox programme provides a degree of reassurance to investors through the oversight the FCA has of the firms' tests and the increased regulatory certainty participation provides. For example, one firm stated that continuous dialogue with us during the sandbox process has enabled them to develop more rigorous policies and processes than they otherwise would have.

- 2.11** Obtaining authorisation helps firms access funding. For firms that are not yet authorised, the sandbox can offer a quicker route to authorisation, enabling them to provide more certainty to prospective partners and investors. Given the rapid pace of growth that many early stage firms experience, this can be especially beneficial in reducing constraints to growth and funding. Feedback received indicates that investors can be reluctant to work with fintech companies that are not yet authorised.

**2.12** Indicator of success:

- At least 40% of firms which completed testing in the first cohort received investment during or following their sandbox tests.

Enabling products to be tested and introduced to the market

2.13 Many firms use a sandbox test to assess consumer uptake and commercial viability. Testing in a live environment provides an opportunity to understand how receptive consumers are to different pricing strategies, communication channels, business models and to the new technologies themselves. This allows firms to continually assess and iterate their business model based on the feedback they receive.

2.14 Testing the viability of underlying technology is another common objective amongst sandbox firms. We conduct technology and cyber resilience reviews of firms when setting up sandbox tests. This allows firms to test their technology on a small scale in the market while ensuring the appropriate controls are in place to minimise the risk of harm to consumers.

2.15 Once firms have finished testing, they must produce a final report summarising their findings and next steps. These often feed into the next stage of product development, potentially reducing the cost of launching the product compared with an un-tested version. Following successful sandbox tests we have seen propositions from both small and large firms being introduced to the mass market.

2.16 Indicators of success:

- We have facilitated a significantly higher number of tests than initially anticipated, covering a wide range of sectors and product types.
- We received 146 applications across the first two cohorts of the sandbox. Of these applicants, 50 were accepted and 41 tested or are currently testing a range of propositions in the sandbox.
- Around a third of firms that tested in the first cohort used the learnings to significantly pivot their business model ahead of launch in the wider market.

The sandbox has allowed us to work with innovators to build appropriate consumer protection safeguards into new products and services

2.17 Working closely with the FCA has given firms the opportunity to develop their business models with consumers in mind and mitigate risks by implementing appropriate safeguards to prevent harm occurring. We put in place a set of standard safeguards for all sandbox tests, and develop bespoke additional safeguards where these are relevant. For example, we require all firms in the sandbox to develop an exit plan to ensure the test can be closed down at any point whilst minimising the potential detriment to participating consumers. We discuss examples of bespoke safeguards in the 'Impact on the market' section later in this report.

2.18 Indicators of success:

- All sandbox tests have adhered to our standard safeguards.
- We have worked with firms to develop bespoke safeguards for tests.
- One firm successfully triggered their exit plan due to lack of consumer uptake during the test.

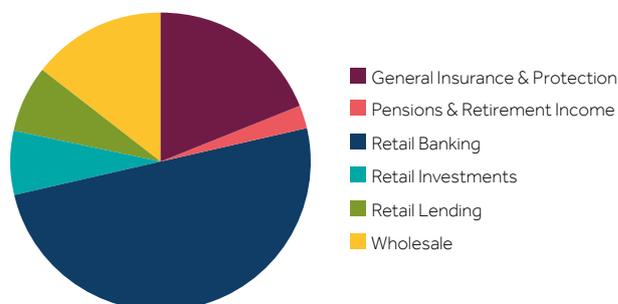
3 Overview of participants

- 3.1** Over the first two cohorts, we received applications from 146 applicant firms and supported 50 of those towards designing, implementing and supervising their tests. Not all have progressed to test their solutions in the sandbox. Nine firms were unable to test their solutions for a variety of reasons, including not being able to secure necessary partnership agreements.
- 3.2** This experience provides a unique insight into the types of firms that request our support, the technologies underpinning their innovations, and the common risks facing them and their prospective customers. This section discusses various characteristics observed among participants.

Sector breakdown

- 3.3** As illustrated in Figure 1 below, firms testing in the sandbox have come from a variety of sectors. The sandbox encourages applications from all sectors, however, a majority of firms testing in the first two cohorts have come from the retail banking sector.

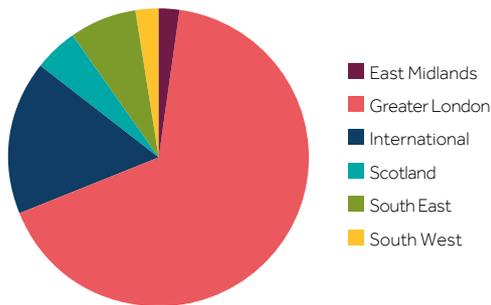
Figure 1: Sandbox firms by sector



Regional breakdown

- 3.4** Figure 2 shows that a majority of sandbox firms in the first two cohorts are based in Greater London. However, this trend does appear to be changing. Approximately 35% of firms testing in the second cohort are based outside London, representing a marked increase when compared to the 25% of firms in the first cohort. Applications to the sandbox came from around the UK including Scotland, East Midlands and the South East of England. Applications were also received from firms based outside of the UK in countries including Canada, Singapore and the US

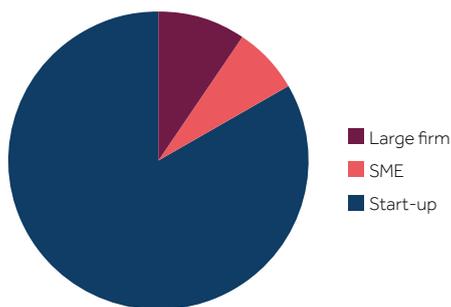
Figure 2: Sandbox firms by region



Size of firms

- 3.5** The sandbox provides support to innovative firms regardless of their size or maturity. However, it is clear that the sandbox has been most popular with start-up companies and those that are not yet authorised by the FCA. Figure 3 below shows the breakdown of sandbox firms in terms of size.

Figure 3: Sandbox firms by size



- 3.6** The vast majority of start-ups accepted have required restricted authorisation to be able to carry out their sandbox test. Granting restricted authorisation is the tool we have used most frequently in the sandbox. It allows firms to conduct the regulated activities relevant to their test by meeting authorisation requirements that are proportionate to their testing activities. Restrictions are placed on each firm's authorisation to ensure that they are only able to test up to the volumes prescribed in their testing plans.

Technologies employed

- 3.7** While applicants are not required to use new technology to be deemed innovative, in many cases this is why they meet our genuine innovation criterion and is often what delivers the potential consumer benefit. The majority of technology-use cases we have seen so far have been the new application of technologies to traditional products or services, as opposed to using technologies to create entirely new products. For example, many firms propose the application of new technologies to reduce operational costs from traditional processes and pass this onto consumers through lower prices.
- 3.8** Distributed Ledger Technology (DLT) was the most popular technology employed across the first two cohorts with 17 firms utilising the technology in some way. The majority of sandbox firms using DLT across the first two cohorts are electronic money or payments institutions. We discuss insights from tests that have utilised DLT for payments later in this report.



4 Impact on the market

- 4.1** It is too early to draw robust conclusions on the sandbox's overall impact on competition given its relatively small scale to date and the time we expect changes to embed in the market. However, we believe that testing indicates that the sandbox is making progress towards promoting competition in the market.
- 4.2** A key component of effective competition is that it drives useful innovation, pushing firms to invest in the next generation of technologies that could improve the effectiveness of markets. We would expect improvements in competition to deliver better value for consumers and other financial services users. A number of indicators suggest that the sandbox is beginning to have a positive impact in terms of price and quality, as detailed below. As more firms with better products and services enter the market, we expect competitive pressure to improve incumbent firms' consumer propositions.

New uses of technologies

- 4.3** Nascent technologies can play a key role in delivering innovative products and services that can improve on those currently available. This can be by enhancing the quality or reducing the price of offerings, or by increasing access for consumers.

Distributed Ledger Technology (DLT)

- 4.4** DLT is a rapidly developing technology with exciting potential to enable firms to meet the needs of consumers and the market more effectively. We have seen that DLT can be used to reduce costs, improve security and trust between groups of participants, and enable services to be provided at a greater speed.
- 4.5** One sandbox firm used DLT to enable UK private limited companies to digitally represent and manage their shares and corporate governance processes. This showed the potential for DLT to improve the efficiency of operations and result in significant savings on legal costs that would otherwise be incurred by these companies.
- 4.6** Another firm mirrored the normal issuance process for a short-term debt instrument using DLT, potentially streamlining the traditional approach, for example by removing the need for registrars and nominees. As a result of the increased transparency and visibility it can offer, we have seen that DLT has the potential to support effective reconciliation and auditing. These systems could enhance transparency, accuracy and clarity in relation to the ownership of assets.
- 4.7** Multiple firms have tested the use of digital currencies to facilitate cross-border payments, with models differing significantly from traditional and peer-to-peer money remittance companies. Using digital currencies enables firms to bypass traditional payments rails and methods, which can result in significant benefits for consumers in the form of reduced transaction times and better exchange rates. A common model involves converting fiat currency into a digital currency, and then back into a different fiat currency to transmit to the recipient.

- 4.8** One firm tested the transfer of funds from sterling (GBP) to South African rand (ZAR), using an intermediary digital currency. All transactions took place in less than one hour end-to-end, and the fastest took around 2 minutes. Transfers were also cheaper than traditional methods with the firm comparing their price to a range of incumbents in this space and finding it was able to send money at a better rate than all the comparators. The best rate for transfers varied from 5% to 50% cheaper than the best alternative.
- 4.9** We are conscious that, despite the potential benefits, DLT may also present new challenges and potential risks. Testing such propositions in the sandbox gives firms in this space the ability to better understand and manage these risks. It also allows us to observe more closely the potential risks DLT may present and to feed into these tests to ensure appropriate safeguards are in place and potential consumer detriment is minimised. For example, in many instances where firms were testing the use of digital currencies in money remittance, we required the firms to guarantee funds being transmitted to deliver full refunds in the case of funds being lost.
- 4.10** Through the sandbox we have observed that execution time uncertainty, volatility in the value of digital currencies, liquidity requirements, transaction fees and the availability of exchanges have all proved to be limiting factors to the success of tests in this area. Firms will need to carefully manage these risks and others if these services are offered on a wider scale. The ability to test on a small scale has allowed the firms to prove the potential benefits, better understand the risks involved and improve their risk management processes in preparation for a full scale launch.

Online platforms

- 4.11** We have seen firms bring traditional processes online in order to improve their efficiency and effectiveness.
- 4.12** One sandbox firm tested whether an online platform could streamline the Initial Public Offering (IPO) distribution process. The platform is used to communicate information to relevant participants of the deal in a more efficient, effective and transparent manner than traditional processes. The firm was specifically testing whether the platform could be used to collect better quality information and participation from investors by providing a technology framework to enable easier and more secure interaction between participants.
- 4.13** Another firm is currently testing the use of an online platform to increase SME access to FX options, at a lower volume and cost than currently available for these products. The platform simplifies the process of hedging currency exposure, allowing users to purchase an option tailored to their needs.

Application Programme Interfaces (APIs)

- 4.14** We saw firms offering solutions that integrated with the APIs of other financial services firms in order to offer consumers secure and convenient access to a range of financial information. One firm developed a platform that aggregates users' current account, credit card, and pension balances into a simplified format. The platform used APIs to integrate with a range of financial services companies. This gives the consumer the ability to access a range of financial services products directly through one platform, improving their understanding of their own financial position, enhancing awareness of the various products in the market, and resulting in a more convenient user experience.



Biometrics

4.15 We saw a number of firms testing solutions that integrate biometric technology. One firm is testing a DLT platform that enables consumers to pay, login and verify their identity using biometrics. Another proposition uses facial recognition technology to feed into the risk profiling assessment being carried out by a financial adviser.

Increasing access and improving experiences for vulnerable consumers

4.16 The sandbox has enabled a variety of tests from firms with innovative business models that look to address the needs of more vulnerable consumers who may be particularly at risk of financial exclusion. The House of Lords Select Committee on Financial Inclusion published a report in March 2017 which cited the FCA sandbox as a positive way of encouraging fintech solutions to aspects of financial exclusion.⁵

4.17 One test developed an innovative way to help consumers on benefits feel more empowered. This test enabled users to receive and make faster payments for key services such as rent, council tax, gas, and electricity. Sandbox firms have been supported by government bodies to give customers a better overview of their budget through a mobile app, and to use the same app to receive benefit payments, and pay for core services.

4.18 We have also supported propositions seeking to help consumers prioritise and reduce high-cost credit. One firm tested a mobile application using behavioural techniques to encourage consumers to set aside small amounts of money in a savings account. This would be used to repay high cost credit obligations quicker and therefore reduce the number of customers going into arrears on outstanding debt. The use of technology to help users prioritise and better manage debt is an area of specific interest, particularly in light of recent changes in the debt management sector.

4.19 We have also seen tests that demonstrated the provision of more consistent advice to those consumers who are struggling with unmanageable debt. One test looked to promote more consistent outcomes for consumers receiving face-to-face debt advice. It sought to test whether consistency could be improved by using technology to help the adviser determine the most appropriate next steps for their clients, whilst taking into account their individual circumstances.

4.20 One firm trialled an innovative form of disclosure that sought to improve engagement in key features of various banking products at point of sale in-branch. The firm provided the salient points using videos displayed on a tablet and followed up with full terms and conditions via email after the sale. In this test, consumers were still given the option of receiving information in paper form in-branch. Some consumers may not always have access to, or engage effectively with, solely digital propositions so we continue to encourage future applicants to consider how they might provide services to consumers to maximise engagement.

4.21 We see strong consumer benefits for those propositions that meet the needs of vulnerable consumers who are at particular risk of financial exclusion. The success of pilots in this area is encouraging so we welcome applications to the sandbox which include propositions that directly seek to address public and social policy issues.

⁵ Tackling financial exclusion: A country that works for everyone?
<https://publications.parliament.uk/pa/ld201617/ldselect/ldfinexcl/132/13202.htm>

Changes to business models

- 4.22** The sandbox allows firms to develop their business models in response to conclusions from live testing. This puts firms that come through the sandbox in a good position to make an impact on the wider market over the subsequent years of their operation. It also gives us oversight of, and input into, firms' business models. This provides us with valuable insights on market developments that can be shared across the wider organisation to inform our supervisory activity and policymaking.
- 4.23** Through sandbox tests we have seen a number of variations to traditional business models which have the potential to positively impact the market by delivering products that better meet consumers' needs or reduce costs.

Personal savings tools and the use of consumer information

- 4.24** A number of tests employed innovative methods in personal financial management, savings, and investments to incrementally improve users' savings habits. Continued use of these tools has the potential to improve spending and saving behaviour among users, resulting in better long-term outcomes for consumers as they progress towards retirement. We have seen indications that using these tools over a prolonged period could improve consumers' future financial positions and their ability to withstand financial shocks.
- 4.25** Firms testing in this area leverage the insights gained from analysing consumers' transactional information to better understand consumers' financial positions and tailor their product to better suit users' needs and situations.
- 4.26** A number of sandbox firms tested the effectiveness of aggregating consumer accounts and using nudges to encourage consumers to make better financial decisions. These tests resulted in consumers better understanding their own financial position and enabled them to take more control of their decision making.
- 4.27** We have seen that data sharing between large firms and fintechs can be mutually beneficial for the firms involved, and can deliver benefits to consumers. For example, we observed a test where a large firm partnered with a fintech company to provide a product aimed at increasing customers' savings. The product involved customers authorising the large firm to share their current account transactional data with the technology provider to help them identify where it might have been both possible and beneficial for them to transfer a certain amount of money to a savings account.
- 4.28** This method of testing caused the large firm to benefit from access to the agile, intelligent technology the fintech firm had built, while the fintech benefitted from access to a large customer base and a rich source of transactional data. Consumers testing the product had a significantly higher savings rate over the test period compared with a control group of comparable customers.
- 4.29** We are interested in continuing to monitor developments in applications of technology and behavioural economics to encourage saving, and improve long-term outcomes for consumers through testing in future cohorts.

Insurance mediation

- 4.30** A number of insurance intermediaries have tested and are currently testing propositions aiming to add value to the insurance distribution process, and improve the user experience. These innovations could improve the way insurance policies are



distributed and managed, and how claims are made and processed. Developments in this area might also enhance consumers' ability to understand their risk profiles and current levels of coverage, improving their ability to make well-informed decisions on the protections they want in place.

- 4.31** One test is assessing a range of user information about their existing assets, presenting this information to the consumer in a consolidated dashboard, then giving them the ability to make a digital will, take out life insurance and insure their assets.
- 4.32** We have also seen firms looking to introduce innovations to the insurance market that attempt to better align the interests of consumers and insurers. For example, one firm in the second cohort is testing a proposition introducing a savings element to insurance products, allowing the customer to accumulate and spend savings if they do not claim against the policy. This attempts to provide the consumer with a better outcome and to mitigate the risk of moral hazard in claiming for insurance.
- 4.33** Another firm is testing an innovative insurance model whereby the consumer pays the premium at the end of the month instead of the start. The consumer would pay a premium that is directly related to the number of claims made in that month, improving transparency around the calculation of the premium, and potentially lowering the price of the policy for consumers.
- 4.34** To date these tests have involved sandbox firms partnering with large insurers for underwriting capacity. The more innovative nature of these business models often makes it harder for large firms to evaluate within their existing risk appetites, and procurement processes. However, we have observed that some large insurers have been open to engaging and working with firms in this area.

Mortgages

- 4.35** We saw a small number of mortgage propositions tested in the sandbox. One firm tested a model for those looking to move house which guarantees a sale of the customer's property within 90 days, or failing that provides an interest free loan for 95% of the property's market value. The test gauged consumer demand and satisfaction for the service, and tested the firm's ability to sell within their 90-day timeframe.
- 4.36** We worked closely with the firm to assess the potential risks and implement bespoke consumer safeguards. This included requiring the firm to hold capital (in addition to the capital required by regulations) to ensure they had sufficient funds to cover their outstanding obligations on houses they had committed to provide a loan for if they were unable to complete a sale within 90 days.
- 4.37** During the test, the firm found that consumer demand exceeded expectations, indicating that they had identified a genuine problem not currently solved by other firms in the market. The firm utilised consumer feedback to test different pricing structures, resulting in a price that delivered better value to the customer.
- 4.38** Firms are also testing propositions that intend to improve the approval rate for mortgages by providing consumers with a better understanding of what they can afford and a clearer view of mortgage products for which they would qualify. These types of solutions aim to increase transparency and inform the consumer's decision-making process.

Robo-advice

- 4.39** Robo-advice is an emerging area of the advice market, and a number of firms used the sandbox to test their models in a live environment. Firms have also benefited from support from our Advice Unit,⁶ which provides regulatory feedback for firms who are looking to deliver automated advice and guidance.
- 4.40** Testing has provided firms with an opportunity to ensure their product is suitable for deployment in the wider market. To mitigate risks that these models deliver unsuitable advice, we have ensured that firms build in additional safeguards before they begin testing. In most cases, this has involved qualified financial advisers checking the automated advice outputs generated by the underlying algorithms.
- 4.41** One sandbox test involved an experienced adviser being present when a consumer received automated advice. This enabled the adviser to check and, if necessary amend, recommendations before the advice was delivered to the client. Amendments could then be made to the underlying algorithm based on the assessments of the qualified debt adviser.
- 4.42** In another ongoing test, a firm is testing the automation of the end-to-end advice process. Once a consumer submits their response to the online fact-find, they automatically receive their suitability report. In order to test this functionality while avoiding the consumer acting on unsuitable advice, consumers are informed that they should not act upon the report until they have received a second notification confirming that the advice is suitable. This allows the qualified financial adviser to check the output of the model and enables the firm to test their proposition effectively.

6 www.fca.org.uk/firms/advice-unit



5 Limitations of testing

- 5.1** As we acknowledged in the original sandbox report, providing a bespoke sandbox environment for testing does not, in itself, address all the challenges a firm may face in successfully testing their innovation. In this chapter we detail some of the challenges firms have faced in conducting their tests. We encourage potential applicants to consider whether these relate to the proposition they are looking to test before applying.

Access to banking services

- 5.2** We are aware that in recent years some banks have been withdrawing or failing to offer banking services to some types of customers. We are concerned that denying certain customers bank accounts on a wholesale basis causes significant barriers to entry and could lead to poor competition in certain markets. This is commonly referred to as 'de-risking'.
- 5.3** The drivers behind these practices are many and complex. This is, at least in part, driven by banks' perception of greater money laundering and terrorist financing risks posed by certain types of customers, but also appears to come from other factors including strategic business decisions, the profitability of certain relationships, credit risk assessments, and overall compliance costs. Research has found that some banks are closing accounts for certain companies (for example money transmission services), and that de-risking seems to affect small businesses more than large ones.⁷
- 5.4** We have witnessed the denial of banking services first-hand across a number of firms in the first two cohorts of the sandbox. Difficulties have been particularly pronounced for firms wishing to leverage DLT, become payment institutions, or become electronic money institutions. We are concerned by what appear to be blanket refusals for certain kinds of applicant firms. There are also apparent inconsistencies within individual banks regarding how they apply their assessment criteria in approving access to banking services.
- 5.5** We recognise that this is not an issue faced solely by firms in the sandbox. However, this process has given us closer insight into the difficulties faced by firms in this area. Some firms have been unable to conduct their tests as initially planned as a result. If certain firms cannot secure bank accounts it is possible that they will be unable to meet our conditions for authorisation and would therefore be unable to enter the market, even to test in the sandbox.
- 5.6** We work to ensure that the UK financial system is a hostile environment for money launderers. However, we are clear that effective money laundering risk management need not result in wholesale de-risking, and are aware of the risks this may pose to innovation and competition and intend to continue our focus on this issue.

7 www.fca.org.uk/publication/research/drivers-impacts-of-derisking.pdf

Customer acquisition & governance processes

- 5.7** A number of tests in the sandbox have been designed to assess customer uptake and commercial viability. Many have successfully proved high demand for their products and services while other firms have struggled to attract customers. In many instances this is in itself a useful finding where the firm wants to test the commercial viability of their proposition on a small scale without necessarily committing the same level of resource they would need to get to market without the sandbox.
- 5.8** Acquiring customers seems to be more of an issue for smaller firms that do not enter testing with a well-established customer base.
- 5.9** Partnerships between large firms and start-ups in the sandbox have proven to be successful for both parties, particularly for giving the start-up access to a larger pool of existing customers to test with. An established bank has worked in the sandbox with a small technology provider to provide their customers with an app encouraging saving. We have also seen start-up insurance intermediaries partner with insurers to test and deliver their innovative insurance propositions.
- 5.10** The partnership model allows start-ups to test their proposition in a live environment, with access to a larger consumer base. It also provides the ability to leverage the resources, experience, and knowledge of the large firm. For large firms, partnerships with start-ups enable them to innovate and improve products at a faster pace, without having to go through the full development process themselves.
- 5.11** Some large firms have stated that the process of setting up their test with a partner often identified ways to improve their own procurement and governance processes for on-boarding start-ups. Being able to experience this in the sandbox enabled them to construct a more efficient process for future partnerships. This is an area where the impact of the sandbox will hopefully be transmitted to operations and to activity in the market beyond the specific propositions tested.

Access to consumer data and integration with Application Programme Interfaces (APIs)

- 5.12** This report previously discussed the potential benefits to firms of being able to obtain and analyse consumers' transactional information to help them provide products and services better tailored to suit customers' goals and needs. For these data to be used effectively, firms need to be able to access and share them in a secure and efficient manner. However, in many cases, it is difficult for firms to go directly to the financial institution holding these data and securely gain the access they require, as formal routes for sharing may be unavailable.
- 5.13** During testing we observed that smooth integration with APIs sometimes took longer than expected even among firms with experience using new systems and technologies. For example, one firm sought to integrate with a range of financial institutions via APIs to provide users with a comprehensive view of their financial products. However, the firm found that the nascent nature of APIs within financial services made it difficult to complete the integration process within the testing period.



- 5.14** We expect this landscape to evolve over the coming year as industry standards develop alongside the implementation of PSD2 and GDPR. The UK's Open Banking initiative is working with nine banks to define and develop APIs that will enable consumers and small businesses to share their current account information securely with other banks and third parties.

Meeting conditions for authorisation

- 5.15** Firms looking to test in the sandbox must meet the relevant conditions for authorisation for the activities they want to conduct. These conditions ensure that, among other things, firms have the necessary competence and financial viability to protect the integrity of their operations and their customers.
- 5.16** Assessing sandbox firms against these conditions is often more complex than for traditional firms as their operations may be structured differently than the models we have previously seen. We have found that in general sandbox firms have been able to clearly demonstrate their ability to meet our conditions. In some cases this required further discussions with the firms or requests for additional information that would not normally be required during the authorisation process. We have found, however, that firms with certain business models have had greater difficulty in meeting the initial regulatory requirements to become authorised. This has caused small-scale testing to be particularly difficult.
- 5.17** For example, some sandbox firms proposed to underwrite insurance products during their tests which would have required them to be authorised as insurers. In many instances we found that these firms were unable to meet the initial regulatory requirements to become an insurer while in the sandbox. An alternative option for these firms was to become insurance intermediaries and partner with an incumbent insurer to underwrite the insurance product. Similar difficulties were encountered by firms looking to operate multilateral trading facilities (MTFs) as these firms must hold a substantial level of initial regulatory capital and have in place systems and controls that have been stress tested to a high level.
- 5.18** The challenges mean it has been difficult for firms to become authorised as either an insurer or an MTF to test their propositions within the sandbox framework, particularly in the case of smaller start-ups. If you are a firm looking to carry out these activities and are in your view ready to meet the relevant requirements and conduct a sandbox test, please get in touch with the team to discuss your prospective application in more detail before submitting it.⁸
- 5.19** These examples represent a very small proportion of the market and we recognise there may be other business models that would face similar issues in carrying out small-scale testing.

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6 Next steps

- 6.1** The first year of the sandbox met a genuine demand in the market and we are encouraged by the initial evidence of its success. We will use the insights outlined in this report to inform any future sandbox developments and will continue to feed them into our broader regulatory work, including policymaking and supervisory activities.



Annex 1

Abbreviations used in this paper

API	Application Programming Interface
DLT	Distributed Ledger Technology
FX	Foreign Exchange
GBP	Great British Pound
GDPR	General Data Protection Regulations
IPO	Initial Public Offering
MTF	Multilateral Trading Facility
PSD2	Second Payment Services Directive
SME	Small and Medium-Sized Enterprise
ZAR	South African Rand

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