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FINANCIAL TECHNOLOGY, LAW, AND REGULATION: HOW TO REGULATE FINANCIAL TECHNOLOGY WITHOUT STIFLING INNOVATION

by

1271651

Submitted in partial fulfilment of the requirements for the degree of

Master of Laws by Coursework and Research Report

at the University of the Witwatersrand, Johannesburg

Date: 26 May 2025

DECLARATION

I, 1271651, declare that this report is my own, unaided work. It is submitted in partial fulfilment of the requirements for the Master of Laws degree in the field of Commercial & Business Law at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

I have submitted my final Research Report through TurnItIn and have attached the report to my submission.

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ABSTRACT

Since the Global Financial Crisis of 2008/2009, there has been a significant rise in the use of financial technology (FinTech). This increase in interest can be attributed to numerous factors, such as increased financial regulation, the rapid advancement of technology, and the erosion of trust in traditional financial institutions. While FinTech has brought about many benefits in terms of financial innovation and inclusion, it also poses risks, such as cybersecurity threats, money laundering, terrorist financing, and financial instability. As a result, regulators face the challenge of finding a balance between the advantages of FinTech and the need to protect against its risks. Regulatory bodies worldwide have established legislative and regulatory frameworks for the FinTech industry, with some embracing FinTech and implementing regulations to encourage innovation. In contrast, others have taken a more restrictive approach.

This research report focuses on examining the effectiveness of regulating FinTech in South Africa without stifling its innovation potential. To achieve this goal, the report will analyse and compare various regulatory frameworks implemented in different jurisdictions. The report proposes several potential approaches that could be implemented in South Africa based on research findings. One suggestion is to introduce FinTech-specific regulations for areas that require regulatory clarity, such as the payments industry. The report also recommends adopting principles-based regulation, establishing regulatory sandboxes, and experimenting with technological innovation using RegTech and SupTech. The report emphasises the importance of prioritising consumer protection and financial stability in regulating FinTech.

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I. INTRODUCTION

One of the consequences of the 2008/2009 global financial crisis (GFC) was the significant reform of financial sector regulations. This, coupled with rapid advances in financial technology innovation, has resulted in a gradual but significant change in the financial sector landscape.[1] Post the GFC, the perception of traditional financial institutions has also deteriorated, and the trust in these institutions waned.[2] The increase in post-crisis financial regulations has also led to a proportional increase in the cost of compliance, thus making the traditional methods of offering financial services less attractive.[3]

These changes in the financial sector have driven growth in financial technology (FinTech) as an alternative to traditional financial intermediation. The Financial Stability Board defines FinTech as 'technologically enabled financial innovation'.[4] Such innovation can lead to new business models, applications, processes, products, or services. These innovations can significantly impact financial markets, institutions, and services.[5] FinTech also has the potential to provide more access and inclusion, and a wider variety of products and services more cost-effectively and efficiently.[6]

While the advent of FinTech promises to improve competition, operational efficiency and financial inclusion, it also risks financial stability in several ways. Increased competition, while beneficial to customers, could lead to disintermediation and harm traditional banks' profitability.[7] Although the increased adoption of frontier technology by FinTech has a positive impact on operational efficiency, it also makes them more susceptible to cybersecurity risks.[8] For instance, the growth of virtual assets and currencies such as cryptocurrencies and their pseudo-anonymity characteristics present significant money laundering and financing of

[1] Ioannis Anagnostopoulos 'Fintech and Regtech: Impact on Regulators and Banks' (2018) 100 *Journal of Economics and Business* 7.
[2] Carin van der Cruijsen, Jakob de Haan, and Ria Roerink 'Trust in Financial Institutions: A Survey' (2021) 37 *Journal of Economic Surveys* 1214.
[3] Ross Buckley, Douglas Arner, Robin Veidt, and Dirk Zetzsche 'Building Fintech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond' (2020) 61 *Washington University Journal of Law & Policy* 055.
[4] Financial Stability Board 'Financial Stability Implications from FinTech Supervisory and Regulatory Issues That Merit Authorities' Attention' (2017), *https://www.fsb.org/wp-content/uploads/R270617.pdf* (accessed 25 April 2024) 6 at 7.
[5] Ibid.
[6] International Monetary Fund 'Global Financial Stability Report—Shockwaves from the War in Ukraine Test the Financial System's Resilience' (2022) *https://www.imf.org/en/Publications/GFSR/Issues/2022/04/19/global-financial-stability-report-april-2022* (accessed 20 October 2023) 1 at 65.
[7] Monetary Authority of Singapore 'Balancing the risks and rewards of fintech developments' (2020) *https://www.bis.org/publ/bppdf/bispap113_t.pdf* (accessed 20 October 2024) 279.
[8] Ibid.

terrorism risks.[9] These risks have a substantial impact on financial stability and require regulatory authorities to pay close attention to FinTech.

Consequently, financial regulators now face the near-impossible task of balancing the rapidly advancing innovations in FinTech and the resultant risks that these innovations pose to financial stability.[10] This is because FinTech, like any innovative technology or innovation, presents legal and regulatory challenges for regulators.[11] The gap in current legal and regulatory frameworks has resulted in regulators scrambling to produce appropriate regulations, often leading to disparities in how FinTech is regulated and adopted in different jurisdictions.[12] Legal certainty is also crucial for a fair environment in FinTech. Regulators thus need to carefully consider their responses to FinTech advancements as they impact industry sustainability and financial accessibility.

The aim of this research report is, therefore, to examine strategies for regulating the development of FinTech without stifling innovation in South Africa. This research report will employ a doctrinal legal research methodology, which involves studying legal rules and principles and applying them to specific factual contexts.[13] The analysis will examine current financial sector legislation and delegated regulations, drawing on case law, literature on FinTech, and publications from regulatory agencies. It will compare the regulatory landscapes for FinTech in Kenya, China, and the United States, chosen for their significant impact on financial inclusion, market growth, large user bases, and innovation.

This research report will be structured as follows: First, it will explore the landscape of FinTech, delving into its evolution, categories, and definitions. Second, it will discuss the challenges faced by regulatory bodies in effectively regulating this rapidly evolving sector. Third, it will focus on the regulatory frameworks in South Africa that govern the FinTech industry, examining the legal landscape and the rules and regulations shaping the industry compared with those of Kenya, China, and the United States. Finally, the report will provide recommendations for developing effective FinTech regulations in South Africa.

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[9] Nicholas A. Roide 'Fintech and Anti-Money Laundering Regulation: Implementing an International Regulatory Hierarchy Premised on Financial Innovation', (2022) *9 Texas A&M Law Review 465.*

[10] Dirk Zetzsche, Ross Buckley, Douglas Arner, and Janos Barberis 'Regulating a Revolution: From Regulatory Sandboxes to Smart Regulating a Revolution: From Regulatory Sandboxes to Smart Regulation' (2017) 23 *Fordham Journal of Corporate & Financial Law Fordham Journal of Corporate & Financial Law* 31.

[11] Anton Didenko 'Regulating FinTech: Lessons from Africa' (2018) 19 *San Diego International Law Journal* 311.

[12] Ibid.

[13] Mkhululi Nyathi 'Re-asserting the doctrinal legal research methodology in the South African academy: Navigating the maze' (2023) 140 *SALJ* 365.

II. DEFINING FINANCIAL TECHNOLOGY

It is important to have a clear definition of FinTech to prevent any confusion about its scope and impact. This section of the report will provide a thorough definition of the term by conducting a detailed analysis of the evolution of FinTech and its different categories.

(a) Evolution of financial technology

While FinTech describes the integration of technology in the financial services sector, the financial industry has long been an early adopter of technology.[14] The invention of the telegraph in 1838 and the laying of the transatlantic cable in 1866 provided the infrastructure for the financial globalisation we know today.[15] There have been many other technological advances since the telegraph that have had a significant impact on the financial services sector, such as the invention of the computer, the invention of the handheld financial calculator in 1976 and the further advancement in global communications using global telex networks.[16] The introduction of the Automated Teller Machine (ATM) in 1967 was the most revolutionary as it fundamentally changed how people interacted with brick-and-mortar banks.[17]

In financial markets, for example, the establishment of the National Association of Securities Dealers Automated Quotations (NASDAQ) in 1971 changed how securities are traded, shifting from physical to electronic trading as we know it today.[18] The founding of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) in 1973 helped facilitate international financial and securities transfers.[19] By the 1980s, the financial services industry had moved from analogue to digital.[20] Internet banking took off in the early 1990s, with the first website for banking services being launched in 1994.[21] By the beginning of the 21st century, major banks had millions of online banking customers. In the early 2000s, we saw a rise in branchless banks that offered internet-only services. Today, a vast majority of financial transactions are conducted over the Internet.

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[14] Patrick Schueffel 'Taming the Beast: A Scientific Definition of Fintech' (2016) 4 *Journal of Innovation Management* 32.

[15] Douglas Arner, Janos Barberis and Ross Buckley 'The Evolution of Fintech: A New Post-Crisis Paradigm?' (2016) 44 *Journal of Financial Transformation* 79.

[16] Ibid.

[17] Ibid.

[18] Ibid.

[19] Ibid.

[20] Ibid.

[21] UBS Editorial team 'The History of Digital Banking' available at *https://www.ubs.com/ch/en/wealth-management/womens-wealth/magazine/articles/history-of-digital-banking.html,* accessed 25 April 2024.

While finance and technology have rapidly advanced, innovations in financial services often come from traditional financial institutions. The current wave of FinTech distinguishes itself by offering traditional financial products like lending, saving, investing, and payments through innovative technologies such as big data analytics, artificial intelligence (AI), and machine learning. They also offer these financial services and products outside the traditional financial services sector.[22]

(b) Definition of financial technology

The World Economic Forum defines FinTech as the use of technology and innovative business models in financial services.[23] Arner uses a similar definition, stating that FinTech 'refers to the use of technology to deliver financial solutions'.[24] Schueffel proposes the following definition: 'FinTech is a new financial industry that applies technology to improve financial activities'.[25]

The problem with these definitions is that they are overly inclusive, as it has been shown that traditional financial services providers have been the early adopters of technology in providing financial services. These definitions do not capture the novelty and differentiation of FinTech companies from traditional financial services providers.

For this research, FinTech will thus refers to technological innovations that have the potential to transform the delivery of financial services by introducing new business models, applications, processes, and products.[26] This broad definition is chosen because it emphasises the diverse range of FinTech models that exist. It also highlights the intrinsic characteristics that define the industry.

(c) The FinTech Landscape in South Africa

Having defined FinTech, it is useful to lay out categories of FinTech in South Africa, as these segments are at different stages of growth and are impacted by regulations differently. In 2019, the Intergovernmental FinTech Working Group outlined various FinTech segments. It defined

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[22] J.W. Verret 'Federalism and Fintech Firms: A Review of Pro-Fintech Innovations and A Suggested Federalism Based Reform to Facilitate Fintech Innovation' (2022) 41 *Review of Banking and Financial Law* 313.

[23] World Economic Forum 'The Future of FinTech a Paradigm Shift in Small Business Finance' (2015) *https://www3.weforum.org/docs/IP/2015/FS/GAC15_The_Future_of_FinTech_Paradigm_Shift_Small_Business_Finance_report_2015.pdf* (accessed 20 October 2023) 7.

[24] Arner et al op cit note 15.

[25] Schueffel op cit note 14.

[26] International Monetary Fund 'The Bali Fintech Agenda: Chapeau Paper' (2018) *http://documents.worldbank.org/curated/en/390701539097118625/The-Bali-Fintech-Agenda-Chapeau-Paper* (accessed 20 October 2023) 7 at 12.

them according to the functions performed by the businesses that operate in that market segment.[27] The digital payments segment for example represents the largest sector, with over sixty-eight active entities involved in conducting various functions to facilitate value transfers through digital channels.[28] Alternative lending, with 28 operating FinTechs, uses online platforms, offering short-term loans, 'Buy Now Pay Later' options, and 'Peer-to-Peer' lending (P2P) lending to make borrowing more accessible for consumers and small businesses.[29]

The savings and deposits segment comprises FinTechs that use mobile technology to offer savings products, layby plans, and digital banking services, a prime example is Tyme Bank and Bank Zero.[30] Insurance Technology (InsureTech) companies provide insurance services using advanced technologies like robotics, machine learning, and AI, offering distribution, risk analysis, and communication throughout the insurance value chain.[31]

Investment, financial planning, and advisory FinTechs offer guidance to individuals and small enterprises, with robo-advisors using algorithms to create suitable investment portfolios.[32] Capital raising and capital markets FinTechs focus on providing crowdfunding platforms for equity or debt finance, as well as retail trading platforms and alternative exchanges.[33] Additionally, B2B technology providers such as Jumo offer support or develop platforms for traditional financial services providers or FinTechs, without directly offering financial services to the public.[34]

III. UNDERLYING CHALLENGES IN REGULATING FINTECH

It is clear from the previous section that FinTech is diverse. This diversity presents a challenge in regulating FinTech. This section of the report discusses the challenges that regulatory bodies face in regulating the diverse and rapidly growing FinTech industry.

(a) Achieving a balance between risks and rewards

Regulating FinTech presents a significant challenge, as it requires a delicate balance between the risks and rewards that FinTech offers. Regulators must exercise caution to ensure that

[27] Intergovernmental Fintech Working Group (IFWG) 'Fintech Scoping in South Africa' (2019) *https://www.ifwg.co.za/Reports/Fintech%20Scoping%20in%20South%20Africa.pdf* (accessed 20 October 2023) 3.
[28] Ibid.
[29] Ibid.
[30] Ibid.
[31] Ibid.
[32] Ibid.
[33] Ibid.
[34] Ibid.

FinTech companies that pose systemic risks are appropriately regulated and supervised with appropriate scrutiny.[35] Failure to regulate can lead to financial losses, as shown by the failure of Futures Exchange Trading Limited (FTX) and other cryptocurrencies. Although Most FinTechs, including crypto assets, are not yet large enough to pose systemic risks, but their rapid growth may lead to them transitioning from too small to care to too big to fail.[36] Additionally, although FinTech has yet to displace traditional finance, FinTechs like Crypto pose a risk of spillover into traditional finance that may create systematic risk.[37] In China, P2P lending was virtually unregulated before the failure of Ezubao, a P2P lender that turned out to be a fraudulent scheme amounting to US$7.6 billion; this prompted the regulators in China to restrict P2P lending.[38]

Accordingly, regulators overseeing FinTech will be confronted with a critical decision regarding their role. They must choose between a prudential role, responsible for safeguarding the stability of the financial system or assuming the role of an active promoter, dedicated to creating a regulatory landscape that nurtures FinTech innovation and fosters financial inclusion.[39] Achieving a balance between these two objectives can be challenging for regulators striving to embody both roles simultaneously.

(b) Fragmented regulations

Another significant obstacle facing FinTech regulations is the need for comprehensive regulation governing the FinTech industry. The legal and regulatory structures for FinTech are often fragmented and focused on specific sectors, making it challenging to assign a single regulator to any given FinTech entity.[40] Navigating the regulatory landscape is particularly challenging for FinTech businesses, as it can be unclear where they fit within complex regulations. This lack of clarity poses even greater difficulties for start-ups, which often lack the resources to test products with regulators or seek third-party legal advice.[41]

[35] Didenko op cit note 11 at 331.
[36] Douglas Arner, Dirk Zetzsche, Ross Buckley, and Jamieson Kirkwood 'The Financialization of Crypto: Lessons from FTX and the Crypto Winter of 2022-2023' 2023 *SSRN Electronic Journal* 20.
[37] Ibid.
[38] Chad Albrecht, Victor Morales, Jack Kristian Baldwin, and Steven Deron Scott 'Ezubao: A Chinese Ponzi Scheme with a Twist' (2017) 24 *Journal of Financial Crime* 256.
[39] Didenko op cit note 11 at 327.
[40] Ibid at 333.
[41] Ibid at 335.

Some argue that regulation fragmentation allows flexibility in responding to risks arising from specific activities.[42] However, even when current regulatory frameworks are comprehensive enough to cover FinTech products, regulators must clarify their position on FinTechs. Additionally, updating regulations may be necessary to avoid duplication or contradiction.

(c) Regulatory mandates that conflict with each other

FinTech companies also face a challenging and complex regulatory environment. They must report to multiple regulatory authorities with overlapping responsibilities, resulting in inconsistencies and suboptimal outcomes.[43] This creates uncertainty for FinTech companies, significantly smaller and less sophisticated, as they struggle to predict regulatory actions.[44] Additionally, different regulators have varying philosophies and methodologies, making it difficult for FinTech companies to know which regulator to work with.[45] This uncertainty can delay the launch of innovative solutions until compliance with the regulator with the strictest requirements is achieved or risk enforcement actions for non-compliance.[46] The counterargument, however, is that having multiple regulators allows for regulatory competition, which leads to continuous testing and adaptation of different standards and rules.

One solution to address the challenges and inconsistencies in the regulatory environment for FinTech companies is to establish a unified regulatory framework. This will help streamline reporting requirements and ensure that regulatory authorities are working in tandem, creating a more efficient and effective system. Additionally, regular communication and collaboration between regulatory authorities and FinTech companies can help to identify and address any potential issues or concerns before they become problematic.

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[42] Joseph Kalmenovitz, Michelle B Lowry, and Ekaterina Volkova 'Regulatory Fragmentation' 2023 *Journal of Finance* 1.

[43] Cambridge Centre for Alternative Finance (CCAF) 'Fintech Regulation in Sub-Saharan Africa' (2021) *https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/fintech-regulation-in-sub-saharan-africa/#:~:text=The%20coverage%20of%20regulatory%20frameworks%20for%20ECF%20is%20relatively%20low,* (accessed 20 October 2023) 17.

[44] Brian Knight 'FinTech: Who Regulates It and Why It Matters' available at *https://milkeninstitute-org.webpkgcache.com/doc/-/s/milkeninstitute.org/sites/default/files/reports-pdf/FinTech-Who-Regulates-It-and-Why-It-Matters2.pdf,* accessed 21 October 2023.

[45] Ibid.

[46] Ibid.

(d) Regulatory arbitrage

The complex regulatory environment may create an incentive for FinTech companies to engage in regulatory arbitrage by structuring their activities to benefit from gaps in regulations.[47] There are two ways in which this can occur: jurisdictional regulatory arbitrage and categorical regulatory arbitrage. Jurisdictional regulatory arbitrage happens when FinTech companies take advantage of law differences across jurisdictions.[48] National regulators around the world face the challenge of balancing the need for financial stability with the promotion of FinTech and its benefits. As a result, regulations may differ between jurisdictions, with some regulators seeking to attract and promote FinTech in their region by creating more favourable regulations.[49] This deregulation can lead to competition among regulators to lure FinTech companies, resulting in a race to the bottom, where regulators lower important standards or compromise on essential safeguards to make their jurisdiction more FinTechs.

In contrast, categorical regulatory arbitrage occurs when the law treats two functionally similar activities differently.[50] The emergence of FinTech increases the likelihood of categorical arbitrage because the products and services offered by FinTech companies are essentially the same as those offered by traditional financial institutions, with the only difference being the underlying processes and delivery method.

A potential solution to prevent regulatory arbitrage by FinTech companies could be to close the gaps in regulations through regular monitoring and updating of regulatory frameworks. This could involve collaboration between FinTech companies, regulatory bodies, and other stakeholders to ensure a level playing field for all market participants.

(e) Rapid development and diversity

Regulating FinTech is challenging due to the industry's rapidly changing and diverse nature. FinTech is characterised by continual technological evolution, with cryptocurrencies serving as a prominent example. Initially, Bitcoin stood as the sole cryptocurrency; however, they are now accessible in diverse forms including crypto tokens, stablecoins, meme coins, and altcoins.[51] These developments also pose challenges for regulators striving to keep pace with

[47] Elizabeth Pollman 'Tech, Regulatory Arbitrage, and Limits' (2019) 20 *European Business Organization Law Review* 567.
[48] Ibid.
[49] Ibid.
[50] Ibid.
[51] Aaron Broverman and Patrick McGimpsey 'Different Types of Cryptocurrencies Explained' available at *https://www.forbes.com/advisor/au/investing/cryptocurrency/different-types-of-cryptocurrencies-explained/,* accessed 21 October 2023.

the changes, highlighting the necessity for a principles-based regulatory approach that can adapt to future changes. However, this method may result in regulations that are vague and uncertain. A potential solution is to create a framework for continuous monitoring and adaptation, enabling regulations to evolve in tandem with technological innovations and shifting market conditions.

IV. CURRENT FINTECH REGULATORY FRAMEWORKS

The financial regulatory system in South Africa is comprehensive yet fragmented, with different regulations applying to various financial institutions based on their offerings.[52] While existing regulations cover many FinTech products, the fragmented nature makes it difficult to define a specific regulator for FinTech.[53] This complexity poses challenges for FinTech start-ups, which may lack the resources to navigate the system compared to traditional financial institutions. This section of the research report explores the impact of these regulations on South Africa's FinTech industry.

(a) Banks Act

The Banks Act 94 of 1990 (Banks Act) aims to 'provide for the regulation and supervision of the business of public companies taking deposits from the public'.[54] Section 11 of the Banks Act prohibits persons from conducting the business of a bank unless such a person is a public company and is registered as a bank in terms of the Bank Act. Section 1(1) of the Banks Act states that accepting public deposits, soliciting, or advertising for deposits, using those deposits for lending, investing, or financing activities, repurchase agreements, and any other activities the authorities declare to be the business of a bank.

The acceptance, soliciting, advertising, and using of deposits as defined above will result in the person being regarded as conducting a business of a bank and would thus, because of section 11(1) of the Banks Act, be required to apply for authorisation to establish a bank. FinTechs operating in digital payments, particularly Mobile Money FinTechs, are constrained by these provisions.

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[52] Baker McKenzie Resource Hub 'Who Regulates Banking and Financial Services in Your Jurisdiction? | South Africa | Global Financial Services Regulatory Guide' available at *https://resourcehub.bakermckenzie.com/bg-bg/resources/global-financial-services-regulatory-guide/europe-middle-east-and-africa/south-africa/topics/who-regulates-banking-and-financial-services-in-your-jurisdiction,* accessed 20 October 2023.

[53] Didenko op cit note 11 at 333.

[54] Banks Act 94 of 1990 preamble.

Mobile money allows users to transfer funds or make payments using a mobile device, often through a mobile network operator (MNO).[55] Users can deposit money into their mobile money account, transfer it to someone else or withdraw it at an agent without using a traditional bank. Since the funds deposited into the mobile money account can be withdrawn on demand, they meet the definition of deposits and FinTechs that accept these deposits, solicit, or advertise for deposits from the public meet the definition of the business of a bank.[56]

In South Africa, mobile money is not subject to specific regulations. However, MNOs who want to offer mobile money services have two choices. They can apply for banking licenses according to section 12 of the Banks Act or collaborate with an existing bank. However, this creates significant obstacles for new players, as obtaining a banking license is complicated and requires substantial capital and liquidity.

According to section 70(2)(a) of the Banks Act, banks must maintain at least R250 thousand in capital, and section 72 requires them to keep at least twenty per cent of deposits in high-quality liquid assets. These strict supervisory requirements have led MNOs to collaborate with conventional banks. This has posed some difficulties as partnerships with banks have limited innovation and made it challenging for MNOs to adapt quickly to changes.[57] It also restricted competition with established banks.

(b) National Payment System Act

The National Payment Systems Act 78 of 1998 (NPSA) defines a payment system as 'a system that enables payments to be affected or facilitates the circulation of money and includes any instruments and procedures that relate to the system'.[58] The National Payment System (NPS) encompasses all the systems, mechanisms, institutions, agreements, procedures, rules, and laws involved from the moment a payment instruction is issued to the final interbank settlement in the central bank's books.[59]

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[55] Kazuko Shirono and others 'Is Mobile Money Part of Money? Understanding the Trends and Measurement' (2021) 2021/177 *IMF Working Papers* 1.

[56] Finmark Trust 'Research Report on Mobile Money in South Africa' (2017) *https://finmark.org.za/system/documents/files/000/000/267/original/Final-Report-on-Mobile-Money-in-South-Africa.pdf?1603094540* (accessed 20 October 2023) 20.

[57] Deloitte report 'The Future of Payments in South Africa Enabling Financial Inclusion in a Converging World' (2019) *https://www.deloitte.com/content/dam/Deloitte/za/Documents/risk/za-The-future-of-payments-in-South-Africa%20.pdf* (accessed 20 October 2023) 8.

[58] National Payment Systems Act 78 of 1998 section 1.

[59] South African Reserve Bank 'Payments and Settlements Issue' available at *https://www.resbank.co.za/en/home/what-we-do/payments-and-settlements#:~:text=A%20payment%20system%20includes%20any,* accessed 20 October 2023.

The NPS is crucial to the smooth functioning and growth of the economy as it enables transacting parties to conclude financial transactions. It is, therefore, essential that the NPS be safe, stable, and efficient. The Payment Association of South Africa (PASA) is a payment system management body recognised by the South African Reserve Bank (SARB) in section 3(1) of the NPSA. Section 3(3) of the NPSA restricts the membership of PASA to commercial banks, mutual banks, branches of foreign banks and designated clearing system participants.

These regulatory frameworks are very restrictive to FinTech companies that provide payment services such as mobile money, e-money, remittances, wallets, and quick response codes. The position paper on electronic money by the National Payment System Department (NPSD) restricted the issue of e-money to South African registered banks.[60] Failure for mobile money products such as Vodacom's M-Pesa to take off in South Africa as it did in East Africa is often cited as being due to a restrictive regulatory environment.[61] This has led to stifling innovation, competition, and financial inclusion. Various reports, including a SARB policy paper, have also found the NPS to be too restrictive and recommended participation by non-banks in the NPS.[62]

(c) Insurance Act

The Prudential Authority (PA) oversees the prudential regulation and supervision of the insurance industry in South Africa, as mandated by the Insurance Act 18 of 2017 (Insurance Act). The Insurance Act also introduces a legal framework for microinsurance aimed at promoting financial inclusion. Section 3 of the Insurance Act outlines its objective as promoting the maintenance of a fair, safe, and stable insurance market that benefits and protects policyholders. According to section 5 of the Insurance Act, it is illegal for anyone to conduct insurance business in the Republic without being licensed under the Insurance Act.

InsureTech is a branch of FinTech that uses innovative and transformative technology to develop, distribute, model, underwrite, process claims, and manage administrative tasks in the insurance industry.[63] InsureTech companies face significant barriers to entry, such as high

[60] National Payment System Department 'National Payment System Department Position Paper on Electronic Money' (2009) *https://www.resbank.co.za/content/dam/sarb/what-we-do/financial-surveillance/general-public/PP2009_01.pdf* (accessed 15 September 2023) 7.

[61] Finmark Trust op cit note 56.

[62] South African Reserve Bank 'Review of the National Payment System Act 78 of 1998' (2018) *https://www.treasury.gov.za/publications/other/NPS%20Act%20Review%20Policy%20Paper%20-%20final%20version%20-%2013%20September%202018.pdf* (accessed 20 October 2023) 16.

[63] Norton Rose Fulbright 'InsureTech: Where Are We Now?' available at *https://www.nortonrosefulbright.com/en-za/knowledge/publications/db154724/insurtech-where-are-we-now*, accessed 20 October 2023.

capital requirements and strict prudential and supervisory regulations. As a result, InsureTech firms that interact with clients must partner with traditional insurance companies, which can lead to slower product launches and impede innovation.

(d) National Credit Act

The National Credit Act 34 of 2005 (NCA) regulates the provision of loan and credit agreements in South Africa.[64] The NCA applies to all credit transactions between parties who are dealing at arm's length.[65] As defined in section 8 of the NCA, credit agreements include instalment agreements, pawn or discount agreements, incidental agreements, and credit extensions in the form of money.

Sections 40 and 41 of the NCA require a person to apply for registration as a credit provider if the person provides instalment or discount credit, advances money as credit, mortgage loans, secured loans, is a lessor under a lease agreement, is a credit guarantor or any person that acquired the rights of a credit provider under a credit agreement. Failure to register as a credit provider means the credit provider has no legal recourse against the credit consumer, as the credit agreement will be deemed unlawful.[66]

The current national credit regulatory frameworks have been particularly detrimental to the development and growth of FinTech firms that provide P2P lending. These frameworks have different impacts on the operating models of P2P lending. P2P lending platforms have two distinct operating models: the client-segregated account model (direct lending) and the notary model (indirect lending).[67]

With direct P2P lending, the borrower requests a loan on the P2P platform; these loans are then listed on the P2P platform.[68] Investors choose which loan request to fund, and after due diligence, they pay money into an investor subaccount maintained by the P2P platform, which then transfers the money to the borrower.[69] When repayment becomes due, the borrower pays into the investor subaccount and the money is redistributed to the investor by the P2P platform, which then charges administrative fees to both parties.[70] The credit agreement and credit relationship remain between the borrower and the creditor.

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[64] National Credit Act 34 of 2005.
[65] National Credit Act 34 of 2005 section 4(1).
[66] *Vesagie NO & others v Erwee NO & another* 2014 (734) 121 (ZASCA).
[67] Netsai Chitaka Regulating *Fintech Based Peer-To-Peer Lending: A New Approach to SME Financing* (LLM thesis, University of Cape Town, 2022) *http://hdl.handle.net/11427/37093* (accessed 20 October 2023) 28.
[68] Ibid.
[69] Ibid.
[70] Ibid.

Indirect P2P lending, in contrast, involves a partner bank. The P2P platform plays an intermediary role connecting the borrower and creditor. However, in the case of indirect P2P, the borrower enters into a credit agreement with the bank with the P2P lending platform acting as an intermediary.[71] The credit agreement and credit relationship are only between the borrower and the bank.

Before May 2016, individuals could lend up to R500 thousand before being required to register as a credit provider. However, in May 2016, the Minister of Trade and Industry reduced the threshold to zero Rand, which means that individuals must now register regardless of the amount lent.[72] Even one-time transactions necessitate registration as a credit provider, making direct lending impractical on P2P lending platforms in South Africa. With many small loan amounts funded by numerous individual creditors, the volume of transactions makes registration unfeasible. Currently, P2P platforms opt for indirect lending to circumvent the strict regulations tied to credit provider registration.

(e) Financial Markets Act

The regulation of the financial markets is provided for under the Financial Markets Act 19 of 2012 (FMA). The FMA provides for the licensing and regulation of exchanges and central securities depositories. The FMA also regulates securities trading, clearing and settlements, custody and administration of securities and prohibits insider trading and market abuse. The FSCA is responsible for the regulation and supervision of the Financial Markets.

Section 4 of the FMA prohibits a person from purporting to be a market infrastructure, behaving in a manner or using a description that suggests a connection between that person and a market infrastructure when there is no connection. Authorised market infrastructures may only provide services they authorise to provide in terms of the rules of that market infrastructure.[73] The FMA describes market infrastructures to include a licensed central counterparty, a licensed central securities depository, a licensed clearing house, a licensed exchange, and a licensed trade repository.[74]

In South Africa, all market infrastructures must be registered, regardless of the technology used. Smaller stock alternative exchanges, including ZAR X Proprietary Limited, Cape Town Stock Exchange (formerly 4Ax), and The Integrated Exchange (I-EX, formerly

[71] Ibid.
[72] The 'Determination of a Threshold for Credit Provider Registration' (published in *GG* 39981 of 11 May 2016).
[73] Financial Markets Act section 4(3).
[74] Financial Markets Act section 1(1).

EESE), have been granted licenses by the FCSA.[75] These exchanges claim to use advanced technologies such as machine learning, AI, and data analytics. Operating on a platform-based system, they aim to improve efficiency and affordability for users.[76]

These securities exchanges are expected to innovate more rapidly in the future, primarily via blockchain or distributed ledger technology to enhance efficiency.[77] This will result in quicker trade processing and significant cost reductions. Additionally, smart contracts can automate self-executing rules that govern dividends, interest, voting rights, and other matters, further improving efficiency.[78]

(f) Financial Advisory and Intermediary Services Act

The Financial Advisory and Intermediary Services Act 37 of 2002 (FAIS) regulates the provision of financial advice and intermediation of financial services. According to section 7 of the FAIS, any person who wants to offer financial services or market them to clients or a group of clients must be registered as a financial service provider.[79] FAIS defines a financial services provider (FSP) as any person who offers advice or intermediation services as a regular part of their business.[80] As per FAIS, advice refers to any financial recommendation, guidance, or proposal made through any means or medium to a client or group of clients.[81]

Consequently, companies in the FinTech industry that offer robo-advisory services must obtain authorisation as FSPs, as they provide financial advice that falls under this category. The Board Notice 194 of 2017 (board notice) regulates automated advice and mandates that providers register as FSPs. Automated advice is defined as advice provided through an electronic medium that uses algorithms and technology without the direct involvement of a human.[82]

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[75] IFWG op cit note 27.
[76] Ibid.
[77] Mohd Javaid, Abid Haleem, Ravi Pratap Singh, Rajiv Suman, and Shahbaz Khan 'A Review of Blockchain Technology Applications for Financial Services' (2022) 2 *Bench Council Transactions on Benchmarks, Standards and Evaluations* 1.
[78] Musimuni Dowelani, Chioma Okoro and Abel Olaleye 'Factors Influencing Blockchain Adoption in the South African Clearing and Settlement Industry' (2022) 25 *South African Journal of Economic and Management Sciences* 173.
[79] Financial Advisory and Intermediary Services Act 37 of 2002.
[80] FAIS Act section 1(1).
[81] Ibid.
[82] Financial Sector Conduct Authority 'Amendment of The Determination of Fit and Proper Requirements' (2017) *https://www.fsca.co.za/Notices/Board%20Notice%20194%20of%202017.pdf* (accessed 20 October 2023) 365.

In 2022, the FSCA also declared that crypto assets are considered financial products under the FAIS Act.[83] This now means that financial services related to crypto assets fall under the regulatory purview of the FSCA. As a result, providers of crypto asset services (CASP) will need to comply with more rigorous regulations when offering financial advice and intermediary services. They must be authorised as financial services providers and adhere to the relevant FAIS requirements.

(g) The South African Electronic Communications and Transactions Act

The South African Electronic Communications and Transactions Act 25 of 2002 (ECTA) has significant implications for the FinTech industry, as it serves as the foundational legislation for electronic communications and transactions, which are essential to FinTech operations.[84] The objectives of the ECTA as set out in section 2 are to enable and facilitate electronic communications and transactions in the public interest.[85] It also aims to promote legal certainty and confidence regarding electronic communications and transactions.[86]

The ECTA applies to any electronic transactions and data messages, covering various FinTech activities, from online banking to mobile payments.[87] The ECTA defines an automated transaction as one done completely or partly through data messages without human review in the usual course of business.[88] Data refers to electronic representations of information, which is vital since most FinTech transactions are done electronically.[89]

The ECTA aims to protect consumers in the online space by addressing illegal activities in electronic transactions, such as fraud and identity theft.[90] FinTech companies must also have strong security systems in place to protect transactions and ensure they are liable for any damages suffered by consumers due to issues caused by suppliers or service providers.[91]

Additionally, ECTA provides strong protection for personal information collected during electronic transactions. It aims to protect individuals' privacy by setting rules for how personal

[83] Financial Sector Conduct Authority 'Policy Document Supporting the Declaration of a Crypto Asset as a Financial Product Under the Financial Advisory and Intermediary Services Act' (2022) *https://www.fsca.co.za/Regulatory%20Frameworks/Temp/Policy%20Document%20supporting%20the%20Declaration%20of%20crypto%20assets%20as%20a%20financial%20product.pdf* (accessed 20 October 2023) 1.
[84] South African Electronic Communications and Transactions Act 25 of 2002.
[85] ECTA section 2.
[86] Ibid.
[87] ECTA section 4(1).
[88] ECTA section 1.
[89] Ibid.
[90] ECTA section 86.
[91] ECTA section 43 (5).

data is used.[92] Key goals include using personal data only for the reasons it was collected, enforcing strict rules for collecting and storing data, and informing people when an organisation keeps their personal data.[93] By establishing these protections, ECTA aims to build trust in the digital economy and encourage responsible behaviour among service providers in the FinTech industry.

(h) Anti-Money Laundering and Countering the Financing of Terrorism

FinTech applications pose a significant risk in being used for financial crimes. FinTechs backed by blockchain technology, such as cryptocurrencies, bring additional risk for financial crimes such as money laundering and terrorism financing because of their anonymity.[94] Section 1 of the Financial Intelligence Centre Act 38 of 2001 (FICA) defines money laundering as 'an activity which has or is likely to have the effect of concealing or disguising the nature, source, location, disposition, or movement of the proceeds of unlawful activities or any interest which anyone has in such proceeds'.[95]

The South African government has taken measures to prevent financial crimes such as money laundering and financing of terrorism by implementing legislation on anti-money laundering and counter-forcing financing of terrorism (AML/CFT).[96] Before the amendment of FICA in 2017, South Africa employed a rule-based approach to ALM/CFT. Under the rule-based approach, accountable institutions were expected to conduct customer due diligence (CDD), verifying the identity of the potential client before onboarding, or concluding a single transaction.[97] The rule-based approach required customers to provide proof of identity, proof of address and, at times, proof of income. Lower-income customers were excluded from financial services due to excessive reliance on documentation. Compliance costs were also often passed on to consumers, pushing them towards informal services.[98]

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[92] ECTA section 51.
[93] Ibid.
[94] International Monetary Fund 'Virtual Currencies and Beyond Initial Considerations' (2016) *https://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf* (accessed 20 October 23) 5.
[95] Financial Intelligence Centre Act 38 of 2001 section 1.
[96] FinMark Trust 'Assessing the Impact of the Shift to a Risk-based Approach to AML/CTF on Financial Inclusion and Remittances' (2021) *https://finmark.org.za/Publications/impact_of_RBA_on_financial_inclusion_report.pdf* (accessed 20 October 2023) 14.
[97] Ibid.
[98] Ibid.

However, in 2017 South Africa amended FICA and implemented a risk-based approach to AML/CFT.[99] This approach involves institutions assessing their level of exposure to money laundering and terrorist financing and taking appropriate measures to reduce the risk.[100] This approach aims to improve regulations and make them more affordable while ensuring that control requirements match the actual level of risk.[101]

Furthermore, accountable institutions in South Africa must comply with various laws that help combat money laundering and terrorist financing. Aside from the FICA, which provides the administrative framework for AML/CFT regulations, there is additional legislation, such as the Prevention of Organised Crime Act 21 of 1998, which criminalises organised crime, money laundering, and racketeering.[102] The Protection of Constitutional Democracy Against Terrorist and Related Activities Act 33 of 2004 criminalises terrorist financing, while the Drugs and Drug Trafficking Act 140 of 1992 prohibits laundering proceeds from drug-related activities.[103]

V. GLOBAL TRENDS IN REGULATION OF FINTECH

To understand the global trends in regulating FinTech this section will provide a comparison between South Africa and three other countries: Kenya, China, and the United States. The purpose is to highlight similarities and differences in the FinTech regulatory environments and provide insights into how South Africa can learn from their experiences.

(a) Kenya

Kenya has one of the most successful FinTech in the form of mobile money service FinTech, M-Pesa.[104] This innovative solution has significantly improved financial inclusion across the country. Before its introduction in 2007, 26.7 per cent of Kenyans had access to formal

[99] The Banking Association South Africa 'FICA Amendments Impact South African Accountable Institutions' available at *https://www.banking.org.za/news/fica-amendments-impact-south-african-accountable-institutions/,* accessed 20 October 2023.

[100] National Treasury 'A New Approach to Combat Money Laundering and Terrorist Financing' (2017) *https://www.treasury.gov.za/legislation/regulations/FICA/A%20new%20approach%20to%20combat%20money%20laundering%20and%20terrorist%20financing.pdf* (accessed 20 October 2023) 3.

[101] Ibid.

[102] Prevention of Organised Crime Act 121 of 1998.

[103] Protection of Constitutional Democracy Against Terrorist and Related Activities Act 33 of 2004.

[104] Njuguna Ndung'u 'Practitioner's Insight: M-Pesa, a Success Story of Digital Financial Inclusion' available at *https://www.geg.ox.ac.uk/publication/practitioners-insight-m-pesa-success-story-digital-financial-inclusion,* accessed 28 October 2023.

financial services.[105] However, by 2016, this figure had surged to 75 per cent. Regarding transaction volume, M-Pesa now accounts for approximately 40 per cent of Kenya's GDP.[106]

The regulation of FinTech in Kenya traces its origins to the regulation of mobile payments and mobile money, with a particular focus on the initial regulation of M-Pesa in 2007.[107] To develop M-Pesa, Safaricom was granted a letter of no objection by the Kenya Central Bank and the Communications Authority, who adopted a 'test and learn' approach.[108] Subsequently, the Kenyan authorities introduced the National Payment Systems Act and the National Payment Systems Regulations in 2011 and 2014 to govern mobile payments.[109] This approach of testing and learning has proven to be a significant factor in the successful regulation of FinTech in Kenya.[110]

Like South Africa, Kenya does not have an overarching FinTech-specific regulatory framework. Instead, regulations are dispersed among various laws specific to different sectors and crosscutting areas. This division is further complicated by multiple regulatory bodies such as the Central Bank of Kenya (CBK), the Communications Authority, the Insurance Regulatory Authority, and the Competition Authority of Kenya that oversee the financial services industry, including FinTech.[111] Unfortunately, these regulators often have differing and, at times, opposing mandates, which presents considerable obstacles for the FinTech sector.[112]

Kenya's authorities have supported innovation, particularly within the FinTech industry. The CBK has taken a collaborative and consultative approach to regulating FinTech, aligning with the central bank's philosophy of maximising opportunities while minimising risks associated with emerging technologies.[113] To further encourage innovation, Kenyan authorities have established regulatory sandboxes where innovative products, solutions, and services can be tested in a live environment. In 2019, the Capital Markets Authority of Kenya released the

[105] Ibid.
[106] Ibid.
[107] TheCityUK 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework' available at *https://www.thecityuk.com/media/zbzc1lor/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework.pdf?ref=blog.mondato.com,* accessed 28 October 2023.
[108] Serena Natile 'Digital Finance Inclusion and the Mobile Money "Social" Enterprise' (2020) 45 *Historical Social Research* 74.
[109] Ibid.
[110] Anton Didenko 'Regulatory Challenges Underlying FinTech in Kenya and South Africa' available at *https://www.biicl.org/documents/1814_regulation_of_fintech_in_kenya_and_south_africa_v_1.pdf,* accessed 28 October 2023.
[111] Didenko op cit note 11 at 327.
[112] Ibid.
[113] CCAF op cit note 43.

Regulatory Sandbox Policy Guidance Note and invited applications to test capital market-related products, solutions, and services that have the potential to deepen and develop them.[114]

(b) China

According to the EY global FinTech adoption Index ranking, China is leading the world in adopting FinTech. Over 87 per cent of China's digitally active population use FinTech platforms, resulting in more than $100 billion in lending disbursed by FinTechs.[115] This impressive growth can be attributed to the support of regulators for FinTech, which has played a crucial role in transforming the Chinese financial services industry. Notably, Baidu, Alibaba, and Tencent, among other non-bank BigTech companies, have created FinTech spinoffs that have received regulatory support.[116] As a result, these FinTechs have made financial products more accessible to low-income groups and shifted power away from commercial banks.[117] These FinTechs are responsible for processing over 16 per cent of China's GDP transactions. In addition, the China Banking Regulation Commission has granted virtual banking licenses to WeBank and MyBank, which are affiliated with Tencent and Ant Group, respectively.[118] These private-owned banks have introduced more competition to a sector that state-owned banks previously dominated.

China's regulatory approach to FinTech payments is sector-based rather than a one-size-fits-all regulatory approach.[119] The People's Bank of China is responsible for monetary policy, financial stability, and overseeing the regulation of FinTech payments.[120] In addition, the China Banking and Insurance Regulatory Commission supervises FinTech companies that provide a range of services, including online lending, online trust, consumer finance, and insurance.[121] Lastly, the China Securities Regulatory Commission oversees FinTech companies specialising in crowdfunding and online investment funds.[122]

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[114] Capital Markets Authority – Kenya 'Regulatory Sandbox Policy Guidance Note' (2019) *https://www.cma.or.ke/wpfd_file/regulatory-sandbox-policy-guidance-note-march-2019-final/* (accessed 28 October 2023) 2.

[115] EY Global Financial Services 'Global FinTech Adoption Index 2019' (2019) *https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/banking-and-capital-markets/ey-global-fintech-adoption-index.pdf* (accessed 28 October 2023) 6.

[116] Paul Langley and Andrew Leyshon 'FinTech Platform Regulation: Regulating With/against Platforms in the UK and China' (2023) 16 *Cambridge Journal of Regions, Economy, and Society* 257.

[117] Ibid.

[118] Michael Chui 'Money, Technology and Banking: What Lessons Can China Teach the Rest of the World?' (2021) 947 *BIS Working Papers* 1.

[119] Robin Hui Huang *Fintech Regulation in China: Principles, Policies and Practices* (2021) 1.

[120] Ibid.

[121] Ibid.

[122] Ibid.

Before 2016, the financial regulators in China adopted a more hands-off approach to regulating FinTech.[123] However, the rapid expansion of FinTech and the inability of the existing regulatory frameworks to cater to these FinTechs put increased pressure on the Chinese regulators to regulate FinTech.[124] FinTech has expanded rapidly, and regulations still need to keep pace. An example is P2P lending, which has grown to a systematic proposition. P2P has operated in a regulatory vacuum, resulting in massive fraud and illegal activities.[125] The increase in fraudulent activities, particularly in P2P lending, prompted the regulators in China to shift their FinTech policy from promotion to regulation.[126]

(c) United States of America

The United States (US) boasts a thriving FinTech market, having attained the highest number of FinTech companies that achieved unicorn valuation status in 2023.[127] With over 134 FinTech unicorns, the US outnumbers the United Kingdom and India, who hold second and third place with 27 and 17 unicorns, respectively.[128] The expansive FinTech market has necessitated swift adaptation from US regulators to the industry's ever-evolving nature. However, the pace of FinTech innovation in areas such as digital wallets, peer-to-peer lending, commission-free stock trading, and cryptocurrencies has strained the ability of US regulators to regulate them.

In the US, FinTechs are overseen by numerous federal and state agencies with mandates to protect consumers and prevent criminal activities. This results in different companies being subject to vastly different regulatory regimes. In March 2016, the Office of the Comptroller of the Currency (OCC) released a white paper titled 'Supporting Responsible Innovation in the Federal Banking System: An OCC Perspective'.[129] The report outlined the OCC's vision for

[123] Ibid.
[124] Ibid.
[125] Li Huang and Henry N Pontell 'Crime and Crisis in China's P2P Online Lending Market: A Comparative Analysis of Fraud' (2022) 79 *Crime Law and Social Change* 369.
[126] Ibid.
[127] Silicon Valley Bank 'Future of FinTech' available at *https://www.svb.com/globalassets/trendsandinsights/future-of-fintech-report-2023_final.pdf,* accessed 28 October 2023.
[128] Statista Research Department 'Fintech Unicorns by Country' available at *https://www.statista.com/statistics/1262201/number-of-fintech-unicorns-worldwide-by-country/,* accessed 28 October 2023.
[129] Office of the Comptroller of the Currency 'Supporting Responsible Innovation in the Federal Banking System: An OCC Perspective' (2016) *https://consumerbankers.com/sites/default/files/OCC%20whitepaper%20fin%20inno%282%29.pdf,* (accessed 28 October 2023) 2.

responsible innovation in the federal banking system and proposed principles to evaluate new and innovative financial products and services.[130]

Later, on 31 July 2018, the OCC issued a Policy Statement on Financial Technology Companies' Eligibility to Apply for National Bank Charters, which opened the door for Fintech companies to apply for special-purpose national bank charters.[131] This charter provides a framework of uniform standards and robust supervision, allowing qualified Fintech companies to compete on a level playing field with regulated institutions.[132] This helps ensure that they operate safely, and soundly, and to serve the needs of consumers, businesses, and communities. Despite this, a charter has yet to be granted to a FinTech bank because individual states legally challenged the OCC's authority to issue such charters.[133]

VI. PROPOSAL FOR FINTECH REGULATION IN SOUTH AFRICA

This section offers recommendations for effective FinTech regulations in South Africa, tailored to its market's unique characteristics. It addresses whether to regulate now or wait, suggests FinTech-specific frameworks, advocates a principles-based approach, and considers regulatory sandboxes and technology-driven innovations for regulation.

(a) To regulate or not to regulate.

The discussion around the regulation of innovation revolves around the pacing problem. This means that it is crucial to strike a balance between adopting regulation too early, which can limit innovation, and regulating too late, which can lead to issues arising from lack of regulation. In other words, should regulation occur before innovation occurs, or should innovation be allowed to develop before implementing necessary regulations?

In South Africa, regulators may consider adopting a permissive approach towards the regulation of FinTech, prioritising industry growth and encouraging innovation.[134] This approach would involve refraining from enacting any regulations and instead allowing the industry to develop and mature on its own. Such a 'wait and see' approach would enable

[130] Ibid.
[131] Office of the Comptroller of the Currency 'Policy Statement on Financial Technology Companies' Eligibility to Apply for National Bank Charters' (2018) *https://www.occ.treas.gov/news-issuances/news-releases/2018/pub-other-occ-policy-statement-fintech.pdf* (accessed 28 October 2023) 1.
[132] Ibid.
[133] Nathan Brownback, V. Gerard Comizio and Fried Frank 'State Bank Regulators Challenge OCC's Authority to Issue Fintech Charters' available at *https://corpgov.law.harvard.edu/2017/06/04/state-bank-regulators-challenge-occs-authority-to-issue-fintech-charters/,* accessed 28 October 2023.
[134] Ibid.

regulators to closely monitor the impact of FinTech on the financial sector and evaluate the need for regulatory intervention based on empirical evidence.[135] This approach allows the FinTech industry to grow without any regulatory intervention, thereby promoting a conducive environment for the advancement of financial innovation and inclusion.

One successful example of this approach is how Kenya regulated mobile money payments with M-Pesa. Regulators in Kenya took a wait-and-see approach to the growth and innovation of M-Pesa by providing Safaricom with a letter of no objection to implementing M-Pesa in Kenya.[136] This approach contributed to the success of M-Pesa.

Another successful example of a permissive approach is China's regulation of FinTech. China allowed P2P FinTech to develop without regulatory intervention, which came with risks.[137] Chinese regulators adopted a more cautious approach to FinTech regulation after widespread fraud resulted in billions of dollars in losses.[138] While permissive regulatory systems can lead to periodic financial instability, research shows that long-term economic growth and development benefits outweigh these crises' costs.[139]

(b) FinTech-specific regulatory frameworks

To mitigate the potential risks associated with unregulated FinTech operations, a common approach is establishing regulatory frameworks specifically tailored to the FinTech industry. The Financial Stability Board (FSB) reports that most jurisdictions have already implemented or are in the process of implementing such measures.[140] Many jurisdictions have since introduced new legislation to address various forms of FinTech, focusing on payments, alternative lending, and capital raising.[141] These measures are intended to promote financial systems' stability and integrity while fostering innovation and competition in the FinTech sector.

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[135] Ibid.
[136] Natile op cit note 108.
[137] World Bank Group 'How Regulators Respond to Fintech Evaluating the Different Approaches-Sandboxes and Beyond' (2020) *https://documents1.worldbank.org/curated/en/579101587660589857/pdf/How-Regulators-Respond-To-FinTech-Evaluating-the-Different-Approaches-Sandboxes-and-Beyond.pdf* (accessed 29 October 2023) 1.
[138] Ibid.
[139] Ross Buckley, Douglas Arner, and Dirk Zetzsche DA *FinTech: Finance, Technology and Regulation* (2023) 9-90.
[140] Financial Stability Board 'Financial Stability Implications from FinTech Supervisory and Regulatory Issues That Merit Authorities' Attention' (2017) *https://www.fsb.org/wp-content/uploads/R270617.pdf,* (accessed 30 October 2023) 6.
[141] Ibid.

An example of FinTech-specific regulations is how mobile payments, non-bank payments and digital currency have been regulated by various jurisdictions. Based on a survey conducted by the FSB, it has been observed that most of the 26 jurisdictions have either implemented or are implementing regulations that govern payments, clearing, and settlements.[142] While South Africa allows only banks to participate in the payments market, the European Union, on the other hand, has opened its market to non-banks by introducing a tailored regulatory framework (Payment Service Directive or PSD) for payment institutions in 2007.[143]

Subsequently, in November 2015 the European Union announced the Payment Services Directive 2, an initiative which allowed bank users to authorise third-party providers to manage their finances.[144] This directive mandated that banks provide third-party account information or payment initiation service providers with access to customers' account information via application programming interfaces.[145]

(c) Principles-based regulation

The complexity, rapid development and innovation that is exhibited in FinTech require regulatory systems that are more adaptive to this change. Regulatory systems can be categorised into two main types: rules-based and principles-based. Principles-based regulation systems represent a shift from detailed and prescriptive rules towards broadly stated principles that establish standards for financial institutions.[146] This type of regulation specifies the outcomes that need to be achieved, and financial institutions then reverse-engineer what needs to be done to achieve them.[147] They document to the regulators how they plan to achieve these outcomes.[148] Principles-based regulation focuses on the spirit of the law rather than a tick-box exercise. In contrast, rule-based approaches are specific about what firms must do to comply.[149]

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[142] Ibid.

[143] The European Parliament and the Council of The European Union 'Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on Payment Services in the Internal Market' (2007) *https://eur-lex.europa.eu/eli/dir/2007/64/oj* (accessed 30 October 2023) 1.

[144] The European Parliament And The Council Of The European Union 'Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on Payment Services in the Internal Market' (2015) *https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02015L2366-20151223,* (accessed 30 October 2023) 2.

[145] Ibid.

[146] Julia Black, Martyn Hopper, and Christa Band 'Making a Success of Principles-Based Regulation' (2007) 1 *Law and Financial Markets Review* 191.

[147] Pascal Frantz and Norvald Instefjord 'Regulatory Competition and Rules/Principles-Based Regulation' (2018) 45 *Journal of Business Finance & Accounting* 818.

[148] Ibid.

[149] Hilary Allen 'Regulatory Sandboxes Regulatory Sandboxes' (2019) 87 *George Washington Law Review* 579.

Regulatory complexity has additionally been cited as a significant challenge for FinTechs, which need more resources to comprehend and comply with complex regulatory frameworks.[150] The principles-based approach also avoids this issue. In this regard, regulatory frameworks are simplified and concise to achieve the desired objectives. Principles-based regulations offer greater flexibility than rule-based ones, which are more prone to becoming outdated in rapidly evolving industries like FinTech.[151] Additionally, the principles-based approach discourages the 'checklist' approach to compliance, where entities comply with the letter of the law instead of the spirit.[152]

However, adopting a principles-based approach in regulatory frameworks can be a challenge to regulatory bodies and the regulated industry. One of the most notable criticisms against this approach is the concern regarding the level of certainty it provides. FinTech firms may fear that they could inadvertently violate regulatory requirements, which could lead to enforcement actions. There is a risk that enforcement actions may be carried out informally and without transparency.[153] Additionally, using guidance notices may lead to adopting a rules-based approach without proper administrative law safeguards.[154] In such a scenario, these guidance notices may be treated as rules and enacted without the necessary protections that typically accompany a rules-based regime.[155] This lack of clarity could lead to unintended consequences and undermine the fairness and legality of the enforcement process.

Although the principles-based approach is not flawless, it offers more benefits than drawbacks, mainly when applied to early-stage innovations yet fully comprehended.[156] A principles-based approach provides regulators with a flexible regulatory strategy that can adapt to the constantly changing FinTech environment.[157] This approach can benefit from continuous refinement and improvement as regulators gain a better understanding of the complexity of FinTech.[158] Initially, regulators could adopt a more principles-based approach to encourage innovation in the early stages of FinTech development. As FinTech evolves and becomes a potential threat to financial stability, regulators could adopt a hybrid approach that allows for innovation but with more rules and regulations in place.

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[150] Ibid.
[151] Ibid.
[152] Ibid.
[153] Ibid.
[154] Ibid.
[155] Ibid.
[156] Ibid.
[157] Black et al op cit note 146 at 192.
[158] Ibid.

(d) Regulatory sandboxes

Another method for regulating the rapidly evolving realm of FinTech while promoting innovation is through structured experimentation through regulatory sandboxes. Sandboxes offer a secure environment for FinTech companies to test their products and services with actual customers, fewer regulatory constraints, and regulatory guidance.[159] Doing so provides an opportunity to conduct real-world testing without the potential consequences of enforcement actions.

In May 2016, the Financial Conduct Authority (FCA) of the United Kingdom became the pioneer regulator to introduce a regulatory sandbox for the FinTech industry.[160] This initiative was initiated as part of Project Innovate, introduced in 2014 to encourage innovation in the interest of consumers and competition through disruptive innovation.[161] Many other jurisdictions have since adopted the regulatory sandbox concept.[162] According to Buckley et al., over fifty jurisdictions have launched their regulatory sandboxes, including South Africa.[163]

More recently, South Africa established an innovation hub comprising three innovation facilitators: an accelerator, a regulatory guidance unit, and a regulatory sandbox.[164] Implementing a regulatory sandbox can offer various benefits, although the absence of necessary objectives and conditions for successful implementation may lead to adverse outcomes.

(i) Objectives

When establishing regulatory sandboxes, South African regulators must clearly define their guiding principles. Most regulators state that their policy objective is to encourage and facilitate innovation, promoting competition in the financial industry and ensuring a more inclusive

[159] Buckley et al op cit note 3.

[160] Financial Conduct Authority 'Financial Conduct Authority's Regulatory Sandbox Opens to Applications' available at *https://www.fca.org.uk/news/press-releases/financial-conduct-authority%E2%80%99s-regulatory-sandbox-opens-applications,* accessed 31 October 2023.

[161] Cambridge Centre for Alternative Finance 'Guide To Promoting Financial & Regulatory Innovation Insights From The UK' (2018) *https://assets.publishing.service.gov.uk/media/5adeee2840f0b60a9a985a02/UK_finanical___regulatory_innovation.pdf* (accessed 31 October 2023) 7.

[162] Buckley et al op cit note 3.

[163] Ibid.

[164] Intergovernmental Fintech Working Group 'Innovation Hub Launched to Promote Responsible Innovation in the South African Financial Sector' available at *https://www.ifwg.co.za/Press%20Releases/IFWG%20Launches%20Innovation%20Hub%20to%20Promote%20Innovation.pdf,* accessed 31 October 2023.

financial services sector.[165] Clear articulation of these principles will enable effective implementation of regulatory sandboxes and help to achieve the intended outcomes.

FinTechs do not currently pose any financial stability risk, but their rapid rise could impact financial stability in the future.[166] Therefore, regulators should pay serious attention to the financial stability-related aspects of FinTechs. Additionally, regulators should also pay attention to the importance of consumer protection. It is essential to ensure that the goal of financial inclusion is supported by consumer protection, guarding against unscrupulous FinTech companies that prey on unsophisticated consumers.[167]

(ii) Regulatory Sandbox conditions

When creating a regulatory sandbox, it is essential to establish precise selection criteria that align with the regulatory objectives of the sandbox. This ensures that only appropriate innovations are admitted into the sandbox and that the regulatory goals are effectively supported. As part of the entry test for the sandbox, FinTechs must demonstrate that their innovations are ready for testing and will benefit consumers.[168] Once the selection criteria are clearly defined, regulators must establish a clear scope of what and who is covered under the sandbox. Some argue that systematically important financial institutions (SIFIs) should not be covered by the sandbox, as they do not require government assistance and excessive innovation from such institutions should not be promoted by regulators.[169] Regulators should receive information on innovation from SIFIs through normal supervisory channels.

Equally important is the precise definition of the period in which FinTechs are permitted to test in the sandbox. Regulators across the globe have chosen varying time frames, ranging from six to twenty-four months, with the possibility of extension.[170] In contrast, some regulators allow for an open-ended testing period, only imposing a size restriction. An example of this is the Swiss sandbox, which does not have an exact limit in the time frame but states that FinTechs that exceed CFH 1 million in deposits will be subject to standard licencing requirements.[171]

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[165] FSCA op cit note 83.
[166] Depository Trust & Clearing Corporation 'Fintech And Financial Stability Exploring How Technological Innovations Could Impact The Safety & Security Of Global Markets' (2017) *https://www.dtcc.com/-/media/Files/PDFs/Fintech-and-Financial-Stability.pdf* (accessed 31 October 2023) 2.
[167] Allen op cit note 149.
[168] Ibid.
[169] Ibid.
[170] Buckley et al op cit note 3.
[171] Ibid.

South African regulators must also establish clear guidelines for when the privilege of testing in the sandbox will be revoked. This may include instances where the regulations are not followed or when the risks outweigh the benefits. Similarly, if the intended objectives of the sandbox are not met, the sandbox testing privilege should also be withdrawn.

(iii) Drawbacks of regulatory sandboxes

Although regulatory sandboxes have their advantages, they also have some disadvantages. One of the criticisms of sandboxes is that they need more transparency. To ensure a level playing field between licensed and unlicensed firms, sandboxes should disclose the details of the regulatory and innovation-inspired relief granted to firms inside the sandbox.[172] This way, licensed firms can apply for the same dispensation granted to licensed entities.

One of the benefits of a regulatory sandbox is that it allows for increased communication between regulators and FinTechs. However, there is a risk of regulatory capture whereby the needs of FinTechs in the sandbox are given priority over the public interest of consumer protection and financial stability.[173]

(e) Technology-based innovation for regulating FinTech.

Technology has significantly changed the financial landscape worldwide, creating new opportunities and challenges for regulators and regulated entities. One significant area of development is the use of technological innovations by regulated entities to comply with regulations or RegTech and the use of technological innovations by regulators to enhance supervision and oversight or SupTech.[174]

(i) RegTech

Regulatory technology, commonly referred to as RegTech, is a term used to describe the application of technology in enhancing and streamlining regulatory processes and operations.[175] RegTech enables industry participants to keep abreast of regulatory requirements, automate workflows, and improve overall risk management.[176] The primary goal

[172] Ibid.
[173] Allen op cit note 149.
[174] Deloitte 'RegTech -Gaining Momentum Driving Efficiency in Risk and Compliance' (2023) *https://www2.deloitte.com/content/dam/Deloitte/in/Documents/risk/in-risk-RegTech-Gaining-momentum-noexp.pdf* (accessed 1 November 2023) 04.
[175] Unit 21 'Fintech, Regtech & SupTech: The Main Differences + How to Use Them' available at *https://www.unit21.ai/blog/fintech-regtech-suptech,* accessed 31 October 2023.
[176] Ibid.

of RegTech is to optimise regulatory compliance and reduce the risk of non-compliance. By leveraging technology, organisations can achieve a more efficient and effective regulatory framework, significantly reducing costs and time associated with regulatory compliance.[177]

Additionally, RegTech offers cost-effective compliance solutions for FinTechs and allows regulators to perform their supervisory function more efficiently and expeditiously in near real-time.[178] The implementation of RegTech therefore can lead to increased transparency, accuracy, and efficiency in regulatory compliance processes, improving overall compliance outcomes.

(ii) SupTech

In recent years, regulatory bodies have expanded their purview beyond outward-facing initiatives to facilitate FinTech innovation. Instead, they have begun exploring technological innovations to bolster their prudential mandates. This shift represents a notable departure from traditional regulatory approaches and highlights the growing importance of technology in the financial industry.

SupTech, short for supervisory technology, refers to technology that automates, improves, and manages supervisory processes, enabling oversight and administration of regulatory compliance.[179] SupTech is essentially RegTech for supervisors and is intended to assist supervisors in monitoring companies' compliance with regulations. It is a tool that allows supervisors to efficiently and effectively assess whether financial institutions adhere to regulatory requirements.[180] In contrast to RegTech, which financial institutions primarily use, SupTech is exclusively designed for use by supervisors.

(iii) Benefits of SupTech and RegTech

SupTech and RegTech have significant potential to improve regulatory supervision, surveillance, enforcement, regulatory reporting, and compliance for financial institutions.[181] For example, automation can reduce the need for manual intervention and minimise human error, enabling real-time monitoring by regulators and leading to more proactive supervision.[182]

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[177] Jinying Li, Ananda Maiti and Jiangang Fei 'Features and Scope of Regulatory Technologies: Challenges and Opportunities with Industrial Internet of Things' (2023) 15 *Future Internet* 256.

[178] Buckley et al op cit note 3.

[179] Unit 21 op cit note 175.

[180] Ibid.

[181] The Financial Stability Board 'The Use of Supervisory and Regulatory Technology by Authorities and Regulated Institutions Market Developments and Financial Stability Implications' (2020) *https://www.fsb.org/wp-content/uploads/P091020.pdf* (accessed 1 November 2023) 3.

[182] Li et al op cit note 177.

More specifically RegTech can improve regulatory data collection and analysis for better risk management. By using advanced technologies like AI and big data analytics, RegTech streamlines the gathering and interpretation of regulatory information. This proactive approach improves risk management, helping organizations identify compliance issues and implement data-driven mitigation strategies.

SupTech and RegTech can also help to reduce costs significantly.[183] Businesses can save on data collection, risk management, and regulatory reporting costs. Moreover, supervisors can enhance the efficiency and effectiveness of operational processes, leading to reduced IT (Information Technology) and staffing costs.[184]

(iv) Challenges and risks of SupTech and RegTech

One of the challenges regulatory authorities face in implementing SupTech and RegTech is due to incomplete, non-standardised, low-quality data.[185] Most of the data they collect is unstructured, making it challenging to extract meaningful insights.[186] Implementing common data standards can improve data quality and streamline data collection processes, but it will require an initial investment in costs and resources, such as recruiting data science specialists and upskilling existing staff.[187]

It is also important to note that relying on a single dominant cloud service provider could result in concentration risk.[188] This interdependence between service providers, regulators, and authorities can increase cybersecurity risk, which may have severe financial stability implications.

VII. CONCLUSION

The emergence of FinTech has brought about various benefits such as improved financial access, personalised product offerings, and cost-effective delivery. Despite this, regulators worldwide are faced with a significant challenge in managing the associated risks, which could pose a threat to financial stability.

A comparative analysis showed that many countries are working to establish suitable legal and regulatory frameworks for the rapidly evolving FinTech industry. To encourage

[183] Ibid.
[184] Ibid.
[185] Ibid.
[186] Ibid.
[187] Ibid.
[188] Ibid.

innovation and experimentation, these countries are exploring new regulatory approaches. The lack of clear regulations has stifled innovation in some sectors, as firms may have been reluctant to take risks without a permissive regulatory environment.

To address this, this report recommends introducing more targeted FinTech regulations in areas needing regulatory clarity, such as the payments industry. Another recommendation is to employ principles-based regulation, offering regulators a flexible strategy to adapt to the ever-changing FinTech landscape. This approach would benefit from ongoing refinement and improvement as regulators gained a better understanding of the complexity of FinTech.

The report also advocates for establishing regulatory sandboxes as safe environments for FinTech companies to test their products and services with fewer regulatory constraints and guidance. These sandboxes should prioritise consumer protection and financial stability to avoid creating an environment that solely benefits the interests of FinTech companies at the expense of the financial system and consumers.

Finally, this report recommends that regulators explore technological innovation using RegTech and SupTech. FinTech companies could use RegTech to enhance risk management and compliance, while regulators could leverage SupTech to automate, enhance, and manage supervisory processes. RegTech and SupTech have the potential to significantly improve regulatory supervision, surveillance, and enforcement, as well as regulatory reporting and compliance for businesses.

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