

Chapter 6

Fintech in Selected BRICS Countries: Similar Policy Imperatives?

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Abstract

Fintech has undergone accelerated evolution in the global tech sector, affecting how economies conduct their modes of business. The paper on which this chapter is based aimed to conduct a cross-country analysis of fintech development in three BRICS countries (China, India and South Africa), to interrogate whether these countries share similar policy imperatives and overall direction. Methodologically the paper was guided by the concept of the regulatory state, and utilised secondary resources to provide insights into the diverse experiences and debates on fintech policy development in these BRICS nations. The findings were that the impact and direction of fintech policies in BRICS countries remain understudied and highly debatable. China and India, with the two largest populations in the world, have the highest levels of fintech consumption globally, and play a leading role in informing policy direction through effective but contested regulations. The practical policy implications suggest the need for BRICS countries to develop a balanced approach that prioritises regulations to minimise financial instability, as markets are unable to self-regulate. However, there is no policy consensus on how BRICS countries should manage fintech policy; and this may pose challenges, as intra-BRICS trade and investment deepen and expand to other economies in Africa and the Middle East.

Keywords: BRICS, Fintech, State Regulation, Financial Inclusion, Innovation

Introduction

Over the years the face of financial services has changed due to innovation, and financial technology (fintech) has been at the centre of this global disruption. Since the global financial crisis of 2008 there has been a radical shift in the banking sector that has required banks to reimagine how they do business and the solutions they offer to global challenges, and to interact with consumer preferences (Coetzee, 2018). For example, in BRICS countries this has been made possible by providing an economic, political and regulatory atmosphere resulting in digital transformation. Between 2011 and 2014 there was a 320% rise in access to financial services internationally (Josie et al., 2019). However, approximately two billion people were reported to remain excluded from formal financial systems; yet between 2017 and 2021, the number of people worldwide without a bank account decreased from 1.7 billion to 1.4 billion. By 2021, 76% of the global adult population had a bank account. On the African continent, nearly 500 million people are unbanked, and over 410 million are underbanked (Global Partnership for Financial Inclusion, 2017; 2021). This led to the global value of fintech firms rising to 75%, with Europe and Asia pioneering these activities (Skan et al., 2016). Currently, Africa is experiencing the fastest growth in fintech revenue globally, with a compound annual growth rate (CAGR) of 32%. By 2030, the African fintech market is projected to be valued at approximately USD65 billion (Boston Consulting Group (BCG) and QED Investors, 2024). The BCG report highlights that South Africa, Nigeria, Kenya and Egypt are leading the fintech sector in Africa; yet little is known about fintech policies and the regulatory role in some of these countries, even though fintech has great potential to advance efficiency, decrease operating costs for providers, and improve understanding between the service providers and the recipients of financial services.

The marriage between finance and technology (fintech) can be tracked as far back as 1972, when it was known as financial technology (Bettinger, 1972). Fintech has been defined as “a set of innovations and an economic sector that focus on the application of recently developed digital technologies to financial services” (Wójcik, 2021:569). Various fintech services are available in the banking industry, including electronic money, online wallets, electronic wire transfers, electronic financing, electronic leasing and digital lending (Gomber et al., 2021; Berg et al., 2020). Moreover, fintech exhibits additional potential and perspectives through the integration of emerging technologies such as artificial intelligence, the blockchain, central bank digital currency and the metaverse (Koohang et al., 2023). Nowadays, fintech companies specialise in digital financial ecosystems, and produce economies of scale and

various stakeholder participation outcomes (Mok & Saha, 2017). As a result, there is a target of 82% of financial services partnering with fintech companies (PwC, 2017), a process that is beneficial to banks, consumers and fintech companies. This further confirms that technology facilitates innovation, allowing banks to customise differentiated banking solutions for clients (Höbe, 2015). It is argued that these customised solutions promote financial inclusion and contribute to inclusive development.

This chapter explores the fintech industry in three selected BRICS countries: China, India and South Africa. It mainly focuses on fintech's impact on economic development, whether BRICS countries share similar policy direction, and the state's regulatory role in the fintech sector as opposed to the governance of digital transformation. In this chapter the regulatory role of the state is viewed as a function of governing digital transformation.

Methodologically, the paper uses secondary resources regarding fintech in BRICS countries and digital transformation. The resources used were systematically chosen from recent papers on fintech development in BRICS countries, with a particular focus on state regulation and fintech. The papers were reviewed and analysed against the current debate on the role of the state in regulating the fintech sector. The chapter is significant because it is based on a cross-country analysis of selected BRICS countries that have diverse experiences of fintech development, and thus the need to explore whether they share similar policy imperatives. BRICS countries cumulatively make up 82-87% of fintech consumption, compared to 64% globally. Ultimately, the goal is for African countries to learn from the successes and failures of BRICS countries in adopting fintech.

The rise of fintech

Fintech is rapidly emerging as an important player in international financial markets. Arslanian and Fischer (2019:25) emphasised that "technology-focused 'Fintech' firms must seek to upend the established order of financial services, changing the dominant operating models and competitive dynamics of an industry that, in the 50 years prior, had seen remarkably little change in the market structure". This radical change in financial technology emerged after the financial crisis, and quickly accelerated many innovative solutions to address the impasse of traditional financial institutions. Menat (2016) pins the rise of fintech on the global financial crisis of 2008 and the erosion of trust that emerged in the aftermath. Knight and Wójcik (2020) noted that the global financial crisis hampered the reputation of banks and resulted in human and financial capital searching for innovative opportunities.

Subsequently, this gave rise to the growing demand for agile and mobile financial services that meet the needs of end-users in a globally competitive digital economy. These origins are not surprising in a global economy rapidly led by technological innovation as a source of growth and development.

The commonly used definition of fintech is provided by the Financial Stability Board (Financial Stability Board, 2017), which defines fintech as “technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services”. Fintech is thus grounded on establishing new methods and modes of financial services that incorporate transactional methods for how people pay and receive payments. This also includes how people lend, borrow and invest their money, using innovative platforms that employ user-friendly methods and reduce costs (Menat, 2016). Troise et al. (2021) identified regulation, infrastructure, technology, finance and innovation as five key features of fintech. These features are interrelated, in that technology and innovation are the main drivers of fintech, while infrastructure and regulation are at the heart of ensuring a conducive environment for technological development, and finance is at the heart of allowing innovative solutions to emerge.

Fintech is leading to financial services increasingly being driven by innovative solutions, based on blockchain technology, to appeal to broader markets and offer peer-to-peer lending that diminishes the role of the central authority (Zook & Blankenship, 2018). This has led to many fintech companies dislodging traditional banking players by offering tailored services that meet the needs of the end users. The simplicity offered by fintech companies is also thought to play an important role in promoting financial inclusion, by providing services previously ignored by traditional banking institutions. Such fintech companies promote financial inclusion through providing access to affordable financial products to businesses and individuals by supporting spending, borrowing, saving, investing and promoting insurance (Patwardhan et al., 2018). This is evident from the success of Kenya’s M-Pesa, a service that enabled people to send, deposit and withdraw money, pay for goods and access credit through a mobile phone (Ndung’u, 2018). Financial services offered by fintech companies have the potential to tap into the more than two billion people who remain unbanked (GPFI, 2017). Most fintech products are developed outside Africa and other

developing nations; on the African continent there has been less focus on the implications for digital transformation and governance.

Given that fintech is driven by technology, various technological and development determinants are key to the success of fintech companies. Haddad and Hornuf (2018) identified internet access, smartphones and the labour force as key determinants of fintech development. If these are the drivers of fintech, it is equally true that countries that lag behind in technology, the internet and smartphone access will have a lower rate of fintech development. In this context, the same drivers of fintech can be barriers in countries that lack these determinants, particularly in low-income countries where internet access and smartphone usage are relatively low. For example, India only has a 43% internet penetration rate, suggesting a lack of access to smartphones and internet infrastructure. Despite high rates of financial access in Kenya and South Africa, low rates of usage are recorded because of various challenges that customers face in these countries, such as the digital divide and difficulty in ownership of fintech platforms (Chetty et al., 2019). While financial inclusion through fintech is grounded on helping people manage their financial resources better and providing additional opportunities, the GPFI (2017) observed that challenges such as illiteracy and innumeracy are key obstacles undermining access and ownership among women.

It is important to note that the COVID-19 health crisis presented new opportunities for the advancement of digital financial services, facilitating increased financial inclusion amid the necessity for social distancing measures. The imposition of restrictive containment measures such as lockdowns, quarantines and travel restrictions during the 'Great Lockdown' prompted a surge in the adoption of fintech solutions, particularly mobile money. This shift towards cashless and contactless transactions was aimed at mitigating the spread of the virus. The evidence indicates that fintech played a pivotal role in alleviating the economic repercussions of the COVID-19 pandemic (Sahay et al., 2020). It facilitated the efficient and swift deployment of targeted fiscal measures to their intended beneficiaries, including the unbanked. Fintech's capability to reduce or eliminate the necessity for physical interactions and cash transactions was instrumental in enabling governments to quickly and securely provide various forms of income and liquidity support to individuals and businesses. Additionally, fintech lenders responded swiftly to the liquidity needs of small and medium-sized enterprises (SMEs) affected by the pandemic, leveraging real-time data and online

processes, as seen in China (Sahay et al., 2020). Fintech companies globally, both large and small, also offered flexibility in loan repayments for borrowers impacted by the crisis; this was observed in countries such as India, Kenya and the United Kingdom. Notably, similar trends were observed during the severe acute respiratory syndrome (SARS) epidemic in 2003, when China experienced an acceleration in the adoption of digital payments and e-commerce, as documented by the World Economic Forum (Xiao & Chorzempa, 2020).

The diversification of fintech companies from facilitating retail payments to inclusive and affordable financial services such as payments, lending, insurance and investment presents competition for traditional banks. The competitive nature of fintech is derived from its ability to offer relevant services that meet certain segments of the market that were previously unbanked and marginalised. This includes fintech companies that provide services that traditional financial institutions already offer; and demonstrating the disruptive impact of fintech, blockchain technologies utilised by emerging fintech ventures are replacing certain financial intermediaries (Lacasse et al., 2016). At the opposite end of the scale, some fintech companies also work with banks to create innovative solutions to the financial inclusion impasse faced by billions of people across the globe. Skan et al. (2016) observed an increase from 29% to 44% in the number of fintech companies collaborating with traditional financial institutions, with only 23% of traditional firms wishing to collaborate. A financial power struggle between traditional banks and emerging fintech companies is at the heart of the disparity in percentages, particularly in a global capitalistic society where big businesses buy competitive smaller businesses.

The regulatory state and fintech

The role of the state in social and economic development has remained at the heart of the debate on economic development for the last couple of decades (Khambule, 2018). The debate has mainly centred on the role of the state and of markets in influencing economic development outcomes. Thatcher (2017) observed that literature on the state and development shows that the character of the state has evolved, from strong ownership and functions that emphasised the state's role in influencing market outcomes post-1945 to becoming a more regulatory state. The regulatory role of the state showed a growing emphasis on markets; but the entrenchment of the neoliberal order sought to reduce the role of the state, while at the same time dictating what the state can or ought to do. Over recent decades, "states are being transformed into both regulators and direct participants at national and international levels"

(Thatcher, 2017:9). This observation is supported by the direct role of the state in crafting and implementing industrial policies.

Although much emphasis is gradually being placed on the state's regulatory role, an important consideration is the regulatory nature of the state seen in the digital transformation of financial markets. The lobbying of financial markets for a reduced regulatory role for the state through deregulation resulted in the markets having too much power to make decisions without scrutiny from the state, leading to the 2008 global financial crisis (Bateman, 2019). This led to risky lending and borrowing, followed by unethical practices, that not only threatened the global financial system but precipitated the worst financial impact in decades. As such, the 2008 global financial crisis was an important lesson on the inability of financial markets to self-govern in the absence of the state's regulatory role. However, heightened caution is required when dealing with digital markets and the financial services offered. This is the starting point for the debate on the governance of digital transformation.

Regulation plays an important role in creating a conducive environment for businesses to flourish. Fintech development poses major challenges for financial regulators (Huibers, 2021). While regulations are essential for upholding standards, Kowalewski and Pisany (2020) observed that quality and stringent regulations are perceived as obstacles by some companies. Some authors have found that the absence of regulation for emerging business models that minimise regulatory burdens can lead to the growth of fintech companies (Buchak et al., 2017). In their results, Kowalewski and Pisany (2020) stated that a negative index on the protection of legal rights signals that a strong regulatory framework acts as a barrier to the growth of the fintech sector. This demonstrates the importance of regulatory factors that do not inhibit the growth of the fintech sector, but promote the adoption of innovation in a manner that supports growth and development. Essentially, a prominent view among pro-deregulation proponents is that self-regulation enables fintech companies to detect risks to financial instability, because they are alert and understand the consequences better than regulators (Huibers, 2021). However, it must be noted that this view is similar to the views that supported deregulation before the global financial crisis.

Despite the reduced role of the state and the call for deregulation, the state has continued to play a dominant role, directly and indirectly using its regulatory power to shape policies and developmental outcomes. Within the fintech industry, Huibers (2021) observed that the

nature of the various fintech business models can increase the risks associated with financial instability, leading to regulators in the Netherlands adopting various measures to minimise these risks. The overall findings were that regulators signalled the need for fintech credit companies to “lower the risk of over lending, increase pricing transparency, and improve lending standards” (Huibers, 2021:368). The risk of over lending is consistently cited as one of the leading drivers of financial instability, as was evident in the 2008 global financial crisis, and therefore is aligned to the need to improve lending standards to ensure minimal disruption to the fintech industry and the financial system. In this particular case, regulators have an important role to play in protecting consumers, while also enabling the necessary space for fintech companies to increase competition and innovation.

In Africa, fintech companies are said to have effectively contributed to addressing poverty and financial exclusion. For example, it is estimated that M-Pesa saved approximately 194 000 people in Kenya from poverty. This does not mean fintech faces no challenges. For instance, Bateman et al. (2019) criticised fintech for creating mass indebtedness, gambling epidemics and unsustainable businesses that undermine formal and sustainable businesses. The authors also criticised fintech companies for introducing a cashless society, which has the potential to marginalise those who rely on cash (Bateman et al., 2019). The truth of this criticism can be verified through observation of the informal economy in developing nations, where the majority of the people in the informal sector rely on cash and are thus discriminated against by consumers who partake in the digital economy. In addition to this marginalisation, Bhagat and Roderick (2020) noted that exploitation, expropriation and discrimination was conducted against refugees through fintech companies. These examples demonstrate the challenges that can be created by fintech companies and why the state is required to play a strong regulatory role to address some of the shortcomings.

Fintech can provide a better, swifter user experience through the adoption of mobile apps (Deloitte, 2015). But it has been argued that lack of financial education makes people unable to use financial services effectively. Maciko (2020) asserted that including a target market without financial education makes the inclusion irrelevant. This corroborates a study of rural China by Turvey and Xiong (2017), which discovered that lack of financial education could hinder the use of financial services. The Financial Sector Conduct Authority (FSCA) therefore has a vital role in providing financial education for rural households and ensuring fair customer treatment in South Africa. This can be done through conducting financial

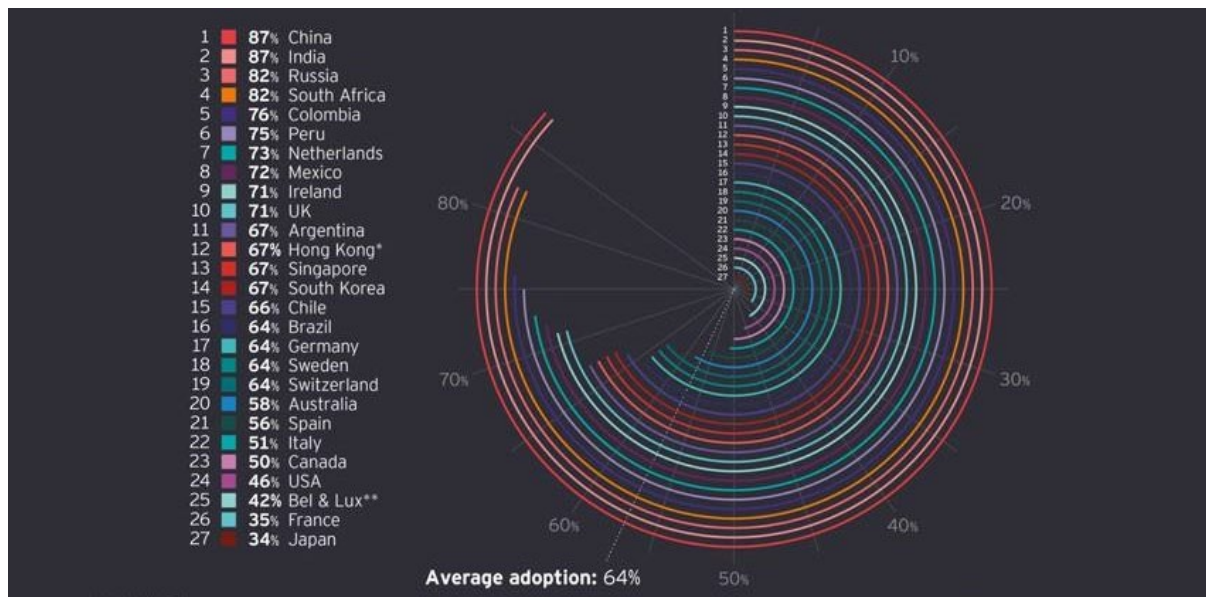
education workshops so that people can protect themselves by strengthening their ability to make informed decisions (Maciko, 2020). These workshops address misconceptions about electronic money security and fintech. The ultimate goal is to empower consumers by enhancing their understanding of the benefits, costs and risks of financial services, resulting in the beneficial use of relevant financial services.

Fintech in BRICS countries

BRICS is a bloc of countries from different geographical locations that emerged as an important coalition in the international political economy. These countries are defined by a shared vision of effecting reforms in global governance and international development by representing emerging and developing countries. Further to this, BRICS countries have been vocal about the need to reform the governance architecture of global financial institutions, after the mishaps brought about by the 2008 global financial crisis. This is demonstrated through the establishment of the New Development Bank, emphasising providing alternative development finance for BRICS member states and other developing nations, as noted in the BRICS Summit Resolutions over the last decade (Monyae & Ndzendze, 2021). These are states that also depend on a strong state-led mode of development, meaning that the regulatory role of the state plays an important role in influencing fintech policies and direction. In studying the relationship between global financial networks and the role played by the state in supporting leading firms in the fintech sector, Töpfer (2018) found that in China, the state is at the epicentre of explaining the relationships, competitive hierarchies and behaviour of firms in China's financial networks.

Within BRICS, countries such as China, India and South Africa have been pioneers of fintech development, albeit at different levels. BRICS countries have a consumer fintech adoption rate above 80%, compared to the global average of 64% (EY Fintech Adoption Report, 2019). Figure 1 shows that BRICS countries lead consumer fintech adoption across 27 markets, with Brazil being the outlier.

Figure 1: EY: Consumer fintech adoption across 27 countries

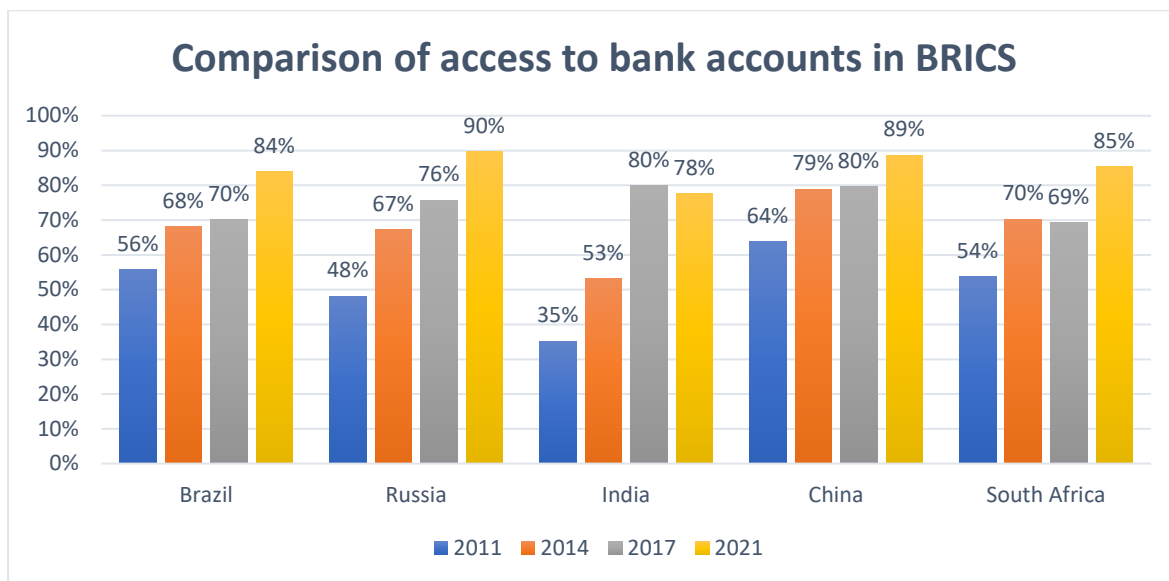


Source: EY (2019)

China and India both had an adoption rate of 87%, followed by Russia and South Africa at 82%. These BRICS countries made up the top four, followed by Colombia in fifth place. Brazil scored 64%, the same as the average global rate. Interestingly, all the BRICS countries scored higher than most highly developed countries, beating the likes of the USA, Germany, Canada, Japan and France. The source of this growth is argued to be the good economic performance of BRICS countries post-COVID, with rising income and increasing consumer spending (Omar, 2023).

It is also important to note the South African trends on the access dimension of financial inclusion, compared to the other BRICS countries. This justifies the South African government focusing on fintech as a vehicle for financial inclusion. Figure 2 shows the trends in account ownership for the years 2011, 2014, 2017 and 2021.

Figure 2: Access to bank accounts for BRICS countries



Source: The World Bank, 2017

Figure 2 shows that of the BRICS countries, in 2011, South Africa (54%) was significantly lagging behind China (64%) and marginally lagging behind Brazil (56%) regarding percentage of population with access to a bank account, but was higher than India (53%) and Russia (48%). By 2014, there had been a 23% increase in percentage of people with a bank account in SA. This increase surpassed that of Brazil, Russia, and India in nominal terms, yet SA's new percentage was still below China's 79%. However, by 2017 there had been a 1% decline in access to bank accounts, making SA's percentage 69%. This gave South Africa the lowest percentage for account ownership, below all the other BRICS countries.

The decline occurred while countries such as China were experiencing an ongoing increase in access to bank accounts driven by innovation. This implies that South Africa experienced stagnation in the figure for people with access to bank accounts for the previous three years, and this has required innovative ways to broaden and deepen financial inclusion, reduce cash reliance, and encourage the use of digital payment methods to achieve more inclusive sustainable economic growth in South Africa through fintech. In 2021 the World Bank reported that South Africa had enjoyed a significant increase of 36% over a period of 11 years. This puts SA at slightly above Brazil (84%) and India (78%), on track with the Financial Inclusion 2030 agenda, which highlights specific goals that have a direct implication for fintech (Global Partnership for Financial Inclusion, 2017). In addition, it is

also on track with the South African Reserve Bank's (SARB) Vision 2025 when it comes to digital inclusion for financial inclusion (Ehrlich & Elliot, 2019).

China

China has the leading and most successful fintech sector in the world. Comparing sector leaders in the fintech space, Zhang and Chen (2019) revealed that Chinese fintech companies such as Alipay and WeChat Pay have hundreds of millions of users more than global companies such as PayPal. This trend is observable in many other fields of financing, such as lending, wealth management and online insurance, where Chinese companies consistently outperform US companies. China also boasts the highest number of peer-to-peer lending platforms internationally (Arner et al., 2015). While much of the global literature links fintech's unprecedented growth to technological advancement, Zhan and Chen (2019) attribute the growth of the fintech industry in China to the ability of companies to integrate finance and the real-life needs of consumers, with positive implications for financial inclusion. Some may want to link this success to China's high population growth rate; yet such an explanation fails to explain why global payment platforms such as PayPal are unable to compete with Chinese payment platforms.

In a world mired in inequality, inclusive finance is one of the pillars of creating economically inclusive societies. Using peer-to-peer data from 31 provinces in China, Deng et al. (2019) found a U-shaped relationship between fintech platforms and sustainable development, determined by different growth patterns per region. The Chinese government's 2016-2020 financial inclusion plan encouraged digital technologies, with more than 95% of China's online population (731 million people) using mobile phones to access the internet (Tsai, 2017). The fintech sector in China enabled financial inclusion by offering platforms that promoted micro-loans, micro-deposits, mobile payments, settlements and insurances through mobile access, and increased overall usage to over 66% of China's rural households (Tsai, 2017). This is an indication of the ability of the fintech sector to cater to the developmental needs of a previously marginalised segment of consumers, by offering alternative, non-traditional platforms to improve their credit scores. This success can be linked to fintech platforms that bridge existing challenges such as distance to banks; innovative fintech companies also reduced the cost of transactions..

Lack of access to finance for small businesses has been one of the barriers to growth for developing nations. These barriers are driven by several factors, such as stringent loan policies and burdensome interest rates. The spread of pervasive fintech technologies has resulted in the emergence of non-traditional financial platforms that cater to small businesses marginalised by traditional financial institutions. Using an example of a fintech company that offers micro-loans to college students, Leong et al. (2017) found that the company addressed the gap in the provision of loans to students by capping their loans. Sheng (2020) studied the impact of fintech in applying impetus to banks to offer credit to small businesses, and found the effectiveness of fintech platforms influences the banking sector's credit supply. Fintech companies address the backlog in financial support requirements for small businesses in developing countries, as only big businesses receive loans.

The literature informs us that some economic development benefits emerge from fintech companies; Kenya is widely acclaimed in this regard. The impact can be attributed to the financial inclusion of a previously marginalised segment of society. Using data from a panel of 31 Chinese provinces from 2011-2017, Appiah-Otoo and Song (2021) found that fintech not only reduced poverty in China but also complemented economic growth and resulted in the emergence of new financial platforms that play an essential role in reducing poverty. Zhang et al. (2020) revealed that fintech has a positive effect on household income, particularly the household income of rural households, meaning that poor households benefit the most from fintech. This finding can be explained from a remittance point of view: fintech platforms provide more efficient and cost-effective remittance platforms than traditional banking institutions. These successes are facilitated by the widespread adoption of mobile pay platforms and the increased innovation linked to fintech platforms.

One of the most serious criticisms of fintech is that it promotes financial instability and requires the state to devise effective regulations. In China, it is estimated that 65% of P2P platforms ceased to operate because of bankruptcy and corruption that were able to develop because of existing regulatory voids (Tsai, 2017). Without stringent regulations, the emergence of more fintech companies is likely to increase the risks to consumers, regulators, investors and the financial system. Considering the financial stability, consumer protection and illegal financial activities all encouraged by fintech, the Chinese government has developed a balanced approach to its regulation and supervision (Zhou et al., 2018). It was also established that the regulatory framework in China is difficult to navigate, and presents

barriers to identifying risks associated with fintech innovations (Bu et al., 2021). This reveals the difficulty in identifying proper regulations capable of being conducive to identifying the needs of market entrants while also reducing the risks of existing fintech companies. It also shows the difficulty of enforcing effective digital governance mechanisms.

The overarching approach in China is that regulations play an important role in creating a conducive environment for fintech innovations to grow. But regulations can also present challenges for emerging businesses that fail to comply or find it hard to sustain their businesses in an environment riddled with regulatory burdens. It has been stated that the key to “achieving innovation in such a highly regulated sector is a good understanding of and compliance to the regulatory requirements when designing products” (Leong et al., 2017). Despite heavy state involvement, the regulatory role of the state in China has been flexible in creating an environment that allows Chinese fintech companies to dominate at national and international level. However, the questions raised regarding the financial risk and instability of fintech companies also receive sufficient attention from authorities. Some level of balance is evident in China’s overall regulatory framework between the protection of consumers, investors, and the banking sector’s interests.

India

The fintech industry in India is growing at a rapid rate despite India not being as mainstream as China and Kenya, where fintech has enjoyed considerable growth. The latest report puts India’s fintech market at USD2.4 billion in 2020 with widespread penetration of the cash-driven economy, which is radically adopting fintech innovations driven by e-commerce (Vijai, 2019). It is estimated that India has the second-highest fintech adoption rate (52%) in the world (Ernst & Young, 2017). The increased adoption rate is consistent with India’s vision of being a global tech hub, as evidenced by the country’s massive investment in information technology. Factors such as high population rates in India and China explain the large-scale fintech adoption and usage in both countries. Ernst and Young (2017) further reported that the rate of adoption of mobile payments, savings and investment, lending and borrowing, insurance and financial planning in India is higher than the global rate. These high rates of adoption demonstrate that India is rapidly moving into the digital economy.

From a regulatory standpoint, the Indian government is actively playing an important role in enabling the fintech sector to flourish and contribute to the digital transformation of the

economy. A report by KPMG (2016) revealed that leading regulators such as SEBI and RBI use different avenues to fund and promote initiatives in the fintech sector. Vijai (2019) documented a USD1.5 billion start-up funding support, tax and surcharge relief measures, infrastructure support and IP facilitation support as one of the foremost advances made by the state in promoting the fintech sector in India. A study by Siddiqui and Siddiqui (2020) revealed that investment in telecommunication has a positive impact on financial inclusion, as it drives the development of the fintech sector, which enables people to access financial services. As a success story, the Jan-Dhan Yojana programme is estimated to have reached over 200 million of the previously unbanked population. This demonstrates the aggressive nature of India's fintech sector and the prospects for financial inclusion in India's society. It also reveals the need to invest in telecommunication infrastructure to improve access to digital services.

Regulators in India are praised for playing an essential role in supporting the fintech sector's development by creating a conducive environment through investment and promotion. However, a study on the negative effects of fintech on financial services in the European Union, India and the US revealed that current regulations are insufficient to deal with negative effects such as corruption in cybersecurity, insufficient protection of data privacy, and the use of fintech services for illegal activities (Maja, 2018). In a separate study the Indian regulatory framework was hailed as being stringent in preventing fraud, to the extent that it has emerged as a leading barrier to new market entrants (Priya & Anusha, 2019). In studying the financial regulation of consumer-facing fintech in India, Chugh (2019) found that India's regulations are based on an institutional arbitrage approach that leverages fintech innovations, and suggests the need for regulators to deal with the regulatory burdens raised by platform economies.

In an age of unprecedented fintech adoption, the Indian government has an important role in promoting financial stability. Their enhanced regulatory role is made urgent by the need to transition millions of people to the digital economy, in a society dominated by the agricultural sector, an informal economy, and a lack of infrastructure necessary to sustain technological advancement. The rapid increase in the adoption of fintech technologies is creating financial instability in India, with no regulations to protect consumers from the lending policies of and control the costs of fintech platforms. For example, in Brazil the government previously limited payment and savings accounts to banks; but from 1999,

regulators permitted non-traditional institutions to facilitate financial services as bank correspondents. Such approaches have massively multiplied cybersecurity issues, which threaten the livelihoods of the financial and digital illiterate who fall prey to corruption and fraud. This forces governments to implement stringent regulatory frameworks that must balance consumer needs and the interests of fintech companies.

South Africa

South Africa aspires to be a leading fintech hub for Africa's financial inclusion while spurring competition, digital skills and economic growth through innovation, despite only having a small (yet rapidly growing) fintech industry. This comes with risks and opportunities that require the South African regulators to have an understanding of the current fintech landscape, to mitigate the risks in a manner that does not asphyxiate innovation. Consequently, the South African government has embraced a pro-innovation stance. It has encouraged and assisted various agencies in the development of harmonised approaches to fintech. Furthermore, it has clarified the regulatory stance on emerging technologies and products to advance the market and provide simplicity in order to manage the risks effectively. It is notable that the financial health of South Africans has been enhanced through various initiatives that arose as a result of fintech. There have been novel fintech start-ups in various sectors, such as mobile payments, remittance, and alternate finance (Mittal, 2019).

The introduction of M-Pesa brought a glimpse of hope for the unbanked users of South Africa. This was one of the policy responses that aimed to enable the transfer of money from person to person using mobile phones and text messaging (Maciko, 2020). Vodacom launched M-Pesa in 2010 with a target of 10 million users; however, by 2015 only 76 000 people were using it. The non-use of the M-Pesa mobile money service – which was supposed to benefit unbanked South Africans – resulted in Vodacom terminating its services on 30 June 2016, regardless of M-Pesa partnering with Nedbank and Bidvest to reach a larger market (Maciko, 2020). Likewise, Barclays and MTN pulled out of the markets where the low use of their products undermined their business case (TechCentral, 2016). It has also been argued that digital adoption has not been rapid due to high bank fees; however, with new and innovative banking entrants and increased competition in the lower-income market, many banks now offer accounts at low to no cost, as well as free transactions (Ehrlich & Elliot, 2019). Despite this, customer behaviour has not shifted. This can be observed in the

informal economy, where there is a lack of information about the opportunities and benefits of moving towards a cashless society. This requires a re-evaluation of mobile banking in the South African context. Access to and use of financial services such as savings, credit and insurance through mobile banking could be beneficial for more people.

Fintech development has allowed accessible and appropriate financial products such as investments, savings and insurance against daily risks (Genesis, 2019). Consequently, online trading, wealth management and insurance are experiencing impressive growth in disrupting traditional financial institutions in the abovementioned sectors. Note that the focus of fintech adopters has been to address financial inclusion; the provision of basic financial services through fintech applications has made payment mechanisms simpler and more accessible (Maciko, 2020). As a result, those previously excluded are now financially included, their daily financial needs are met, and they can plan for long-term goals and emergencies. Thus, in South Africa, financial inclusion is no longer about access, but focuses on digital adoption and usage. For example, more than 80 million bank cards are in circulation (when the 17 million South African Social Security Agency (SASSA) cards are included), and there is a mobile penetration rate of 157% (Ehrlich & Elliot, 2019). However, access to bank accounts has not been complemented by the use of bank accounts.

The South African government and the South African Reserve Bank (SARB) have been very focused on ensuring that innovative payment ecosystems are at the forefront of driving the growth and expansion of digital economies. The regulators have an important role in ensuring the financial system's safety and stability, and in creating an enabling space for innovation (Ehrlich & Elliot, 2019). There remains hope that the players and users can gain trust in the digital space through regulation, which will eventually address the over-reliance on cash. There is a growing desire to have a flexible interchange rate structure to incentivise investment in growing access to and usage of electronic payments (Ehrlich & Elliot, 2019). For instance, SARB has offered a specific fintech programme which focuses on assessing the degree of innovation in this space and the potential regulatory implications. The role it has played cannot go unnoticed on Project Khokha, the first payment experiment, which has adopted ledger technology and partnered with banks and various financial institutions. Earlier studies recommended the initiative adopted by SARB, highlighting the importance of banks adapting their strategy by partnering with fintech companies to provide banking solutions (Arner & Barberis, 2015; Bunea et al., 2016).

Interoperability is a SARB Vision 2025 goal and is core to the success of modern payments in South Africa (Ehrlich & Elliot, 2019). The lack of alliance between banks has stifled innovation, which has not assisted digital innovation in the industry. As a result of the lack of interoperability, most banks are still in the situation of offering innovative services, but in silos. This is also viewed as one reason for the low uptake of mobile payments in South Africa. South Africa is known for its well-established payment infrastructure; but there is room for improvement in interoperability, which is critical for enabling digital payments. Some developments in the penetration of e-commerce in South Africa have been noted, with the likes of Amazon set to launch in 2024. This will increase competition in the e-commerce space, and lead to a healthy increase in the competitiveness of fintech companies offering online and secure payments for consumers. This presents opportunities for South African and African fintech start-ups, and has implications for new digital governance models to safeguard new entrants and customers.

Discussion: Fintech policy and regulatory direction

Fintech is argued to promote financial inclusion, by targeting the unbanked segment of the population in remote areas and by democratising the financial sector (Blakstad & Allen, 2018). Evidence from three BRICS countries – China, India and South Africa – shows that fintech has resulted in the financial inclusion of hundreds of millions of people, particularly in China and India. The fintech sector in South Africa has also noted major benefits from fintech take-up, particularly led by the country's major banks, which has resulted in financial inclusion – although not on the same scale as in Kenya, where M-Pesa was a success. Alexander et al. (2017) noted that African banks were slow to adopt fintech platforms. Some of the challenges contributing to the slow rate of fintech adoption in Africa are access to smartphones (evident in Figure 1), the high cost of the internet, and a lack of investment in telecommunication infrastructure throughout the African continent. In India, challenges are mainly related to the existence of a conservative society that is resistant to the transition from a cash society to a cashless one. These challenges will have wider implications for financial inclusion, if fintech companies do not allay consumer fears. In both South Africa and India this can be observed in the informal economy, where there is a lack of information about the opportunities and benefits of moving towards a cashless society.

In many countries, digital adoption has not been rapid as a result of high bank fees. However, with new, innovative banking entrants and increased competition in the lower-income market, many banks now offer accounts at low to no cost, as well as free transactions (Ehrlich & Elliot, 2019). But despite the targeted offerings to the lower-income segment, in some BRICS countries customer behaviour has not shifted, particularly in India and South Africa. For example, while fintech companies in China can offer loans to college students, in South Africa and India the high rates of poverty and destitution make it impossible to offer loans to this segment of the population. In both countries this is due to a regulatory framework that protects consumers and banks from reckless lending. This shows that financial inclusion should not be understood as the fact of having access to financial services such as loans, insurance and investments, but as having the necessary financial provision to access those particular financial services. This implies that in BRICS countries, socio-economic conditions also determine the level of fintech adoption.

An important consideration highlighted in the literature is the role of fintech as a panacea for the challenges of economic development and poverty alleviation. In BRICS countries, so far, the evidence is that fintech does lead to financial inclusion and some level of poverty alleviation, but without much support for the proposition that fintech is the solution to all problems. As widely detailed in the case of Kenya, M-Pesa is argued to have “increased per capita consumption levels and lifted 194 000 households, or 2% of Kenyan households, out of poverty” (Suri & Jack, 2016:1288). Bateman et al. (2019) found that micro-credit as a basis for poverty alleviation is a neoliberal idea that has not produced evidence of success. Using the South African example, Bateman (2019) also found that the country has fallen victim to control fraud in the micro-credit sector, which has persistently undermined sustainable and equitable economic development – for example, through Capitec offering micro-credit to the previously unbanked, and making reckless lending a profitable business. Similarly, in India, there are reservations regarding the financial risks posed by fintech to the lives of ordinary people trying to make a livelihood.

In India, the formulation of fintech policies and regulations has been influenced by a post-colonial development strategy that emphasises state-led data infrastructures for surveillance and taxation (Ertürk et al., 2021; Jain & Gabor, 2020). Similarly, the taxation of mobile payments emerges as a contentious issue in the fintech policy and regulatory landscape, contributing to state-building discussions in sub-Saharan Africa (Mader et al., 2022).

Contrastingly, in China, the expansion of fintech economies is seen as a manifestation of the deepening synergy between financial market liberalisation policies and an authoritarian state. The rapid growth in China's fintech sector is not only permitted but actively supported by the state. This support serves dual purposes: consolidating the legitimacy and ruling capacity of the Chinese Communist Party (CCP), and advancing foreign policy objectives (Gruin, 2019; Knaack & Gruin, 2020).

Today, the impact of fintech is pervasive across the global financial system. The most notable transformation has been observed in China, where technology giants such as Alibaba, Baidu and Tencent (BATs) have revolutionised finance, presenting new challenges for regulators and regulation worldwide.

The three cases of the BRICS countries point to a debate on the regulatory role of the state in the fintech sector, particularly regarding the advantages and disadvantages of regulation. In these three countries, some authors observe, regulations are important because they minimise financial instability and protect banks and consumers from risks such as cybercrime and corruption, protecting customer information and keeping bogus fintech companies in check (Priya & Anusha, 2019). This school of thought is more prevalent in BRICS countries such as South Africa and India, where there are higher rates of poverty and unemployment, as a protective mechanism against vulnerabilities associated with the fintech sector. As evidenced during the COVID-19 pandemic and the 2008 global financial crisis, low-income households often face a disproportionate share of the impact of financial crises. On the other hand, another school of thought particularly associated with countries such as China, where fintech is rapidly developed and adopted, is that regulation may be viewed as having negative implications for the success of the fintech sector. Regulations are thought to undermine new entrants and stifle the growth of the fintech sector.

Omar (2023) emphasised that BRICS countries provide a balanced, favourable regulatory environment for fintech companies and consumers. For instance, BRICS countries utilise regulatory 'sandboxes' to incentivise innovation and uptake (Gromova & Ivanc, 2020). Balancing regulations with the economic growth and development sought by a country is an important consideration that impacts the regulatory frameworks instituted by state regulators. It is important that regulatory balance should ensure minimised risk and enhanced benefits for consumers in BRICS countries. This approach is essential if one understands that the

BRICS countries constitute the largest population grouping, which translates to the largest consumption bloc in international development. For Guild (2017), establishing a responsive approach rather than an interventionist approach is an ingredient for accelerating financial inclusion using technological innovation in the fintech sector. However, the three governments in the BRICS countries selected are all driven by a somewhat interventionist approach, and prioritise consumer protection. Leaving the fintech sector to self-govern would bring financial instability and cause more harm than good – as observed in the case of Kenya, where indebtedness skyrocketed and many businesses were displaced (Bateman et al., 2019). This suggests the need for a balanced approach to regulation, to ensure the fintech sector's growth is not stifled while also protecting consumers and the financial sector.

Our findings are that the impact and direction of the fintech sector in BRICS countries remain understudied and highly debatable. China and India, with the highest populations in the world, also have the highest levels of fintech consumption worldwide, and should play a leading role in informing policy direction through effective regulation. The practical policy implications that have emerged from this study suggest the need to develop a balanced approach that prioritises regulation to minimise financial instability, as markets are unable to self-regulate. This approach fits the BRICS countries, particularly China, India, South Africa and Russia, where in each case the state has an important role in informing policy direction. An important point to note is that having access to banking services does not necessarily lead to financial inclusion, if people do not get access to finance and job opportunities from the soft jobs created by fintech companies. Therefore, the BRICS countries must take advantage of fintech platforms as a tool for financial inclusion, but such financial inclusion must promote inclusive development. Practically, it is imperative that the BRICS countries focus on developing fintech policies capable of promoting and empowering domestic innovations that can spur digital growth. Furthermore, there is an acute need to ensure improved digital literacy for enhanced ecosystem development of the fintech sector that promotes effective remittances and secure lines for Africa to leapfrog into the digital economy.

Conclusion

The rise of fintech development has brought much praise from market fundamentalists who focus on the financial inclusion benefits brought by fintech platforms. These platforms have resulted in millions of previously unbanked people accessing banking services with affordable costs and easy accessibility. In the BRICS countries, particularly South Africa,

China and India, fintech has been prioritised as a solution to bringing banking services to rural citizens, and moving people into a cashless society, in the case of India. Fintech in China has resulted in innovative micro-finance for small businesses and students. While the implications of these developments are positive, the regulatory framework of fintech companies remains contested because of the risks associated with fintech platforms, such as financial instability, risks to the banking sector, cybersecurity breaches, and the dependence on credit that results from fintech platforms. The regulatory measures taken by these countries must proactively balance the interests of consumers and fintech platforms in a manner conducive to economic development; and secondly, regulators must ensure that fintech platforms provide access to banking and provide sustainable access to finance.

This chapter focused on the development of fintech in selected BRICS countries, with a particular focus on whether BRICS countries have similar policy imperatives and are underpinned by the regulatory role of the state. Overall, the chapter reveals similar policy imperatives in that the selected BRICS countries experienced similar aptitudes for and adoption of fintech products, and have strong policy regulations to protect both consumers and producers. Yet we also see policy debates across the selected countries about the extent of the fintech regulations in place, with some arguing for reduced regulation and some for stringent regulation. The chapter noted the implications for BRICS countries needing to develop policies at the multilateral level with their BRICS counterparts to ensure deepened fintech evolution within and across BRICS countries. Such an approach is important for the envisaged digital governance structure that the BRICS countries aspire to within the global governance structure. For African countries, it becomes important to influence the digital governance architecture, and ensure that such countries become producers of fintech products and move away from the consumer mentality. Furthermore, the benefits of fintech for the African population must be mapped out to ensure the citizens also buy into fintech as developers and consumers. This will prompt African countries to develop the required infrastructure for Africa to lead its digital revolution.

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