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**USING THE REGULATORY SANDBOX TO BRING INNOVATION
TO THE BANKING INDUSTRY IN SOUTH AFRICA**

by

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SUMMARY

The world has been swept up in the rapid progress of technology, and the financial services industry is no exception. Financial technology developments, referred to as FinTech, have forced role-players in the industry, including regulators and banks, to evolve in attempts to provide modern, effective and easy solutions to customers to ensure fair and satisfactory customer experiences, whilst remaining relevant and competitive in the market.

As a result, regulators have also been faced with difficulties in the sense that an antiquated regulatory framework fails to allow for these developments, further hampered by the slow reform of the framework. Different approaches have been developed in dealing with these developments, including the “wait-and-see” approach; the “test-and-learn” approach; the innovation facilitators and regulatory laws and reforms.

This dissertation focuses on the approach relating to innovation facilitators, more specifically, the development and use of regulatory sandboxes, which is an environment where innovators in the financial services industry can test their products, services and business models under the supervision of regulatory authorities. The regulatory sandbox presents an avenue for traditional banks to explore and adopt innovative solutions that can enhance their operations, improve customer experiences, and drive efficiency.

This dissertation explores the development, implementation and success of the regulatory sandbox in South Africa, as well as the FinTech that prompted the establishment thereof. It further gives a comparative overview of the regulatory sandbox in the United Kingdom and concludes with recommendations for the improvement of the regulatory sandbox environment in South Africa.

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Chapter 1: Introduction and background

1.1 Introduction

The financial services industry has been undergoing rapid transformation with the emergence of innovative technologies, commonly known as financial technology (FinTech), as discussed in more detail in Chapter 2 below. These technological advancements have disrupted traditional banking models, creating new opportunities and challenges for the banking sector. Some of the challenges that traditional banks are faced with, includes the offering by FinTech innovators of inexpensive, modern and highly effective solutions to customers in the banking industry, such as peer-to-peer lending platforms, easy payment solutions, as well as the emergence of cryptocurrency, all of which are discussed briefly in Chapter 2. When compared to many traditional banks, which may be constrained by antiquated technology, business procedures, and systems, Truong observes that FinTech innovations offer superior user experiences with services that are quicker and more user-friendly.¹

To navigate this evolving landscape, regulatory authorities worldwide have recognised the need for adaptable regulatory frameworks that strike a balance between promoting innovation and protecting consumers.

One key development in regulatory approaches to FinTech innovation is the introduction of the “regulatory sandbox”. A regulatory sandbox can be understood as a controlled environment where innovators in the financial services industry are given the opportunity to test their products, services and business models, that push the boundaries of the existing regulatory framework, under the supervision of regulatory authorities.² It provides

¹ Oanh Truong 2016 “How Fintech Industry is Changing the World” <https://core.ac.uk/download/pdf/80995188.pdf> (accessed on 5 June 2023) (hereinafter referred to as “Oanh Truong “How Fintech Industry is Changing the World”).

² IFWG “Regulatory Sandbox” https://www.ifwg.co.za/Pages/IFWG_Regulatory_Sandbox.aspx (accessed on 02/06/2023).

a space for experimentation, allowing businesses to operate within a limited regulatory framework, typically with certain exemptions, to explore new ideas and concepts.³

The regulatory sandbox approach offers several benefits for both the regulators and the banking sector. For regulators, it provides an opportunity to gain valuable insights into emerging technologies and their impact on the financial services industry. It enables them to understand the potential risks associated with these innovations and develop appropriate regulatory responses. Additionally, it allows regulators to foster collaboration and engagement with FinTech firms and the industry, promoting an ecosystem of trust, transparency, and innovation.⁴ In order to reduce regulatory barriers without sacrificing consumer protection and market integrity, this open communication and active engagement may help minimise "reactionary" interactions between regulators and participants.⁵

In 2020, the World Bank issued Fintech Note No. 5,⁶ providing a valuable discussion on and guidance to regulators and policymakers across the world on the different regulatory approaches to the regulation of FinTech.⁷ These approaches included the "wait-and-see"

³ Madir *Fintech Law and Regulation* (2019) 303.

⁴ IFWG "Feedback on the Intergovernmental Fintech Working Group's First Regulatory Sandbox Initiative" <https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2022/fintech-iwfg-sandbox-report/IFWG%20First%20Regulatory%20Sandbox%20Report%20October%202022.pdf> (accessed on 12 June 2023) 4 (hereinafter referred to as "IFWG "Feedback on the Intergovernmental Fintech Working Group's First Regulatory Sandbox Initiative"). See also IFWG "Objectives and benefits of the regulatory sandbox" https://www.ifwg.co.za/Pages/Regulatory_Sandbox_Objectives.aspx (accessed on 11 August 2023) (hereinafter referred to as "IFWG "Objectives and benefits of the regulatory sandbox") and World Bank Group "Global Experiences from Regulatory Sandboxes" Finance, Competitiveness & Innovation Global Practice; Fintech Note No. 8 <https://documents1.worldbank.org/curated/en/912001605241080935/pdf/Global-Experiences-from-Regulatory-Sandboxes.pdf> (accessed on 11 August 2023) 28 (hereinafter referred to as "World Bank Group "Global Experiences from Regulatory Sandboxes").

⁵ Madir *Fintech Law and Regulation* (2019) 307.

⁶ World Bank Group "How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond" <https://documents1.worldbank.org/curated/en/579101587660589857/pdf/How-Regulators-Respond-To-FinTech-Evaluating-the-Different-Approaches-Sandboxes-and-Beyond.pdf> (accessed on 13 June 2023) (hereinafter referred to as "World Bank Group "How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond").

⁷ This included the implementation of innovation hubs, regulatory sandboxes and regulatory acceleration as part of innovation facilitators.

approach;⁸ the “test-and-learn” approach;⁹ the innovation facilitators¹⁰ and regulatory laws and reforms.¹¹ The World Bank also provided considerations in deciding on an appropriate approach.¹²

In September 2020, the World Bank went even further and provided a practical guide to building a regulatory sandbox.¹³ This included guidance as to what the objectives would be to establish a regulatory sandbox, as well as the objectives of the sandbox and how to design and successfully run a sandbox. It even provided templates in this regard.¹⁴

From the banking sector's perspective, it is submitted that the regulatory sandbox presents an avenue for traditional banks to explore and adopt innovative solutions that can enhance their operations, improve customer experiences, and drive efficiency.¹⁵ The basis for these innovative solutions is technology.¹⁶ The regulatory sandbox assesses the viability and scalability of potential innovations on an experimental basis and, if it proves successful, banks have an opportunity to partner with FinTech startups, leveraging their

⁸ This approach permitted FinTech business models to develop unhindered by possibly disproportionate regulatory requirements, enabling regulators to observe and monitor trends and determine when intervention is required. See World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” 10.

⁹ In terms of this approach, dispensations from specific rules are used to provide flexibility for new businesses or new activities. See World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” 11.

¹⁰ This approach is regulator-driven, as opposed to the “test-and-learn” approach in where the industry steers the development of the regulatory framework, and usually consists of an Innovation Hub, Regulatory Sandbox and Regulatory Accelerators. See World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” 14.

¹¹ This approach develops the regulatory framework where regulators are unable to apply the existing framework to new FinTech developments. See World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” 29.

¹² See World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” 33.

¹³ Jeník & Duff “How to Build a Regulatory Sandbox A Practical Guide for Policy Makers” <https://documents1.worldbank.org/curated/en/126281625136122935/pdf/How-to-Build-a-Regulatory-Sandbox-A-Practical-Guide-for-Policy-Makers.pdf> (accessed on 13 June 2023) (hereinafter referred to as “Jeník & Duff “How to Build a Regulatory Sandbox A Practical Guide for Policy Makers””).

¹⁴ Jeník & Duff “How to Build a Regulatory Sandbox A Practical Guide for Policy Makers” (accessed on 13 June 2023) 23.

¹⁵ Mothibi and Rahulani “Digital Banking Research Document” <https://www.fsca.co.za/Regulatory%20Frameworks/FinTechDocuments/Digital%20Banking%20Research%20Document.pdf> (accessed on 11 August 2023) 1 (hereinafter referred to as “Mothibi and Rahulani “Digital Banking Research Document””).

¹⁶ Mothibi and Rahulani “Digital Banking Research Document” (accessed on 13 June 2023) 5.

technological expertise and agility to develop new products and services to serve their customers. This is made possible through open application programming interfaces.¹⁷ Through the use of biometrics, banks are also able to provide secure services to their clients.¹⁸

The introduction of a regulatory sandbox in the banking sector also addresses the inherent challenges associated with traditional regulatory frameworks. Traditional regulations often make it difficult for innovative startups to comply with complex and costly requirements.¹⁹ By providing a more flexible and tailored regulatory environment, the sandbox facilitates innovation by reducing regulatory barriers while still ensuring adequate consumer protection measures are in place.²⁰

In recent years, several countries, including the United Kingdom, Singapore, and Australia, have successfully implemented regulatory sandbox programs in their banking sectors. These initiatives have facilitated collaboration between regulators, traditional banks, and FinTech firms, leading to the development of innovative solutions that benefit both the industry and consumers. The positive outcomes observed in these jurisdictions have sparked interest and exploration of the regulatory sandbox concept in various other countries, including South Africa.

As the South African banking sector adapts to the changing landscape of financial technology, the introduction of a regulatory sandbox holds the potential to foster innovation, promote competition, and ensure consumer protection. However, the specific design, implementation, and effectiveness of the regulatory sandbox in South Africa require careful consideration and evaluation. This dissertation aims to explore the use of

¹⁷ Mothibi and Rahulani “Digital Banking Research Document” (accessed on 13 June 2023) 6. An “application programming interface” can be defined as “a software intermediary that allows two applications to talk to each other”. See MuleSoft “What is an API?” <https://www.mulesoft.com/resources/api/what-is-an-api#:~:text=Many%20people%20ask%20themselves%2C%20%E2%80%9CWhat,APIs%20are%20all%20around%20us> (accessed on 11 August 2023).

¹⁸ Mothibi and Rahulani “Digital Banking Research Document” (accessed on 13 June 2023) 6.

¹⁹ Madir *Fintech Law and Regulation* (2019) 307.

²⁰ Madir *Fintech Law and Regulation* (2019) 304. See also IFWG “Objectives and benefits of the regulatory sandbox (accessed on 11 August 2023) and World Bank Group “Global Experiences from Regulatory Sandboxes” (accessed on 11 August 2023).

the regulatory sandbox in South Africa, with a particular focus on its impact on the banking sector.

By examining the experiences of other countries and analysing the local regulatory environment, this study seeks to provide insights, recommendations, and policy considerations to enhance the regulatory sandbox framework in South Africa. Ultimately, the goal is to create an environment that enables both traditional banks and FinTech firms to thrive, contributing to the growth and stability of the South African banking sector in the era of financial technology innovation.

1.2 Research statement

This dissertation aims to investigate the use of the regulatory sandbox as a mechanism to promote innovation in the banking industry of South Africa. In particular, the research will assess the challenges faced by participants in utilising the regulatory sandbox. Furthermore, the study will propose strategies and policy recommendations to enhance the regulatory sandbox framework, ensuring it effectively promotes innovation while safeguarding consumer protection and regulatory compliance. Ultimately, the research aims to provide insights and guidance to regulatory authorities and industry stakeholders to leverage the regulatory sandbox as a catalyst for innovation, competitiveness, and sustainable growth in the South African banking industry.

1.3 Research objectives

In order to interrogate the use of the regulatory sandbox in South Africa, the following research questions will be considered:

- (a) how did the development of FinTech prompt the establishment of the regulatory sandbox in South Africa?
- (b) what is a regulatory sandbox and what are its advantages and disadvantages?
- (c) how does the regulatory sandbox work in South Africa?
- (d) how does the United Kingdom make use of regulatory sandboxes?

(e) has the regulatory sandbox been effective so far in reaching the goals it was established for?

1.4 Selection of comparative jurisdiction

As of 1 November 2020, a total number of 73 regulatory sandboxes existed across a total number of 57 jurisdictions across the world.²¹

The English law has, throughout South Africa's history, greatly influenced the law and legal development in South Africa in general and has continued to do so in the financial services industry. In the United Kingdom, the financial industry is regulated, from a market conduct perspective, by the Financial Conduct Authority ("FCA"), under the Twin Peaks model of financial regulation²² The Twin Peaks model of financial regulation, in terms of which prudential regulation (relating to the soundness of financial institutions) and conduct regulation (relating to consumer protection and market conduct), are separated, was first envisioned and proposed by Taylor in 1995.²³ The FCA adopted this model with effect from 1 April 2013 in terms of their Financial Services Act, 2012.²⁴ The model was subsequently adopted in South Africa through the introduction of the Financial Sector Regulation Act (hereinafter referred to as "the FSR Act").²⁵ The FSR Act established the Prudential Authority, responsible for the regulation and supervision of the safety and soundness of financial institutions, and the Financial Sector Conduct Authority, responsible for the conduct regulation and supervision of financial institutions, both on a

²¹ World Bank Group Key Data from Regulatory Sandboxes across the Globe <https://www.worldbank.org/en/topic/fintech/brief/key-data-from-regulatory-sandboxes-across-the-globe> (accessed on 10 October 2023).

²² About the FCA <https://www.fca.org.uk/about/what-we-do/the-fca>.

²³ Taylor "Twin Peaks": A regulatory structure for a new century" Centre for the Study of Financial Innovation' 1995 — Financial Service Industry — Issue 20 of DSFI series at 2 and 3.

²⁴ Available at legislation.gov.uk (accessed on 10 October 2023).

²⁵ Act No. 9 of 2017, initially published under Government Gazette No. 41060 on 22 August 2017.

system-wide basis.²⁶ Together with the South African Reserve bank, these regulators form the basis of the South African Twin Peaks model.²⁷

The dissertation will consider the regulatory sandbox implemented in the United Kingdom in Chapter 4, as the FCA has been the leader in the global financial industry and established the first regulatory sandbox in 2015. It will provide valuable insights, learning opportunities as well as the potential for regulatory improvements. It allows South Africa to benefit from the United Kingdom's experience, customise the framework to the needs in the local financial services industry, address regulatory gaps, promote collaboration and enhance South Africa's international competitiveness in the FinTech sector.

1.5 Research methodology

The literature study undertaken in this dissertation will be a critical doctrinal desktop study comprising of policy documents, legislation, chapters in books and journal articles.

1.6 Chapter layout

Chapter One is the roadmap to the study and provides the background, research statement and questions, selection of comparative jurisdiction, research methodology and chapter layout. Chapter Two of this dissertation will explore how the development of FinTech prompted the establishment of the regulatory sandbox in South Africa. Chapter Three investigates the regulatory sandbox in the United Kingdom as the leading jurisdiction in this area to determine how it corresponds with South Africa's regulatory sandbox. Chapter Four analyses how the regulatory sandbox works in South Africa, including the establishment, processes and limitations thereof. Chapter Five is the final chapter of the dissertation where conclusions will be drawn regarding South Africa's approach to the regulatory sandbox, compared to that of the United Kingdom.

²⁶ Van Heerden and Van Niekerk "The Importance of a Legislative Framework for Co-Operation and Collaboration in the Twin Peaks Model of Financial Regulation" 2020 *The South African Law Journal* 112 – 113.

²⁷ Van Heerden and Van Niekerk *The South African Law Journal* 113.

Conclusions will also be drawn on the effectiveness of the regulatory sandbox globally as well as in South Africa, and the feasibility of continuing with the sandbox in future. Recommendations will also be made as to how the regulatory sandbox approach could be improved.

Chapter 2: Development of FinTech prompting the establishment of the regulatory sandbox in South Africa

2.1 Overview

The development of FinTech in South Africa has been evolving rapidly in recent years. FinTech involves the application of technology and innovation to the delivery of financial services to make them more effective, accessible and inexpensive. The introduction of FinTech in South Africa brought both opportunities and challenges. On one hand, FinTech presented the potential to drive financial inclusion, enhance access to financial services, and spur economic growth. On the other hand, it also raised concerns related to consumer protection, data security, privacy, and financial stability.²⁸ As observed by Pascual and Natalucci, the adoption of FinTech solutions has frequently been hampered by the outdated regulatory frameworks created for traditional banking institutions, which have difficulty keeping up with the rapid pace of technological innovation.²⁹

2.2 What is FinTech?

As indicated earlier in this dissertation, FinTech stands for “financial technology” and refers to the rendering of efficient financial services on a technological platform with the aim to innovate products. FinTech is changing the form of conventional transactions into more contemporary and efficient methods by applying technology in financial sectors.³⁰

²⁸ Mothibi and Lazaridis “Fintech Digital Platforms – An Investigation into Fintech Digital Platform Activity in South Africa and Their Regulatory Implications Research Document” https://www.fsca.co.za/Regulatory%20Frameworks/FinTechDocuments/Fintech_Digital-Platforms_An_investigation_into_Fintech_Digital_platform_activity_in_South_Africa_and_their_regulatory_implications.pdf (accessed on 11 August 2023). See also Madir *Fintech Law and Regulation* (2019) 15.

²⁹ Pascual and Natalucci “Fast-Moving FinTech Poses Challenge for Regulators” <https://www.imf.org/en/Blogs/Articles/2022/04/13/blog041322-sm2022-gfsr-ch3> (accessed on 11 August 2023).

³⁰ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 3 June 2023) 2.

FinTech primarily aims to improve the existing financial services sector and discover innovative solutions to the new problems that clients must confront in the contemporary economy.³¹

Because of new technologies like machine learning, data-driven marketing, artificial intelligence (AI) and predictive behavioral analytics, Kagan remarks that financial decisions will become more rational and less habitual. FinTech uses automated customer service technology, such as chatbots and AI, to assist customers with basic tasks. By employing payment history data to identify transactions that are out of the ordinary, FinTech is also utilised to combat fraud.³²

2.3 Developments of FinTech in South Africa

Some of the key aspects of the evolving development of FinTech in South Africa, which have developed as viable alternatives to traditional banking services, are the following:

2.3.1 *Mobile Payments and Digital Banking*

The evolution of mobile payments and digital banking in South Africa has been significant, driven by advancements in technology, changing consumer behaviors, and the need for financial inclusion.³³ The widespread adoption of mobile devices and the growth of mobile networks have paved the way for mobile payments and digital banking services.³⁴ During the COVID-19 pandemic, the need for digital payments, online shopping and online banking, which may have been common prior to the pandemic, became a necessity.³⁵

³¹ FinTech Weekly “FinTech Definition” <https://www.fintechweekly.com/fintech-definition> (accessed on 5 June 2023).

³² Julia Kagan 2023 “Financial Technology (Fintech): Its Uses and Impact on Our Lives” Investopedia <https://www.investopedia.com/terms/f/fintech.asp> (accessed on 5 June 2023).

³³ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 3 June 2023) 2. See also Mothibi and Rahulani “Digital Banking Research Document” (accessed on 13 June 2023) 7.

³⁴ Madir *Fintech Law and Regulation* (2019) 2 - 3.

³⁵ Demirgüç-Kunt, Klapper, Singer and Ansar “The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in, the Age of COVID-19” <https://www.worldbank.org/en/news/press-release/2022/06/29/covid-19-drives-global-surge-in-use-of-digital-payments> (accessed on 13 June 2023).

Over the years, various initiatives and innovations have emerged, transforming the way people access financial services and conduct transactions:

Early Adoption of Mobile Payments

South Africa witnessed the early adoption of mobile payments with the launch of M-Pesa by Vodacom in 2007.³⁶ M-Pesa allowed users, consisting of both banked and unbanked or underbanked customers, to send and receive money using their mobile phones, providing a convenient alternative to traditional banking services.³⁷

Collaboration between Banks and Mobile Network Operators (MNOs)

To enhance financial inclusion, partnerships between banks and MNOs emerged.³⁸ Because of the provisions of the Banks Act³⁹ and the regulation of receipt and holding of deposits,⁴⁰ it is impossible for an MNO to offer mobile money without a bank. Banks partnered with MNOs like MTN and Vodacom, to enable mobile banking services, allowing customers to access their bank accounts, transfer funds, and make payments via mobile devices.⁴¹

³⁶ Vodacom Group “M-Pesa – Africa’s leading fintech platform – marks 15 years of transforming lives” <https://www.vodacom.com/news-article.php?articleID=7750> (accessed on 13 June 2023).

³⁷ Vodafone “How it works” <https://www.vodafone.com/about-vodafone/what-we-do/consumer-products-and-services/m-pesa> (accessed on 13 June 2023).

³⁸ Sachdev “Banks + MNOs = Holistic Solution to Financial Inclusion” <https://www.linkedin.com/pulse/banks-mnos-holistic-solution-financial-inclusion-sunil-sachdev> (accessed on 11 August 2023).

³⁹ Act No 94 of 1990.

⁴⁰ As defined in section 1(1) of the Banks Act No. 94 of 1990.

⁴¹ See also The Sunday Mail “Mobile networks, banks need collaboration” <https://www.sundaymail.co.zw/new-mobile-networks-banks-need-collaboration> (accessed on 11 August 2023).

Introduction of USSD-based Services

Unstructured Supplementary Service Data (USSD) is a Global System for Mobile Communications protocol that is used to send text messages.⁴² USSD technology played a vital role in enabling mobile payments and digital banking in South Africa. USSD codes allowed customers to access banking services through basic feature phones, making financial services accessible to a broader segment of the population.⁴³

Rise of FinTech Startups

The emergence of FinTech startups in South Africa has contributed to the evolution of mobile payments and digital banking.⁴⁴ In South Africa, companies like Yoco,⁴⁵ SnapScan,⁴⁶ and Zapper⁴⁷ introduced innovative payment solutions, including mobile card readers and QR code payments, providing merchants and consumers with new ways to transact.

Regulatory Framework

The South African government recognised the importance of, and risks associated with, digital financial services and introduced regulations to foster their growth. The regulators in South Africa, in compliance with, amongst others, the Financial Intelligence Centre established in terms of the Financial Intelligence Centre Act,⁴⁸ have implemented measures to ensure security and consumer protection, and to combat money laundering and counter-terrorism financing.

⁴² Rosencrance “USSD (Unstructured Supplementary Service Data)” <https://www.techtarget.com/searchnetworking/definition/USSD> (accessed on 13 June 2023).

⁴³ The Exchange “USSD driving digital and financial inclusion in Africa” <https://furtherafrica.com/2022/08/01/ussd-driving-digital-and-financial-inclusion-in-africa/> (accessed on 13 June 2023).

⁴⁴ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 3 June 2023) 2.

⁴⁵ <https://www.yoco.com/za>.

⁴⁶ <https://www.snapscan.co.za>.

⁴⁷ <https://www.zapper.com>.

⁴⁸ Act 38 of 2001.

Digital Banking Transformation

Traditional banks in South Africa have undergone a digital transformation to meet changing customer preferences. To provide customers with financial services, digital banking involves digitising existing banking infrastructure.⁴⁹ Banks have invested in digital channels, enhanced mobile banking applications, and introduced features like biometric authentication, personalised financial management tools, and instant payments to offer a seamless digital banking experience.⁵⁰

These examples highlight the evolution of mobile payments and digital banking in South Africa, which have played a crucial role in expanding financial access, enhancing convenience, and driving financial inclusion.⁵¹

2.3.2 Digital Wallets and Payment Solutions

It is submitted that mobile wallet solutions, such as FNB's eWallet and MTN Mobile Money, has gained popularity in South Africa, offering features like person-to-person transfers, bill payments, airtime and electricity purchases.

In South Africa, companies like SnapScan, Zapper, and Samsung Pay, have introduced convenient and secure payment solutions, making it easier for consumers to make transactions without cash or physical cards.⁵² Some of these digital wallets also offer loyalty programs, discounts and rewards, enhancing the overall customer experience. Consumers who make use of Zapper, for example, earns loyalty rewards and enjoy discount offers.⁵³

⁴⁹ Mothibi and Rahulani "Digital Banking Research Document" (accessed on 13 June 2023) 2.

⁵⁰ Mothibi and Rahulani "Digital Banking Research Document" (accessed on 13 June 2023) 12.

⁵¹ With regard to digital banking, also see Mothibi and Rahulani "Digital Banking Research Document" (accessed on 8 June 2023).

⁵² Appiah "Digital Wallets Take Africa by Storm: A Look at the Continent's Transition to Cashless Payments" <https://www.linkedin.com/pulse/digital-wallets-take-africa-storm-look-continent-cashless-appiah#:~:text=The%20most%20popular%20digital%20wallet,Zapper%2C%20FlickPay%2C%20and%20Masterpass> (accessed on 11 August 2023).

⁵³ This can be seen on Zapper's website at <https://www.zapper.com/make-payments/> (accessed on 11 August 2023).

Some banks have also launched digital wallets, such as Standard Bank, that offers a digital wallet that essentially functions like a basic bank account on a mobile phone.⁵⁴

These services leveraged the widespread availability of mobile phones to extend financial access to previously unbanked populations.

2.3.3 *Alternative Finance*

FinTech platforms have also emerged in South Africa to facilitate peer-to-peer lending and crowdfunding as alternative finance.

Through these platforms, persons who need to borrow money can interact directly with persons who want to lend money, bypassing traditional banks.⁵⁵ This approach has provided alternative funding options for individuals and small businesses who may have difficulty accessing credit from traditional sources.

These platforms also facilitate the practice of crowdfunding, which may be characterized as the technique of soliciting a large number of donors to contribute a small amount of money apiece in order to support a business endeavor.⁵⁶

Platforms like RainFin and Thundafund have gained popularity in South Africa, promoting financial inclusion and supporting entrepreneurship.⁵⁷

⁵⁴ Standard Bank “Digital wallets” <https://www.standardbank.co.za/southafrica/personal/products-and-services/bank-with-us/digital-wallets> (accessed on 13 June 2023).

⁵⁵ Capital One “Peer-to-peer (P2P) lending: How does it work?” <https://www.capitalone.com/learn-grow/money-management/peer-to-peer-lending/> (accessed on 13 June 2023).

⁵⁶ Timothy “Crowdfunding in South Africa” <https://www.schoemanlaw.co.za/wp-content/uploads/2019/03/ST-Mar-Article.pdf> (accessed on 13 June 2023).

⁵⁷ Tugendhaft Whapnick Banchetti and Partners “Crowdfunding: Challenges Facing the Credit Industry” <https://www.twb.co.za/news/listing/22> (accessed on 8 June 2023). See also Ventureburn “Five South African crowdfunding platforms” <https://ventureburn.com/2020/09/five-south-african-crowdfunding-platforms/> (accessed on 8 June 2023).

2.3.4 *InsurTech*

InsurTech companies in South Africa have disrupted the traditional insurance industry by leveraging technology to offer innovative insurance solutions.⁵⁸ These companies use FinTech, including data analytics, artificial intelligence and automation, to develop personalised insurance products, streamline claims and administration processes, and enhance risk assessment.⁵⁹ Examples include Click2Sure,⁶⁰ Pineapple,⁶¹ and Naked Insurance,⁶² which have introduced digital insurance platforms and innovative coverage options.

2.3.5 *Blockchain and Cryptocurrency*

South Africa has seen increased interest in blockchain technology and cryptocurrencies.

Blockchain records all cryptocurrency transactions and generates new blocks to record successful transactions, acting as the core technology that underpins the cryptocurrency network. Blockchain-based solutions are not only used in relation to cryptocurrencies.⁶³

Cryptocurrency is a digital form of currency.⁶⁴ Cryptocurrency exchanges and platforms have gained popularity, allowing users to buy, sell, and trade digital currencies.

⁵⁸ Ventures Africa “The 5 InsurTech Companies that are Revolutionizing the South African Market” <https://venturesafrica.com/the-5-insurtech-companies-that-are-revolutionizing-the-south-african-market/#:~:text=The%20South%20African%20insurance%20industry%20is%20undergoing%20a%20period%20of,new%20types%20of%20insurance%20products> (accessed on 8 June 2023).

⁵⁹ Berry “InsurTech: where are we now?” <https://www.nortonrosefulbright.com/en-za/knowledge/publications/db154724/insurtech-where-are-we-now> (accessed on 13 June 2023).

⁶⁰ <https://click2sure.co.za/about-us-2-2/> (accessed on 13 June 2023).

⁶¹ <https://www.pineapple.co.za/> (accessed on 13 June 2023).

⁶² <https://www.naked.insure/> (accessed on 13 June 2023).

⁶³ Shardeum Content Team “What is the Difference Between Cryptocurrency and Blockchain?” <https://shardeum.org/blog/difference-between-cryptocurrency-and-blockchain/#:~:text=The%20difference%20between%20cryptocurrency%20and%20blockchain%20can%20be%20summed%20up,ledger%20that%20records%20all%20transactions> (accessed on 13 June 2023) hereinafter referred to as “Shardeum Content Team “What is the Difference Between Cryptocurrency and Blockchain?””).

⁶⁴ Shardeum Content Team “What is the Difference Between Cryptocurrency and Blockchain?” (accessed on 13 June 2023).

2.4 Regulatory environment for FinTech

2.4.1 *Payment-related activities*

The payment system industry in South Africa is regulated by the South African Reserve Bank (“SARB”) under the National Payment Systems Act (“NPSA”).⁶⁵ Under the provisions of the NPSA, the Payment Association of South Africa (“PASA”) has been mandated by the SARB to act as the payment system management body to oversee the total payment process.⁶⁶ Any non-bank entities wishing to participate in the payment system need official authorisation from PASA.

2.4.2 *Alternative finance*

The National Credit Regulatory (“NCR”) regulates the provision of credit to customers in South Africa under the National Credit Act (“NCA”).⁶⁷ The NCA is broad enough to regulate any form of credit or lending, that falls within its scope of application as set out in section 4, irrespective of which underlying platform is used.⁶⁸ The NCA excludes certain credit agreements from its application and, unless the provision of credit falls within the ambit of those exclusions, the NCA will apply.⁶⁹

⁶⁵ Act No. 78 of 1998 (“NPSA”).

⁶⁶ Payments Association of South Africa “Overview” <https://pasa.org.za/about-us/overview/> (accessed on 5 June 2023).

⁶⁷ Act No. 34 of 2005 (“NCA”).

⁶⁸ Geral, Tibane and Kern Bowmans “FinTech in South Africa: overview” https://bowmanslaw.com/wp-content/uploads/2019/11/FinTech_in_South_Africa_overview_2019.pdf (accessed on 13 August 2023) (hereinafter referred to as “Geral, Tibane and Kern Bowmans “FinTech in South Africa: overview”). For example, even though although crowdfunding is not specifically regulated, certain crowdfunding activities may require registration as a credit provider. These activities include where funds collected from the crowdfunding venture are on-lent to the market with interest, fees or other charges levied on the capital lent, to generate a return to investors.

⁶⁹ NCA s 4.

2.4.3 Securities and retail investment markets

The Financial Sector Conduct Authority (“FSCA”), established in terms of section 56 of the Financial Sector Regulation Act⁷⁰ regulates the provision of financial services under, amongst others, the Financial Advisory and Intermediary Services Act (“FAIS Act”),⁷¹ which includes “securities” in the definition of “financial product”.⁷² Accordingly, financial services relating to securities are regulated under the FAIS Act, regardless of the technology that provides those services.⁷³

⁷⁰ Act No. 9 of 2017.

⁷¹ Act No. 37 of 2002 (“FAIS Act”).

⁷² Section 1(1) of the FAIS Act defines a “financial product” as-

- (a) securities and instruments, including –
 - (i) shares in a company other than a “share block company” as defined in the Share Blocks Control Act, 1980 (Act No. 59 of 1980);
 - (ii) debentures and securitised debt;
 - (iii) any money-market instrument;
 - (iv) any warrant, certificate, and other instrument acknowledging, conferring or creating rights to subscribe to, acquire, dispose of, or convert securities and instruments referred to in subparagraphs (i), (ii) and (iii); (v) any “securities” as defined in section 1 of the Financial Markets Act, 2012 (Act No. 19 of 2012);
- (b) a participatory interest in one or more collective investment schemes;
- (c) a long-term or a short-term insurance contract or policy, referred to in the Long-term Insurance Act, 1998 (Act No. 52 of 1998), and the Short-term Insurance Act, 1998 (Act No. 53 of 1998), respectively;
- (d) a benefit provided by –
 - (i) a pension fund organisation as defined in section 1(1) of the Pension Funds Act, 1956 (Act No. 24 of 1956), to the members of the organisation by virtue of membership; or
 - (ii) a friendly society referred to in the Friendly Societies Act, 1956 (Act No. 25 of 1956), to the members of the society by virtue of membership;
- (e) a foreign currency denominated investment instrument, including a foreign currency deposit;
- (f) a deposit as defined in section 1(1) of the Banks Act, 1990 (Act No. 94 of 1990);
- (g) a health service benefit provided by a medical scheme as defined in section 1(1) of the Medical Schemes Act, 1998 (Act No. 131 of 1998);
- (h) any other product similar in nature to any financial product referred to in paragraphs (a) to (g), inclusive, declared by the registrar by notice in the Gazette to be a financial product for the purposes of this Act;
- (i) any combined product containing one or more of the financial products referred to in paragraphs (a) to (h), inclusive;
- (j) any financial product issued by any foreign product supplier and which in nature and character is essentially similar or corresponding to a financial product referred to in paragraph (a) to (i), inclusive;

⁷³ Geral, Tibane and Kern Bowmans “FinTech in South Africa: overview” 10.

2.4.4 *InsurTech*

The insurance regulatory framework is broad enough to apply to InsurTech.⁷⁴ The insurance industry is jointly regulated by the Prudential Authority (“PA”), responsible for licensing insurers,⁷⁵ and the FSCA, that regulates the conduct of insurers as financial institutions.⁷⁶

2.4.5 *Blockchain and Cryptocurrency*

The regulatory landscape for cryptocurrencies in South Africa has rapidly evolved in the last few years.

Following the establishment of the Intergovernmental Fintech Working Group (“IFWG”), referred to in more detail later in this dissertation, the Crypto Assets Regulatory Working Group (“CAR WG”) was formed, with the objective of formulating a policy stance on crypto assets.⁷⁷

During 2020, the CAR WG published the Position Paper on Crypto Assets,⁷⁸ in which two relevant recommendations were made:

Recommendation 9

This recommendation provided that certain specified services rendered in respect of crypto assets must be included in the definition of “financial services” in section 3(1)(a) of the Financial Sector Regulation Act.⁷⁹ It further provided that ‘services related to the

⁷⁴ Geral, Tibane and Kern Bowmans “FinTech in South Africa: overview” p 7.

⁷⁵ Insurance Act No. 18 of 2017 s 23.

⁷⁶ Financial Sector Regulation Act s 58, read with the definition in section 1(1) of “financial institutions”.

⁷⁷ IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets” https://www.treasury.gov.za/comm_media/press/2020/20200414%20IFWG%20Position%20Paper%20on%20Crypto%20Assets.pdf (accessed on 13 June 2023) 4 (hereinafter referred to as “IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets””).

⁷⁸ IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets” (accessed on 13 June 2023).

⁷⁹ Act No. 9 of 2017.

buying and selling of crypto assets' must be included in the licensing activities under the future regulatory framework.⁸⁰

Recommendation 10

This recommendation provided that the FSCA should become the responsible authority for the licensing of “services related to the buying and selling of crypto assets”, and that specific conduct standards should be developed for these services.⁸¹

To give effect to these recommendations, the FSCA, on 20 November 2020, published the Notice of Publication - Draft Declaration of Crypto Assets as a Financial Product (“Draft Declaration”), together with a Statement in Support of the Draft Declaration of Crypto Assets as a Financial Product under the Financial Advisory and Intermediary Services Act, inviting public comment on the Draft Declaration.⁸²

After a lengthy consultation process, as required in the Financial Sector Regulation Act,⁸³ an assessment of the existing regulatory framework under the FAIS Act,⁸⁴ and an industry survey to obtain a better understanding of the extent to which already authorised financial services providers operated in the crypto asset environment, the FSCA declared crypto assets as a financial product under the FAIS Act.⁸⁵

Accordingly, the rendering of financial services in relation to crypto assets are regulated by the FSCA as from 19 October 2022.

⁸⁰ IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets” (accessed on 13 June 2023) 27.

⁸¹ IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets” (accessed on 13 June 2023) 28.

⁸² Published on the website of the FSCA on 20 November 2020 <https://www.fsc.co.za/Regulatory%20Frameworks/Pages/FAIS.aspx> (accessed on 23 June 2023).

⁸³ Act No 9 of 2017.

⁸⁴ Act No. 37 of 2002.

⁸⁵ General Notice 1350 of 2022 “Declaration of a Crypto Asset as a Financial Product under the financial Advisory and Intermediary Services Act” published in Government *Gazette* No. 47334 on 19 October 2022.

2.5 Development of the regulatory sandbox

The regulatory authorities in South Africa had already recognised the significance of establishing an environment that is favourable for FinTech firms to test and develop their creative ideas. They understood the need to strike a balance between stimulating innovation and providing adequate consumer protection. The concept of a regulatory sandbox emerged as a viable solution to address these challenges.

Because of rapid technological advancements in the financial services industry, the IFWG was launched in South Africa in 2016.⁸⁶ There are several reasons why the development of FinTech prompted the establishment of the regulatory sandboxes,⁸⁷ several of which are applicable in the South African context:

2.5.1 *Facilitating Innovation*

The fast-paced nature of technological innovation requires regulatory frameworks that can adapt and accommodate emerging FinTech solutions. The regulatory sandbox provides a mechanism for startups to navigate regulatory barriers, encouraging experimentation and fostering innovation in the financial sector.

2.5.2 *Supporting Regulatory Learning*

Regulatory authorities recognised the need to gain a deeper understanding of new technologies, business models, and potential risks associated with FinTech innovations. The sandbox allows regulators to learn alongside FinTech startups, gathering valuable insights and enhancing their capacity to develop effective and proportionate regulations.

⁸⁶ Financial Intelligence Centre “Regulators keeping in step with FinTech growth” <https://www.fic.gov.za/Documents/REGULATORS%20KEEPING%20IN%20STEP%20WITH%20FINTECH%20GROWTH.pdf> (accessed on 10 October 2023) 1 (hereinafter referred to as “Financial Intelligence Centre “Regulators keeping in step with FinTech growth””).

⁸⁷ African Development Bank “Understanding the importance of regulatory sandbox environments and encouraging their adoption” <https://www.afdb.org/en/documents/understanding-importance-regulatory-sandbox-environments-and-encouraging-their-adoption> (accessed on 8 June 2023).

2.5.3 Encouraging Collaboration

The regulatory sandbox serves as an innovative platform for collaboration between regulators, traditional banks, and FinTech firms. By fostering engagement and dialogue, it promotes partnerships, knowledge-sharing, and the exchange of best practices. This collaboration can lead to the development of innovative solutions that benefit both traditional banking institutions and FinTech startups.

2.5.4 Ensuring Consumer Protection

The development of FinTech introduced new risks and vulnerabilities, raising concerns about consumer protection. The regulatory sandbox provides a controlled environment where regulators can monitor and assess the impact of innovative solutions on consumers. This allows for the implementation of appropriate safeguards and consumer protection measures while supporting responsible innovation.

2.5.5 Promoting Market Competitiveness

The establishment of a regulatory sandbox enhances South Africa's attractiveness as a destination for FinTech innovation and investment. By providing a supportive regulatory environment, the sandbox framework helps position the country as a hub for FinTech startups, driving competition and fostering a vibrant ecosystem that benefits consumers and the overall economy.

2.6 Conclusion

Banking transactions have been increasingly digitised, shifting to electronic payments and mobile banking services. However, in addition to the new Fintech market players, the banks also need to be cautious of the other tech giants, which have been rapidly reshaping the financial sector according to their own strategies. For instance, Google and Amazon have introduced the Android Pay and Mobile Payments Wild Card respectively, which

creates the seamless customer payment experience. On the other hand, Google has been well known for actively investing in small FinTech startups to extend their digital service portfolio. Thus, the banks need to take considerable efforts to innovate themselves so as not to be left behind in this innovative technical playing field,⁸⁸ or lose a great portion of their customers to the other challenger banks and the FinTech competitors.

Despite various competitive strategies, there have still been major barriers which prevented the banks from directly competing against the agile Fintech rivals, which suggested that collaboration between banks and FinTech companies could be a more effective alternative.⁸⁹

On the other hand, the banks could choose to establish the internal research facilities to develop their own FinTech projects. Thus, the financial industry will eventually shift their focus to the user experience based on applied digital technology, communication, and personalised services, which requires the utmost attention of the financial organisations to actively adapt the innovative FinTech products with the well-founded traditional banking.⁹⁰

It is this development of financial technology that banks must strive for that prompted the establishment of the regulatory sandbox in South Africa, as discussed below, as a response to the challenges and opportunities presented by FinTech innovations.

Even though the South African financial industry is well-established and well-regulated, it is interesting to note that the regulatory sandbox in South Africa is not the first sandbox to be established in Africa: other African countries with established regulatory sandboxes include Sierra Leone, Kenya, Rwanda, Mauritius, Mozambique, Ghana and Nigeria.⁹¹

⁸⁸ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 5 June 2023) 38.

⁸⁹ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 5 June 2023) 40.

⁹⁰ Oanh Truong “How Fintech Industry is Changing the World” (accessed on 5 June 2023) 42.

⁹¹ Leah Ngari “Regulatory Sandboxes in Africa” <https://empowerafrica.com/regulatory-sandboxes-in-africa/> (accessed on 02/06/2023).

Chapter 3: The Regulatory Sandbox in South Africa

3.1 Overview

As indicated earlier in this dissertation, the development of FinTech has led to the introduction of the regulatory sandbox in South Africa to promote innovation in the financial services industry, whilst monitoring emerging risks.⁹² In August 2017, the SARB established its FinTech Unit to conduct structured, organised and proactive research on the effects of fintech innovation for the SARB and financial services in South Africa.⁹³ At the same time, the FSCA established its FinTech Unit, which focused on informing quick and appropriate regulatory and supervisory responses to technological innovations by ongoing monitoring, research, and evaluation of technological trends and innovations to understand their external impact on financial sector business models, product and solution design, and customer outcomes.⁹⁴ Subsequently, the IFWG was established, which today oversees the regulatory sandbox in South Africa. The establishment of the IFWG and the regulatory sandbox is discussed in more detail below.

3.2 Establishment of regulatory sandbox

In 2016, the IFWG was launched by the financial sector regulators in South Africa. Initially, only National Treasury, the SARB, the FSCA and the Financial Intelligence Centre were members of the IFWG. In 2019, the NCR and the South African Revenue Service joined the IFWG, while the Competition Commission joined in 2020.⁹⁵

In some jurisdictions across the world, laws containing empowering provisions for financial regulators had to be amended, empowering those regulators to develop and

⁹² IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 2.

⁹³ SARB “Fintech” <https://www.resbank.co.za/en/home/quick-links/fintech> (accessed on 12 June 2023).

⁹⁴ FSCA “FinTech” <https://www.fsca.co.za/Regulatory%20Frameworks/Pages/FinTech.aspx> (accessed on 12 June 2023).

⁹⁵ Financial Intelligence Centre “Regulators keeping in step with FinTech growth” (last accessed on 10 October 2023).

implement a regulatory sandbox. However, in South Africa, no law specifically provided the powers to the relevant regulators, nor was there a law prohibiting the development and implementation of a regulatory sandbox.⁹⁶

Prior to the launching of the regulatory sandbox in South Africa, it seems that some hesitance existed as to the appropriateness thereof in South Africa. It was pointed out that innovation should not come at the expense of consumer or other rights, and that both the innovators and the consumers must benefit equally from the innovation.⁹⁷

However, in April 2020, the IFWG launched its Innovation Hub, establishing not only the regulatory sandbox, but also a regulatory guidance unit and an innovation accelerator.⁹⁸

The purpose of the Regulatory Guidance Unit is to assist market innovators in resolving specific queries regarding the regulatory environment and policy landscape relating to fintech and innovation-oriented policies and regulations. An innovator is able to submit such queries to the Regulatory Guidance Unit as a central point of entry, without the need to contact multiple regulators, who will provide a response with integrates perspectives from relevant financial sector regulators.⁹⁹

As the members of the IFWG strive to make informed policy and regulatory decisions, the innovation accelerator provides an environment where financial sector regulators can work together and learn from each other, as well as the financial services industry, about the industry's newest innovations. One example of an innovation accelerator initiative relates to open finance,¹⁰⁰ the goal of which is for members of IFWG to consolidate views

⁹⁶ World Bank Group “Global Experiences from Regulatory Sandboxes” (accessed on 13 June 2023) 19.

⁹⁷ Cliffe Dekker Hofmeyr “Bridging the gap between fintech innovation and regulation: Is a local regulatory sandbox the answer?” <https://www.cliffedekkerhofmeyr.com/en/news/publications/2020/technology/tmt-alert-16-march-Bridging-the-gap-between-fintech-innovation-and-regulation-Is-a-local-regulatory-sandbox-the-answer.html> (accessed on 12 June 2023).

⁹⁸ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 4.

⁹⁹ IFWG “Regulatory Guidance Unit” <https://www.ifwg.co.za/Pages/Regulatory-Guidance-Unit.aspx> (accessed on 13 June 2023).

¹⁰⁰ Open finance is a platform that enables customers and businesses to access and share their financial data with third parties so they can use it to create new goods and services with their permission. See

and share information regarding their respective open-banking related activities.¹⁰¹ This is different from the regulatory sandbox that allows innovators in the financial services industry to test products and services within predefined parameters and subject to strict supervision by the regulators.

It should be noted that, whilst there is collaboration between these regulators in the regulatory sandbox environment, the regulator ultimately responsible for testing would be the regulator that is primarily responsible for the activity that forms the basis of the testing.¹⁰²

In order to be considered for entry into the regulatory sandbox, the applicants needed to meet certain minimum entry criteria, including: that the innovation that requires testing must be intended for the South African market; does not fit into the existing regulatory framework or pushes the boundaries of that framework; must benefit either consumers or the wider market; must be unique from other offerings in the market and must be ready to be tested. The applicant must also have a clear and detailed test plan.¹⁰³

It should be noted that, even if an applicant met the entry criteria, the regulators have a discretion to allow entry into the sandbox.¹⁰⁴

Initially, the IFWG launched the regulatory sandbox on a cohort-based approach, which meant that applications are only received for a limited window of time, whereafter new applications could only be submitted once a new window was opened.¹⁰⁵ The approach

Mothibi, Lazaridis and Rahulani “Regulating Open Finance Consultation and Research Paper <https://www.fsca.co.za/Documents/Regulating%20Open%20Finance%20Consultation%20and%20Research%20Paper.pdf> (accessed on 10 October 2023) 3.

¹⁰¹ IFWG “Innovation Accelerator” <https://www.ifwg.co.za/Pages/Innovation-Accelerator.aspx> (accessed on 13 June 2023).

¹⁰² IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 24.

¹⁰³ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 5.

¹⁰⁴ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 6.

¹⁰⁵ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 5.

consisted of 5 phases, beginning with planning by the regulatory sandbox team and followed the following phases:¹⁰⁶

Receipt and shortlisting of applications

This phase included receipt of applications, which are submitted by way of an online form, assessment of those applications against the entry criteria as well as further engagement with the regulators and the applicant, where required.

Should an application meet the entry criteria and align with regulatory appetite, such application is then shortlisted.¹⁰⁷

Contracting and defining testing parameters

In this phase, the successful applicant (participant) and the relevant regulator comes to an agreement with regard to exactly what will be tested, how the testing will be conducted and for how long the test phase will run.

It is also in this phase that regulatory relief is obtained by the applicant, should it be required, to allow testing that does not fall within the parameters of the existing regulatory framework. The nature of the relief will be determined on a case-by-case basis.¹⁰⁸

Testing and reporting

Once the contracting has been completed, the testing phase will begin. This usually lasts 6 months but, should another period be found to be more appropriate, this will be considered and agreed upon during the contracting phase.

¹⁰⁶ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 5.

¹⁰⁷ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 7.

¹⁰⁸ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 7.

The appropriate regulator collaborates with the participant in the regulatory sandbox throughout this phase by keeping track of performance, holding workshops, and taking into account new developments about the product's or service's regulatory fit.¹⁰⁹

Close-out

During this phase, the participant must provide a close-out report. Consideration is given to the results of the testing and next steps.

The IFWG requires a participant to have an exit strategy, both for successful testing as well as circumstances where testing fails. This might include reimbursement of client funds where a client was negatively impacted.

There are several options that could be followed after testing, which include licensing the participant to render the product or services tested, where possible and appropriate, ceasing all activities, or putting in place temporary safeguards until a suitable regulatory response can be implemented.¹¹⁰

The regulatory sandbox received 54 applications from 49 applicants, of which only 9 reached the regulatory sandbox for testing. The limited number of applicants allowed entry into the sandbox resulted from several issues, namely:¹¹¹

Conflict between the objectives of the applicants and the regulatory focus areas

This conflict was caused by, amongst others, the fact that there are regulatory requirements that apply and allowing entry into the sandbox could have led to regulatory

¹⁰⁹ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 7.

¹¹⁰ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 7.

¹¹¹ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 11.

arbitrage. In addition, excessive ambition on the part of applicants in terms of what was possible in the sandbox also caused this conflict.

Regulatory relief

In some instances, it was not possible for the relevant regulatory authority to grant the regulatory relief required to enable the testing of products or service could not fit into the existing regulatory framework.

A key challenge experienced by the IFWG during the processing of the first applications was the lengthy amount of time it took for multiple regulators to assess the large amount of applications, many of which were quite complex. Delays were further caused by trying to determine which regulatory relief was required, if any, and the extent thereof. As a result, the initial cohort did not start testing simultaneously, as intended, but in a staggered approach.¹¹²

After completion of the cohort applications, the regulatory sandbox teams conducted a retrospective analysis of the success of the regulatory sandbox, taking into account, amongst others, industry feedback and feedback of applicants. Challenges identified were as follows:¹¹³

Delay in processing

A large number of applications were received simultaneously as a result of following the cohort approach and it took longer than expected to processing the large number of applications.

¹¹² IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 9.

¹¹³ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 24.

Regulatory relief

The process for determining the required regulatory relief, as well as what relief would be possible, was challenging.

Roles and responsibilities

Further feedback included that the roles and responsibilities of the relevant role-players must be clear.

Work speed

Even though all relevant parties must endeavour to work at speed, all role-players must be realistic in terms of timelines during the process and both the relevant regulators and the applicant must be afforded an appropriate amount of time to properly engage on an application.

Suggestions to improve the regulatory sandbox process included upfront clarity about the regulatory focus areas, early engagement with prospective applicants to determine whether a case is appropriate for the sandbox and closer collaboration with the various regulators on an end-to-end approach.¹¹⁴

Subsequently, the decision was made to move forward with the regulatory sandbox, but on a rolling-based approach, which allowed the submissions of applications at any time. Applications would be evaluated taking into account the areas of focus, regulatory appetite, capacity, and resource limitations of the relevant regulators. An important consideration would also be the capacity and resources of the relevant regulators responsible for the testing in the sandbox.¹¹⁵ In addition, by refusing to let testing go

¹¹⁴ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 25.

¹¹⁵ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 25.

forward in situations where it is doubtful that testing will lead to regulatory change or clarity, fair treatment of applicants is ensured at all times by preventing the applicant from spending time and money testing an idea that would not be essential.¹¹⁶

3.3 Current process for application

Currently, the information on the regulatory sandbox, including the application process, is set out on the website of the IFWG.¹¹⁷ An application form is downloaded from the website of the IFWG, completed and sent via email to a dedicated email address. In the application form, which can be found on the website of the IFWG,¹¹⁸ applicants are, amongst others, required to provide detailed information on: its organisational profile; the proposed financial product or service to be tested; the required regulatory relief; as well as its test plan.

The criteria to gain entry into the regulatory sandbox are also set out on the website.¹¹⁹ Although these criteria coincide with the entry criteria applied during the initial application window, an additional criterion has been added in respect of cross-border testing.¹²⁰ This does indicate that the appropriateness of the entry criteria are being monitored and adapted by the IFWG as lessons are learned from the various applications and testing, which is crucial in light of the developing technologies that inevitably test the boundaries of the criteria.

¹¹⁶ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 11 - 12.

¹¹⁷ IFWG “Regulatory Sandbox” https://www.ifwg.co.za/Pages/IFWG_Regulatory_Sandbox.aspx (accessed on 12 June 2023).

¹¹⁸ IFWG “Apply to the regulatory sandbox” https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 12 June 2023).

¹¹⁹ IFWG “Apply to the regulatory sandbox” https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 12 June 2023).

¹²⁰ IFWG “Apply to the regulatory sandbox” https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 12 June 2023).

Since the decision to proceed with the regulatory sandbox, the phases of which the process consists, described above, have not changed.¹²¹

The IFWG also provides more information on “Potential regulatory relief and regulatory focus areas”, setting out the roles of the different regulators for potential applicants.¹²² This is presumably provided as a result of the recommendations to improve the regulatory sandbox process, as alluded to above.

To provide further clarity on the role of the IFWG and the regulatory sandbox process for prospective applicants, the IFWG also provides an extensive list of frequently asked questions.¹²³

3.4 Current participants

The IFWG publishes current, and past, participants in the regulatory sandbox on its website.¹²⁴ Without disclosing confidential information, it describes what is being tested, or was tested, in the regulatory sandbox. Amongst others, such publication assists potential applicants to establish whether they meet the entry criteria which requires that help to give potential applicants an idea as to whether the innovation they want to test are unique.

Currently, Standard Bank is a participant in the regulatory sandbox, testing the tokenization of an existing exchange traded fund on the bank’s blockchain platforms, which will enable clients to transact on a single platform.

¹²¹ IFWG “Regulatory Sandbox https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 12 June 2023).

¹²² IFWG “Regulatory Sandbox https://www.ifwg.co.za/Pages/Relief_and_Regulatory_Focus_Areas.aspx (accessed on 12 June 2023).

¹²³ IFWG “Regulatory Sandbox FAQs” https://www.ifwg.co.za/IFWG%20Documents/IFWG-RSB_FAQs_Rolling-based.pdf (accessed on 12 June 2023).

¹²⁴ IFWG “Regulatory Sandbox https://www.ifwg.co.za/Pages/IFWG_Regulatory_Sandbox_Firms.aspx.

Santam is also currently a participant to obtain clarity on the treatment and regulatory framework for index insurance as an insurance product.

3.5 Challenges faced by potential applicants

Participating in a regulatory sandbox can be an attractive opportunity for businesses and innovators in South Africa. However, prospective participants in the regulatory sandbox also face several challenges that can hinder their engagement and success. Some of the challenges that I have identified are discussed below:

3.5.1 Limited awareness and understanding

One of the primary challenges for prospective participants is a lack of awareness and understanding of the regulatory sandbox concept and its potential benefits. Many businesses may not be familiar with the sandbox model or may have misconceptions about its purpose and requirements. This can discourage potential participants from exploring the opportunities it offers. Raising awareness and providing clear information about the sandbox can address this challenge and encourage more participation.

3.5.2 Complex regulatory requirements

Engaging in the regulatory sandbox involves navigating through complex regulatory requirements. Start-ups and smaller businesses may find it particularly challenging to understand and comply with these requirements due to limited resources and expertise. The need to meet specific regulatory obligations while testing innovative products or services can create significant barriers to entry. Simplifying and streamlining the regulatory processes can help overcome this challenge and promote greater participation in the sandbox.

3.5.3 *Uncertainty and legal risks*

While the regulatory sandbox provides a controlled environment, there is still a degree of uncertainty and legal risk associated with participating in the program. The regulatory framework may not always provide explicit guidelines for certain innovative ideas or technologies, leaving participants unsure about potential legal implications. This uncertainty can deter businesses from taking part in the sandbox. Clear and transparent guidelines, along with effective legal protection, can address this challenge and provide greater confidence to prospective participants.

3.5.4 *Funding constraints*

Funding is a critical challenge for many businesses, especially start-ups, looking to participate in the regulatory sandbox. Developing and testing new products or services often require substantial financial resources. Limited access to funding options can impede participation and hinder the progress of innovative projects.

In 2019, RMB published a paper that confirmed a finding that many FinTech start-ups experience a lack of access to adequate funding.¹²⁵

Facilitating access to funding or providing financial support specifically targeted at sandbox participants can help overcome this challenge and promote a more inclusive sandbox environment.

3.5.5 *Collaboration with regulators and industry stakeholders*

Effective collaboration between sandbox participants, regulators, and industry stakeholders is crucial for the success of the program. However, building and maintaining such collaborations can be challenging due to various factors, including differing priorities,

¹²⁵ RMB “The SA FinTech in Motion Report” <https://www.rmb.co.za/files/pdf/other/fintech-report.pdf> (accessed on 13 June 2023) 2.

lack of trust, and communication gaps. Engaging in open dialogue, establishing clear communication channels, and fostering a collaborative ecosystem can help overcome these challenges and enhance the overall effectiveness of the regulatory sandbox.

3.6 Conclusion

It is clear from the above that the innovations tested in the regulatory sandbox are far removed from the existing regulatory framework and the intention of the legislature when implementing the framework, who would not, at the time, have had any notion of these developments.

The development of the regulatory sandbox has been a collaborative effort between the regulators in the financial services industry to keep up with the fast-changing times. The IFWG has, in fact, been labelled one of the best examples of inter-regulatory co-ordination globally by the World Bank.¹²⁶ However, effective communication between the regulators is key.

Whilst the activities of the applicants are monitored closely by the relevant regulator during the testing phase, communication between the regulator and the participant is, in my view, of absolute importance.

Although it might seem that the criteria for entry into the sandbox seems strenuous, they are crucial for several reasons. Firstly, it ensures that only eligible and qualified participants are allowed to engage in the sandbox, safeguarding the financial system from potential risks. The criteria help establish a level of competence and expertise required to navigate the regulatory landscape effectively.

Secondly, the entry criteria serve as a gatekeeping mechanism, filtering out participants who may lack the necessary resources or capabilities to fulfill their obligations within the

¹²⁶ World Bank Group “Global Experiences from Regulatory Sandboxes” (accessed on 13 June 2023) 38.

sandbox. This ensures that the sandbox environment remains conducive to fostering innovation while maintaining integrity and stability.

Lastly, the entry criteria enable regulators to assess the viability and potential impact of the proposed innovations, ensuring that they align with regulatory objectives and do not compromise consumer protection, market fairness, or systemic stability.

It is important to note that applicants, who eventually become participants in the sandbox, at all times remain responsible for compliance with all existing regulatory requirements, save those they have been exempted from for purposes of testing. Being allowed entry into the regulatory sandbox does however not mean that the product or service an applicant wishes to test has been approved. The IFWG confirmed that the sandbox's objectives do not include testing the sustainability of the offered products or services or offering business advice or finance.¹²⁷

¹²⁷ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 6.

Chapter 4: The Regulatory Sandbox in the United Kingdom

4.1 Overview

As mentioned in Chapter 1 above, the FCA was established with the introduction of the Twin Peaks model of regulation in the UK by the Financial Services Act, 2012.¹²⁸ The FCA's operation objectives includes consumer protection, integrity and competition objectives.¹²⁹ The regulatory sandbox introduced by the FCA was a pioneering initiative in the global financial industry, aimed at facilitating innovation in the financial services industry while ensuring consumer protection by providing a controlled testing environment for fintech firms to trial their innovative products, services, and business models with real customers under regulatory supervision. This discussion will explore the development and implementation of the UK's regulatory sandbox, highlighting its key steps, benefits, and impact.

4.2 FCA Regulatory Sandbox

The regulatory sandbox by the FCA was kickstarted in November 2015, when the FCA published a paper on a regulatory sandbox, setting out exactly what is understood by "regulatory sandbox", the benefits of implementing a sandbox, the plans for implementing a sandbox and recommendations to be considered by industry in relation thereto.¹³⁰

Subsequently, the FCA launched the world's first regulatory sandbox in June 2016 as part of its Project Innovate, which sought to promote competition and support innovation in financial services.¹³¹ Initially, the sandbox was opened on a cohort basis but, in 2021, the approach was changed to a model allowing applications throughout the year.¹³²

¹²⁸ Section 1A of the Financial Services Act, 2012.

¹²⁹ Sections 1B to 1E of the Financial Services Act, 2012.

¹³⁰ FCA "Regulatory sandbox" <https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf> (accessed on 12 June 2023).

¹³¹ FCA "Regulatory sandbox" <https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf> (accessed on 12 June 2023) 2.

¹³² FCA "Regulatory Sandbox" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 12 June 2023).

Similar to the South African criteria for entry into the sandbox, as discussed in paragraph 3.2 under Chapter 3 above, the FCA regulatory sandbox has “eligibility criteria”, including that the innovation must be unprecedented, must benefit consumers and must be ready for testing.¹³³

During the process of the FCA regulatory sandbox, four key steps can be identified:¹³⁴

4.2.1 *Application*

Prospective applicants interested in participating in the sandbox must apply to the FCA by completing an online application form, providing detailed information about how they meet the eligibility criteria, whereafter the sandbox team assesses the applications against the eligibility criteria.¹³⁵

The FCA provides applicants with a set of “Regulatory Sandbox Tools” to facilitate testing, depending on the nature of the business and the test to be conducted in the sandbox. These include restricted authorization; signposting;¹³⁶ informal steer;¹³⁷ individual guidance and waivers or modifications to the FCA’s rules.¹³⁸

¹³³ FCA “Regulatory Sandbox” <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 5.

¹³⁴ FCA “Regulatory Sandbox” <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 6.

¹³⁵ FCA “Regulatory Sandbox” <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 8.

¹³⁶ This is done by identifying existing rules and guidance that might be relevant to the applicant and the proposed business model. See FCA Regulatory Sandbox <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 10 October 2023).

¹³⁷ This is a tool used to assist applicants in understanding the potential regulatory implications of their business model or product. See FCA Regulatory Sandbox <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 10 October 2023).

¹³⁸ FCA “Regulatory Sandbox” <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 10 October 2023).

The FCA further provides applicants with a draft application form, giving extensive guidance on how the application form should be completed and what is expected from an applicant and thus preparing the applicant to complete the online application form.¹³⁹

In addition, the FCA allows an applicant to register for sessions which offer support in completing the application forms.¹⁴⁰

4.2.2 *Selection*

Eligible applicants then have to refine the submitted testing plans with support from the sandbox team, using the sandbox tools available. Once the testing plans have been agreed upon, the applicants are accepted into the sandbox for testing.

4.2.3 *Testing Phase*

Selected applicants enter the testing phase. Should the test involve conducting a regulated activity, the applicant must first apply for, and be issued with, authorisation to do so. They will be allowed to test their products and services in a live environment, with real customers, while still being subject to regulatory oversight, which is monitored by the sandbox team and usually lasts 6 months.¹⁴¹

4.2.4 *Exit*

Finally, the applicant submits an “end of testing”-report and agrees on next steps.¹⁴²

¹³⁹ FCA “Regulatory Sandbox”<https://www.fca.org.uk/publication/fca/regulatory-sandbox-application-form-guidance.pdf> (accessed on 13 June 2023).

¹⁴⁰ FCA “Regulatory Sandbox”<https://www.fca.org.uk/firms/innovation/regulatory-sandbox/apply> (accessed on 13 June 2023).

¹⁴¹ FCA “Regulatory Sandbox”<https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 9.

¹⁴² FCA “Regulatory Sandbox”<https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 9.

The FCA regulatory sandbox has received over 550 applications since its launch until 21 February 2023. All the successful applicants are published on the FCA's website. Of those applicants, only 171 proceeded to actually test in the sandbox.¹⁴³

Notably, in October 2017 already, the FCA issued the Regulatory sandbox lessons learned Report.¹⁴⁴ This report concluded, on a preliminary basis, that the regulatory sandbox was making progress in promoting competition in the market and was having a positive impact on customers in respect of price and quality.¹⁴⁵

4.3 Comparison with South African regulatory sandbox

The implementation of the regulatory sandbox in South Africa seems to have followed the same route as the implementation of the FCA regulatory sandbox: first on a cohort basis and, thereafter, a rolling-based approach, which is similar to the FCA's model allowing applications throughout the year.

However, the assistance granted by the FCA to potential applicants seems to be much more extensive than that granted by the IFWG. Even prior to the submission of the actual application, the FCA holds support sessions for completion of an effective application for which a prospective applicant can register.¹⁴⁶ In addition, the FCA has published a guide to Regulatory Sandbox¹⁴⁷ and, as part of the online application process, also provides Guidance Notes to the Sandbox Application Form.¹⁴⁸

¹⁴³ FCA "Regulatory Sandbox" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox/accepted-firms#section-firms-accepted-into-the-regulatory-sandbox> (accessed on 12 June 2023).

¹⁴⁴ FCA "Regulatory sandbox lessons learned report" <https://www.fca.org.uk/publication/research-and-data/regulatory-sandbox-lessons-learned-report.pdf> (accessed on 12 June 2023).

¹⁴⁵ FCA "Regulatory sandbox lessons learned report" <https://www.fca.org.uk/publication/research-and-data/regulatory-sandbox-lessons-learned-report.pdf> (accessed on 12 June 2023) 10.

¹⁴⁶ FCA "Regulatory Sandbox" <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 4.

¹⁴⁷ FCA "Regulatory Sandbox" <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023).

¹⁴⁸ FCA "Guidance Notes on the Sandbox application Form" https://www.onlinesurveys.fca.org.uk/CP/File.php?F=F_0VS30WXqmqN8xrE (accessed on 12 June 2023).

To further assist applicants in determining the viability of their possible application, in addition to having eligibility criteria for entry into the sandbox, the FCA also offers a list of indicators for prospective applicants to measure themselves against the eligibility criteria.¹⁴⁹

On the website of the IFWG, where a prospective applicant may require further clarity, they are repeatedly referred to the Frequently Asked Questions document.¹⁵⁰

The FCA commits to providing feedback to an applicant by within 2 to 3 weeks of submission of an application¹⁵¹ and also sets out a set timeline of the process on its website.¹⁵² The IFWG does not provide any timelines, instead indicating that the time periods will be dependent on the complexity of the application.¹⁵³ This difference between the two sandboxes could be attributed to the fact that SA's regulatory sandbox involves the collaboration of several regulators, whereas the UK sandbox is managed only by the FCA.

It is interesting to note that, whilst the FCA can waive or modify a difficult rule for purposes of testing, they are unable to waive national or international law.¹⁵⁴ In South Africa, some of the regulators may relax existing regulatory requirements by temporarily exempting an applicant from provisions of the applicable (national) legislation in accordance with the applicable sectoral legislation.¹⁵⁵

¹⁴⁹ FCA "Regulatory Sandbox eligibility criteria" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox/eligibility-criteria> (accessed on 13 June 2023).

¹⁵⁰ IFWG "Apply to the regulatory sandbox" https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 13 June 2023).

¹⁵¹ FCA "Regulatory Sandbox" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 13 June 2023).

¹⁵² FCA "Regulatory Sandbox" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox/apply> (accessed on 13 June 2023).

¹⁵³ IFWG "Frequently Asked Questions" https://www.ifwg.co.za/IFWG%20Documents/IFWG-RSB_FAQs_Rolling-based.pdf (accessed on 12 June 2023).

¹⁵⁴ See "Regulatory Sandbox tools" <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 12 June 2023) "waivers or modifications to our rules".

¹⁵⁵ See for example section 44 of the Financial Advisory and Intermediary Services Act No. 37 of 2002.

It also seems that the information provided on the website of the FCA relating to the regulatory sandbox, as well as the guidance issued in respect thereof, is much more detailed than the guidance provided by the IFWG, which in turn provides better clarity as to the expectations of the regulator and the processes to be followed.

4.4 Conclusion

In conclusion, the regulatory sandbox introduced by the FCA has emerged as a transformative initiative in the financial services industry. It has successfully created a controlled environment for fintech firms to test their innovative ideas, products, and services while maintaining consumer protection.

The regulatory sandbox has served as a valuable learning platform for both regulators globally. Looking ahead, the regulatory sandbox concept will continue to play a vital role in supporting innovation and maintaining a competitive financial services landscape.

Overall, the regulatory sandbox in the UK has demonstrated its effectiveness in driving innovation, protecting consumers, promoting regulatory learning, and instilling market confidence. It stands as a testament to the FCA's commitment to nurturing a vibrant and forward-thinking financial services sector that embraces technological advancements and delivers improved financial outcomes for all.

Chapter 5: Recommendations and Conclusion

5.1 Recommendations to improve the regulatory sandbox landscape

Recommendation 1

The FCA has substantially more experience in the field of the regulatory sandbox. It would benefit the IFWG to investigate the manner in which the FCA manages their sandbox to obtain insight as to how South Africa's sandbox may be improved and the challenges faced by the sandbox, overcome. Specifically, I have noted that the FCA goes to great lengths to assist prospective applicants to the FCA regulatory sandbox, both prior to and during the application process, as well as after being allowed entry into the sandbox. This facilitates a smooth application process and eliminates delays caused by uncertainty.

As indicated in paragraph 3.2 above, one of the challenges identified by South Africa during the initial cohort of applications was that there was a delay in assessing the application by the various regulators.

In my view, the IFWG could implement the approaches offered by the FCA in assisting prospective applicants to complete effective applications; IFWG could offer support sessions and could also provide guidance notes on the completion of the application. Additional information in relation to the entry criteria could be provided to prospective applicants to measure themselves against those criteria before submitting an application.

By implementing these approaches, it will not only assist potential applicants, but would eliminate undue delays caused by ineligible applicants applying for entry, or applicants following the incorrect processes or providing insufficient or incorrect information.

Recommendation two

Regulators must also ensure that they have the necessary resources to enable them to actively collaborate with other regulators and to ensure proper engagement and supervision when they are the responsible regulator overseeing the testing. Without the necessary resources, the regulatory sandbox will never reach its true potential.

Recommendation three

The information on the website of the IFWG is contained in different places, including the different pages on the website itself and the Frequently Asked Questions document. It will benefit the prospective applicants, as well as the IFWG, to issue a guide to the regulatory sandbox, similar to the guide issued by the FCA, containing all relevant information and guidance in one document that can be downloaded from the website that will assist applicants in understanding the process, determining whether they qualify and completing the application properly.

Recommendation four

Successful testing typically results in the participant's full or specific registration or authorisation. Alternately, if FinTech companies successfully exit a regulatory sandbox, a regulator may provide permanent waivers of some regulatory requirements. A regulator may even be forced in the long run by its regulatory sandbox experience to start changing the relevant rules.¹⁵⁶

Although the website of the IFWG indicates the past participants in the regulatory sandbox and the exit of those participants following successful testing, it does not indicate any of the abovementioned outcomes in respect of the testing that occurred. It fails to indicate, for example, whether the products or services tested were found to be viable or not and the steps taken to formally introduce those products or services in the market.

¹⁵⁶ Madir *Fintech Law and Regulation* (2019) 306.

This was done in the report on the Feedback on the Intergovernmental Fintech Working Group's First Regulatory Sandbox Initiative.¹⁵⁷ In my view, this would be a welcome addition to the information provided by the IFWG to show the practical impact of the sandbox. Be that as it may, it will be interesting to note which innovations are tested in future.

5.2 Conclusion

As discussed in Chapter 1, the World Bank provided an international benchmark in approaches to regulate FinTech and the establishment, design and success of a regulatory sandbox. At that stage, the regulatory authorities in South Africa had already followed the regulatory approach of being innovation facilitators by establishing the Innovation Hub. The regulatory sandbox was specifically created by the IFWG with the goal of giving industry regulatory clarity and giving regulators insight into innovation so they may adjust policies and regulations as needed.¹⁵⁸

Subsequent to the implementation of the regulatory sandbox, a study was launched which, in essence, queried whether the approach followed by the South African regulatory authorities in establishing the Innovation Hub and implementing specifically the sandbox, was appropriate, having regard to the conditions that existed in South Africa at the time.¹⁵⁹ The study discussed the necessary conditions which must be considered before selecting the implementation of a regulatory sandbox as an approach to regulate FinTech.¹⁶⁰ The study found that, whilst some of the substantive conditions were lacking, the majority of

¹⁵⁷ South African Reserve Bank <https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2022/fintech-iwfg-sandbox-report/IFWG%20First%20Regulatory%20Sandbox%20Report%20October%202022.pdf> (accessed on 12 June 2023) See "Next steps" 15 to 23.

¹⁵⁸ IFWG "Objectives and benefits of the regulatory sandbox" (accessed on 13 June 2023).

¹⁵⁹ McCallum & Aziakpono "Regulatory sandbox for FinTech regulation: Do the conditions for effective adoption exist in South Africa?" <https://www-tandfonline-com.uplib.idm.oclc.org/doi/full/10.1080/0376835X.2023.2182759> (accessed on 12 June 2023) (hereinafter referred to as "McCallum & Aziakpono "Regulatory sandbox for FinTech regulation: Do the conditions for effective adoption exist in South Africa?").

¹⁶⁰ McCallum & Aziakpono "Regulatory sandbox for FinTech regulation: Do the conditions for effective adoption exist in South Africa?" 5 to 7.

the required conditions exist in South Africa and the implementation of a regulatory sandbox by the IFWG was appropriate.¹⁶¹

Many experts believe that regulatory sandboxes assist FinTech startups and small firms to attract investment and lead innovation. Through analysis of empirical data, it has been found that investment in the global FinTech industry increased as a result of the implementation of regulatory sandboxes.¹⁶²

It has further been found that, due to the adoption of adaptable and inclusive business models by entrepreneurs in the emerging fintech sector, the introduction of regulatory sandboxes has the effect of lowering legal and institutional risks.¹⁶³

When embarking on the regulatory sandbox journey, the IFWG identified the potential benefits of the implementation of a sandbox, which include assisting innovators and regulators in comprehending the advantages and hazards of novel financial products and services; facilitating the testing of innovative business models that do not cleanly fit into, or are not included in, established regulatory frameworks; live testing on real customers within a controlled, supervised environment within certain parameters; informing the development of regulatory frameworks that promote responsible innovation beneficial to the market; fostering more innovation in the financial industry to benefit consumers, boost market competition and efficiency, and enhance access and financial inclusion and enhancing regulatory compliance through increased industry interaction and clarification of regulatory ambiguities.¹⁶⁴

An argument has been raised that a regulatory sandbox creates an unlevel playing field, in that those participants that are allowed into the regulatory sandbox are given an

¹⁶¹ McCallum & Aziakpono “Regulatory sandbox for FinTech regulation: Do the conditions for effective adoption exist in South Africa?” (accessed on 12 June 2023 through the UP library) 14 to 15.

¹⁶² Goo and Heo “Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation” *Journal for Open Innovation: Technology, Market, and Complexity* <https://www.sciencedirect.com/science/article/pii/S2199853122004383> (accessed on 13 June 2023) 2.

¹⁶³ Goo and Heo *Journal for Open Innovation: Technology, Market, and Complexity* 15.

¹⁶⁴ IFWG “Regulatory Sandbox” https://www.ifwg.co.za/Pages/Regulatory_Sandbox_Objectives.aspx.

advantage above those who are not.¹⁶⁵ However, all applicants to the sandbox are measured against the same entry criteria. It is submitted that entry criteria are required in order to fulfil the purpose of the regulatory sandbox. Care must be taken not to decline entry on unjustifiable grounds.

In addition, Madir also questions whether the relevant regulators have the expertise in order to determine whether the concept that would form the basis of the testing is innovative.¹⁶⁶ This could be negated by ensuring that the persons involved in the evaluation for the application for entry into the regulatory sandbox have diverse backgrounds and, knowing their limits, seeks expertise elsewhere, if necessary.

I believe that, on a limited scale, the IFWG has achieved the goal set for the regulatory sandbox. Although the number of participants in the sandbox have been limited, lessons have been learnt throughout the different phases of the process, and continues to be learnt as new innovations are tested.

It must be borne in mind that, compared to the FCA regulatory sandbox, the regulatory sandbox in South Africa is still in its infancy stage, with a lot still to be learned and accomplished.

In my view, the continued growth of the FinTech industry, as well as the progress already made, necessitates the use of a regulatory sandbox. When properly designed, implemented, and monitored, sandboxes can prove to be effective tools.¹⁶⁷

As technology and the financial landscape continue to evolve, the regulatory sandbox offers valuable insights into balancing innovation and regulation. As technology advances and new challenges emerge, the sandbox will serve as a critical tool for regulators to stay

¹⁶⁵ Madir *Fintech Law and Regulation* (2019) 16 - 17.

¹⁶⁶ Madir *Fintech Law and Regulation* (2019) 17.

¹⁶⁷ Appaya & Haji "Four years and counting: What we've learned from regulatory sandboxes" <https://blogs.worldbank.org/psd/four-years-and-counting-what-weve-learned-regulatory-sandboxes> (accessed on 13 June 2023).

ahead of the curve, enabling them to adapt regulations, foster innovation, and ensure consumer protection.

If regard is had to the number of unsuccessful applicants in both the UK and SA, it is evident that the criteria for entry into the sandbox is of utmost importance. It will contribute to alleviating capacity constraints of the regulators by eliminating ineligible applicants early on. It is interesting to note that, as of August 2023, the UK has launched a permanent digital sandbox, which opens it up to a wider range of innovate businesses.¹⁶⁸

The IFWG is of the view that the implementation of the regulatory sandbox has given both participants and regulators useful insights, which could likely be used to decide on policy issues and the most appropriate regulatory measures.¹⁶⁹

The development or change of the regulatory framework in South Africa is an arduous and lengthy process. The regulatory sandbox allows the introduction of new technology and innovation at a pace must faster that the development of the law and until such time as the law may be appropriately changed to cater for the innovative products or services tested.

The SARB, and the IFWG, has additionally earned attention on a global scale after being given the Fintech Policy of the Year Award by Central Banking's 2020 FinTech and RegTech Global Awards,¹⁷⁰ which does seem to indicate that we are definitely on the right track.

Banks in South Africa should also make use of the regulatory sandbox to experiment with new technologies, products and services. The sandbox allows banks to explore innovative ideas without being hindered by existing regulations, thereby fostering a

¹⁶⁸ FCA “Launce of permanent Digital Sandbox” <https://www.fca.org.uk/news/news-stories/launch-permanent-digital-sandbox> (accessed on 11 August 2023).

¹⁶⁹ IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative” (accessed on 12 June 2023) 26.

¹⁷⁰ Financial Intelligence Centre “Regulators keeping in step with FinTech growth” (last accessed on 10 October 2023) 4.

culture of innovation within the banking sector. Banks can test and refine their offerings before fully deploying them in the market, minimising potential risks.

Participating banks receive guidance and support from regulators throughout the sandbox process. The IFWG, through the relevant regulator, will collaborate closely with the participating bank, offering assistance in navigating the regulatory landscape. This guidance helps banks to ensure compliance while introducing novel solutions and mitigates regulatory uncertainty.

Traditional regulatory processes can be time-consuming, requiring banks to undergo lengthy approval procedures before launching new products or services. The regulatory sandbox accelerates this process by providing a streamlined framework, allowing banks to introduce their innovations to the market faster. This helps banks stay ahead in a rapidly evolving financial landscape and enhances their competitiveness.

The sandbox will enable banks to identify and assess potential risks associated with their innovations in a controlled environment. By doing so, banks can implement risk mitigation strategies and refine their offerings to ensure they are safe, secure, and compliant with regulatory requirements. This reduces the likelihood of negative impacts on customers and the overall financial system.

In addition, through the regulatory sandbox, banks can test and refine customer-centric solutions, improving the overall banking experience. They can develop and validate new digital tools, platforms, or payment systems, ensuring they meet customer needs effectively. By leveraging the sandbox, banks can introduce user-friendly, innovative services that enhance convenience, accessibility, and efficiency for customers.

In conclusion, the implementation of a regulatory sandbox in the banking sector of South Africa holds significant advantages for the future of the industry. By encouraging innovation, fostering collaboration, enhancing customer experiences, managing risks, facilitating regulatory learning, attracting investment, and prioritising consumer protection,

the sandbox framework can contribute to the growth, stability, and competitiveness of the South African banking sector in the digital age.

By leveraging the sandbox, banks in South Africa can drive innovation, stay competitive, and contribute to the growth and resilience of the financial sector.

BIBLIOGRAPHY

Books

Jelena Madir *Fintech Law and Regulation* (2019) 302 – 325

Journal articles

- Goo and Heo “Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation” *Journal for Open Innovation: Technology, Market, and Complexity*
- Taylor “‘Twin Peaks’: A regulatory structure for a new century” Centre for the Study of Financial Innovation’ 1995 — Financial Service Industry — Issue 20 of DSFI series at 2 and 3.
- Van Heerden and Van Niekerk “The Importance of a Legislative Framework for Co-Operation and Collaboration in the Twin Peaks Model of Financial Regulation” 2020 *The South African Law Journal* 112 – 113.

Position Papers and Research Papers

- IFWG Crypto Assets Regulatory Working Group “Position Paper on Crypto Assets” https://www.treasury.gov.za/comm_media/press/2020/20200414%20IFWG%20Position%20Paper%20on%20Crypto%20Assets.pdf (accessed on 13 June 2023) 4.
- Mothibi and Rahulani “Digital Banking Research Document” <https://www.fsca.co.za/Regulatory%20Frameworks/FinTechDocuments/Digital%20Banking%20Research%20Document.pdf> (accessed on 11 August 2023).
- Mothibi and Lazaridis “Fintech Digital Platforms – An Investigation into Fintech Digital Platform Activity in South Africa and Their Regulatory Implications Research Document” https://www.fsca.co.za/Regulatory%20Frameworks/FinTechDocuments/Fintech_Digital-Platforms_An_investigation_into_Fintech_Digital_platform_activity_in_South_Africa_and_their_regulatory_implications.pdf (accessed on 11 August 2023).
- Mothibi, Lazaridis and Rahulani “Regulating Open Finance Consultation and Research Paper” <https://www.fsca.co.za/Documents/Regulating%20Open%20Finance%20Consultation%20and%20Research%20Paper.pdf> (accessed on 10 October 2023) 3.

Legislation

South Africa

- Banks Act No. 94 of 1990
- Financial Advisory and Intermediary Services Act No 37 of 2002
- Financial Intelligence Centre Act No. 38 of 2001
- Financial Sector Regulation Act No. 9 of 2017
- National Credit Act No. 34 of 2005
- National Payment Systems Act No 78 of 1998

United Kingdom

Financial Services Act, 2012

Legal notices

General Notice 1350 of 2022 “Declaration of a Crypto Asset as a Financial Product under the financial Advisory and Intermediary Services Act” published in *Government Gazette* No. 47334 on 19 October 2022

Internet articles and websites

- African Development Bank “Understanding the importance of regulatory sandbox environments and encouraging their adoption” <https://www.afdb.org/en/documents/understanding-importance-regulatory-sandbox-environments-and-encouraging-their-adoption> (accessed on 8 June 2023).
- Appaya & Haji “Four years and counting: What we’ve learned from regulatory sandboxes” <https://blogs.worldbank.org/psd/four-years-and-counting-what-weve-learned-regulatory-sandboxes> (accessed on 13 June 2023).
- Appiah “Digital Wallets Take Africa by Storm: A Look at the Continent's Transition to Cashless Payments” <https://www.linkedin.com/pulse/digital-wallets-take-africa-storm-look-continent-cashless-appiah#:~:text=The%20most%20popular%20digital%20wallet,Zapper%2C%20FlickPay%2C%20and%20Masterpass> (accessed on 11 August 2023).
- Berry “InsurTech: where are we now?” <https://www.nortonrosefulbright.com/en-za/knowledge/publications/db154724/insurtech-where-are-we-now> (accessed on 13 June 2023).
- Capital One “Peer-to-peer (P2P) lending: How does it work?” <https://www.capitalone.com/learn-grow/money-management/peer-to-peer-lending/> (accessed on 13 June 2023).

- Click2Sure <https://click2sure.co.za/about-us-2-2/> (accessed on 13 June 2023).
- Cliffe Dekker Hofmeyr “Bridging the gap between fintech innovation and regulation: Is a local regulatory sandbox the answer?”
<https://www.cliffedekkerhofmeyr.com/en/news/publications/2020/technology/tmt-alert-16-march-Bridging-the-gap-between-fintech-innovation-and-regulation-Is-a-local-regulatory-sandbox-the-answer.html> (accessed on 12 June 2023).
- Demirgüç-Kunt, Klapper, Singer and Ansar “The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in, the Age of COVID-19”
<https://www.worldbank.org/en/news/press-release/2022/06/29/covid-19-drives-global-surge-in-use-of-digital-payments> (accessed on 13 June 2023).
- IFWG “Apply to the regulatory sandbox”
https://www.ifwg.co.za/Pages/Sandbox_Application.aspx (accessed on 13 June 2023).
- IFWG “Feedback on the Intergovernmental Fintech Working Group’s First Regulatory Sandbox Initiative”
<https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2022/fintech-iwfg-sandbox-report/IFWG%20First%20Regulatory%20Sandbox%20Report%20October%202022.pdf> (accessed on 12 June 2023).
- IFWG “Innovation Accelerator”
<https://www.ifwg.co.za/Pages/Innovation-Accelerator.aspx> (accessed on 13 June 2023).
- IFWG “Objectives and benefits of the regulatory sandbox”
https://www.ifwg.co.za/Pages/Regulatory_Sandbox_Objectives.aspx (accessed on 11 August 2023)
- IFWG “Potential regulatory relief and regulatory focus area”
https://www.ifwg.co.za/Pages/Relief_and_Regulatory_Focus_Areas.aspx (accessed on 12 June 2023).
- IFWG “Regulatory Guidance Unit”
<https://www.ifwg.co.za/Pages/Regulatory-Guidance-Unit.aspx> (accessed on 13 June 2023).
- IFWG “Regulatory Sandbox”
https://www.ifwg.co.za/Pages/IFWG_Regulatory_Sandbox.aspx (accessed on 02/06/2023).
- IFWG “Regulatory Sandbox FAQs”
https://www.ifwg.co.za/IFWG%20Documents/IFWG-RSB_FAQs_Rolling-based.pdf (accessed on 12 June 2023).
- IFWG “Regulatory Sandbox Firms”

https://www.ifwg.co.za/Pages/IFWG_Regulatory_Sandbox_Firms.aspx (accessed on 12 June 2023).

- FCA “About the FCA” <https://www.fca.org.uk/about/what-we-do/the-fca>.
- FCA “Guidance Notes on the Sandbox application Form” https://www.onlinesurveys.fca.org.uk/CP/File.php?F=F_0VS30WXqmqN8xrE (accessed on 12 June 2023).
- FCA “Launce of permanent Digital Sandbox” <https://www.fca.org.uk/news/news-stories/launch-permanent-digital-sandbox> (accessed on 11 August 2023).
- FCA “Regulatory Sandbox” <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 10 October 2023).
- FCA “Regulatory Sandbox eligibility criteria” <https://www.fca.org.uk/firms/innovation/regulatory-sandbox/eligibility-criteria> (accessed on 13 June 2023).
- FCA “Regulatory sandbox lessons learned report” <https://www.fca.org.uk/publication/research-and-data/regulatory-sandbox-lessons-learned-report.pdf> (accessed on 12 June 2023) 10.
- FCA “Regulatory Sandbox tools” <https://www.fca.org.uk/firms/innovation/regulatory-sandbox> (accessed on 12 June 2023) “waivers or modifications to our rules”.
- FCA “Regulatory sandbox” <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 9.
- FCA “Regulatory sandbox” <https://www.fca.org.uk/publication/fca/fca-regulatory-sandbox-guide.pdf> (accessed on 12 June 2023) 5.
- Financial Intelligence Centre: Regulators keeping in step with FinTech growth <https://www.fic.gov.za/Documents/REGULATORS%20KEEPING%20IN%20STEP%20WITH%20FINTECH%20GROWTH.pdf> (accessed on 10 October 2023) 1.
- Financial Sector Conduct Authority “FinTech” <https://www.fsca.co.za/Regulatory%20Frameworks/Pages/FinTech.aspx> (accessed on 12 June 2023).
- FinTech Weekly “FinTech Definition” <https://www.fintechweekly.com/fintech-definition> (accessed on 5 June 2023).

- Geral, Tibane and Kern Bowmans “FinTech in South Africa: overview” https://bowmanslaw.com/wp-content/uploads/2019/11/FinTech_in_South_Africa_overview_2019.pdf
- <https://www.yoco.com/za> (accessed on 13 June 2023)
- <https://www.snapscan.co.za> (accessed on 13 June 2023)
- <https://www.zapper.com> (accessed on 13 June 2023)
- <https://www.pineapple.co.za/> (accessed on 13 June 2023)
- <https://www.naked.insure/> (accessed on 13 June 2023)
- Jeník & Duff “How to Build a Regulatory Sandbox A Practical Guide for Policy Makers: <https://documents1.worldbank.org/curated/en/126281625136122935/pdf/How-to-Build-a-Regulatory-Sandbox-A-Practical-Guide-for-Policy-Makers.pdf> (accessed on 13/06/2023).
- Julia Kagan 2023 “Financial Technology (Fintech): Its Uses and Impact on Our Lives” Investopedia <https://www.investopedia.com/terms/f/fintech.asp> (accessed on 5 June 2023).
- Leah Ngari “Regulatory Sandboxes in Africa” <https://empowerafrica.com/regulatory-sandboxes-in-africa/> (accessed on 02/06/2023).
- McCallum & Aziakpono “Regulatory sandbox for FinTech regulation: Do the conditions for effective adoption exist in South Africa?” <https://www-tandfonline-com.uplib.idm.oclc.org/doi/full/10.1080/0376835X.2023.2182759> (accessed on 12 June 2023 through the UP library).
- MuleSoft “What is an API?” <https://www.mulesoft.com/resources/api/what-is-an-api#:~:text=Many%20people%20ask%20themselves%2C%20%E2%80%9CWhat,APIs%20are%20all%20around%20us> accessed on 11 August 2023.
- Oanh Truong 2016 “How Fintech Industry is Changing the World” <https://core.ac.uk/download/pdf/80995188.pdf> (accessed on 5 June 2023)
- Pascual and Natalucci “Fast-Moving FinTech Poses Challenge for Regulators” <https://www.imf.org/en/Blogs/Articles/2022/04/13/blog041322-sm2022-qfsr-ch3> (accessed on 11 August 2023).
- Payments Association of South Africa “Overview” <https://pasa.org.za/about-us/overview/> (accessed on 5 June 2023).

- RMB “The SA FinTech in Motion Report” <https://www.rmb.co.za/files/pdf/other/fintech-report.pdf> (accessed on 13 June 2023) 2.
- Rosencrance “USSD (Unstructured Supplementary Service Data)” <https://www.techtarget.com/searchnetworking/definition/USSD> (accessed on 13 June 2023).
- Sachdev “Banks + MNOs = Holistic Solution to Financial Inclusion” <https://www.linkedin.com/pulse/banks-mnos-holistic-solution-financial-inclusion-sunil-sachdev> (accessed on 11 August 2023).
- Shardeum Content Team “What is the Difference Between Cryptocurrency and Blockchain?” <https://shardeum.org/blog/difference-between-cryptocurrency-and-blockchain/#:~:text=The%20difference%20between%20cryptocurrency%20and%20blockchain%20can%20be%20summed%20up,ledger%20that%20records%20all%20transactions> (accessed on 13 June 2023).
- South African Reserve Bank <https://www.resbank.co.za/content/dam/sarb/publications/media-releases/2022/fintech-iwfg-sandbox-report/IFWG%20First%20Regulatory%20Sandbox%20Report%20October%202022.pdf> (accessed on 12 June 2023)
- South African Reserve Bank “Fintech” <https://www.resbank.co.za/en/home/quick-links/fintech> (accessed on 12 June 2023).
- Standard Bank “Digital wallets” <https://www.standardbank.co.za/southafrica/personal/products-and-services/bank-with-us/digital-wallets> (accessed on 13 June 2023).
- The Exchange “USSD driving digital and financial inclusion in Africa” <https://furtherafrica.com/2022/08/01/ussd-driving-digital-and-financial-inclusion-in-africa/> (accessed on 13 June 2023).
- The Sunday Mail “Mobile networks, banks need collaboration” <https://www.sundaymail.co.zw/new-mobile-networks-banks-need-collaboration> (accessed on 11 August 2023).
- Timothy “Crowdfunding in South Africa” <https://www.schoemanlaw.co.za/wp-content/uploads/2019/03/ST-Mar-Article.pdf> (accessed on 13 June 2023).
- Tugendhaft Whapnick Banchetti and Partners “Crowdfunding: Challenges Facing the Credit Industry” <https://www.twb.co.za/news/listing/22> (accessed on 8 June 2023). See also Ventureburn “Five South African crowdfunding platforms” <https://ventureburn.com/2020/09/five-south-african-crowdfunding-platforms/> (accessed on 8 June 2023).

- Ventures Africa “The 5 InsurTech Companies that are Revolutionizing the South African Market” <https://venturesafrica.com/the-5-insurtech-companies-that-are-revolutionizing-the-south-african-market/#:~:text=The%20South%20African%20insurance%20industry%20is%20undergoing%20a%20period%20of,new%20types%20of%20insurance%20products> (accessed on 8 June 2023).
- Vodacom Group “M-Pesa – Africa’s leading fintech platform – marks 15 years of transforming lives” <https://www.vodacom.com/news-article.php?articleID=7750> (accessed on 13 June 2023).
- World Bank Group “Global Experiences from Regulatory Sandboxes” Finance, Competitiveness & Innovation Global Practice; Fintech Note No. 8 <https://documents1.worldbank.org/curated/en/912001605241080935/pdf/Global-Experiences-from-Regulatory-Sandboxes.pdf> (accessed on 11 August 2023) 28.
- World Bank Group “How Regulators Respond to Fintech Evaluating the Different Approaches – Sandboxes and Beyond” <https://documents1.worldbank.org/curated/en/579101587660589857/pdf/How-Regulators-Respond-To-FinTech-Evaluating-the-Different-Approaches-Sandboxes-and-Beyond.pdf> (accessed on 13 June 2023).
- World Bank Group Key Data from Regulatory Sandboxes across the Globe <https://www.worldbank.org/en/topic/fintech/brief/key-data-from-regulatory-sandboxes-across-the-globe> (accessed on 10 October 2023).