

BANKING ON THE POOR

THE RISE OF FINANCIAL TECHNOLOGY (FINTECH) IN SOUTH AFRICA

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Abstract

An estimated 1.4 billion people globally are excluded from the traditional banking system.¹ Roughly two thirds of them live in Africa.² They work predominantly in the informal economy, have no regular income, and can hardly build up savings.

Financial technology (FinTech) corporations which combine financial services and data technology promise financial inclusion for those “underbanked people”. The expansion of mobile telecommunication and internet networks across Africa has spurred FinTech business. South Africa is considered a regional hub for financial business built around the economy of data mining.

This study provides a short introduction to FinTech and discusses the special role of the FinTech sector in South Africa. The FinTech business landscape is briefly assessed. Finally, risks to political

and economic sovereignty are discussed and political strategies to counter the overconcentration of data and financial power with a special focus on Central Bank Digital Currency (CBDC) are explored.

South Africa should strengthen data protection and the public ownership of data in the telecommunications sector, as well as enforce antitrust legislation and regulate FinTech to at least the same extent as commercial banks. Another option could be to tax local data mining. Further, cash payments for smaller amounts should be protected and mobile payments by public banks as well as CBDC considered as a means of offering financial technology as a public good. However, those policies require confronting state capture and corruption in the South African political system.

1. INTRODUCTION

Money is key to so-called “economic development”³ i.e. the financing of investment as well as participation in the economy. According to the latest figures, an estimated 1.4 billion people globally are excluded from the traditional banking system.⁴ Roughly two thirds of them live in Africa.⁵ They work predominantly in the informal economy, have no regular income, and can hardly build up savings.

Financial technology (FinTech) corporations which combine financial services and data technology promise financial inclusion for those “underbanked people”. The expansion of mobile telecommunication and internet networks across Africa has spurred FinTech business. South Africa is considered a regional hub for financial business built around the economy of data mining.⁶

This study builds upon the previous publication by the Rosa Luxemburg Foundation *When Finance Meets Big Data: Financial Technology and the Scramble for Africa*. The previous study entailed a detailed discussion of the social and economic implications of Big Data, the role of Big Tech firms in the payment sector, the role of FinTech in the monetary system, and the broader FinTech environment in Africa. This publication will more narrowly focus on FinTech in South Africa and the governance of FinTech business as well as public alternatives to ever-increasing corporate financial, market, and data power.

2. WHAT IS FINTECH?

The informal economy in African countries usually makes up a large share of the overall economy which makes banking riskier, costlier, and leads to *financial exclusion*.⁷ Due in part to its colonial legacy, banking in Africa is highly concentrated and traditional banks charge high fees for transactions. However, the penetration of mobile phones, internet access, and also bank and mobile money account ownership have increased in recent years, and African economies have become laboratories for FinTech innovation.⁸ The profit margins in payment processing in the continent are among the highest in the world, at roughly two percent of the total transaction value.⁹

Data technology may help to gather information such as the frequency of cellular airtime purchases for assessing the income and credit default risk of underbanked people, and

to do this more cheaply than traditional banks. Corporations that focus on offering financial services by collecting and analysing patterns in Big Data sets are often labelled FinTech corporations.

“Even the mobile phone brand provides clues to the owner’s creditworthiness.”¹⁰

Co-Pierre Georg, Associate Professor of Economics at the University of Cape Town and South African Reserve Bank Research Chair in Financial Stability Studies

It is often argued that the high proportion of young people in Africa (with 70 percent of the Sub-Saharan population being under the age of 30),¹¹ migration, and increasing geographical mobility in Africa all contribute to tech-openness and the dependence on financial services (for example for remittances) while concerns over data privacy rank rather low in public discourse.¹²

South Africa presented an opportunity for FinTech because of the structure of the market. Racial segregation as a legacy of colonialism and the Apartheid era, the persistent inequality in income and wealth, as well as the dominance of minerals and mining led to a banking cartel that could ignore customer needs and charged high fees for transactions.¹³ However, South Africa is considered a mature Fin Tech market as smartphone penetration as well as financial inclusion is higher than in other African countries (see chapter 4).

The FinTech industry argues that data technology lowers borrowing costs to households because risk assessment for financial service providers is cheaper than for traditional banks.¹⁴ However, a lower cost structure for corporations does not guarantee cheaper services for low-income households, as corporations may even simply make higher profits once market concentration kicks in and price competition fades away. The FinTech industry also often claims startup firms are “disruptors” challenging the power of Big Finance. However, while digital banking is on the rise, many FinTech companies are just a veil or a layer which sits on top of the banking network,¹⁵ with many of them even lacking a banking license. FinTech is therefore mostly tied up in Big Finance.

Different Types of FinTech Business

FinTech means a lot of different things, such as the use of data technology in payments (business to business and business to customers), *insurtech* (using data and technology such as apps to attract customers and then usually to pass them on to traditional insurers), *RegTech* (using data and technology to automatize compliance with government regulations), *WealthTech* (which entails digital wealth management through *RoboAdvisor* platforms as well as neobrokers for mass market stock trading), blockchain and crypto assets, as well as cybersecurity in finance.¹⁶ FinTech platforms are usually capitalized and leveraged by venture capitalists and private equity firms to reach scale.

This publication focuses entirely on FinTech companies which provide payment systems such as digital banking and mobile payment, as those are the most important in Africa.

2.1 THE RISKS OF BIG DATA AND ALGORITHMS

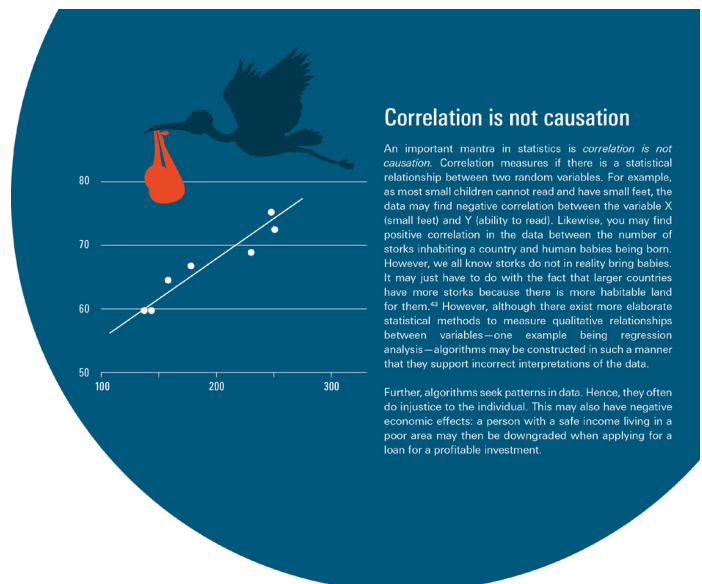
The processing of Big Data and the use of algorithms are not neutral activities that simply enable better decision-making for governments, firms, or even private households. Algorithms tend to be “stupid” as they detect patterns in data but not necessarily causal relationships between different variables. Hence, depending on their design they may undermine policy objectives such as anti-discrimination, with potentially nefarious social effects.

“Decisions taken on the basis of socially defined groups can have harmful consequences, creating unequal, discriminatory, and unfair outcomes on the basis of irrelevant or unacceptable differences.”¹⁸

Sandra Wachter, Associate Professor and Senior Research Fellow, Oxford Internet Institute

Studies have found that financial algorithms often lead to discrimination against individual customers based on their postal code or ethnic group. However, algorithms may even detect patterns in seemingly unrelated data such as “scrolling” and “clicking behaviour” when surfing the internet (as data mining makes extensive use of data we produce while we use the internet).¹⁹ People might for instance pay higher insurance premiums if they live in areas where historically disadvantaged segments of the population with lower incomes live. But the

same could be true if they scroll more slowly and hence are assumed to also read more slowly and to lack the intellectual capacity to generate a higher income. While in the USA it is likely that many African Americans have a higher credit default risk as they statistically have lower incomes and less job security than their white compatriots, this is of course not necessarily true across the board. Algorithms, however, will often ignore specific conditions and reinforce economic and racial discrimination.



2.2 THE RISKS OF FINTECH

While data technology provides opportunities for financial inclusion (i.e. via mobile money transfers), it also opens up the floodgates for profiteering, via exorbitant fees directed at users from poorer communities. Indeed, if cash were driven out entirely, then financial exclusion could even be worsened since poorer people would depend on having permanent access to digital infrastructure and rely entirely on profit-seeking digital money providers. Big Data reinforces market concentration and scalable business models that use data in different markets (for example Alphabet/Google using behavioural data from its search engine to offer financial or other services). The collection of Big Data sets and the high costs associated with developing information technology such as highly-paid IT experts and technical infrastructure favour big company sizes. Hence, households could also lose their ability to circumvent high fees if they were faced with large monopolies in the payment sector and were to lose the alternative provided by cash.

In addition, if large data corporations (for example platform and social network companies) were to become shadow banks and offered the opportunity to acquire digital tokens tied to hard currency (such as the US dollar or the euro) capital flight from low-income countries could be facilitated. As currencies from low-income countries usually bear higher risk of devaluation, people might want to use digital tokens to circumvent capital controls in the banking system and shift their savings into hard currency. Such a digital token tied to a basket of major global currencies was initially foreseen by Meta/Facebook with its Libra stablecoin project, capital flight from low income countries could provoke their central banks to set higher interest rates as a means of stabilizing exchange rates, which could stifle public and private investment.

“Libra will be backed mostly by dollars and I believe it will extend America’s financial leadership as well as our democratic values and oversight around the world.”²¹

Meta CEO Mark Zuckerberg, on his project for a digital “currency”

Meta/Facebook backtracked from its initial plans after the fierce resistance of central banks and is now focusing on becoming the leading company of the so-called “metaverse”. However, the dangers associated with Big Data power in the finance sector persist, as in African markets “homegrown” FinTech platforms such as the mobile money network M-Pesa play a considerable role in the regional economies of African countries. Safaricom, one of M-Pesa’s parent corporations, became the most profitable company in Kenya. Recently, Vodacom Tanzania announced that it would enable cross-border transactions via M-Pesa in the region of the Southern African Development Community (SADC)²² which may lead to further market concentration and increase short-term capital flows.

Big Tech Corporations Are Eyeing Africa

Big Tech corporations such as Alphabet (Google) and Meta (Facebook) are partnering with Africa’s largest telecommunications companies to invest in the Equiano and 2Africa submarine cables to simplify the use of their services and reduce costs. Alphabet’s Equiano submarine cable is named after the abolitionist Olaudah Equiano, who was born in the former kingdom of Benin (now southern Nigeria), and is expected to stretch from Portugal to South Africa.²³ Global Big Tech corporations such as Alphabet and Meta, which provide a lot of different digital services across the board and command huge economic and data power, may as yet not be

very active on the risky African payment markets. However, with the increasing inclusion of Africans in the finance and consumption networks via the internet, this may soon change.

Even some less well-known FinTechs could one day have a significant impact on financial flows and the debt levels of large parts of the population. The already very limited democratic control of economic policy in African countries could suffer in the process if financial innovation is not accompanied by political interventions. Hence there is an urgent need to develop public policies that may control or mitigate some of those risks.

Corporations must navigate a contradiction. They seek to expand consumer demand for their goods and services while keeping wages low to boost their profits. Financial inclusion and the cashless society is a way to soften that contradiction by pushing poor people into debt.

3. WHY AFRICA IS ATTRACTING FINTECH INVESTMENT

Over 80 percent of employment in Africa is informal.²⁴ Informal employment usually means high uncertainty about obtaining a regular income and a lesser ability to plan one’s own life, service debt, or build up savings. Hence, a significant proportion of the adult population also lacks bank accounts.²⁵ Further, with unstable incomes, a high proportion of unregistered people, and legal uncertainty regarding land ownership and other assets, it is harder for banks to enforce repayment of debt or conduct proper risk assessment of customers and businesses. Hence, it is often argued that the ability of FinTech companies to collect (often unconventional or behavioural) data through digital means will lower the cost of risk assessment and hence also the cost of borrowing.²⁶ These conditions spurred early innovation in FinTech, as a huge part of the population had traditionally not been well serviced by banks.²⁷

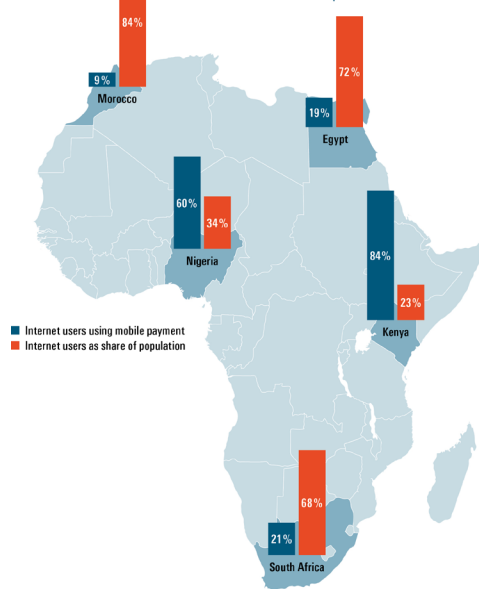
Cellphones Are Driving FinTech in Africa

The expansion of mobile telecommunication networks across Africa from the early 2000s led to the emergence of an informal monetary system around cellular “airtime currency” (as people could transfer airtime, i.e. phone credit, to each other).²⁸ Further, in recent years smartphone and internet penetration as well as access to bank accounts have increased steeply.²⁹ However, FinTech ecosystems in Africa are still

primarily built around feature phones (phones which have some apps and internet connectivity but are not as powerful or adaptable as smartphones).³⁰ It is often argued that many Africans who neither had prior access to their own landline phones nor bank accounts, would now “leapfrog” into banking with cellular technology.

The Potential of Mobile Payment in Africa

Share of internet users using mobile payment in selected countries and internet penetration rate



Mobile payment users: 1,000 to 2,000 internet users surveyed per country in 2021. Internet use data from 2020 (or 2019 if not available).
Sources: Statista Global Consumer Survey, World Bank

African countries such as Uganda and South Africa (alongside Peru in Latin America) saw the biggest growth rate in bank account ownership globally, increasing by over 25 percent since 2011. Ownership increased from 10 to 27 percent in Egypt, and from 30 to 45 percent in Nigeria.³¹ While account ownership is still lagging behind industrialized areas of the world, Sub-Saharan Africa is leading in mobile money account ownership. An important catalyst was the FinTech platform M-Pesa, a service launched through a public-private partnership with funding from the UK government, and which is highly in use in East Africa. However, M-Pesa failed to gain traction in South Africa.³²

However, as discussed in the previous publication *When Finance Meets Big Data: Financial Technology and the Scramble for Africa*, the rise of FinTech apps have also led to serious data breaches, exorbitant fees and interest rates, and unethical lending practices, including putting pressure on the personal

contacts of indebted households via text messaging in the case of late payments or defaults. There is also a high risk of non-performing loans in the sector, as a lot of people who use FinTech services struggle to obtain traditional bank loans.

This development is very similar to prior experiences South Africa had with microloans, which were initially praised by a proportion of developmental institutions, financial corporations, and NGOs as a means of fighting poverty through fostering financial inclusion. Milford Bateman argues that microcredit has been a disaster for the poorest in South Africa as it has not supported income-generating processes but rather pushed poorer households into debt in order to fund basic consumption needs.³³ The commercialization of the microloan market would have led to similar experiences as with subprime mortgage lenders in the United States prior to the financial crisis of 2007. Bateman claims that spending on debt repayment by South African workers amounts to as much as 40 percent of their total income.³⁴

“With few poor individuals possessing a secure income stream that might ensure full repayment of a microloan — unemployment is now higher than it was under apartheid — many of the poorest individuals have been forced to repay their microloan by selling off their household assets, borrowing from friends and family, as well as simply taking out new microloans to repay old ones. For far too many now ‘financially included’ individuals in South Africa, using microcredit to support current spending has been a disastrous and irreversible pathway into chronic poverty.”

Milford Bateman, Professor of Economics at Pula University (Croatia)

With mobile phone penetration on the rise, new microloan models are emerging and corporations are increasingly targeting Africa as an investment destination for finance-related data mining or FinTech.³⁵ According to a 2021 study published by tech research company Disrupt Africa, the FinTech sector in Africa received over USD 2 billion via the fundraising of African tech startups.³⁶ Major African financial centres such as Kenya, Egypt, Nigeria, and South Africa (the ‘big four’ in FinTech³⁷ which amount to 92 percent of Africa’s FinTech investment), or shadow or financial secrecy jurisdictions such as Mauritius, became a laboratory for the home-grown FinTech industry.³⁸ This study will however focus on South Africa as a regional hub for FinTech investment.

4. FINTECH IN SOUTH AFRICA

South Africa has a population of 60 million people³⁹ and as of 2021 had a GDP equivalent to USD 6994 per capita.⁴⁰ South Africa is a highly financialized economy with a domestic credit to GDP ratio of 112 percent, of which however only half originates from the domestic banking sector.⁴¹ Some research suggests that a ratio of domestic credit to GDP which exceeds 100 percent may lead to the over-financialization of an economy with ensuing negative growth effects.⁴² According to estimates, South Africa is host to 620 tech startups, of which 200 are FinTech companies,⁴³ and it is also one of the most unequal societies in the world with a Gini coefficient of around 63 (based on data from 2014). Over 20 percent of the population lives on less than \$2.15 (US) a day.⁴⁴

In South Africa, account ownership at a financial institution has grown considerably since 2011, from 54 to 84 percent (if we include mobile money accounts the figure is only slightly higher, at 85 percent).⁴⁵ Roughly 70 percent of South Africans have internet access.⁴⁶ South Africa has a very high smartphone penetration rate compared to other Sub-Saharan countries. The percentage of smartphones among mobile phones in use is 67 percent.⁴⁷ In South Africa, 68 percent of the population live in urban areas.⁴⁸ South Africa is thus often described as a special case in the African FinTech landscape with a high rate of financial inclusion including insurance penetration.⁴⁹

In contrast to East Africa, mobile money platforms such as M-Pesa failed in South Africa as more citizens have access to traditional bank accounts. However, telecommunication companies such as Vodacom and MTN are targeting the unbanked through apps.⁵⁰ South African regulations require a merchant to have a specific financial services provider licence. In East African countries like Kenya and Tanzania, regulation is less strict.⁵¹

Until the turn of the millennium, South Africa had largely been dominated by a banking cartel of four banks, reaching back to the colonial era of gold mining: Standard Bank, Absa, First National Bank (FNB), and Nedbank.⁵² Even though the proportion of people with a bank account used to be higher in South Africa than in many other countries in the region, many accounts are infrequently used, as banks charge high fees for transactions. These four banks tended to ignore customer needs in South Africa's racially segregated and highly unequal society. With the turn of the millennium, Capitec challenged

the 'big four' by offering lower-income households lower transaction fees.⁵³ Capitec also expanded into digital banking and now claims to have 16 million customers.⁵⁴

However Capitec, which is owned by the Afrikaner financial elite of South Africa, has been criticized for unethical lending practices contributing to mass over-indebtedness of the poorest Black communities. Subsequently, when "faced with increased financial and political risks, Capitec Bank announced in the late 2010s that it would exit the unsecured lending field (lending without collateral) and become a conventional mainstream bank supporting formal SMEs [small and medium enterprises] and wealthier South Africans".⁵⁵

4.1. BEHAVIOURAL BANKING: TYMEBANK AND DISCOVERY BANK

In South Africa, mobile banking is less important than in Kenya and indeed M-Pesa never made a significant dent into the finance landscape.⁵⁶ However, several digital banks are very active in South Africa, such as TymeBank (TYME, "take your money everywhere") and Discovery Bank, which provides saving options.

When Capitec exited the risky business model of lending to poorer customers in South Africa, TymeBank sensed an opportunity to fill the market niche and to expand microcredit for poor Black South Africans.⁵⁷ TymeBank is a digital-only retail bank owned by South African billionaire Patrice Motsepe and which was developed originally as a Deloitte consulting project funded by the telecommunications provider MTN.⁵⁸ With no branches and no paperwork required to sign up, TymeBank benefitted from lower transaction costs in the unsecured lending market than rival banks operating networks of physical branches. "By early 2021 TymeBank had 3 million customers, signing up 120,000 new customers a month".⁵⁹

"It is now easier than ever for the poor to obtain microcredit, encouraged by aggressive advertising, marketing tie-ups and other enticements for clients to access a microloan and immediately spend it in one of their retail outlets. In the process, it is also being made easier for Pick 'n Pay and Boxer to take valuable market share from the more than 100,000 small informal spaza shops traditionally owned and operated by the black community and which provide a major contribution to local food security, income generation and community solidarity and cohesion."⁶⁰

Milford Bateman, Professor of Economics at Pula University (Croatia) and Fernando Amorim Teixeira, Substitute Professor of Economics at the International Relations Institute of the Federal University of Rio de Janeiro

TymeBank partners with two important South African supermarket chains (Pick n Pay and Boxer) aiming for the mass market with its yellow card machines and “nearly 14,000 cash tills”.⁶¹ TymeBank also features products such as health insurance, as it gains valuable data on people’s lifestyles, one example being learning about a customer’s diet through their shopping behaviour.⁶² TymeBank is further considering entering the loan market via business lending to small and medium-sized enterprises but so far only features Buy Now Pay Later products.⁶³ Hence, it is largely focused on consumer debt rather than financing investment and contributing to development.

Buy Now Pay Later

The “buy now pay later” (BNPL) customer loan market allows customers to purchase a product now but pay for it later. Some well-known players are Afterpay, Klarna, or even PayPal. Big Tech companies that were not initially from the payment industry such as Apple are entering the BNPL market. They do not need a banking partner for BNPL, simply securing loans via their huge balance sheets.⁶⁴

FinTech companies offering BNPL thus become shadow banks and start to issue loans without a lender of last resort⁶⁵ (a central bank) that may step in during times of crisis, and without proper financial supervision. However, the risk to financial stability from these loans in the consumer goods market is limited. As loans are mostly not collateralized (such as in the mortgage market where for example borrowers pledge their homes) there is less risk of financial contagion (for example a credit crunch as in the financial crisis of 2008 when depressed house prices further diminished bank capital).

BNPL is not new to the consumer goods market. It is a common tool to entice customers (especially from low-income households) to spend more than they would otherwise be able to afford. BNPL firms usually earn a transaction fee from the company that sells its product to the customer, and also on late payment fees from the customer. While consumer credit and electronic payment via credit cards generally aims at shifting the budget constraints of private households, BNPL is

often applied to customers with poor credit ratings and with corresponding credit limits by card issuers.⁶⁶ By contrast, Apple targets the tech-savvy middle class in industrialized and emerging economies.

The so-called delinquency rates of BNPL are often outpacing those of credit cards as younger and less financially healthy households are more likely to use BNPL, according to the US Financial Health Network.⁶⁷ Recently concerns grew over loan stacking, where a borrower takes out multiple BNPL loans at different lenders and cannot repay some or even all of them. The BNPL industry is also criticized for being less transparent than legacy credit products, since public data on repayment reported to credit bureaus is missing. Thus the risk of loan stacking and overextension by consumers is bigger than in the traditional consumer credit market of banks.⁶⁸ One of the biggest BNPL players in South Africa is Payflex, which has however been acquired by Zip, a publicly-listed Australian FinTech.⁶⁹

TymeBank claims to have a high exposure to a low-income female and rural customer base.⁷⁰ An ID number and a mobile phone number is sufficient to open an account and be issued a debit card, while its services can be managed via an app or online.⁷¹ To add to the available functions of the account (such as exceeding a certain transaction limit), registration with a biometric picture and a residential address are required. This can be done at kiosks and enables the Financial Intelligence Centre of South Africa (FIC) to conduct fraud checks.⁷²

Discovery Bank is part of Discovery Corporation, which is the biggest supplier of health and other insurance products in South Africa. Discovery is focused on the middle class and tries to incentivize financial behaviour such as saving and investing in pension products via a bonus system. It is modelled after the corporation’s insurance programme, Discovery Vitality, where for example frequenting a gym leads to better insurance conditions or discounts on consumer goods, such as coffee or rental cars. Discovery claims to be South Africa’s first “behavioural bank”.⁷³

4.2 JUMO: ENABLING “POVERTY CREDIT”

Jumo is a FinTech company based in Cape Town but with its headquarters in London, where it was initially founded. It has entered partnerships with telecommunication companies and banks to enable unsecured credit products across different African countries,⁷⁴ such as QwikLoan in Ghana or Kasaka

Loans in Zambia.⁷⁵ It is hence not only focused on the South African market. Jumo uses software called Apache Spark to run algorithms based on data from mobile phone customers (such as contract history, airtime purchasing patterns, and voice, SMS, and geolocation data) with transactional data points on mobile payments.⁷⁶

Jumo acts as a middleman between sellers and buyers of financial products, a so-called aggregator platform. For instance, Jumo was involved in developing credit scores for companies offering car loans to Uber drivers based on their earnings, tips, and behaviour e.g. their driving style.⁷⁷ They also for instance attempt to calculate the fraud risk of borrowers in Ghana with algorithms analysing data points such as income size and deposit frequency, but also the usage of the mobile phone battery (how long the phone was off or how often users let their battery die).⁷⁸

Hence, Jumo with its cloud and AI-powered technology stack connects banks with formerly unbanked customers and enables them to profit from customers via fees and interest payments⁷⁹ in a cost-effective manner.⁸⁰ Research into similar loan products in Kenya (such as M-Shwari) found that most of these “nano-loans” are for regular personal consumption but that they can lead to perpetual indebtedness as they are constantly rolled over.⁸¹ In other words, those loans do not support a credit-investment nexus but extract purchasing power from private households as they accumulate debts through high interest rates.

The Social Grant Programme and FinTech in South Africa

This is an abridged version of a text from Bateman and Teixeira’s “The Promises and Perils of Investor-Driven Fintech”, p. 36. The text has been updated by the author of this publication to reflect some recent developments around problems with payouts of social grants via the South African Post Office and Postbank.

Some international development organizations encouraged the South African government to disburse social grants through the private FinTech platform Cash Paymaster Services (CPS) as this would save costs and result in financial inclusion for unbanked grant recipients.⁸² CPS was a subsidiary of the US-based FinTech platform Net1 Technologies (Net1), and it was

granted the right to register these social grant beneficiaries in their platform, collect their biometric data, and open over ten million new bank accounts on their behalf. Shortly after, CPS began to flood its customers with SMS advertisements offering mobile phone airtime, electricity, insurance, and microcredit offers. Many clients were soon plunged into deep debt. The social grant was then turned into a form of collateral that lenders in the country could possess if the clients agreed to take out a new microloan.⁸³ The government finally phased out Net1’s contract. The grant system was subsequently taken over by the state-owned South African Post Office (SAPO) which ended many of the exploitative commercial activities. Later South Africa’s Constitutional Court declared that a large part of the profits CPS generated under its contract with the government had to be repaid. Hence, Net1 took the decision to liquidate its CPS unit.⁸⁴ However, problems have lately also emerged with the publicly-owned SAPO, as local branches in rural areas have suffered from a shortage of cash for grant recipients. SAPO then moved the services to Postbank which led to problems with the migration of IT services and affected the paying out of social grants.⁸⁵

Finally, let us also look at the question of whether FinTech in South Africa is genuinely demand-driven, if the financial technology is as convenient as the industry would often claim. While this is maybe often true for the young and tech-savvy middle class who use smartphones, it should be kept in mind that these are not the people commonly associated with financial exclusion. An interview I conducted with an older resident of Khayelitsha township serves to illustrate the FinTech dilemma.

INTERVIEW

S. Rolihlahla is a 79-year-old pensioner from the township of Khayelitsha (Cape Town). Before the forced removals under the Apartheid regime, she lived in Claremont which is a suburb of Cape Town. She worked as a preschool teacher.

Question: How do you usually prefer to pay (cash, card, mobile, online)?

Answer: I prefer to pay cash and by card.

Question: How do you usually receive and collect payments?

Answer: I prefer to withdraw money in the supermarket

because I feel safer withdrawing money there.

Question: What are your biggest challenges/worries when you receive and make payments?

Answer: I am afraid of safety and being overcharged.

Question: Do you have a bank account and if so, what are your biggest challenges/worries about banking?

Answer: Whenever my family would transfer money to me and send me the electronic reference number to withdraw cash at a supermarket I would struggle. I need to regularly delete text messages from my phone to receive those messages and I find this difficult to operate. The reason is that my phone would be flooded sometimes with messages since it is very common in South Africa that people without sufficient funds send you a message with a “please call me”. I also had difficulty to read the numbers correctly. Hence, my family decided to open a bank account for me. On top of that I have a card from the South African Social Security Agency which I use to withdraw my pension money at a supermarket on a specific day of the month. I collect the money outside of the township as I witnessed a robbery once and fell. Additionally, as an elderly person I am afraid of fraudsters that interfere with my card.

In sum, in South Africa, financial inclusion is comparatively advanced. FinTech is concentrated on digital banking both for the middle class as well as consumer credit for low-income households via behavioural data mining (such as for example predicting health risks from liquor purchases). Data mining in finance is quite extensive and regulators struggle to curb questionable practices such as retrieving phone contacts to debt-shame borrowers through directly messaging their personal contacts. Credit scores compiled by Jumo are developed based on behavioural patterns such as driving style or mobile phone battery usage. Hence, stricter data protection frameworks are needed. As private over-indebtedness is on the rise with exorbitant interest rates and more high-risk customers being integrated into the money web, financial stability concerns could soon arise given that FinTech firms are growing in size and are often not regulated to the same extent as the banks (i.e. without specific capital requirements).

More on FinTech in Africa

Rosa Luxemburg Foundation has published an online dossier

on the future of money in Africa containing interviews with different experts on FinTech, such as Prof. Co-Pierre Georg (currently an Associate Professor at the EDHEC Business School in Nice and Director of the Financial Innovation Hub at University of Cape Town), Brett Scott (former South African broker in the City of London and monetary anthropologist), as well as Prof. Milford Bateman (Pula University, Croatia) who is a leading critic of microloans.

5. HOW TO REGULATE FINTECH IN SOUTH AFRICA?

Let us finally look at options for South Africa to react to the dangers of losing data and economic sovereignty to FinTech companies using Big Data. Firstly, there exists no uniform FinTech regulation in South Africa.⁸⁶ Hence, the political responses must address different sectors and regulatory fields such as data protection, tax policies, technology policies, and central and developmental banking.



5.1 THE STATE OF PLAY IN SOUTH AFRICAN FINTECH REGULATION

South Africa has so far established the Intergovernmental Fintech Working Group (IFWG) which coordinates key financial regulators. The consortium includes the South African Reserve Bank (SARB), the Financial Sector Conduct Authority (FSCA), the Financial Intelligence Centre, and the country's credit regulator. A major area of concern for the IFWG has been the regulation of crypto assets, with anti-money-laundering and capital controls being the main focus (for more background on crypto assets please consult our online material/blog post “Bitcoin: The Tulip of the Computer Age?”).⁸⁷

South African regulators are further eyeing regulation of the payment infrastructure involving SARB's Vision 2025 programme, whose goal is to present a strategy for the



national payments industry.⁸⁸ Further, the SARB announced a Rapid Payments Programme (RPP) for modernizing real-time payments to establish a cost-effective instant payment service across banks for retail payments. The SARB cooperated with a syndicate from the financial industry to develop the technological standard.⁸⁹ Another important issue in South African FinTech regulation is intellectual property (IP) in corporate startups. As South Africa operates an exchange control regime, residents transferring intellectual property offshore requires the approval of SARB.⁹⁰

5.2 OTHER AREAS OF REGULATION TO ADDRESS THE DATA AND MARKET POWER OF FINTECH IN SOUTH AFRICA

Beyond these technical issues, South Africa needs a broader political approach to safeguard the public interest in the payment industry. Areas that should be addressed involve among others:

Data protection and public ownership of data: South African regulators could design and enforce stricter data protection laws requiring, for instance, the separation of certain data oligopolies. Further, the storage of data under public supervision could be enforced, in addition to greater transparency on the construction and use of algorithms (including an option for regulators to enforce adjustments of algorithms).

Data could also be declared a public good, forcing Big Tech and FinTech companies to compensate data owners, or the state, for the use of data (or even use publicly-owned FinTechs which do not release data to third parties as discussed in chapter 5.4). This could involve the inclusion of data ownership in international trade talks, for example with the World Trade Organization (WTO). However, data protection is always difficult to enforce as there exist information asymmetries between the companies that collect data, and the technological capacities of regulators.

Antitrust policies and licensing of FinTechs: Antitrust policies could potentially enforce the breakup of entities which have accumulated too much data and financial power. While the feedback between FinTech and the credit system is still low, some FinTech companies have begun to rely increasingly on funding from banks or other financial institutions. Further, customer funds held by non-banks may be at risk if unprotected. Interest rate caps are also important to protect

against over-indebtedness and exploitative lending practices. Regulatory measures such as capital requirements and deposit insurance for FinTech, as well as provisions governing the reinvestment of profits and customer funds, should be considered by national financial regulators and central banks.⁹¹ Further, Big Tech and other companies with significant market power could be refused licenses to offer financial services within the jurisdiction of South Africa.

Another option could be the separation or nationalization of large telecommunications operators that also offer financial services. The separation of large telecommunication operators would serve the goal to prevent too much data power and monopolistic behaviour in the payment sector. However, the telecommunication sector in South Africa is already dominated by a few oligopolies and as telecommunication infrastructure is expensive and price competition is fierce, smaller units might not be economically viable. Another option would therefore be to nationalize telecommunication corporations that offer financial services as telecommunication was part of public infrastructure in many countries for decades. However, in the current South African context of high public mistrust in the management of public assets, nationalization of the telecommunication sector might face many obstacles. Further, it would potentially grant the state combined access to communication and payment data which may raise concerns about surveillance.

Taxing data profits: Another option could be to tax certain data profits at their source. That would require forcing companies that operate in South Africa to report profits, turnover, and other key indicators per country (country-by-country reporting) and then tax them accordingly (for example if a certain share of global turnover from a FinTech company is made within an African country, then tax authorities could claim an equivalent share of profits according to a specific formula, called formula apportionment). The Organization for Economic Co-operation and Development (OECD) initiative against base erosion and profit shifting (BEPS) already foresees elements of source taxation and formula apportionment for multinational corporations above a certain threshold.⁹² Such initiatives could be supported on a technical level by the United Nations (e.g. the United Nations Conference on Trade and Development [UNCTAD]) as international groups such as the OECD are heavily dominated by Western governments.

5.3. THE ROLE OF CENTRAL BANK DIGITAL CURRENCY

Understanding Money

If you want to better understand the differences between central bank money (such as cash) and bank money (the numbers in bank accounts), please refer to chapter 4 (The Monetary System and FinTech) of the previous publication by the Rosa Luxemburg Foundation [When Finance Meets Big Data: Financial Technology and the Scramble for Africa](#). Additionally, the Rosa Luxemburg Foundation published online an introduction into money creation and the economic controversies around money, [“The Role of Money in the Economy”](#), which you may find helpful.

Further, the Rosa Luxemburg Foundation published the online material [“Who Needs Modern Monetary Theory \(MMT\)?”](#), and contributions from Germany, Senegal and Tunisia on this much-discussed economic concept as well as an explanation of [the hype around the crypto asset Bitcoin](#) which you may all find in our [online dossier on the future of money in Africa](#).

So far we have looked at regulatory approaches which limit the market and data power of FinTech companies. However, other options to consider are public alternatives in the payment infrastructure. An important debate in that regard is Central Bank Digital Currency (CBDC), which we will look at in more detail in this chapter.

A game changer for the debate around CBDC, at least in terms of public perception, was the discussion around Meta (Facebook) and their attempt to establish their own digital payment token (Libra and later Diem).⁹³ The idea behind CBDC is that central banks establish a digital currency which is the digital equivalent of cash, and is thus an alternative to private FinTech gaining ever more market power and crowding cash-based payment out.

While the commercial bank money in our bank account is already digital, CBDC would thus grant either companies or private households access to digital central bank money. This could for instance involve granting companies (wholesale CBDC) or private households (retail CBDC) their own bank accounts at the central bank, just like commercial banks or the treasury have. However, in practice, recent discussions at central banks have foreseen administering these central bank accounts via commercial banks and the central bank not having

access to granular payment data.⁹⁴

In contrast to commercial banks, central banks cannot go bankrupt in their own currency as they are the issuer of that currency. Hence, CBDC would be first-tier money of a higher order and would carry less risk than money from commercial banks.⁹⁵ CBDC would then however only make sense in areas where cash payment is not possible, such as online shopping. However, “digital cash” bears the risk of digital bank runs (customers shifting their deposits at commercial banks to central banks to enjoy risk-free savings, as a central bank can never go bankrupt in its own legal tender) and central banks might then crowd out commercial banks by overtaking loan intermediation. Therefore, options are being discussed such as a cap on deposits, or that deposits should be interest-free (which would incentivize commercial banks to offer better conditions to savers than the central bank). The European Central Bank (ECB) for instance proposed granting a maximum amount of EUR 3000 in CBDC to citizens.⁹⁶

This however begs important questions regarding why people should use CBDC as an alternative if they can just use PayPal, Apple Pay, or M-Pesa to shift second-tier money (such as commercial bank money) around and make theoretically unlimited payments. Another obstacle to CBDC is cross-border payments, as when central banks receive CBDCs from foreign jurisdictions, they must acknowledge, process, and settle this with each other.

The debate around CBDC also has geopolitical implications — such as the control of payment and data flows between the USA and China — which complicates global agreements between central banks. The US often applies extraterritorial sanctions against corporations transacting with governments, firms, and individuals deemed hostile. Similarly, the NGO Wikileaks had been banned from receiving donations via Visa and Mastercard after exposing US war crimes.⁹⁷ Theoretically, digitalization of money — and hence also CBDC — could be used to consolidate political power over competing international and domestic political factions that have to revert to money laundering when faced with repression.

From a money users’ perspective CBDC would thus only carry benefits if the data protection standard were higher than in FinTechs driven by private investors. However, in many jurisdictions citizens might not be inclined to share their personal payment data with a public entity such as a central

bank. Critics of CBDC further point out that for CBDC to be attractive to users the real-time settlement in areas such as online shopping would need to be technologically superior to PayPal & others.⁹⁸ Therefore, central banks such as the SARB are currently discussing CBDC as a wholesale version only (business-to-business payments for companies) and are cooperating closely with the private sector to establish the technology.⁹⁹

Nigeria's Shock Strategy on CBDC

The experiences of Nigeria with the eNaira, which it introduced as a pilot project with the International Monetary Fund, shows that central banks have yet to demonstrate a strong use case for poorer citizens in using CBDC.

Nigeria is currently embarking on a big digitalization push. For instance, since April 2022 people in Nigeria have only been allowed to make mobile phone calls if their SIM card is linked to their national identification number.¹⁰⁰ This number is to be used in a government database, where it can be analysed with artificial intelligence. The enrolment of all Nigerians with a biometric citizen number is funded by the World Bank.¹⁰¹ The Nigerian Identity Management Commission (NIMC) is issuing payment providers such as Mastercard with biometric proofs of identity (eID cards) to prevent fraud. However, the NIMC refutes claims it would grant Mastercard access to biometric data.¹⁰² To the contrary, Nigerian authorities argue that the eNaira would help to reduce dependence on foreign-owned financial service companies such as Visa or Mastercard.¹⁰³

The central bank had introduced a new banknote design and imposed a shortage of cash in a surprise move prior to the last elections in Nigeria. It was one of the last measures taken by the outgoing president. The justifications for the measure had been to eliminate counterfeit money, and to drive smaller banknotes out of circulation. The cash shortage led to great hardship for millions of Nigerians without a bank account or smartphone, and to small businesses losing out on revenues. The poor digital payment infrastructure could not cope with the increased number of transactions.¹⁰⁴

In March 2023 the Supreme Court of Nigeria halted the decision by the outgoing President and the Nigerian Central Bank to take certain banknotes out of circulation and criticized “massive disruptions and hardships that ... resulted from the hasty and not well thought through and

organized implementation of the change and the right to the establishment of adequate infrastructure and measures to prevent the said disruptions and hardships.”¹⁰⁵

Hence, it is important to stress the need for the protection of physical cash in small transactions alongside CBDC to reduce the dependency of the poorest on digital infrastructure and thus their exposure to the market and data power of FinTech, who may use personal data to aggressively push loans on the previously underbanked.

In sum, a use case for CBDC in the South African context would need to stretch the limitations of wholesale CBDC and offer some tangible benefits to end users: CBDC will only be attractive if it offers better conditions to citizens and businesses than private banks and FinTechs. This might for example entail preferential loans for small businesses while preventing the central bank from assuming the entire role of loan intermediation. It should also enable unbanked citizens to make digital payments without disclosing all their data to private entities and being flooded with advertisements. CBDC could thus make a difference in that it could enable digital payments without an investor-driven incentive to push loans on poor people and charge high fees. However the SARB, as with most central banks, does not seem inclined to compete with FinTech but is rather embarking on a public-private syndicate for the payment infrastructure.

“It would be an embarrassing failure if [a CBDC] is not used. But if you make it too attractive you're eating the banks' lunch.”¹⁰⁶

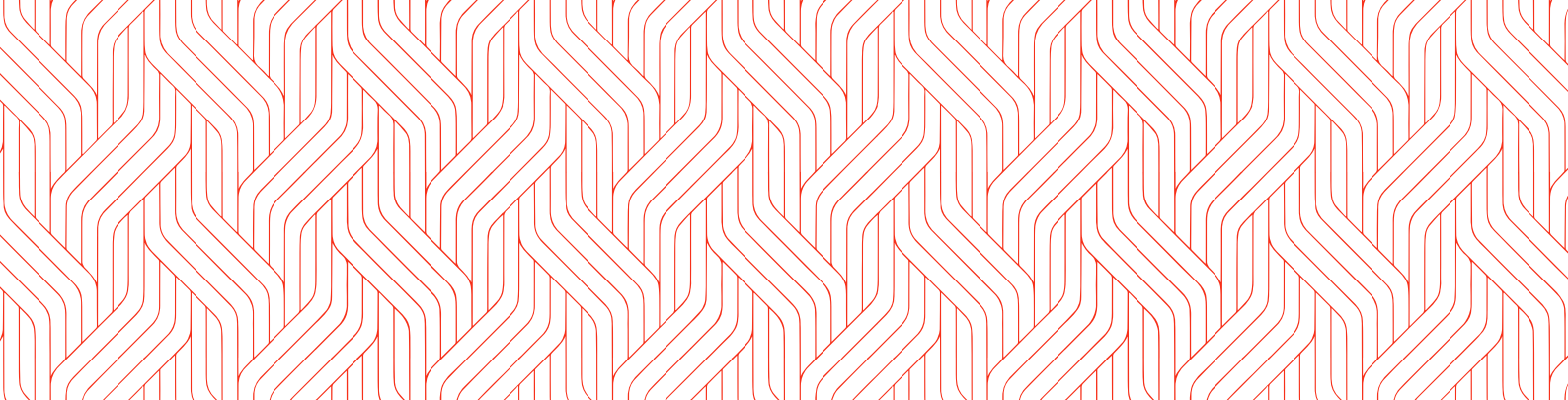
Harald Uhlig, Professor of Economics at the University of Chicago

5.4 PUBLICLY-OWNED VERSUS INVESTOR-DRIVEN FINTECH?

This then leaves us with the task to explore further options to counterbalance private market power in FinTech in order to mitigate negative consequences for financially vulnerable citizens. Let us look at an example from Brazil where a municipality has used public FinTech to strengthen the local economy and protect poor citizens from digital loan sharks:

Using FinTech for Social Progress: A Brazilian Example

This is an abridged version of a text from Bateman and Teixeira's “The Promises and Perils of Investor-Driven Fintech”, pp. 39–42.



The small city of Maricá in southern Brazil uses FinTech to serve the public good and assist its social and economic policies. In 2013 the city, governed by the Workers' Party, established Renda Básica de Cidadania (Citizens' Basic Income, RBC). RBC is funded from taxes levied on Brazil's state-owned oil company Petrobras, which operates a major oil field in the area, and involved the establishment of a sovereign wealth fund. It was designed on the basis of creating a community currency.

The municipality switched from a magnetic card (the Mumbuca card) for RBC recipients and which could be used for all local purchases, to a community-based digital currency (E-dinheiro) used by several digital community banks across different Brazilian states. The RBC eligibility requirements are to have been a resident for at least three years, and having a “moderately low” income, which is still well above Brazil's minimum wage. The RBC recipients receive a monthly payment of the digital community currency Mumbuca, which is issued by a community-owned development bank, either via a pre-paid card or a mobile phone app. The salaries of municipal employees are paid in the digital community currency, which is tied to the national currency, the Brazilian real, or BRL (exchange into BRL involves a one percent transaction fee), and many payments to the municipality (such as utility bills) can be settled in Mumbuca to encourage its use. The community bank charges businesses in Maricá two percent of the value of any transaction, to cover operational costs and fund other services.

In 2018 the RBC was moved to a FinTech platform and the Mumbuca became a genuine digital currency providing services at a much lower cost compared to major payment providers such as Visa and Mastercard. The recipient base of initially 25 percent of the local population was expanded during the COVID-19 pandemic to buffer economic shocks. As opposed to basic income programmes in Kenya with M-Pesa, Mumbuca beneficiaries are not charged to access their funds. Further, the community bank does not sell the purchasing data it collects to third-party clients. Any surplus generated by Mumbuca Bank is returned to the municipality. In contrast to investor-driven FinTech there is no “pressure sell” of its services, such as pushing digital microloans onto the poorest. The bank uses the Mumbuca to fund local economic development programmes, such as a zero-interest loan programme for cooperatives and social enterprises (mainly carpentry, retail, handicrafts, printing, food production, and retailing, but also transport initiatives).

The Maricá municipality has also explored financing growth-oriented enterprise development projects tied to the oil and gas sector, and is exploring a sovereign wealth fund. They are thus trying to diversify the economy away from social dependency and towards well-paid local employment.

The Brazilian example shows that beyond CBDC there exist options for the use of FinTech in community banking to foster the regional economy. Such solutions would however greatly benefit from CBDC to ensure that decentralized digital currencies are aligned with the national payment system, as with the case of the Mumbuca being tied to the Brazilian real. Otherwise, acceptance would be lower as not all economic transactions are limited to a municipality and the regional economy. Further, they require a strong sector of publicly-owned banks at the municipal level or developmental banks to operate the payment infrastructure. In South Africa, banking is however largely dominated by a private banking cartel, as discussed in chapter 4.

It may seem naïve at first glance to demand a bigger involvement of the state in the (financial) economy of South Africa, since a lot of its public enterprises — such as Transnet (rail, port, and pipeline company) or Eskom (energy provider) — have been discredited due to state capture, mismanagement, and rampant corruption. However, state capture and political cronyism have also occurred in large private enterprises. Further, Eskom is an example of a public enterprise which has been damaged due to outsourcing contracts and chronic underinvestment. Both have been justified with the need to create private business opportunities.¹⁰⁷

Further, the public-private SARB has rarely been accused of corruption. South Africa also had periods where the independent and efficient South African Revenue Service (SARS) or anti-corruption units such as the Scorpions (which no longer exist) were feared by politicians and corrupt businessmen alike. That is exactly the reason former South African President Jacob Zuma tried to seize control of those public units.¹⁰⁸

Lastly, what is the alternative? There is little to prevent corruption and mismanagement also occurring in large oligopolistic private corporations, which in South Africa have strong ties with political elites. Hence, public entities may be very prone to corruption in South Africa, but this can be changed with sufficient democratic control and political

pressure. With private enterprise that is much harder to do. Ultimately, better public policies are only attainable if there is more public debate and pressure around those issues.

6. CONCLUSION

South Africa saw the rise of important players in FinTech such as TymeBank, Jumo, and others, as the oligopolistic banking sector traditionally focused on serving the (previously white) middle classes and did not well serve huge swathes of the population who worked in the informal economy. South Africa is however a comparatively banked and insured country when measured against other African economies.

TymeBank has become an important player on the market for low-income customers, a market that had previously been the domain of Capitec Bank. However, the latter had gradually exited the uninsured loan market in the wake of defaults in the microloan sector after the first decade of the millennium. TymeBank focuses on behavioural shopping data in partnership with supermarket chains and cross-sells products such as health insurance, as it gains valuable data on people's lifestyles. TymeBank is also considering entering the loan market but so far mainly features Buy Now Pay Later products. Contrary to the promise that financial inclusion kick-starts small enterprise investment and thus contributes to job creation and productive activities, TymeBank is largely focused on consumer debt rather than financing investment.

Discovery Bank is a large supplier of health and other insurance products with a focus on the middle class. It embarks on behavioural finance trying to incentivize saving and investing in pension products via a bonus system.

Jumo is a London-headquartered FinTech company that operates in Cape Town. It is focused on financial data mining via partnerships with telecommunication companies and banks. Thus, it attempts to facilitate unsecured credit products in different African countries. Jumo processes data collected from mobile phone users (such as contract history, airtime purchasing patterns, and voice, SMS, and geolocation data) and develops credit scores for companies offering car loans to Uber drivers based on their earnings, tips, and behaviour, e.g. their driving style. They also attempt to calculate the fraud risk of borrowers in Ghana based on data that reflects income and frequency of making deposits, but also the usage of the mobile phone battery.

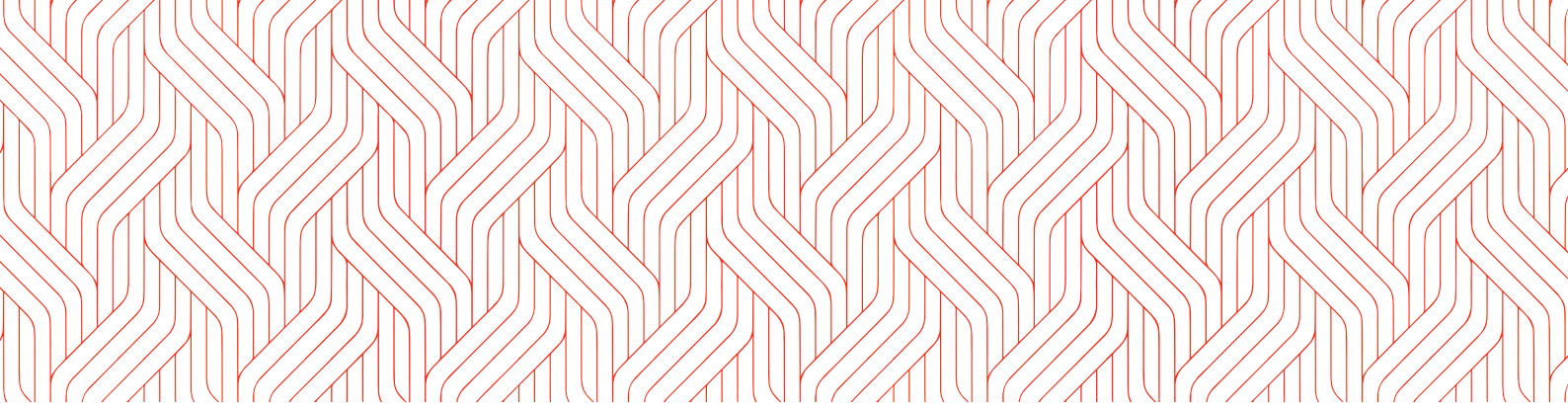
In South Africa, FinTech and behavioural banking had little impact on a credit-investment nexus. Hence, the claim that financial inclusion aids investment has not been confirmed. Most "nano-loans" are for regular personal consumption but they can lead to perpetual indebtedness as they are consistently rolled over. Those loans do not support a credit-investment nexus but extract purchasing power from private households as they accumulate debts through high interest rates. South Africa once had similar experiences with microcredit at the turn of the millennium.

Most loan facilitation by FinTech is linked to partner banks which may become a risk to financial stability when the sector — and with it consumer debt — grows. Where FinTech firms provide loans via their balance sheets it is however often linked to schemes such as Buy Now Pay Later which (still) have limited feedback to the banking sector. However, private over-indebtedness is on the rise with exorbitant interest rates already causing tremendous economic and social stress. As more high-risk customers are integrated into the financial economy, problems may become more aggravated.

Data technology also provides opportunities to facilitate economic participation and access to financial infrastructure. Many would argue that it is reasonable to use data to inform financial decisions. The increasing capacity of phone technology and its role in our economic life is a development that will most likely persist. Hence, the political challenge is not to fight FinTech but to embed FinTech in a socially productive way.

South Africa should hence strengthen data protection and public ownership in the telecommunications sector as well as enforce antitrust legislation and regulate FinTech at least to a similar extent as the banks. Another option could be to tax local data mining. Further, physical cash in small transactions should be protected by law to reduce the dependency of the poorest on needing to access digital infrastructure and thus their exposure to the market and data power of FinTech companies. Those companies may use personal data to aggressively push loans on the previously underbanked.

Central bank digital currency may also play an important role in offering financial technology as a public good. However, this would require SARB to offer a retail CBDC instead of just wholesale CBDC, and to actively compete with the oligopolistic banking sector by for example granting, within limitations,



some preferential loans to small businesses. CBDC so far only provides marginal advantages to the broader public, one of them being that central banks do not face insolvency risk in their own currency. However, to establish a use case in an increasingly international market of online shopping and consumption, CBDC would need to enable faster cross-border payments than investor-driven FinTech and to provide greater data sovereignty to customers. However the SARB, as with most central banks, does not seem inclined to stretch CBDC this far and is rather embarking on a public-private syndicate for the payment infrastructure.

The example of the Brazilian municipality of Maricá shows that beyond CBDC there exist options for the use of “public FinTech” in community banking to foster the regional economy. Such solutions would however greatly benefit from CBDC to ensure that decentralized digital currencies are aligned with the national payment system. Otherwise, acceptance would be lower as not all economic transactions are limited to a municipality and the regional economy. In South Africa, banking is largely dominated by a private banking cartel. Reaping economic and social benefits from the public use of FinTech would however require an established sector of publicly-owned banks at the municipal level or developmental banks to operate the payment infrastructure.

In conclusion, South Africa faces the risk of negative social and economic ramifications from the conquest by Fin Tech and Big Data firms. While South Africa cannot — and should not — escape digital technologies, it should however soon find ways to regulate and control the new financial players to safeguard financial and digital sovereignty. This way, policymakers can prevent the exploitation of their people and instead foster new technologies for the public good.

GLOSSARY

Algorithm

In computer science, an algorithm is a sequence of instructions, typically used to perform a computation. Algorithms are used to extract patterns in large datasets and deduce behaviour or statistical relationships between variables. Algorithms are also used to influence behaviour, such as with targeted advertising based on observed interests and the keyword searches of internet users.

Big Data companies

Companies that work with Big Data sets (but not necessarily big companies).

Big Finance (companies)

Big banks or other financial institutions with a large customer base or assets (but not necessarily companies with extensive data mining).

Big Tech (companies)

Corporations that usually work with Big Data sets whether in communications, software, finance, or any other relevant sector. They usually offer services across a wide spectrum of markets.

Central bank digital currency (CBDC)

Digital money for private households and/or firms held at or guaranteed by the central bank instead of commercial banks. It is usually distinguished between retail and wholesale CBDC. Retail CBDC refers to central bank currency for private households and businesses while wholesale CBDC is confined to business-to-business transactions.

Data mining

Data mining is the process of gathering and analysing data to detect patterns and correlations, and to predict outcomes — often with the intention to monetize that information.

Diem

Stablecoin launched by Facebook/Meta, and tied to the US dollar. It was to some degree a rebranding of Libra, albeit with modifications and less ambitious in scope, but failed to become popular and the business was sold off in 2022.

FinTech

Companies or platforms that work with Big Data or technology in finance but are not necessarily Big Tech or Big Finance companies.

Libra

Facebook’s initial concept for a stablecoin, envisaged as being tied to a basket of major currencies and with the option to adjust the currency mix.

Metaverse

The metaverse is a concept which originated in science fiction but has more recently been talked about regarding a vision for

an integrated internet which makes use of augmented or virtual reality, and in which all kinds of social or business interactions can take place.

Mobile money

Digital balances comprising money, or other valuable transferrable assets such as airtime, where transactions can be made via phones (e.g. via SMS).

Monopoly & oligopoly

Economists broadly distinguish between monopolies (individual companies that exercise exclusive control over a service, commodity, or industry within a market) and oligopolies (a limited number of powerful sellers or producers within a market).

Shadow banks

Financial institutions which look and behave similarly to banks, but are not subject to the same regulatory oversight, and who equally may not be supported by the central bank in the case of emergencies or financial crises.

Stablecoin

Stablecoins are digital assets such as cryptocurrencies whose value is pegged, or tied, to that of another currency, commodity, or financial instrument.

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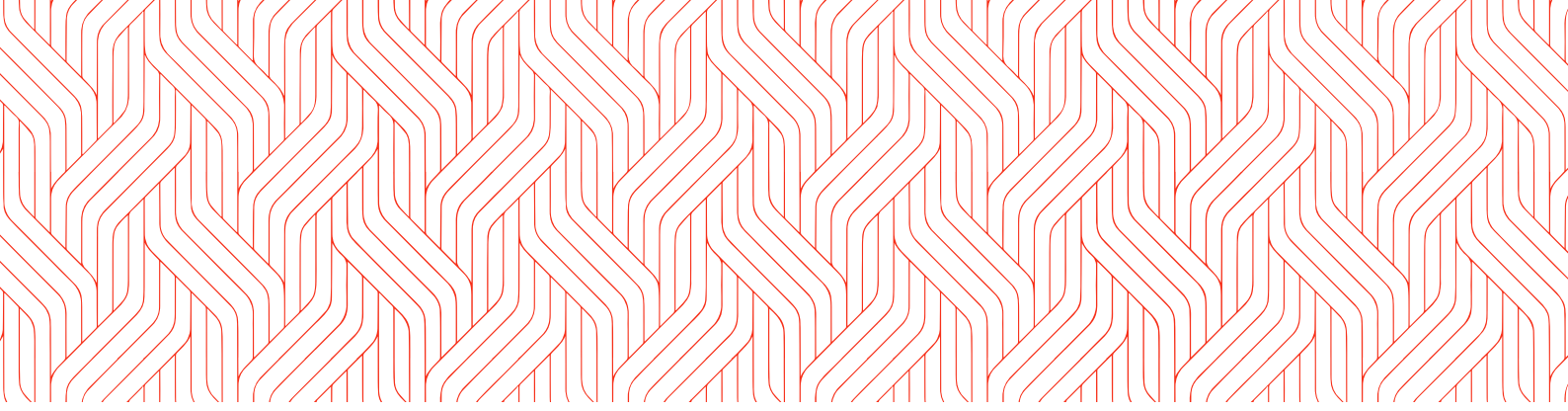
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