ANALYSIS OF REGULATORY SANDBOX IN THE NETHERLANDS THAT PROMOTE DEVELOPMENT OF INNOVATIVE FINTECH START-UPS

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Recommended Citation
Available at: https://uzjournals.edu.uz/interfinance/vol2020/iss3/34

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ANALYSIS OF REGULATORY SANDBOX IN THE NETHERLANDS THAT PROMOTE DEVELOPMENT OF INNOVATIVE FINTECH START-UPS

The Fintech as an important part of digital economy needs liberalistic approach which prevents it from overwhelming regulatory burden of conventional financial system. Indeed, that burden will create barriers for startups to provide their low-cost financial products. However, developed countries recommended Regulatory sandboxes to implement to avoid the above mentioned issue. In this regard, this article attempts to give a descriptive analysis of regulatory sandbox in the example of Netherlands and attempts to give recommendations on the basis of inferences obtained from the Netherland’s experience.

Keywords: Finance, financial system, financial technology, digital economy, blockchain, cryptocurrency, financial services, financial policy.

АНАЛИЗ РЕГУЛЯТИВНОЙ СФЕРЫ НИДЕРЛАНДИИ, КОТОРАЯ СПОСОБСТВУЕТ РАЗВИТИЮ СТАРТАПОВ ФИНАНСОВОЙ ТЕХНОЛОГИИ

Финансовые технологии как важная часть цифровой экономики нуждаются в либеральном подходе, который предотвращает чрезмерное бремя регулирования традиционной финансовой системы. Действительно, это бремя создаст барьеры для стартапов, чтобы обеспечить их дешевыми финансовыми продуктами. Тем не менее, развитые страны рекомендовали внедрить «песочницы», чтобы избежать вышеуказанной проблемы. В связи с этим в данной статье предпринята попытка дать описательный анализ нормативной песочницы на примере Нидерландов и даны рекомендации на основе выводов, полученных из опыта Нидерландов.

Ключевые слова: финансы, финансовая система, финансовые технологии, цифровая экономика, блокчейн, криптовалюта, финансовые услуги, финансовая политика.
МОЛИЯВИЙ ТЕХНОЛОГИЯ СТАРТАПЛАРИНИ РИВОЖЛАНТИРИШНИ КЎЛЛАБ-ҚУВВАТЛАШДА НИДЕРЛАНДИЯ РЕГУЛЯТИВ МАЙДОНЧАЛАРИНИ ТАҲЛИЛ ҚИЛИШ

Молиявий технологиялар раками иктисодийётнинг мухим кисми сифатида либералистик ёндашувга муҳтож бўлиб, бу анъанавий молиявий тизимнинг тартибга солувчи маъмур иқтишодларининг такдим этишда тўсинклар яратади. Дархакикат, бу юк стартапларга арzon нарҳлардаги молиявий маъсус майдончаларни такдим этишда тўсинклар яратади. Бироқ, ривожланган давлатлар юқорида айтилган муаммоларнинг олдини олиш учун тартибга солувчи маъсус майдончаларни амалиётга киритилишини тавсия этди. Шу муносабат билан, ушбу мақола Голландия мисолида махсус майдончаларнинг тавсифий таҳлилини беришга ва Голландия тажрибасидан олинган мулоҳазалар асосида тавсиялар беришга ҳаракат қилади.

Таянч сўз ва иборалар: молия, молия тизими, молиявий технологиялар, рақамли иқтисодиёт, блокчайн, криптовалюта, молиявий хизмат, молиявий сиёсат.

Introduction
The worldwide financial crisis in 2008 exposed significant failures in supervision of financial system and has made the Financial Market Law and Compliance a key topic on the current agenda (Anagnostopoulos, 2018). On the other hand, the expansion of smartphone market in the 2000s and internet revolution in the 1990s stimulated businesses sectors as well as governments to create low-cost financial services which later led to the development of financial technology (Fintech, 2018). In other words, Fintech refers to any type of financial services including insurance, banking, and stock trading, which are conducted by means of advanced data technologies like AI, machine learning, cloud computing, and blockchain. (Please refer to Appendix for detailed information). Indeed, it become the fast-growing research topic which could be explained by the more than 550,000 cryptocurrency related works uploaded on SSN (Tucker, 2018).

Specifically, in 2018 there were around 400 of crowdfunding, cryptocurrency, and mobile payment/banking companies existed in the Dutch fintech industry, and the Netherlands is considered a global frontrunner in successful fintech innovation (Fintech, 2018). Further, in 2018, 329 million EUR was raised to finance around 8,800 projects and companies in the Netherlands through crowdfunding against 223 million euros (or 48% more than) in 2017 (cijfers.nl, 2018). However, cryptocurrency ownership among the Dutch citizenry decreased by eighteen percent in 2018, from 580 thousand to 480 thousand. Crypto owners have also become less active in trading and more critical on digital coins. Similarly, mobile payment platforms are popular in the Netherlands, and although the current usage rate is fifty-one percent, this is expected to increase by thirty percent (to 66%) in the next five years (Janene, 2018). As for the online payment system for eCommerce, the Holland banks introduced IDEAL mobile
payment system in 2005. This national payment system effectively works with Visa and Mastercard for Commerce payments (Instapay, 2019).

In the meantime, although the accelerated rate at which the industry is growing, there are various negative consequences, including disruptions in the financial industry. Therefore, governments are setting up regulatory sandboxes so that there are appropriate regulatory frameworks to encourage innovation while also ensuring a logical development within the industry, to have streamlined influence to the existing financial system, and to safeguard and protect the interest of all stakeholders that are involved. "Regulatory sandboxes involve the granting of licensing exemptions and conditional relief from regulatory requirements. These sandboxes are managed by staff at innovation hubs, which are regulatory offices that assist Fintech businesses to navigate regulatory requirements", (Lev Bromberg, 2017). This is to allow innovative Fintech businesses to test their business concepts with a short-term exemption from certain financial regulatory requirements.

This paper is based on Fintech regulatory sandbox in the Netherlands and will focus on an overview of the regulations and regulatory challenges in Fintech start-ups, an analysis on Regulatory Sandbox in Fintech to promote innovative start-ups, and will conclude with policy implications on regulatory policy design and make recommendations for developing countries.

**Literature review**

Regulatory Sandboxes is one of the tools that the AFM and DNB has created in order to limit legislative actions that may hinder innovation in the field of financial services, the AFM and DNB find that it is appropriate to work to enhance the scope of interpretation of regulations The organization to keep pace with current financial services development. Which is enable market operators to put forward and present their innovative financial products and business models without facing any unnecessary obstacles and focus on the regulations and organizations as well as to removing unnecessary barriers to those innovative services that may help to implement their innovative service (Dutch & Bank, 2016).

Regulatory sandboxes have a serval definition since the definition is various among countries for instance, European Supervisory Authorities defined Regulatory sandboxes: “these provide a scheme to enable firms to test, pursuant to a specific testing plan agreed and monitored by a dedicated function of the competent authority, innovative financial products, financial services or business models. Sandboxes may also imply the use of legally provided discretions by the relevant supervisor (with use depending on the relevant applicable EU and national law), but sandboxes do not entail the application of regulatory requirements that must be applied as a result of EU law"(Jongbloed, Berghuijs, & van Wylick, 2018).

While AFM and Dutch central bank defined the regulatory sandbox as "The core of premise of the regulatory sandbox is that supervisors will focus on the real purpose of policies, rules, and regulation when assessing innovative products, services or
business models." And that if these purposes are met, they will use the scope offered by the law to provide a bespoke solution (DeNederlandscheBank, 2016).

Regulatory sandbox policy as It has been mentioned that the main objective of the regulatory sandboxes initiative is to encourage companies to innovate in the financial markets, so that any financial institution with an innovative idea can apply for the implementation of that idea through this regulatory sandboxes, nor does it require that the company be already established, but that this offer is available to both of already existing companies as well as new companies alike. This is because the main objective is to raise the efficiency of financial markets and maintain the welfare of services provided to customers and investors. The range of services entitled to provide is not limited to fintech but is available for any activity that achieves the desired purpose(DeNederlandscheBank, 2016).

Since the main objective of Regulatory sandbox is to bring innovation to the financial markets, therefore, any of the companies that already exist or are newly established that have an innovative idea in the field of fintech industry or financial services that will provide financial services to customers can apply to the regulatory sandboxes, as long as this service or the innovative idea will contribute to raising the efficiency of the financial markets and Maintaining the well-being of the services provided to customers and investors, so that companies can benefit from sandbox by removing the regulations barriers (Report, 2016).

Analysis and results

Criteria to apply. The fast development and innovation in the financial services sector, and specifically the services that require the use of modern technology" fintech", will bring some positive benefits to the customers such as lower prices and higher efficiency and quality, however there are many negative effects that may threaten the dealers with such companies or services providers such as security of information and the confidentiality of customer data, So that the authorities should work strictly to preserve the rights of the dealers and to avoid the conflicts that may result from the use of that technology. It was therefore prudent to establish certain criteria that companies submitting an idea, or an innovative activity must provide in order to meet the requirements for submission to the Regulatory sandboxes (DeNederlandscheBank, 2016).

These criterions determined by The AFM And DNB, since AFM and DNB Required companies which have the desire to apply for regulatory sandboxes to meet the following criteria:

first: proposed a creative and consistent with the objectives of the financial services in the country and the financial sector.

Second: The company must have the toughness of finance and the ability to provide the service efficiently.

Third: The financial services company should provide service in line with the requirements of the transparency of financial markets by providing the company's proposed plan to clear out of the company's connection with clients.
In addition to the above-mentioned criteria, company or the applicant of request for regulatory sandbox must:

**First**; describe the innovative idea clearly and define it, establish a specific timeline indicating the start of the activity, the duration, and where it will be terminated.

**Second**: prove to the supervisors that the idea or service provided is already ready for testing and valid for application on the ground.

**Third**: indicate and explain the steps of its exit from the market in the event that it does not meet the conditions of safety or in case of failure or realization of risks (DeNederlandscheBank, 2016).

**Steps and how can companies apply for regulatory sandbox** (a case-by-case basis) at several basic stages and are as follows:

Which will be explained in details in this section as follow:

**Phase 1: Application to participate in the regulatory sandbox**

Regulatory sandboxes through the AFM started in January 2017, and since that time, the AFM and DNB allowed companies that offer financial services to apply for the regulatory sandboxes at any time. This application takes the nature of confidentiality to preserve the rights of the dealers and the relationship between the applicant and the competent authority built on this basis, also that the legislator adopts the approach of case by case, since there are no uniform conditions for all the requests submitted, but each request is seen on the basis of the quality of the service provided and its nature.

The application submitted by the financial services providers is also judged by the competent supervisors, whose duties require that they be subject to the principle of transparency and the criteria upon which they will be accepted or rejected (DeNederlandscheBank, 2016; June 2017).

**The competent authority “AFM and DNB “also requires**

**First**: The application or service provided is in line with the objectives of the financial system in force in the country. **Second**: The company must prove that it faces some legislative and legal barriers that it cannot overcome in order to execute the project or the service **Thirdly**, the company must provide a clear and strict presentation of how it will maintain and protect the rights of clients and stakeholders of the company.

**Phase 2: Preparation**

During this stage of preparation, the competent authority shall cooperate with the company submitting the service proposal to determine the following points:

**First**: Whether or not the proposed activity is in need for a license in order to be activated or not and if it needs to be licensed, the Authority will provide the appropriate
license in order to start the test phase. **Second:** A clear plan of how to communicate between both parties during the test duration and what means of exchanging information and channels of communication.

**Third:** An explanation that meets the sufficient risks that may result from the launched of this product and how to deal with it, as well as how to handle and face it in case it occurs and what are the consumer rights in that case.

**Fourth:** It is agreed that in the event of failure to comply with any of the terms described and agreed upon, the termination of the test shall be the right of the supervisors of the Fund.

**Fifth:** Test evaluation criteria

**Sixth:** A clear plan for how to get out without affecting the rights of customers with the service provider(DeNederlandscheBank, 2016; Dutch & Bank, 2016; June 2017).

**Phase 3: Testing**

The test phase is one of the most important stages as the test stage is considered as the only chain of actions that will inform the legislator as well as the company providing the innovative idea of all the opportunities and risks observed during the test process and the methods of protectionism in the test phase vary from one activity to another where Every activity has its own conditions and requirements that the supervisor has to look at individually in the sense of the individual case.

During the testing process, many of the results are identified as follows: **First:** Through the testing process, the experience and its nature on the ground can be clearly identified in terms of its impact on consumers and customers and how they are discharged from the testing process without any risk to their interests. **Second:** The testing process will reduce the risks arising from the issuance of this activity, which may include how to proceed with the testing phase and avoid such risks. **Third:** During the testing phase, a rational plan is also developed for how customers will exit the service provider without being affected by the company in case the test process is discontinued. **Fourth:** Establish the conditions for compensating customers in case they are exposed to any type of risk in the course of the test process(GTDT, 2018; Jongbloed et al., 2018).

**Phase 4: Evaluation**

The competent authority will evaluate the success of the test, as appropriate, taking advantage of the contributions made by the company. It should be noted that "success " can be measured in many ways (as agreed during a pre-test phase) and could include a quick determination that it is not possible to be effectively proposition applied in the light of existing regulatory and control obligations to mitigate identified risks.

If the test terminated prematurely due to issues identified during the test, a plan to terminate the Agreement shall enter into force. This may include stopping the product or service being tested, continuing outside the sandbox if a long-term test period is agreed upon or required. More importantly, the company will be required to implement any measures to protect the interests of consumers (such as to arrange the
smooth flow of consumers, pay claims, etc.), and if any consumer detriment has appeared, to take these corrective steps that are deemed appropriate (DeNederlandscheBank, 2016; GTDT, 2018; Jongbloed et al., 2018; June, 2017).

After a predetermined period-length which may vary on a case-by-case basis, the supervisor of the regulatory sandboxes will evaluate the whole process and service. Depending on the type of supervisor ranking for the testing process, it may find that the sandboxes, including any restrictions or conditions the component authority emphasis its evaluation according to three options,

That the component authority might recommend or request that the sandbox requirements must be adapted, or the services can remain in force indefinitely and finally in some cases if the firm doesn't achieve the ultimate objectives of the experiment so that the AFM and DNA will definitely ask the firm to must stop (Dutch & Bank, 2016; GTDT, 2018).

**Progress & Performance of the Regulatory Sandbox in FinTech Start-Ups**

progress differ from model to model or country to country, because there is no single sandbox model. Of course, use of regulatory sandbox is to ensure there is support for Start-Ups so they can be more innovative in the Fintech industry through lowering testing barriers while also ensuring that the risk of those testing does not transfer to consumers of the financial services.

However, in a more general sense, we can identify common risks that can hinder the progress that is associated with three broader stakeholders which are the Fintech businesses, the customers of Sandbox Participants, and the regulators. For the Fintech Businesses, the way in which the regulatory sandboxes are designed and operated do have significant impacts on, among other things, the level playing field between existing and Start-Up businesses. For instance, according to ASIC, 2016, there are conflicting arguments relating to the exemptions offered by the regulatory sandboxes. The first argument is that an industry licensing exemption for start-ups could create an uneven playing field because it would favor start-ups over existing businesses. On the other hand, in support of the industry licensing exemption, ASIC disagreed, stating that ‘existing licensees, or their related bodies, do not face the same barriers as start-up businesses when it comes to validating concepts for new products and services. There is, therefore, a need to have a level playing field for factors that can severely affect the competitiveness of the financial industry. However, exemptions will still be provided for factors that have minimal impacts, or these can also be managed through out-of sandbox regulations.

Further, from the customers' perspectives, adopting a Sandbox regime can place a significant risk to customers of the Start-Ups that are participating in the Sandbox because they are exempted from some regulatory requirements thus their customers are at risk of not fully being protected during these testing stages. There is no guarantee to the extent to which customers are protected, but it will depend largely to the extent of the thresholds adopted for the testing and the flexibility that is allowable by the
There is, however, a downside to the approach to which regulators have more flexibility or discretionary powers as observed by FCA, that is Sandbox with more stringent requirements have the tendency to favor larger businesses resulting in lack of effective competition and disruptive innovation, (FCA, 2015). However, theoretically, "consumers should not bear the risks of sandbox testing and should always have the right to complain to the business, then to the Financial Ombudsman Service and have access to the Financial Services Compensation Scheme (FSCS) if a business fails" (Bromberg, Godwin and Ramsay, 2017, p. 11). Furthermore, for the Netherlands context, there are a number of risks as a result of testing in the sandbox. For instance, according to Jenik and Lauer, 2017, "potential competition issues that stem from advantages sandbox entities include being first to the market which seems unfair if the selection criteria are defined vaguely or there is a lack of transparency leading to selection bias or the appearance of selection bias." Furthermore, "poor selection of sandbox firms because of the limited capacity of the regulator to assess the technology underlying the innovation" (Jenik and Lauer, 2017). Other risks that were encountered in the Netherlands regulatory sandbox include liability issues in case of failed testing that resulted in harm to customers or other market participants, which may threaten the reputation of the regulator and trust of customers in the financial system.

Regulators, on the other hand, perform an important role in ensuring regulatory oversights are effectively managed during the testing stage so that, among other things, appropriated thresholds are implemented. Such a role should be performed effectively so that merit-based competitions are promoted and also innovation are encouraged within the financial market. According to Bromberg, Godwin and Ramsay, 2017, "under this form of regulation, innovation can occur when businesses seek to distinguish themselves from their competitors, rather than simply identifying a gap in the existing regulations, which is often subsequently filled."

**General lessons learned.** Despite the risks imposed on the major stakeholders that create barriers to having better progress, as discussed above, it does not mean there is no progress at all. There were, of course, progress made in the performance of the regulatory Sandbox in Fintech Start-Ups from a global experience. Identified below is general information about the progress of Start-Ups in a Financial Conduct Authority (FCA) Report, 2017. This is from the UK context; however, it could be a good practice to be adopted in another context, including the Dutch.

- Innovative ideas reach the market at reduced time and cost because of availability of regulatory expertise offered in the sandbox: This is achieved by each firm being assigned a case officer to work directly with and allow direct feedback during and after testing to be facilitated easily. Such practice increases firms understanding of the sandbox applications resulting in speedy access to market and reduces costs for consulting external regulatory experts.
• Innovators access to finance is facilitated when participating in the sandbox: The sandbox offers quick authorization for firms, and when they get authorization, it provides high certainty for partnership with funding entities as constraints are mitigated.

• The sandbox increases the ability of products for testing and is accessible in the market: Firms are provided with an opportunity to quickly understand real market implications thus it helps them develop effective pricing and advertisement strategies and enabling them to adopt the right level of technology and business model from the actual market feedback.

• Appropriate safeguards for consumers are enabled through the sandbox: Firms close collaboration with the regulator assist them in preventing risk to consumers as there are clear criteria to follow, including clear exit plans.

Furthermore, apart from the above lessons, there was progress made in the Netherlands sandboxes, which include but not limited to, the following. Firstly, in terms of the fintech landscape, "there has been lots of activity realized lately in the field of advanced analytical, blockchain, mobile, biometrics, robotics, artificial intelligence and machine learning," (Netherlands: Fintech, 2019). In terms of the fintech regulation, "there is no specific regulatory framework applicable to fintech businesses in the country and whether a fintech business falls within the scope of a specific financial regulatory framework depends on the specific service it intends to provide," (Netherlands: Fintech, 2019). And in this context, "regulatory activities include, among other activities, offering consumer credit, acting as an intermediary in financial products such as insurance, and consumer credit, or acting like a bank by offering insurance and providing payments services," (Netherlands: Fintech, 2019).

**Success Factors to Enhance Progress in the Netherlands**

According to Berger, (2016, p.13), in a research conducted in the Netherlands, it was found that Fintech innovation can be accelerated based on a number of key success factors that would enable development in the sector to progress. One of these factors is the business environment, which includes Professionalization of the business environment and the availability of services. In terms of start-ups talent and skills, there is the availability of motivated, educated personnel and the level of the multilingual workforce. Further factors include size of country including the market and population, online and mobile penetration.

**Conclusion and proposals.**

1.1. **In conclusion, we can infer that** FinTech as a whole is an emerging industry that's making every aspect of financial lives easier, more accessible, and faster in the Netherlands and Europe. This shows the opportunity for disruption is the greatest and a good indication of how the fintech startups will evolve in the future. Therefore, regulators, banks, startups, and the government should work in cooperation to improve the support and service to fintech startups.
Second, there is no specific regulatory framework applicable to fintech businesses; only a license from DNB or the AFM is required. But there is also a special way to treat fintech innovation and technology-driven new entrants to regulated financial services markets in the Netherlands through fintech sandbox.

Third, in spite of the big laps in the FinTech industry in Netherland, there is still regulatory uncertainty a significant challenge, in cybersecurity, data privacy and third part payments access restrictions, for FinTech startups.

Fourth, regulatory sandboxes aimed at encouraging innovation by allowing businesses to test their Fintech offerings in a "safe" environment. Thus, an appropriate regulatory sandbox framework would enhance business safely and soundly while effectively serving the needs of consumers, businesses, and communities.

1.2. Considering the above mentioned, we would recommend the following:

First, FinTech is a new emerging megatrend, and there are no international regulations which can apply to fintech companies all over the world, so regulators and policymakers must institutionalize the experiences and lessons through to learn and customize appropriate rules to prevent any violations. These appropriate regulations may be the underpinning of confidence and innovation in the fintech sector in the long run.

Second, to ensure a balance between innovation and fair competition within the financial industry regulatory sandboxes should ensure that even though Start-Ups are exempted from major regulatory requirements, there must be ways to protect the interest of both the existing businesses so that there are no disruptions, and also innovations of the Start-ups are not hindered. Disruption occurs in some instances where Start-Ups are significant, and regulators favor them because of more discretionary powers. Further, one of the associated risks of the sandbox regime is that customers of the Start-Ups at some instances are not adequately protected because of the regulatory exemptions granted to their suppliers.

Third, still regulatory uncertainty a significant challenge for FinTech. Therefore, sufficient source of information on FinTech and fintech regulatory compliance as well as an open dialogue between FinTech-Start-Ups and regulators to create a culture of compliance step by step and learn from other countries experience.

Fourth, fintech is a dynamic financial sector. Therefore, the active dialogue of regulators with all stakeholders and continuous investment in Fintech regulatory expertise is very crucial for the design and implementation of effective regulations in the sector.

Lastly, accurate forecasting of the fintech regulatory landscape will be crucial for both practitioners and investors. Regulators must focus on tackling the challenges of regulations in fintech industries such as cyber-security, data protection, payment systems, and other regulations.
Reference list


1. Bank services;  
2. Security/stock trading;  
3. Insurance;  
4. Wealth management

1. Internet of things;  
2. Clouds;  
3. Artificial intelligence;  
4. Robo advisor;  
5. Big data;  
6. Machine learning;  
7. Distributor ledger;  
8. Smart contracts;  
10. Telemetry

Convergence of them creates new FinTech services

1. Crowdfunding
2. Blockchain and Cryptocurrency
3. Mobile payments and mobile banking
4. Robo advisors for wealth management
5. Insurance technology
6. Regulation technology