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TECHNICAL NOTE

COMPETITION AND EFFICIENCY IN THE FINANCIAL
SYSTEM

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This Technical Note was prepared in the context of a joint IMF-World Bank Financial Sector Assessment Program (FSAP) mission in South Africa during September 2020 to June 2021 led by Jennifer Elliot, IMF and Eva Gutierrez, World Bank, and overseen by the Monetary and Capital Markets Department. IMF, and the Finance, Competitiveness, and Innovation Global Practice, World Bank Group. The note contains the technical analysis and detailed information underpinning the FSAP assessment's findings and recommendations. Further information on the FSAP program can be found at www.worldbank.org/fsap.

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ABBREVIATIONS AND ACRONYMS

ACH	Automated Clearing House
ATM	Automated Teller Machine
AUM	Asset Under Management
CBDA	Cooperative Banks Development Agency
CDD	Customer Due Diligence
COFI	Conduct of Financial Institutions
DFI	Development Finance Institution
ETP	Electronic Trading Platform
FIC	Financial Intelligence Center
FMA	Financial Market Act
FSCA	Financial Sector Conduct Authority
G-20	Group of Twenty
HHI	Hirschman-Herfindahl Index
IFWG	Inter-governmental Fintech Working Group
IMF	International Monetary Fund
JSE	Johannesburg Stock Exchange
MMFs	Money Market Funds
MoU	Memorandum of Understanding
MSME	Micro-, Small-, and Medium-sized Enterprise
NPL	Non-Performing Loan
NPS	National Payment System
NPSA	National Payment Systems Act
NT	National Treasury
OTC	Over the Counter
PA	Prudential Authority
PAD	Payment Account Directive
POPIA	Protection of Personal Information Act
PSP	Payment Service Provider
ROA	Return on Asset
RTGS	Real Time Gross Settlement

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RTP	Real Time Payments
SACRRA	South African Credit & Risk Reporting Association
SAPO	South Africa Post Office
SARB	South African Reserve Bank
SME	Small- and Medium-sized Enterprise
SMME	Small, Medium and Micro Enterprise
SOE	State-owned Enterprise
UMC	Upper-middle income country
WBG	World Bank Group

EXECUTIVE SUMMARY¹

The banking sector is highly concentrated, with interest rate spread decomposition revealing high overhead costs and fees. The share of assets held by top 3 and top 5 banks show high levels at 65 percent and 90 percent respectively and have changed marginally during the decade. Decomposing the interest rate show that overhead cost and profit remained high, pointing to persistent operational inefficiencies. The cost to income ratio is the highest among peers and non-interest income has also remained higher than in peer countries. Fee income makes up almost a third of bank income. Banks' market power based on the Lerner index decreased slightly since 2016 and is in line with world median value².

Fees structures are complex and extensive prompting the need for user-friendly price comparison tools to improve transparency and competition. Account offerings particularly for middle income segment involve complex pricing bundles based on transaction type, volumes, access channel and are often linked to reward programs. Such fees structures make it difficult for customers to make meaningful comparisons across similar products. The average monthly account cost ranges from 2.1-6.1 percent of income depending on the customer income and account usage (2020 Solidarity Bank Charges report). A centralized and user-friendly product comparison website could make it easier for consumers to compare product offerings and increase competition among providers. FSCA should establish or support the establishment of such comparison tools as done by other financial regulators (e.g. Canada, Hungary, Malaysia, Mexico, UK).

Allowing non-banks fair access to critical financial infrastructure, which is currently owned by banks and incumbents, should be pursued by policies and regulations to promote competition. The retail payment systems, the credit reporting system, the gateway for ID verification services and fraud reporting repository are all controlled by a consortium of banks. In the current environment, payment services fintechs have to partner with banks; even if they were allowed to offer services independently, they would need direct access to the retail payment systems and possibly even settlement accounts at SARB. These issues are acknowledged and are included in SARB's National Payment System Framework and Strategy – Vision 2025. However, implementation of proposed reforms is still pending. The NPS amendments provide a direct role to non-banks in the provision of payment services while related reforms would streamline access to payment systems for non-banks. Beyond access to infrastructures, fintechs will also need a

¹ This Technical Note has been prepared by the World Bank team consisting of Catalina Garcia-Kilroy, Swee Ee Ang, Diego M Sourrouille, Harish Natarajan, Katia D'Hulster, Uzma Khalil and Eva M Gutierrez.

² The Lerner Index directly measures pricing power by examining the price markup over marginal cost of producing an additional unit of output. South Africa value was at .25 while the world median value was at .32 according to the World Bank Global Financial Development Database.

voice in the future development of the infrastructure, the pricing policies and more generally in their governance.³

To achieve a balance between competition and stability, the Prudential Authority and National Treasury should consider adopting proportionate regulatory frameworks aligned with the business risk profile of new entrants. Two digital banks were granted a banking license and a third one is expected to enter soon the market. However, the full potential of these banks is yet to be seen. Narrow banking licenses allowing institutions to conduct limited banking business such as payment services under a simplified oversight framework proportional to its risks—without diluting necessary safeguards to ensure financial stability, integrity and consumer protection—could be considered.

Competition and efficiency of the South African financial sector could be enhanced through market friendly policies that preserve financial stability, fostering the entrance of new players that cater to specific market segments and exploiting differences in investors' risk appetite. Fintechs, payment banks and cooperative institutions could foster financial inclusion and enhance the offering of financial services to consumers and SMEs. Capital market development can introduce competition and improve efficiency in the financing of large corporates and infrastructure projects. Authorities can implement policies that create a conducive environment for the entrance of new players leveraging new technology and financial innovation.

The authorities should leverage ongoing legal reforms to develop a regulatory framework for open banking⁴ and improve accessibility of government data. Open Banking could strengthen competition and catalyze further responsible innovation. Leveraging on the reforms under the COFI bill and the recently adopted legal framework for data protection and privacy regulations, the authorities should consider introducing open banking reforms to help address the current risks with screen scrapping and other data extraction and sharing approaches and increase competition. Moreover, the Inter-governmental Fintech Working Group (IFWG) could pursue options to making data (e.g. business registries, tax records, demographic information) available in a digital and automated manner.

Fixed income markets play a limited role as a source of long-term financing and liquidity to the private corporate sector, despite being sizable and relatively well developed. The breadth and depth of the market is limited. Bond-market financing has been largely concentrated in banks, NBFIs such as insurance groups and large SOEs (top 10 issuers represent 51 percent of issuance). The private sector issues, even from large corporates are insignificant. Reduced attractiveness of bond market financing is likely associated with (i) inefficiencies leading to higher

³ Currently, the PASA, a self-regulatory organization for the payments market, and BankServ as an operator of key payment systems are fully controlled by banks. Appointment of independent directors to the boards of key infrastructure to chair critical committees (e.g. membership committee and pricing committee) or regulatory approval for any changes rules related to membership and pricing could be considered.

⁴ FSCA issued a consultation paper on open finance in December 2020.

transaction costs and competitive barriers from the existing legal framework;⁵ (ii) a concentrated market structure dominated by a few large banks, and a few dominant NBFIs and SOEs; (iii) the demand side represented by a few large institutional investors (i.e. top 10 pension funds represent 30 percent of the industry); and (iv) a deterioration in overall macroeconomic fundamentals of South Africa. Additionally, a low savings ratio has led to lower market activity on new listings and trading, resulting in more market volatility and vulnerabilities.

On the supply side, there is a lack of a well-structured pipeline of projects in both infrastructure and SMEs, as well as a lack of suitable instruments and vehicles to invest in.

The Government has initiated critical upstream work towards developing a pipeline of strategic public infrastructure projects, but project preparation cycles are relatively long. The nature of the underlying assets (e.g., infrastructure, climate, social) require more flexible and tailor-made instruments that would deviate from traditional listed securities. Proposed changes to Regulation 28 that allow institutional investors and fund managers to increase their exposure to unlisted instruments and vehicles would support a stronger focus on infrastructure finance, provided parallel work is conducted to improve the supply of suitable projects.⁶

The ongoing review and amendment of the new Financial Markets Act (FMA) is essential to open competition and reduce inefficiencies to the South African financial market.

The objective of the reform is to align the FMA with best practices under international standards⁷ in order to support a more competitive and more developed local capital market. Despite the launch of four new equity exchanges over the last years, their volumes remain insignificant, reflecting existing regulatory constraints. Of particular relevance are the following changes being proposed; (i) removing any legislative clauses that have led to inefficiencies, higher costs and redundancies, such as duplication of reporting functions or mandated back-office infrastructure of the Johannesburg Stock Exchange (JSE); (ii) removing anti-competitive barriers to entry for new participants (e.g. exclusive role of JSE, streamlining of licensing and SRO framework); (iii) introducing a financial market conduct regulatory framework for all FMIs based on the principles of achieving market efficiency, integrity and competitiveness.

Development of the Electronic Trading Platform (ETP) for government bonds into the main trading venue would improve market efficiency and price formation.

Since its launch in 2018, the ETP has improved pricing transparency and price formation but secondary market trading is insignificant. Higher utilization and trading volumes on the ETP would improve pricing efficiency and support development of a more complete yield curve, and ultimately provide a reliable and low 'risk-free' price-reference for non-government bonds across the maturity spectrum of the yield curve. The authorities should consider elaborating a comprehensive strategy taking into account all existing trading venues for government bond markets.⁸ Market participants operate with

⁵ For example, the FMA has underscored the continued dominance of the JSE.

⁶ The proposal also envisions an explicit investment bucket for infrastructure investments and an increased limit for private equity funds (currently at 5 percent).

⁷ IOSCO, Markets in Financial Instruments Directive (MiFID).

⁸ the ETP, domestic OTC reported through JSE, and traditional OTC

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consistent strategies across these trading venues, but the National Treasury (NT) does not have a system in place to oversee and assess trading strategies across all venues. This limits NT's capacity to identify critical price and trading information that should inform its issuance policy and secondary market strategy to increase the role of the ETP.

Table 1: Key Recommendations

Recommendation	Responsible Authority	Timing
Improving Competition and Efficiency in Banking Sector		
Consider introduction of proportionate regulatory frameworks aligned with the business risk profile of new entrants to facilitate market entry	NT, PA	MT
Establish or support the establishment of a centralized website to facilitate the comparison of prices and features of common retail products	FSCA	ST
Fostering Competition through Fintech Market Developments		
Fast-track the review and promulgation of the NPS Act to ensure fair, open, and transparent access to critical financial infrastructure by non-banks	NT, FSCA, SARB	I/ST
As part of implementing the legislative reforms, consider giving a greater role to non-banks in the governance of retail payment systems and credit reporting systems.	SARB	MT
Enhance accessibility of government data by making the data relevant for financial sector available in a digital and automated manner with due regard to the data protection and privacy considerations.	IFWG	MT
Progress the work on open finance launched by the FSCA, SARB and NT and complete necessary regulatory changes	SARB, FSCA, NT	MT
Enhancing Competition through Capital Market Developments		
Amend the Financial Markets Act of 2012 to foster competition and further develop the domestic capital markets	NT, PA, FSCA	ST
Design and implement a plan to make the ETP as the main trading venue for Government bonds to improve price transparency and lower costs	NT	ST
Enable pledging and disposal of securities to facilitate classic repos; improve interoperability between SARB's collateral management system and Strate; allow NBFIs to access the repo market	NT, PA, SARB, FSCA	ST
Adopt proposed amendment to Investment Regulation (Regulation 28) increasing limits for pension funds exposure in infrastructure and unlisted instruments	NT	ST
Build FSCA capacity on the supervision of unlisted assets and infrastructure investments	FSCA	MT

¹ I-Immediate" is within one year; "ST-near-term" is 1–3 years; "MT-medium-term" is 3–5 years.

OVERVIEW OF THE FINANCIAL SYSTEM STRUCTURE

1. **The financial system is large and complex.** At end 2020 financial sector assets amounted to 380 percent of GDP and is large compared to most peer countries (**Error! Reference source not found.**2 and 3). Banks account for about 130 percent of GDP, followed by pension fund and insurers. Insurance sector assets account for 68 percent of GDP, life insurers hold the vast majority of the sector's assets at 62 per cent of GDP. Equity and government bond markets are highly developed, with a market capitalization (as a share of GDP) comparable to advanced economies. Assets under management (AUM) in the pension sector account for almost 100 percent of GDP. The Collective Investment Schemes (CIS) have grown overtime from assets under management at 33 percent of GDP a decade ago to assets representing 55 percent of GDP. There is a small but growing fintech sector focusing primarily on payments, business-to-business support, and lending activities. The financial sector includes several state-owned financial institutions, although apart from the Public Investment Corporation (PIC)⁹ these are relatively small.¹⁰

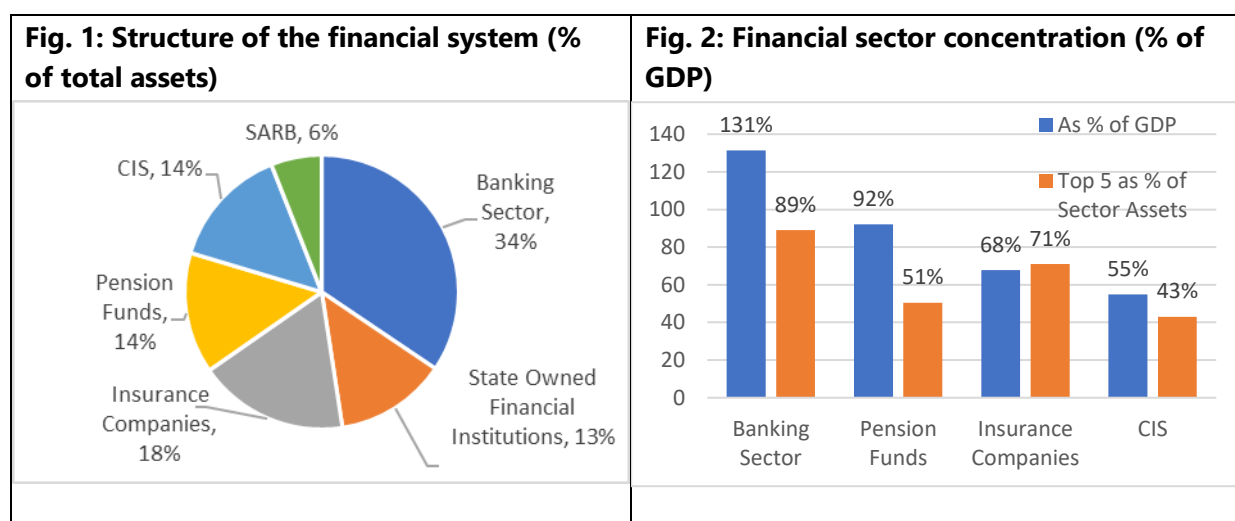
Table 2: Financial Sector Structure

Type of Financial Institutions	Number	Assets as of December 2020	
		<i>in ZAR million</i>	<i>% of GDP</i>
Banking Sector	34	6,537,933	131.4%
Registered Banks	17	6,122,473	123.1%
Local Branches of foreign banks	13	412,052	8.3%
Mutual Banks	4	3,409	0.1%
State-owned Financial Institutions		2,497,263	50.2%
- Of which Public Investment Corporation (PIC)		2,211,820	44.5%
Insurance Companies	168	3,372,499	67.8%
Long term insurers	76	3,099,983	62.3%
Short term insurers	83	220,338	4.4%
Reinsurers	9	52,178	1.0%
Pension Funds	5,124	4,490,617	92.1%
Government Employee Pension Fund (managed by PIC)	1	1,835,265	37.7%
Voluntary pension funds	5,123	2,655,352	54.5%
Collective Investment Schemes	1,686	2,730,460	54.9%
South African Reserve Bank		1,118,199	22.9%

⁹ PIC manages the assets of the Government Employees Pension Fund (GEPPF), a funded defined benefit pension scheme for the public sector.

¹⁰ State-owned financial institutions include development banks, Post bank, PIC and sectoral corporations.

Total Assets		18,911,707	381.7%
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Notes: Pension Funds data as of 2018, SOFIs latest available. VBS Mutual Bank is under administration since 2018. Total pension assets exclude GEFP assets of R 1,835,265 million since these are included under PIC. Source: South African Reserve Bank (SARB), Financial Sector Conduct Authority (FSCA), The Association for Savings and Investments of South Africa (ASISA), Stats SA, staff calculations.

Table 3: Financial system assets, South Africa and country peers (% of GDP)

Countries	Banks	Pension Funds	Insurance	Mutual Funds
South Africa	131.4	92.1	67.8	54.9
Median Peers	100.6	4.0	6.9	11.4
Brazil	102.7	13.6	16.4	75.4
China	261.6	1.9	21.6	13.2
India	98.5	2.1	19.3	13.0
Indonesia	59.2	1.8	4.7	3.4
Mexico	48.3	16.3	6.9	9.8
Russia	96.6	4.0	2.7	3.8
Thailand	130.5	7.2		27.7
Turkey	121.0		5.4	2.3

Sources: SARB, FinStats, Financial Soundness Indicators; Data for South Africa is as of end 2020; for peer countries bank data is as of end 2020, pension funds, insurance and mutual funds data is as of end 2019.

2. The financial system has a high degree of concentration. The market share of the top five banks in terms of banking sector assets is about 90 percent¹¹. Similarly, the top five life insurance companies hold 71 percent of the insurance sector assets, but insurance companies have an unusually diverse range of business models, with significant variation in risk profiles—

¹¹ A concentration above 80% for the top 5 banks is considered high.

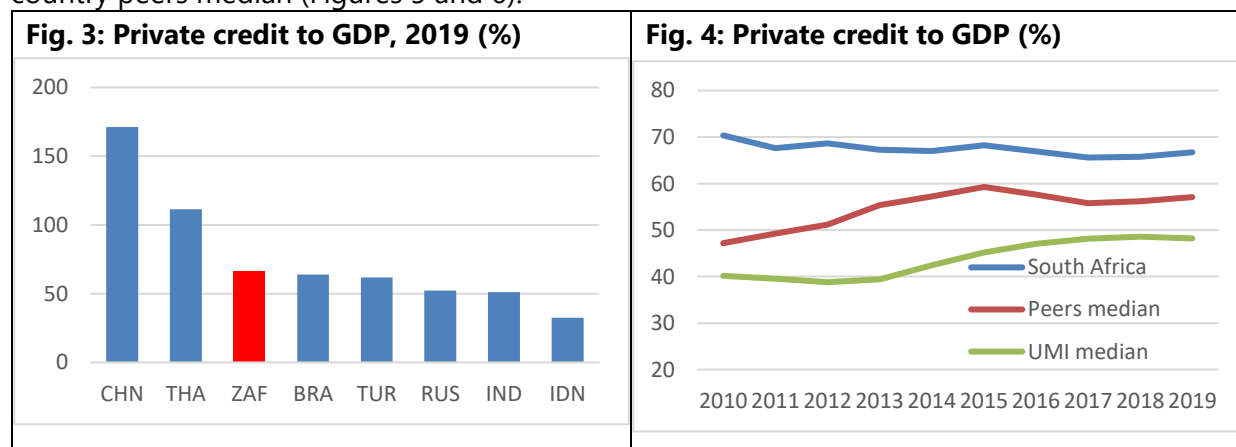
which is unique relative to other major insurance markets. The five largest fund managers hold about 43 percent of the assets under management. The pension fund industry is dominated by the Government Employees Pension Fund (GEPF) representing 41 percent of the pension fund assets with the top five funds accounting for 51 percent of assets. (Figure 2)

3. Domestic and cross-border interconnectedness of the financial system is high. Nonbanks are important sources of liquidity for banks. And all major banks are affiliated with insurance companies; bank-affiliated insurers underwrite a substantial proportion of private pension assets; and large banks own fund managers. While South African banks' cross-border operations represent a small part of consolidated balance sheets,¹² operations continue to grow and are systemically important in many host countries (e.g., Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Uganda, and Zambia). Thus, domestic shocks could generate outward spillovers, with a significant impact on the region.

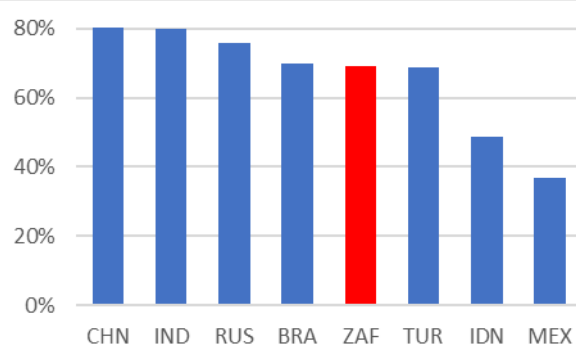
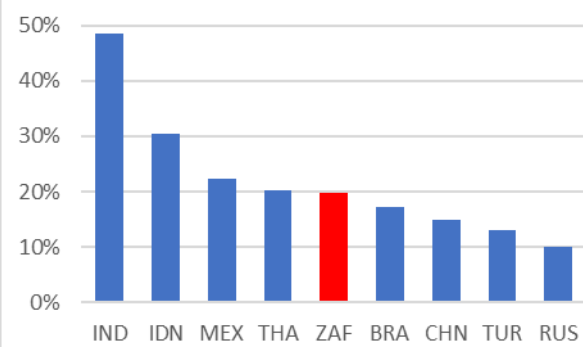
BANKING SECTOR COMPETITION AND EFFICIENCY

A. Overview

4. Banking intermediation levels are above peers but have dropped slightly over the last decade. Private credit at about 67 percent of GDP is in line with most country peers and above the upper middle-income median (see Figures 3 and 4). However, both the peers and upper middle-income medians have increased during the decade, while South Africa remained stable with a small decline. Access to bank accounts and inactive accounts are at the level of the country peers median (Figures 5 and 6).

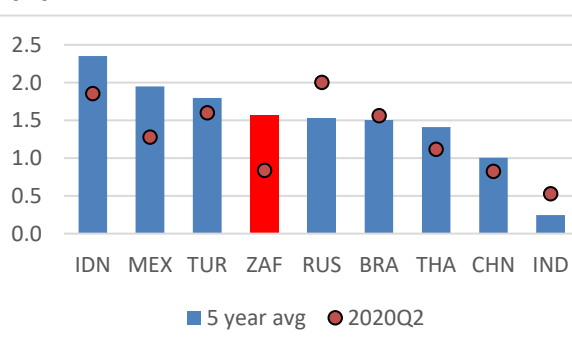


¹² Less than 5 percent of the exposures of the six largest banks is booked abroad.

Fig. 5: Percentage of adults with an account at a financial institution, 2017 (%)**Fig. 6: Inactive financial institution accounts in the past year, 2017 (%)**

Source: FinStats, Global Findex.

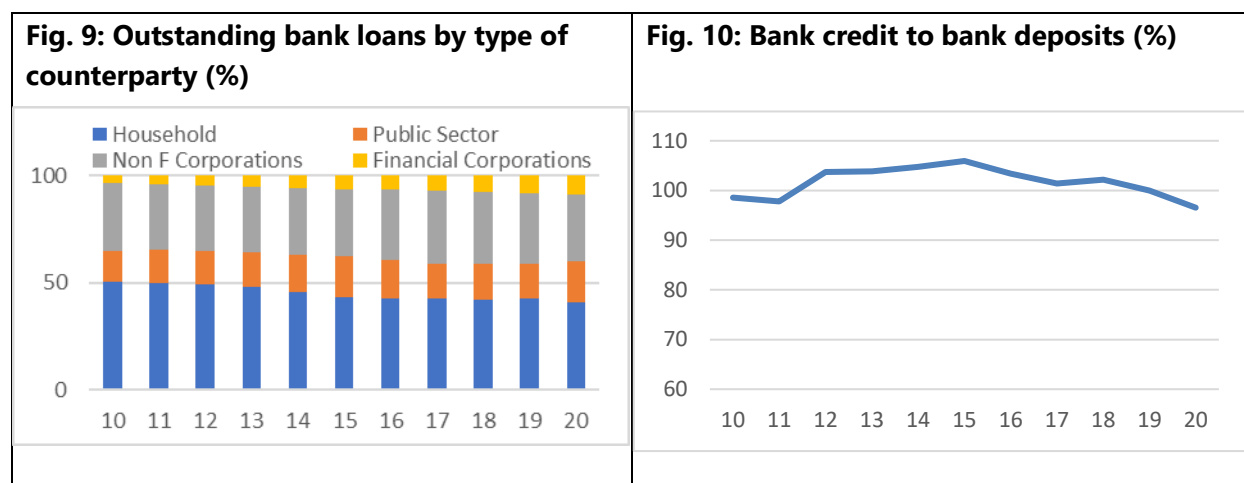
5. The banking sector has remained stable in the last decade though asset quality and profitability has witnessed deterioration. The banking sector capital ratios are well above regulatory minimums. Total capital adequacy ratio -the system's aggregate regulatory capital divided by the aggregate risk weighted assets- was 16.63 percent as of 2020Q4, almost at the same level as of the end of 2019, before the pandemic. Likewise, the 2020 Tier 1 ratio stood at 15.7 percent almost unchanged from 2019. The banking sector profitability has declined since 2018. Figure 7 shows that return on assets (ROA) fluctuated around 1.5 percent for the first part of the decade increasing to 1.7 percent as of 2017Q4 to decline to 1.4 percent on 2020Q1 and take an additional dive to 0.6 percent at 2020Q4 with the sharp drop in economic activity due to the pandemic. Asset quality has deteriorated since 2017 as economic activity has slowed. Figure 8 shows that by end of 2010 non-performing loans (NPLs) were at 5.8 percent of total loans. After declining for several years reached 2.8 percent at the end of 2017 to start an increasing trend (5.2 percent at 2020Q4, the highest level recorded in the past nine years).

Fig. 7: ROA 2020Q2 and five-year average (%)**Fig. 8: NPLs as percentage of gross loans (%)**

Source: Staff calculations using Financial Soundness Indicators data

6. Loans make up around 69 percent of assets, with the share of household loans decreasing in the last decade. Most credit is domestic with 86 percent of the total, and in local currency. The share of loans to households decreased from almost 50 percent to 40 percent of total loans in the last 10 years, mortgage loans decreased their share from 46 to 35 percent, while loans to corporations increased their share by 4 percentage points to 38 percent, due to the increase in financial corporations' loans. The loans to the public sector also increased their share from 14 to 19 percent (Figure 9).

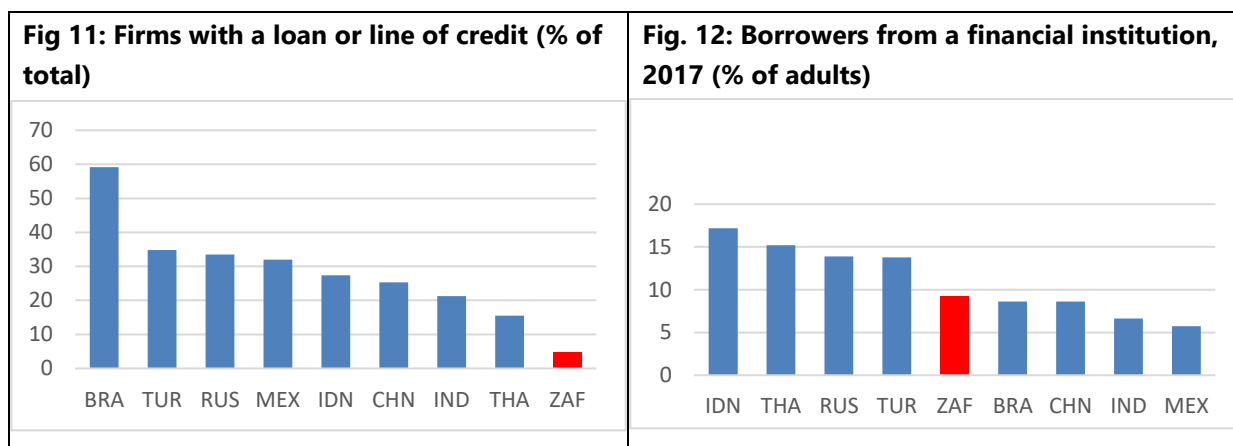
7. Most of the bank funding is domestic, coming from NBFIs and corporations. Deposits from NBFIs and corporations represent 52 percent of deposits and household deposits 28 percent. Most with maturities of six months or less. Deposits from the foreign sector are at 4 percent. Foreign currency liabilities represent 6 percent of total liabilities. The loans to deposits ratio is above 96 percent (Figure 10).



Source: Staff calculations using SARB data

8. Access to credit is a constraint for SMEs and lower income households. SMEs share of banks' business loans decreased from 32 percent in 2009 to 12 percent in 2020.¹³ This is reflected in the latest South Africa Enterprise Survey with SMEs considering access to finance as an increasing obstacle to their business. Twenty percent of small firms and 12 percent of medium firms consider it their biggest obstacle, up from 8.5 and 7.2 percent respectively in 2007, access to finance as an obstacle is second only to electricity supply. Few firms have a loan, or a line of credit (Figure 11) and the proportion of investment financed internally has increased to 82 percent. A large number of households are excluded from financial services. Limited financial inclusion appears to reflect both demand and supply side constraints, due to elevated unemployment and high costs of opening and maintaining bank accounts.

¹³ According to SARB BA 200 series.



Source: Fig. 11 Enterprise Surveys (various years South Africa 2020), Fig. 12 Global Findex

B. Concentration and Competition in the Banking Sector

9. Four banks are dominant in the banking sector and their market shares have changed marginally during the last decade. Standard Bank is the largest bank with a share of 24 percent of total assets in 2020, followed by FirstRand Bank (21.6 percent), ABSA (19.7 percent) and Nedbank (16.9 percent). The markets shares and rank for the “big four” banks have been remarkably steady. The only ranking change was in 2013 when FirstRand surpassed ABSA. Investec has been the fifth bank for the whole period with a market share of 7.6 percent. The sixth largest bank is much smaller with a share of 2.3 of total assets. None of the banks entering the sector in the last decade succeeded in reaching a 0.5 percent share of total assets.

10. The market concentration of the top banks is high relative to peer countries. The share of assets and loans held by the top three (and five) banks remained over 64 (89) percent since 2010 while the three-bank asset median of peer countries remained in the low 40s. The deposits for the top three (and five) banks remained over 64 (91) percent (**Error! Reference source not found.**4).

11. The Hirschman-Herfindahl Index (HHI) shows moderate concentration overall with higher concentration in the non-financial corporates, mortgages and credit cards loan segments.¹⁴The overall HHI for assets remained in the range of 1762-1885, peer countries and advanced economies show lower values. For example, India HHI for assets was at 740 in 2019, Thailand at 1286 and Indonesia 1577 (both for 2016), while the median for the European Union stood at 1224 (2020). The HHI for loans stood in the range of 1857-1955, but in terms of business lines, the non-financial corporations, credit cards, and mortgages loan segments showed higher concentration at the ranges 2063-2579, 2114-2366 and 2126-2320 respectively. The deposits HHI remained in the range 1800-1900.

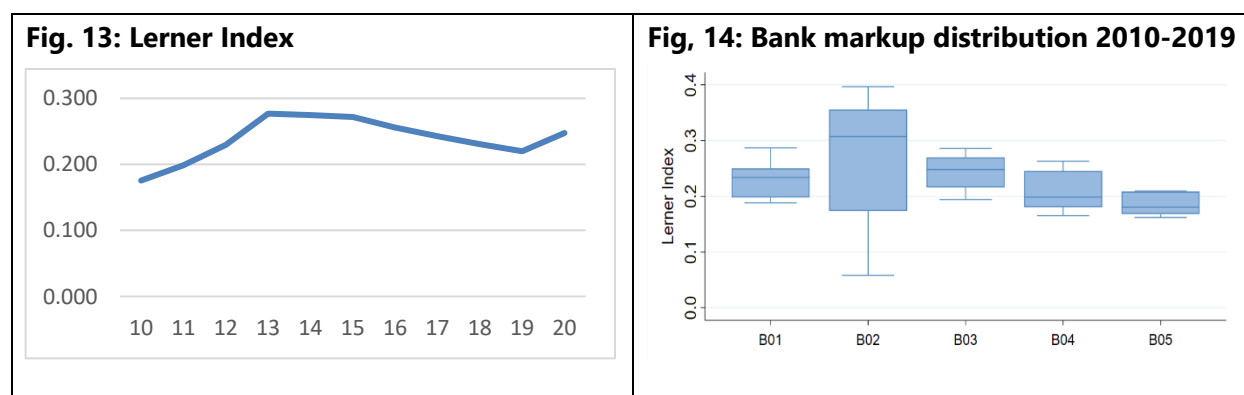
¹⁴ HHI is a system-wide distribution measure, where a number above 2,500 is considered a highly concentrated market and below 1500 a competitive market.

Table 4 Analysis of Market Concentration Indicators (2010-2020)

Year	Number of banks	Concentration Top 3 and 5						Hirschman-Herfindahl Index		
		C3	C5	C3	C5	C3	C5	Assets	Loans	Deposits
		Assets	Assets	Loans	Loans	Deposits	Deposits			
2010	31	64.9	91.6	67.3	93.3	66.5	92.6	1885	1954	1902
2011	30	67.0	91.5	67.3	93.1	65.8	92.2	1874	1955	1876
2012	30	66.9	91.0	67.3	92.6	66.3	92.6	1860	1929	1897
2013	32	66.3	90.5	67.6	92.3	65.5	91.7	1834	1941	1858
2014	33	66.1	90.5	67.4	92.4	65.2	91.4	1835	1930	1840
2015	34	64.6	89.1	65.7	91.5	64.3	90.9	1762	1859	1799
2016	34	64.9	90.6	66.3	92.9	64.5	91.7	1815	1912	1827
2017	36	65.1	90.4	66.3	92.8	64.6	91.5	1798	1888	1815
2018	36	64.9	90.3	67.0	92.8	64.1	91.4	1785	1893	1811
2019	36	64.8	90.4	66.5	92.6	64.2	91.3	1794	1884	1815
2020	34	65.3	89.8	66.1	91.6	64.7	91.1	1787	1857	1817

Source: SARB, staff calculations

12. Bank's market power, based on the Lerner index, decreased slightly since 2016 and is in line with peer country median value. The Lerner index is a bank-level measure that captures a firm's pricing markup¹⁵. Higher values for this index indicate greater market power and hence lower levels of competition. The index for banks in South Africa, was increasing up to 0.27 in 2016 to stabilize for 3 years and follow a decreasing trend until 2019 at 0.22, increasing again to 0.25 in 2020. The Lerner index median for the peer countries was at 0.30 in 2014¹⁶. Figure 14 ranks banks by their 2019 asset size and shows the Lerner index for the five largest banks.



Source: Staff calculations using Fitch Connect data. Not all banks in South Africa are included in the sample.

¹⁵ The Lerner Index directly measures pricing power by examining the price markup over marginal cost of producing an additional unit of output.

¹⁶ Last information available from World Bank's Global Financial Development database. World median value was at 0.32

13. Two earlier public reports by the authorities found several weaknesses on the competitive environment allowing high cost of banking services. The first report from 2004¹⁷, identified various anti-competitive outcomes including lack of access, high cost of banking services, and low rates of innovation (particularly in payments) as largely the result of weaknesses in the competitive environment, including high barriers to entry, lack of enabling legislation for second and third-tier bank and onerous regulations. A follow up study in 2006¹⁸ focused into the issues around the payment system. The report highlighted that the banking industry earned more than a third of its revenue from fees related to the payment system and suggested that bank fees have less to do with the cost of the payment services but more with the market power of the big banks in setting fees. It also drew attention to an absence of market conduct regulation for the banking industry and the National Payment System, in particular, an absence of transparency, and that disclosed pricing is often difficult to evaluate because of bundled offerings.

14. The Banking Enquiry suggested banks must developed a minimum set of standards for the disclosure of product and price information and reduce switching costs. Following these two studies, the Competition Commission decided to conduct a public Enquiry to obtain further information about the competition concerns¹⁹. The Enquiry panel concluded in 2008 that banks were not acting as a cartel, but that the cost and difficulty for customers to switch banks weakens the competitive effect of price differences between banks, allowing higher pricing to be maintained. The panel made a total of 28 recommendations covering five key areas: product and price comparison and switching bank costs; penalty fees; ATM carriage fees; access to the national payment system; payment cards and interchange fees, products and pricing. Suggesting that banks must ensure greater transparency and disclose product and pricing information, reduce search costs and improve comparability between products and reduce the cost of switching. The National Payment Systems Act is currently under review and the Competition Commission is confident it will incorporate the recommendations of the Enquiry on access to national payment system and related issues.

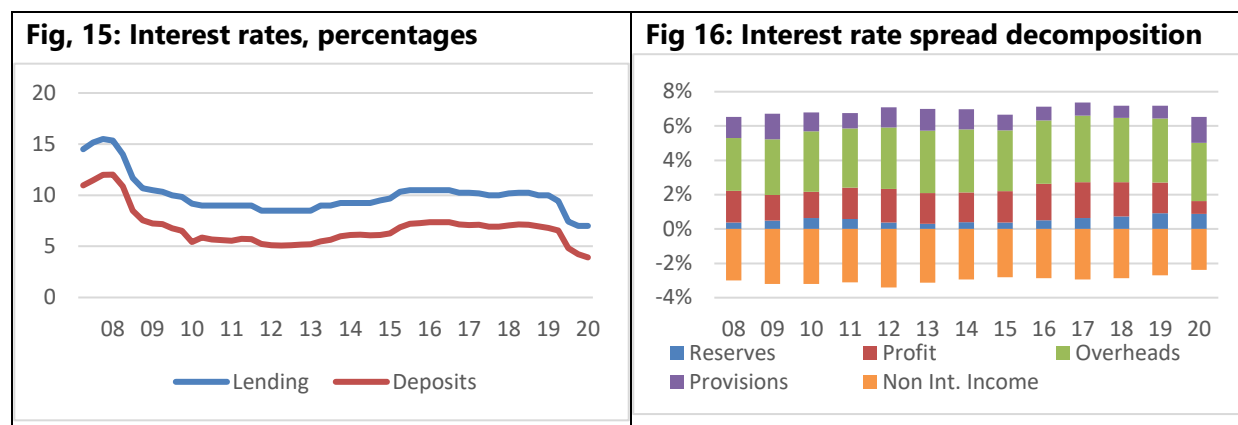
C. Banking Sector Efficiency

15. Interest rates and interest rates spreads have remained stable. Figure 15 shows that interest rates have remained stable since 2010 with a decline in 2020 following the SARB response to COVID-19 cutting the benchmark interest rate for a cumulative 300 points. Interest rates spreads showed only small changes staying at the 3-3.6 percent range for most of the decade. Interest rates are in line with peer countries median, (lending and deposit rates are a bit higher than SA) with a spread in the 3.2-5 percent range.

¹⁷ Falkena H., Davel G., Hawkins P., Llewellyn D., Luus C., Masilela E., Parr G., Pienaar J., Shaw H. (2004) 'Competition in South African Banking. Task Group Report', The National Treasury and The South African Reserve Bank.

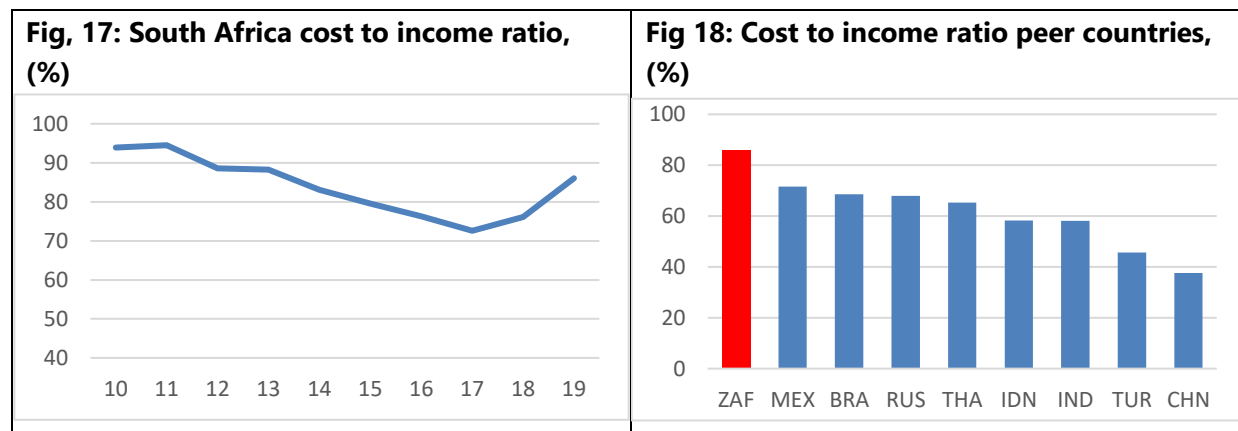
¹⁸ The economic research company Feasibility was appointed by the Competition Commission to write the report

¹⁹ Jali T., Nyasulu H., Bodibe O., Petersen R. (2008) 'The Banking Enquiry', Report to the Competition Commissioner by the Enquiry Panel <http://www.compcom.co.za/banking-enquiry/>



Source: Staff calculations using IFS and SARB data

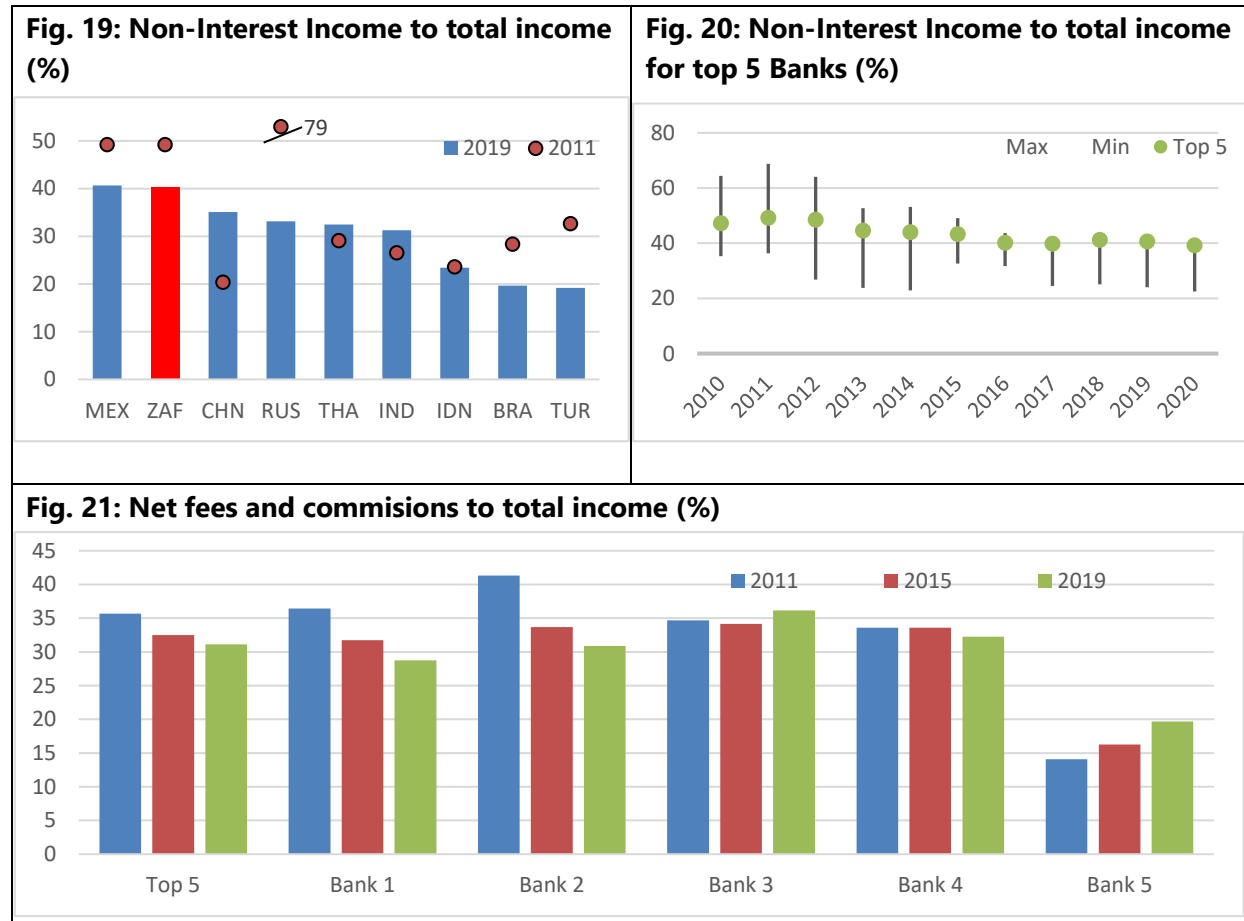
16. Interest rate spread decomposition shows high overheads cost and fees indicating persistent operational inefficiencies. Decomposing the interest rates accounting for provisions, overheads, profits, and reserves in Figure 16 shows that overheads and profit remained high (with profit declining in 2020)²⁰ pointing to persisting operational inefficiencies. Non-interest income is included as a negative in the decomposition to understand its contribution to net income. The cost to income ratio is rising since 2017 and is the highest among peer countries (Figure 17 and 18).



Source: FinStats. Peer countries data is for 2019

²⁰ The interest rate decomposition builds on the formulation in: Randall, M. R. 1998. Interest rate spreads in the Eastern Caribbean. International Monetary Fund; Cull, R., Gatere, P., Beck, T., Fuchs, M., Randa, J., Getenga, J., & Trandafir, M. 2010. Banking sector stability, efficiency, and outreach in Kenya. The World Bank; and Beck, Thorsten, and Michael Fuchs. 2004. Structural issues in the Kenyan financial system: Improving competition and access. The World Bank, 2004. Starting with this simplified identity (1) $P = II + NII - IE - OC - PR$, where, P = pre-tax profit, II = interest income from loans, NII = noninterest income, IE = interest expense, OC = overheads, PR = loan loss provisions. Then divide by (2) deposits (D): $II/D - IE/D = P/D + OC/D + PR/D - NII/D$. Using the assumption that (3) $L/D = 1 - RR$, where L = loans, D = deposits, and RR = reserve requirements. Then by defining $iL = II/L$ as the ex post lending rate and $iD = IE/D$ as the ex post deposit rate, we get $iL - iD = iL \times RR$ (reserves) + ROA (return on assets) $\times A/D$ (profit margin) + OC/D (overheads) + PR/D (provisions) - NII/D (noninterest income). Note that the noninterest income component is negative; this approach hints at the relationship between spreads and banks' specialization in lending (versus non-lending activities).

17. Non-interest income and bank fees are still high. Non-interest income in South Africa has remained higher than in peer countries as shown in Figure 19. The ratio for the top 5 banks shows a decrease since 2010. Fee income makes up almost a third of bank income and has slightly decreased since 2015. In 2019 the average fee income to total income for the top 5 banks was 31 percent, from 36 percent in 2011. At a more disaggregated level, the fee income has dropped for only the two largest banks but has stood fairly stable for Banks 3 and 4 and increased for Bank 5 (Figure 21).



Source: Fitch Connect. Not all banks in South Africa are included in the sample.

18. Fees structures are complex and extensive, presenting difficulties to make meaningful comparisons. Banks provide accounts marketed to different income segments. Accounts targeted to the middle-income segment, the core customer base, are quite often associated with rewards programs, that together with the different bundles offered and each bank transaction cost, make it difficult for customers to gauge the expected cost and benefits

and hence make meaningful comparisons of the bank's offerings²¹. Figure 22 shows an example of a fees structure, showing a proliferation of fees for different services.²²

Figure 22: Example of Banks fees structure

Daily Banking		Daily Banking		Daily Banking	
Flexi Account		Flexi Account		Flexi Account	
Flexi Account		Flexi Account		Flexi Account	
Pricing options		Balance enquiries		Other fees	
Seniors Rebate Banking minimum balance ²³	R5 000	Branch counter	R9,00	Notification fee (SMS or email)	R0,60
Monthly fees		Absa ATM	No charge	Dishonoured/Returned payment	R10,00
Monthly administration fee	R29,00	POS	No charge	Notice of payment or reminders (Online, Mobile, Telephone)	
Monthly subscription fees - Online, Mobile, Telephone Banking	No charge	Absa-supported ATM	No charge	- SMS Email Fax	R1,25 R1,25 R12,00
Deposits		Saswitch ATM/Post Office terminal/Overseas ATM/POS	R9,00	Absa Online notifications (included RVN, TVN, login alert)	No charge
Cash deposit: Branch counter	R80,00 + R2,20/R100	Online, Mobile, Telephone (IVR)	No charge	- SMS Email	No charge
Cash deposit: Absa ATM	R2,20 per R100	Telephone adviser-assisted	R9,00	Declined fee (insufficient funds) ²⁴	R10,00
Cardless cash deposit: Cash acceptor	R2,20 per R100	Statement fees		Debit orders disputed	
Cash withdrawals		Absa ATM ministatement	R10,00	- Applied/Online before 40 days lapsed	R15,00
Branch counter	R80,00 + R2,20/R100	Absa CAT terminal full statement	R20,00	- In-branch before 40 days lapsed	R40,00
Absa ATM	R2,20 per R100	Full statement: Branch counter	R40,00	- In-branch after 40 days lapsed	R145,00
Point of Sale (POS)	R2,00	Mailed statement	R40,00	Notes:	
Absa-supported ATM	R6,00 + R2,20/R100	eStatement ²⁵	No charge	1. Fees shaded indicate that no charge will be levied on this transaction when the minimum monthly account throughout the month. This option is only available to our senior customers aged 55 or over.	
Saswitch ATM/Post Office terminal	R12,00 + R2,20/R100	Stamped statements		2. An additional currency conversion fee of 2,75% (of the rand value of the transaction) applies to any transfer.	
Overseas ATM/POS ²⁶	R80,00	- Online	R10,00	3. Customers can register for eStatements by logging onto Absa Online and clicking on the 'Profile' menu item 'Manage eStatements'.	
Purchases		- Absa ATM	R20,00	4. An additional fee of R2,00 is applicable if request is emailed or R12,00 for fax.	
Prepaid Top Up for Airtime and Electricity		Transaction history		5. Includes the following: Absa ATM, Absa-supported ATM, Saswitch ATM, Post Office, Overseas ATM and POS.	
- Absa ATM, POS, Online, Mobile, Telephone (IVR)	R1,50	- Enquiry - Online, Mobile, Telephone (IVR) ²⁷	No charge		
- Absa-supported ATM	R6,00	- Enquiry - Telephone adviser-assisted ²⁸	R40,00		
- Saswitch ATM	R12,00	Archived statements - online	R10,00 per statement		
POS - local	R4,00	Tax certificates			
POS - overseas ²⁹	R4,00	- Branch	R35,00		
Lotto purchase via an Absa channel	R2,70	- Online	No charge		
Account payments and funds transfers		Copies of statements (per statement)			
Account payments		- Less than 4 months old	R40,00		
- Absa ATM	R10,00	- 4 months or older	R80,00		
- Online, Mobile, Telephone (IVR)	R10,00	Administration fees			
- Branch counter	R80,00	Stop payments			
- Telephone adviser-assisted	R80,00	- Branch, telephone adviser-assisted	R80,00		
Immediate interbank payments		- Online	R32,00		
- Online, Mobile, Telephone (IVR)		Stop order establishment/amendment fee	No charge		
- Less than or equal to R1 000	R10,00	- Branch, online, telephone adviser-assisted	No charge		
- More than R1 000	R49,00	Debit card replacement fee	R70,00		
- Telephone adviser-assisted	R80,00	Debit card - Face-to-face delivery	No charge		
Account verification					
- Online	R7,00				
- Branch	R26,00				
Debit and stop orders					
- Internal debit orders	No charge				
- External debit orders	R10,00				
- Stop orders	No charge				
Funds transfers					
- Absa ATM	No charge				
- Online, Mobile, Telephone (IVR)	No charge				
- Branch counter	R80,00				
- Telephone adviser-assisted	R80,00				
CashSend ³⁰					
- Absa ATM	R2,20 per R100				
- Online, Mobile	R2,20 per R100				

19. Moreover, the annual Bank Charges Report by Solidarity indicates that bank charges can comprise a high share of monthly income for low income segment of the population.

The 2020 report covers transaction accounts offered by the 'big five' banks and summarizes account costs according to several standardized transaction profiles. The average monthly account cost of a low-transaction customer profiles (12 transactions of varying types) is approximately R35, which represents 4.7 percent of income for an adult receiving R750 per month and 2.3 percent of income for an adult receiving R1,500 per month (Table 5). The average monthly account cost rises to approximately R137 for higher-transaction customer profiles (25 transactions of varying types), equivalent to 6.1 percent of income for an adult receiving R2,250 per month and 2.1 percent of income for an adult receiving R6,500 per month. Given the large share of South African adults receiving R1,500 or less per month, the relative costs of bank

²¹ There is a tendency of banks to offer single fee bundles. A bundle account usually includes access to the bank loyalty programs, and other benefits for example discounts when linked to a credit card. For more analysis, please see World Bank Group. 2018. Retail Banking Diagnostic: Treating Customers Fairly in Relation to Transactional Accounts and Fixed Deposits. <https://openknowledge.worldbank.org/handle/10986/30402>

²² Absa 2021 whole fee structure is available at <https://www.absa.co.za/content/dam/south-africa/absa/pdf/pricing-brochure/2021/2021-pricing-guide-retail-banking-products-on-sale.pdf>

transactions may explain why despite high account ownership, many South Africans continue to rely on cash to manage their day-to-day financial lives.

Table 5: Account costs relative to monthly income

Segment	Monthly income range	Share of adults	Account cost as % of monthly income	
			Low-transaction profile (12)	Standard profile (25)
1: Low Income	<R1,500	24%	4.7%	18.3%
2: South Africa Social Security Agency (SASSA) grant recipient	R1,500	29%	2.3%	9.1%
3: Informal job	R1,501-2,999	7%	1.6%	6.1%
4: Entry level job	R3,000-9,999	24%	0.5%	2.1%
5: Core middle class	R10,000-19,999	10%	0.2%	0.9%
6: Upper-middle class	R20,000+	7%	0.2%	0.7%

Source: Solidarity Bank Charges Report (2020); FinScope Consumer Survey (2019)

Note: The table reflects average monthly charges across banks and midpoint values for monthly income ranges. The income segments reflect those reflected in the 2019 FinScope Survey.

20. The 2020 Solidarity Bank Charges report notes that increasing competition by banks (including new entrants) has resulted in some degree of price convergence on common transaction costs, resulting in more focus on rewards programs to differentiate products across providers. However, a basic comparison of account costs between the 2015 and 2020 reports suggests that the same trend has not lowered costs for consumers; in fact, costs appear to have risen. The average monthly cost for four banks with comparable accounts under the low-transaction profile rose from R25 to R35 between 2015 and 2020, an increase of over 40 percent.²³ Significant variation in the cost of some key transactions is also still present in the market. For example, Capitec customers pay R9 for a R1,000 cash withdrawal from another banks' ATM, while an Absa or Nedbank customer pays R32.50 for the same transaction, more than triple the Capitec charge.

D. Regulatory and policy environment

21. The authorities have explored ways to increase competition and contestability in the banking sector by reducing barriers to entry though impact is yet to be seen. Initiatives include the promotion of cooperative banks and mutual banks that are subject to more proportionate legal and regulatory frameworks than the Banking Act. While these institutions do not face the same shareholder pressures as other banks, their development is constrained due to lack of product diversity, narrower sources of funding and limited investment in core systems which makes it difficult for them to compete with the major incumbents with full-service offerings. Discovery Bank and TymeBank offering digital and mobile only banking services, were rewarded

²³ Standard Bank PAYT, Absa Transact, FNB Easy, and Capitec R2000 balance.

full banking licenses in 2019. Bank Zero is expected to follow soon. Yet, it remains to be seen how successful these digital banks will be in establishing themselves, contributing to competition and building long term profitability.

22. A tiered banking licensing regime is also under consideration. Banking licenses allowing institutions to conduct limited banking business such as payment services only are currently under consideration. There is a strong interest from telecom companies to partner with these monoline payment banks. The international experience shows that phased and tiered licensing regimes have been designed to assist potential new entrants to the banking industry, particularly small firms with limited financial resources. The Box 1 provides examples of such initiatives in Australia, UK, Switzerland and Mexico.

Box 1. International examples of phased and tiered licensing regimes

Phased and tiered licensing regimes have been designed to assist potential new entrants to the banking industry, particularly small firms with limited financial resources. Phased licensing refers to putting restrictions on banks licenses for a limited time period, or a “restricted phase”. This license establishes a temporary light touch regulatory regime for new banks that need additional time to build enough resources and capabilities to become a fully licensed bank. During this phase, banks on restricted licenses would still need to demonstrate readiness for full bank license or exit the banking industry once the restricted phase comes to an end. In tiered licensing regimes, there are permanent differentiate requirements between established entities and newer entrants.

Australia - APRA – Australia’s APRA has a phased licensing regime. APRA has a two-year hard limit for restricted banks to progress to a fully licensed institution. New entrants will need approximately AUD 3 million in Tier 1 capital, plus a resolution or wind up reserve typically set at 1 million AUD (approx. 650,000 USD) and should be able to demonstrate access to additional capital so as not to breach the capital requirements during the restricted phase. During the initial phase, restricted ADIs are not expected to grow significantly beyond a 100 million AUD balance sheet. Within this limit, general existing products such as personal loans, pre-paid cards and deposit products, can be offered. Even though deposit insurance applies to restricted banks, they are subject to a deposit limit of 2 million AUD (approx. 1,3 mn USD) AUD on the aggregate balance of all protected accounts and a deposit limit of 250,000 AUD (approx. 165,000 USD) on the aggregate balance of all protected accounts held by an individual account holder.

United Kingdom – PRA - The PRA together with the FCA has also introduced a phased authorization option. They have permitted applications for authorization as a new bank to choose the “mobilization option”. This allows the applicant for a period of one year to build capacity while meeting reduced prudential requirements. It may not trade fully during this period, but is typically limited to receiving deposits up to 50,000 (approx. 60,000 USD) GBP in total. The restricted period can be extended by another year if it is deemed that the restricted bank could qualify for a full banking license in that time.

Switzerland – FINMA – FINMA has a tiered bank regime. Small, particularly liquid and well capitalized banks can apply to be permitted to the small banks regime. This allows them to benefit from reduced calculation and disclosure obligations with regards to capital and liquidity. There is no requirement to comply with the NSFR, no capital buffer and countercyclical buffer, reduced risk management requirements, elimination of specific outsourcing requirements and lower frequency of comprehensive risk assessment by internal audit. The applicants must be medium or small market participants (category 4 and 5), with a leverage ratio of at least 8%, an average LCR of at least 110% and a refinancing rate of at least 100%. FINMA can reject the application for the simplified regime if supervisory measures or proceedings have been initiated against the institution.

The FINMA has also introduced a new “fintech license”. The objective is to lower the market entry barriers for fintech companies that do not conduct business typical of a bank. It allows fintech licensed institutions to accept deposits up to CHF 100 million (approx. 100 million USD), provided these are not invested and no interest is paid on them. Hence, this license does not cover typical banking business but is a “a business type neutral approach to facilitate regulation of institutions that do not conduct typical banking business”. It is targeted at the wide array of services such as crowdfunding, algorithm-based data analysis, infrastructures for banks or payment systems, applications based on blockchain technology as well as activities with the framework of investment advice and asset management. The license is subject to certain conditions concerning organization, risk management, compliance, accounting and financial resources.

Mexico – Niche banks. Mexican authorities allowed entrance of operators catering to underserved segments. Niche banks have lower minimum capital requirements than commercial banks that depend on their business model. Niche banks providing credit (payment) services have capital requirements 60 (40) percent of the requirement for commercial banks. However, they are subject to the same prudential requirements of banks in terms of capital adequacy ratios and liquidity requirements. Reporting and risk-management requirements are proportional to business-model complexity. Credit and savings niche banks cater mostly to MSMEs and agricultural producers. SOFOMES²⁴ were expected to become niche banks to get access to cheaper and more stable sources of funding, such as deposits and interbank loans. However, in the process, they faced substantial regulatory costs. Overall, penetration has been low (only four institutions are niche banks compared to 1,628 unregulated SOFOMES). High operational costs given their small scale, limited business diversification, exposure to riskier segments and reliance on wholesale deposits are all source of vulnerabilities.

Mexico – Fintech licenses The 2018 Fintech Law was enacted to provide a regulatory framework for the providers of financial transactions and services through IT platforms or tools. The law aims to introduce competition in the sector while preserving financial stability and integrity and ensuring consumer protection. Under the law, crowdfunding and e-money issuers need to receive authorization from the regulator, comply with minimum capital requirements and can only collect and transfer resources to/from customer’ accounts at financial institutions. Operation requirements include (i) information security and business continuity, (ii) internal controls and risk management, and (iii) operational limits (size of transactions). The Fintech Law also contemplates temporary operation under a regulatory sand box for novelty models.

²⁴ This are NBFIs focusing on SME lending and low-income housing and consumer loans. They were exempted from prudential regulation.

E. Recommendations

23. The NT and PA should consider proportionate regulatory frameworks aligned with the risk profile (business, integrity, consumer protection etc.) of new entrants to facilitate entry of new providers. Banking licenses allowing institutions to conduct limited banking business such as payment services under a simplified oversight framework proportional to its risks—without diluting necessary safeguards to ensure financial stability—could be considered. There is a strong interest from telecom companies to partner with these monoline payment banks.

24. FSCA should launch a user-friendly price comparison tool with a view to improve transparency and competition. A centralized and user-friendly product comparison website could make it easier for consumers to search for and compare product offerings in the market. Such tools can also generate competitive pressures among providers to lower prices and improve product features, as noted in the 2018 World Bank Retail Banking Diagnostic. A methodology of the kind used in Solidarity’s report—which establishes several use cases for a product and then evaluates costs across these use cases— would be a useful starting point for such a resource. The website can then be developed incrementally over time to include a wider scope of information and higher degree of user interaction. Such a database can also provide financial sector authorities with a valuable tool to monitor trends in affordability and competition in line with national financial inclusion objectives. A number of financial sector regulators have established product comparison websites, including in Canada, Hungary, Ireland, Malaysia, Mexico, Peru, Norway, and the UK. FSCA has indicated that such a database is under development.

ROLE OF FINTECH MARKET DEVELOPMENT IN FOSTERING COMPETITION²⁵

A. Fintech Market Landscape

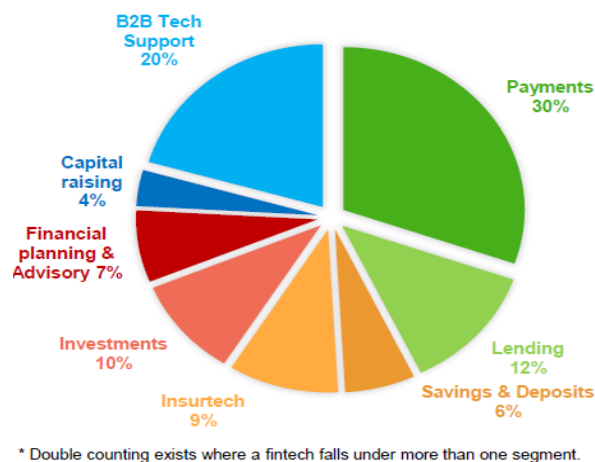
25. South Africa has a relatively small but growing Fintech market and ecosystem, and the South African regulators have taken several initiatives in response to the Fintech developments. The substantial gap in penetration of traditional financial services is creating a demand for innovations. The Fintech market is benefiting from several accelerators – both independent and ones managed by incumbents - and venture capital firms. The financial sector regulators have adopted a balanced position of harnessing the potential of Fintech whilst mitigating risks. A dedicated unit has been established in the SARB and FSCA to monitor and shape the respective regulators policy response, this has been followed by launch of a “Fintech Program”, which is focused on analyzing and tracking market developments and assisting

²⁵ This section on Fintech draws from the detail Background Note on ‘Fintech’ that has been prepared as part of the FSAP Update. For more detail information and analysis see the background note.

regulators in developing suitable policy responses. The SARB launched “Project Khokha” - their exploration on usage of Distributed Ledger Technology (DLT) for the core functions of SARB in the payments and settlements arena. The regulators and public agencies have also established an Inter-governmental Fintech Working Group (IFWG) to collectively study, deliberate and initiate coordinated actions.

26. Fintech activity in South Africa has been largely focused on five areas: payments, B2B technology support, lending, InsurTech and investments.²⁶ The IFWG in its 2019 Fintech landscape study identified 227 fintech companies active in South Africa in 2019 and categorized the fintech market in South Africa into 8 segments – Payments, B2B technology support, Lending, Investments, InsurTech, Financial planning and Advisory, Savings and Deposits, and Capital Raising. The first five segments collectively represented close to 80% of the total fintechs in the market. Payments are by far the most active fintech segment in South Africa. Due to regulatory constraints, new entrants have largely focused on merchant payments and mPOS services while the incumbents have developed a full range of digital payment solutions.

Figure 21: Segmentation of Fintechs in South Africa



27. There are some early signs of the positive impact of fintech in addressing the key development challenges. Fintech developments are accelerating the adoption of digital payments and reducing use of cash. Digital banks have penetrated not just young and tech-savvy customers but also customer segments that were under-banked. Incumbent banks have responded by refreshing their product portfolio and developed basic account products to target the unbanked and underbanked segment. Fintechs have been able to expand digital payment

²⁶ This information is based on IFWG Fintech landscape report and from an online article published at <http://fintechnews.ch/fintech/fintech-in-south-africa-overview/18114/>

acceptance to small retailers. New payment products of banks have expanded the usage of digital payments. Incumbent banks have launched initiatives to better serve the MSME segment and help them grow. Fintechs and their partnership with banks has catalyzed interest of retail investors in capital markets and attracted new demographics to investing. Market place lending platforms have demonstrated potential for alternative approaches to fund raising for MSMEs. Finally, fintech approaches have made it easier for individuals to compare and buy insurance products, improved efficiency of claims processing and enabled launch of new tailored products.

B. Enabling environment to foster competition through fintech

Current Status

28. The Fintech vision document outlines a vision for harnessing Fintech responsibly for economic development and financial inclusion, identifies four objectives and six enablers.

The vision document lays out the vision for Fintech - *"for South Africa to be a leading Fintech hub for Africa, promoting financial inclusion while spurring competition, digital skills, and economic growth through innovation."* The four objectives identified are: (i) addressing needs of the underserved and marginalized; (ii) enhancing investment in domestic fintechs and encouraging the role of incumbents in the fintech sector; (iii) enhancing the legal and regulatory environment to promote innovation and competition without negatively impacting financial stability and integrity; and (iv) building and retaining the local talent base. The vision document identifies six enablers for the fintech sector and lays out an implementation plan organized around the four objectives.

29. The SARB developed the "National Payment System Framework and Strategy – Vision 2025" to articulate its vision for the development of the national payment system, which includes "promoting competition and vision" as one of the nine goals. This goal makes specific reference to the vision of the SARB to have fintechs compete with banks across the full spectrum of the payments value chain on a level playing field. There is a specific reference to exploring feasibility of allowing non-bank players to handle customer funds and operate e-money services. The articulation of the goal further refers to increasing the quality and coverage of Real-Time Payments (RTP); increasing usage of new channels including mobile devices for making and receiving payments; and exploring usage of Distributed Ledger Technology (DLT) and Application Programming Interfaces (APIs).

Box 2: Fintech Implementation plan

Addressing needs of underserved and marginalized SMME segments

- Support the development of advanced digital payment options
- Improve access to credit and arrange of financial services for individuals and SMMEs
- Pass the Conduct of Financial Institutions Bill (CoFI) for consumer protection
- Incentivize partnerships between incumbents and fintech players
- Support streamlined and efficient customer on-boarding
- Utilize the predictive power of credit scoring models to expand access to finance
- Promote the use of innovative savings and investment products.

Encouraging expanded investment in South African fintechs

- Promote the South African fintech ecosystem at local and international events
- Provide platform for fintechs at the Annual South African Fintech Conference
- Grow South Africa's angel investor network and improve linkages to foreign risk capital
- Review public sector financing channels tailored for fintechs
- Encourage large financial institutions to invest more in digital platforms and outreach
- Explore the use of alternative finance such as crowd funding platforms.

Enhancing the legal and regulatory environment to promote innovation, competition, and stability

- Institute dedicated fintech units at the regulators to both enable fintech, monitor trends and mitigate risks – including data privacy and cybersecurity
- Set up an Innovation Hub to facilitate collaboration and promote ecosystem growth
- Launch a Regulatory Sandbox to test new innovations
- Coordinate with the SADC region on fintech policy and learnings
- Specialized support to access the SME credit guarantee instrument released under COVID-19
- Support the move towards open data and APIs to create a level playing field.

Building South Africa's talent base

- Create a revised critical skills shortage list
- Promote Digital Financial Capability for Consumers
- Promote learning in Science, Technology, Engineering and Mathematics (STEM)
- Collaborate with relevant stakeholders to develop fiscal and non-fiscal incentives to attract and retain talent to the local fintech ecosystem.
- Reduce the 'Not in Education, Employment, or Training' (NEET) rate significantly through the fintech sector.

30. The SARB and the NT are aware that the legal and regulatory barriers is impeding a more direct and independent role for non-banks in the provision of payment services which in turn constrains the further development of fintechs in the payments market. The existing legal framework in South Africa allows only banks, Mutual Banks or co-operative financial institutions to handle customer funds in a bank account or as an e-money account. As a result, only these institutions can offer payment services to payers. Amendments to the National Payment System Act (NPSA) and subsequent directives issued by SARB in 2007 allowed non-banks to offer services incidental to making payments to the payers and payees and this has allowed non-banks to play a role in e-commerce, bill payments and merchant payments. Regulatory changes in 2007 allowed non-banks to offer such services and the entity providing such services were called TPPPs. There are now several TPPPs in South Africa operating as

payment gateways for e-commerce, bill payment aggregators and also as merchant aggregators – signing up and servicing merchants on behalf of acquiring banks for accepting card payments and other digital payments. Subsequently an additional category called “System Operator” (SO) that can provide services to the payers and payees in processing payment instructions was created. Non-banks were explicitly allowed to offer SO services and this is being used by Fintechs that want to provide services to merchants without handling funds.

31. The NPSA gives the SARB the authority to allow non-banks to join the retail payment systems as a “clearing system participant”. The NPSA and associated directives allows only banks and mutual funds to hold settlement accounts and be settlement participants in the payment systems in South Africa and additionally co-operative banks as clearing participants. The SARB however is given the discretion to allow and designate non-banks to become clearing participants of payment systems. The SARB can exercise this discretion on a case-by-case basis and is required to be guided by such designation being important for maintaining the stability, integrity, effectiveness or safety of the payment system. Thus far only three non-bank institutions have been allowed to become a clearing participant – Post Bank²⁷, Diners Club and Retail Assist.

32. A TPSP getting designation as a clearing participant can effectively function as an acquirer and operate independently, though it will need to appoint a settlement bank to settle on its behalf. A TPSP without a clearing participant designation, will need to partner with a bank or mutual bank to participate in a retail payment system and accept payment instruments of other institutions that participate in the payment system. Without that designation a TPSP will be required to partner with a bank or a mutual bank or offer only acceptance of proprietary and closed-loop payment instruments.

33. New entrants and non-bank payment service providers also lack an effective say in the governance of critical payment system infrastructures which are all operated by banks. BankServ – structured as a banking consortium is licensed as a Payment System Operator (PSO) and operates all the inter-bank retail payment systems processing credit transfers, direct debits and payment card transactions. The four largest South African Banks – First Rand, Standard Bank, ABSA and NedBank collectively own 92.5% (split equally) and the remaining share is held by a consortium of the other banks.

34. BankServ has launched – “Project Future”²⁸ – to modernize the RTC service to include alias-based payments and introduce request to pay functionality. The stated objective of this project is to develop a payment service that can substitute for cash and the service is proposed to be called Rapid Payments. The role of non-banks in this project is not clearly defined yet. This project is referenced in SARB’s vision 2025 and commenced in 2017 with a cross-country study led by BankServ, PASA and the Banking Association of South

²⁷ Post Bank is an off shoot of the South African Post and has applied to be licensed as a bank. It currently offers payment services including for the social protection programs.

²⁸ PASA, “Project Future: Case of modernized real-time retail payments in South Africa – a case for change”, October 2019

Africa. The study concluded the need for modernizing RTC to introduce a true low-cost real-time digital payment service that would allow real-time credit funds to the recipient, enable a new mode of payment process – Request to Pay (RTP) and introduce alias based payments. The RTP process, shifts the initiation of a payment to the payer allowing for authentication of each payment thereby reducing the repudiation related frauds and lends itself well to both merchant payments and P2P transfers. Like the RTC, the rapid payments service would ride on the EFT rails and as such would create a true alternative to card based payments for merchant payments. Further, the introduction of alias-based payments – users set up aliases like say mobile number, email id or other easy to remember identifier which becomes their payment address – will improve the user experience and enable integrating the service into the social and economic lives of individuals. The RPP is expected to be launched towards end of 2021 and expected to contribute to a drop in usage of cash from about 89% of payment transactions in 2018 to about 81% of all payments in 2025.

35. The credit information infrastructure is well-organized on the data collection side with a streamlined process for credit data collection, and there are several credit bureaus that provide aggregated customer credit profiles. The South African Credit Risk reporting Association (SACRRA) – a non-profit association of credit information providers – operates a platform called the Data Transmission Hub (DTH), to which the different entities who hold credit and payment information pertinent to credit process report data monthly. The SACRRA aggregates this information and makes it available to participating credit bureaus who in turn use this to develop customer credit profiles and make it available to institutions that have a legitimate use for this data – notably banks. The National Credit Regulator (NCR) has an MoU with SACRRA for information exchange on data quality and SACRRA to implement regulation 19(13) of the National Credit Act which governs collection, retention and usage of credit and related information. The data collected largely pertains to individual consumers and there is very limited information on legal entities. Positive payment information is also collected from utility companies and some credit bureaus also consolidate judicial rulings. Fintechs and incumbents alike are using credit scores for their credit decision processes. The credit reporting infrastructure is also being leveraged to integrate alternative data like payment behaviours into the credit scores. The online lenders, POS financiers and market-place lending platforms are not obligated to report to the credit bureaus, though some of them have voluntarily started reporting.

36. The SARB has launched a project to develop a comprehensive credit registry - Central Credit Register (CCR) – to address gaps in coverage and information provided by credit bureaus to support its supervision and oversight responsibilities. In the aftermath of the global financial crisis in 2008, the SARB requested the Department of Trade, Industry and Competition approval to launch an initiative to gather credit and related data on behalf of all regulators to enable carrying out their respective mandates. The SARB felt that the data provided by credit bureaus to the regulators were not granular enough, not comprehensive (only 3000 of the 7500 credit providers report data) and lacked data on credit to legal entities. Following deliberations amongst the regulators and evaluation of approaches followed by select regulators globally, it embarked on establishing a CCR. The CCR is expected to capture information on all

credit products irrespective of the credit amount and for both individuals and legal entities. The CCR is expected to go on stream only in 2025-26.

37. The Department of Home Affairs (DOHA) maintains a National Population Register with the biometric (fingerprint and photo) of citizens and permanent residents and has enabled online verification access to banks and fintechs through South African Banking Risk Identification Center (SABRIC). This service is being used extensively by banks, insurance companies and fintechs for completing the identity verification processes for customer onboarding. The DHA has issued a policy document for public consultation which outlines plans to modernize the identity management system²⁹ in South Africa and to develop a new National Identity Service (NIS). The NIS is proposed to cover all residents in South Africa and provide a single source of identity verification for the public and private sector. There is a further proposal to link this with a national eGovernment system to provide a framework for data exchange between public and private sector agencies.

Gaps in regulatory and policy framework

38. The role fintechs can play in payments is constrained by law and is hampering the full effect of competition to play out. The authorities recognize this shortcoming and have included actions to address them in their plans, though the implementation of these have been significantly delayed. The main constraint is on the restriction of independent provision by non-banks of payment services that require handling of customer funds. This effectively has blocked out the independent non-bank mobile money services seen in rest of Africa and other EMDEs. While the TPPP framework allows non-banks to offer merchant payments, they are not assured access to payment systems. The NPS Vision 2025 and the position paper on the review of the NPS Act, clearly acknowledge this issue and propose actions to address them. The implementation of these have however been very slow and there has been no change on these issues since 2007. Several new initiatives have been launched notably implementation of a fast payment service and consultations on open banking, that would lead to greater adoption of digital payments and foster innovation. Despite the gaps noted, there has been a broad shift towards usage of digital payments that is best embodied in the market exit of cheques as a payment instrument.

39. The critical financial infrastructure in South Africa is owned by banks and incumbents. This could pose challenges as the role of fintechs expands under the proposed reforms. The retail payment systems, the credit reporting system, the gateway for ID verification services and fraud reporting repository are all controlled by a consortium of banks. In the current environment for payment services, fintechs offering payment services involving pooling of funds have to partner with banks, but when they are allowed to offer services independently they will need direct access to the retail payment systems and settlement accounts at the SARB. These issues are acknowledged and are included in the NPS Act review policy paper. Similarly, in the area of credit reporting the critical entities like SACCRA and SAFPS are owned by banks. The access to ID infrastructure of Department of Home Affairs (DOHA) is through SABRIC – owned by

²⁹ Draft Official Identity Management System, Department of Home Affairs, December 2020

banks. However, beyond access to infrastructures the fintechs will also need a voice in the future development of the infrastructure, the pricing policies and more generally in their governance. Currently all of these are owned and operated by a group of banks.

40. The authorities have recognized the significant risks posed by the extensive use of screen scrapping and recognize the need for an “open banking” style regulatory framework. However, there is no regulatory guidance on how to address these risks in the interim³⁰. Screen scrapping is being extensively used in South Africa – for accessing bank account statements by online lenders, for initiating payments by instant EFT providers and customer due diligence by some TPPPs. There are several fintechs offering such services on a B2B basis including some foreign providers. The authorities have issued cautionary statements on these risks and have analyzed the issues this poses. The proposal to adopt open banking regulations is widely supported by both the regulators and banks. The process for issuing and adopting regulations for open banking are likely to be long drawn especially given the very packed legislative agenda as part of the final phase of the “twin peak” reforms.

C. Recommendations

41. The reform agenda outlined in the NPS Vision 2025 and the NPS Act review policy paper are comprehensive. However, while the system enhancements are well-underway the legislative changes are still pending and will need to be fast tracked. The legislative reforms seeking to provide a direct role to non-banks in the provision of payment services are directly related to addressing the gaps in usage of digital payments across income segments. The related reforms of streamlining access to payment systems for non-banks goes hand-in-hand with allowing non-banks to play a direct role. Globally there are two routes that have been followed for enabling a direct role for non-banks in payment services: (i) create a distinct category of e-money as a prepaid payment product which is distinct from bank accounts and not considered a “banking activity”; and (ii) develop a new tier of banks that are only allowed to offer payment services – also called narrow banks or payment banks. Countries that have adopted option (i) include Kenya, Uganda, Tanzania, Indonesia and Hong Kong. Nigeria, India and Brazil are some of the recent examples of countries following option (ii). Some countries have taken both options – for example, India allows both non-bank issuance of e-money and payment banks. These changes will need to be accompanied by enabling the non-bank entities to engage agents and apply tiered customer due diligence requirements for both customers, agents and merchants.

42. As part of implementing the legislative reforms, the authorities need to consider giving more role to non-banks in the Governance of retail payment systems and credit reporting systems. Currently, the PASA as an SRO for the payments market and BankServ as an operator of key payment systems are fully controlled by banks. As non-banks take on more active roles in direct provision of payment services, they will need to have adequate say in the governance of these bodies. In the case of BankServ – this need not necessarily be in the form of non-banks becoming shareholders. Changes in the composition of the board of directors and

³⁰ In November 2020, the SARB has published a consultation paper on screen scrapping informed by a survey and has proposed a set of recommendations focusing on payment initiation services.

board committees; and market consultation processes could be adequate. In the case of board of directors – the SARB could consider requiring a minimum number of independent directors on the board of BankServ– who can represent the wider interest of the payment system community. Similarly, critical board committees like the rules and membership committees could be required to be chaired by an independent director and have adequate representation of independent directors.

43. The IFWG could consider exploring opportunities to collaborate with the Government to make data relevant for financial sector held with the Government available in a digital and automated manner. The data could include open government data like and data on individuals and legal persons. The former clearly will need to be based on appropriate consent from the relevant data subject. Notably, there appears to be limited availability of data relevant for financial sector held by Government like business registries, tax records and demographic information, in a digital and automated manner. Open data like the census data, GIS maps and weather station data could be pertinent as well. This is already envisaged by the FSCA to be carried out in 2022 and would be a continuation of its past work on alternative data and open finance study.

44. The authorities should adopt open banking regulation. The ongoing legal reforms under the COFI bill, the NPS review and the recently adopted legal framework for data protection and privacy regulations – POPIA, will provide a sound basis for the regulators for embarking on a regulatory framework for open banking. There is a clear demand for Open Banking services in South Africa and enabling this could strengthen competition and catalyze further responsible innovation. Open banking reforms will also help address the current risks with screen scrapping and other data extraction and sharing approaches. Open banking regulations need to cover a set of critical topics – (i) minimum set of data and transaction services that will need to be offered; (ii) which institutions are mandated to offer these services and for what type of products and accounts; (iii) which institutions are allowed to access these services and what would be the regulatory framework for them; (iv) minimum authentication requirements with respect to securing consent of customers; and (v) governance arrangements for monitoring and implementing the necessary industry level infrastructure for this. Different countries have adopted different approaches, in the case of South Africa it appears that given the strong collaboration amongst the regulated entities, building on existing infrastructures like BankServ and SAC CRA and using a common API hub would be most effective. In terms of coverage of services, given the strong IT investments already made by incumbents, South Africa could consider taking an expansive approach covering all regulated financial services and enabling both enquiry and transactional APIs.

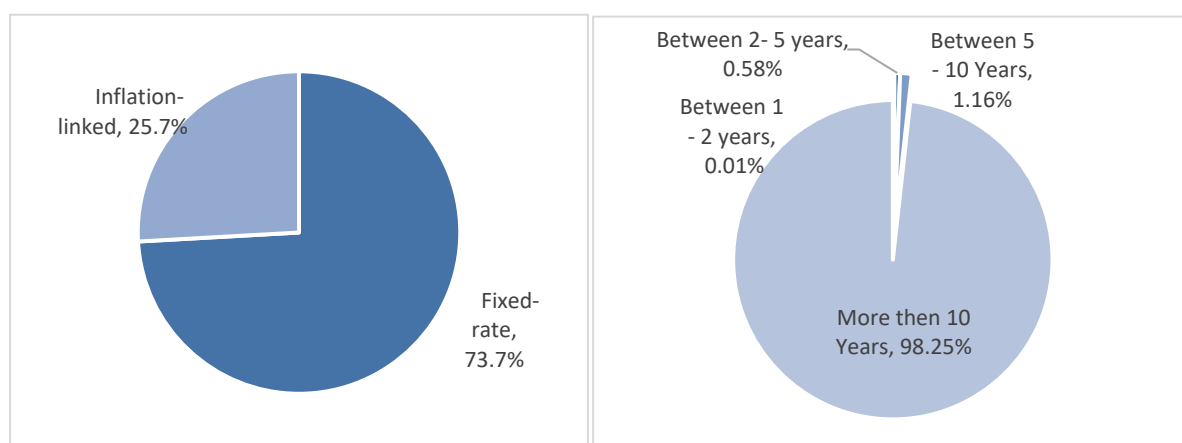
ROLE OF CAPITAL MARKETS IN ENHANCING COMPETITION AND EFFICIENCY

A. Profile and Structure of Bond and Equity Markets

Government Bond Market

45. The profile of South African government bond market (GBM) is relatively well spread out across maturities to support the development of a long-term yield curve. Government bonds represent the bulk of the South African bond market (~70 percent) with an outstanding value of ZAR3 trillion (roughly USD210 billion) as of end May 2020. The government bond market is relatively well-structured both in the primary and secondary market. In the primary market - maturities go up to 30 years with fixed coupon instruments³¹ being the largest contributor (~83 percent). About 65 per cent of the total issuance was concentrated in bonds with maturities of between 4 and 15 years and the overall portfolio (fixed and inflation linked bonds (ILB)) as of May 2020 and the weighted term to maturity decreased to 14.97 years in March 2020 from 15.85 years in March 2019 (Figure 22). This mix has been relatively stable in the last 5 years except for some additional ILBs auctioned during the stress period of COVID-19 in 2020. In the secondary market, a system of nine primary dealers arrangements providing liquidity across most of the yield curve, with a greater concentration of liquidity in the 10-year bond equivalent (Figure 23).

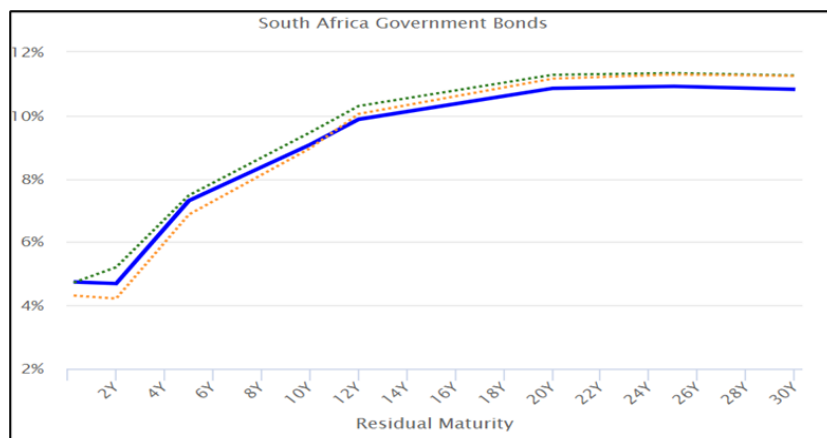
Figure 22: South African Government Fixed Rate Bond Instrument Mix (LHS) and Maturity



Note: Profile (Original Maturity) based on outstanding bonds as at May 2020

Source: National Treasury statistics

³¹ The NT does issue floating rate notes which comprise about 16 percent of their instrument profile

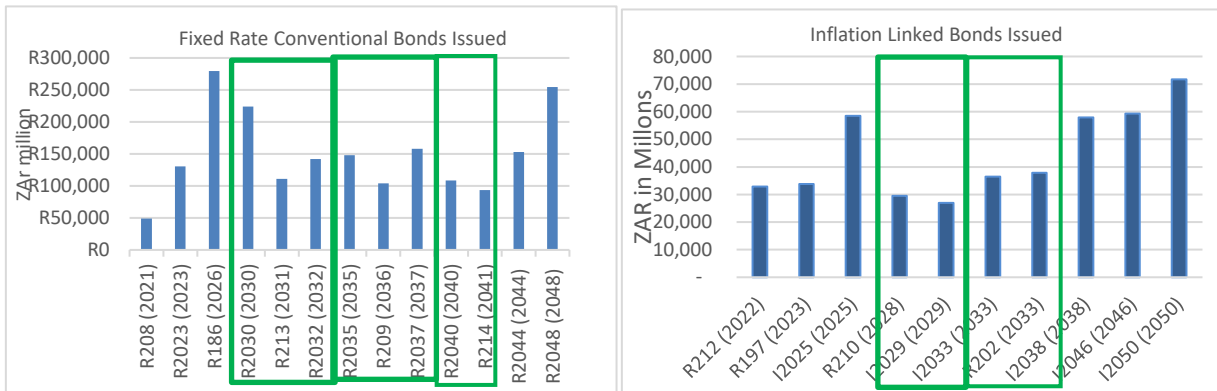
Figure 13: South African Government Bonds Yield Curve

Note: As at May 2020 (Blue line), April 2020 (Green dotted Line), 6 months earlier (Orange Dotted Line)

Source: Worldgovernmentbonds.com

46. However, the government debt profile is fragmented, and liquidity is heavily concentrated in one-bond. Based on the outstanding number of bonds and the size of the market, there is some level of fragmentation and possible cannibalization of liquidity where the maturities are so close to each other (refer to green box in Figure 24 below) – providing an opportunity for consolidation of liquidity and to build a benchmark within that range. Likewise, it is widely acknowledged by the market that liquidity is mainly concentrated in only one bond R186 (3-legged bond). The concentration and features of the R186 results in two key issues (i) the market will lose its most liquid bond as a reference as it will be split in to three consecutive yearly maturities one year before redemption (i.e. 2025, 2026, 2027) ii) this could be a potential source of instability under turbulent market conditions, as liquidity would be scarce in other maturities causing greater price swings. Aside from these issues, the R186 is a distinct instrument to South Africa; the National Treasury could consider more standardized benchmarks after taking into account market sounding with primary dealers, investors etc.

Figure 24: South African Government Fixed Rate Bond Issues (Maturities in Brackets), May 2020



Source: National Treasury statistics

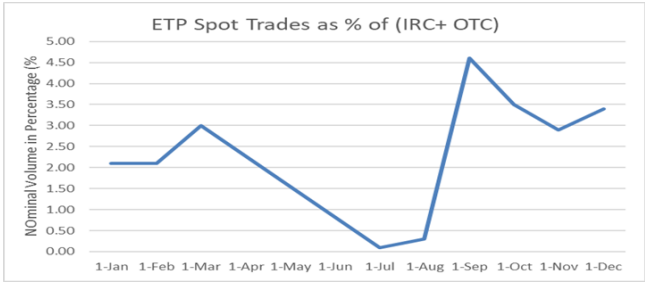
47. Secondary market trading on the electronic trading platform (ETP) as a share of South Africa’s government bond market is insignificant, therefore limiting the intended market efficiency and cost savings to the government.

The ETP for government bonds was officially launched at the JSE in August 2018, to boost efficiency, price transparency and liquidity of the government bond market and to be the dominant trading venue. Since its launch, the ETP has shown evidence of improved transparency and price formation in relation to the other trading venues (see LHS Figure 25), i.e. the over the counter (OTC) and reported OTC (IRC). Volumes in the ETP however remain small; the total value traded in the ETP has been less than 2% of the total value traded in all platforms in the last six months. In terms of trade count, only 3% of total settled trades have taken place in the ETP in the same period. In advanced economies ETP such as in the EU, trading is above 30% (e.g. Belgium 65 %) and comparable EMEs such as Mexico 34 %, Colombia 80 %.

Figure 25: Daily Average Spreads in the ETP for the five most liquid issues (Aug18 – Mar19) (LHS) and ETP Trading Volumes (RHS)

Issue	ETP	IRC	OTC	ETP/IRC (%)
R 2023	0.11	0.93	2.45	11.7
R 186	0.54	1.69	4.69	31.7
R 2032	0.24	1.32	3.24	17.9
R 209	0.24	1.16	1.71	20.6
R 2048	0.38	2.22	5.78	17.4

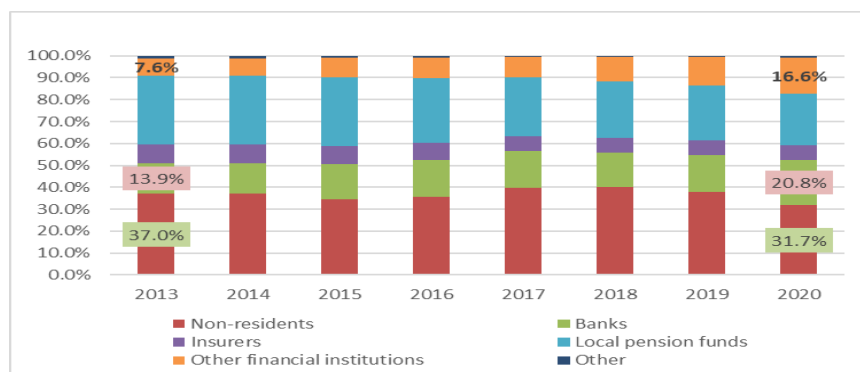
(1) $(\text{Max}-\text{Min})/[(\text{Max} + \text{min})/2]]*100$



Source: National Treasury, STRATE statistics and WB calculations

48. Relatively high- level of foreign investors holdings are moderated by a deep and sizable domestic investor base. As Figure 26 shows, the participation of foreign institutional investors (Non-Residents) in government bonds is sizable when compared to many emerging markets (e.g. Indonesia, Malaysia, Turkey) but has been decreasing and is at an all-time low at 29 percent as of end March 2021. The continuous downgrades by all three credit rating agencies have likely reduced the appetite of offshore investors despite the attractive yields of South African Bond. However, the deep local investor base and sizable banking industry and SARB's government bond purchase program in the secondary market have supported the absorption of bonds after the foreign-investor withdrawals.

Figure 26: Profile of SA Government Bond Investors

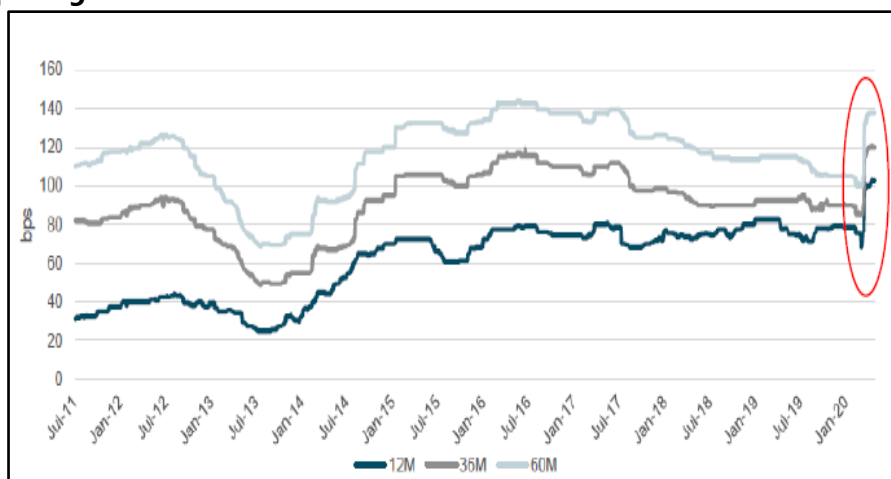


Source: National Treasury (Annual figures are averages of monthly data)

49. Currently, the repo market in South Africa takes the form of buy-sell backs and are dominated by a few large banks. Also, unsecured lending is the favored form for banks to manage their transactions. There are several reasons explaining the low uptake of repos: repos in the OTC market can only be conducted as sell-buy backs that are less efficient than classic repos. The market's inability to carry out classic repos is due to issues related to the pledging of securities under the S39 of the Financial Markets Act (FMA) as well as relevant provisions in the Insolvency Act (S35B) that raises a conflict with margining of derivatives and crystallization of collateral, particularly through a defined scope of a "master agreement". There is also concentration within the repo market as money market funds regulations do not allow them to engage in repos³². Furthermore, an anomaly in the South African market is the clearing of repos through the JSE, which brings additional costs as well as likely influencing liquidity. Several of these issues are currently being addressed as part of the ongoing revision of the FMA.

³² There are additional structural reasons for this fact, such as the fact that Board Notice 90 (ie, BN 90) (applicable to money market funds) currently does not permit participation by money market funds in general collateral repo trades, as these trades legally entail the outright sale of the relevant asset (with a committed obligation to buy the asset back on agreed terms at a future date), which is in breach of fund mandates. The WB understands that BN 90 is under review by the FSCA.

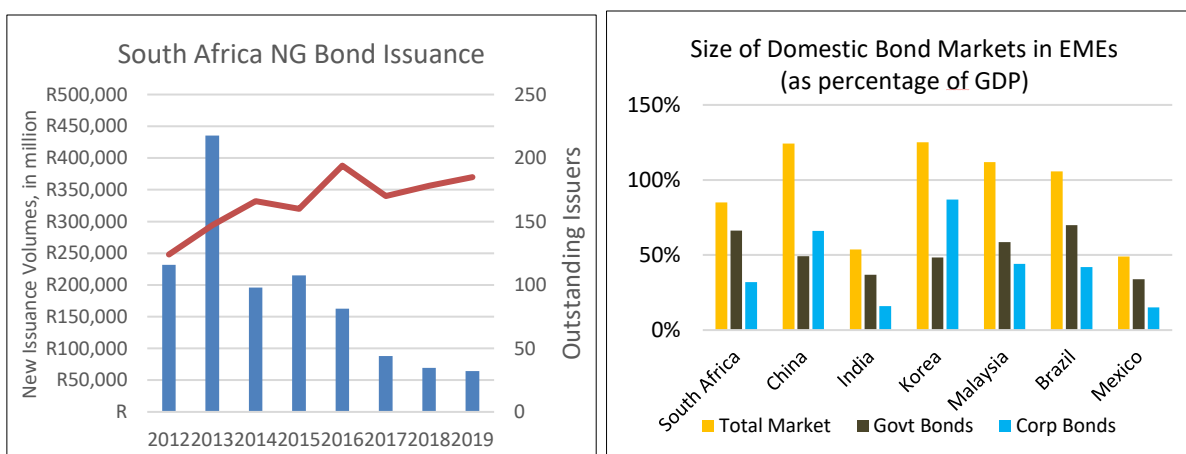
Figure 27: Monthly NCD screen offer-spreads of big 4 banks, highlighting the surge in offer pricing in March 2020



Non-Government / Corporate Bond markets

50. The South African corporate bond market is lagging most emerging market peers in terms of size. SA bond market issuance and activity is dominated by domestic government bond market that is the highest contributor (70 percent) to the total outstanding debt listed on the JSE. Current corporate bond market volumes in comparison to emerging market peers, indicate a lack of appetite for corporate bond market financing despite some growth in corporate debt levels³³. This is likely due to a combination of supply and demand constraints. Figure 28 shows, non-government (NG) bonds volumes (as of end 2019 - 31 percent of GDP), have been growing at a slower rate in the recent years.

Figure 28: Comparison of corporate bond markets in emerging countries



Source: Various sources, including JSE, Bank of International Settlements (BIS), Asian Bonds Online, S&Ps.

³³ 2020 corporate debt-to – GDP levels in South Africa average around 39 – 40 percent, about five percentage points above its long-term average. (Source: SARB, Financial Stability Review 2020)

51. The South African corporate bond market activity has been somewhat stagnant with bank financing still the dominant source of financing. Commercial banking continues the dominant source of funding in South Africa. According to the IFC Enterprise Finance Gap Database³⁴, private commercial banks accounted for 91 percent as source of funding, state-owned banks and/or government agencies accounted for 1 percent, and non-bank financial institutions 9 percent³⁵. Bank financing is the favored source of financing for South African corporates for various reasons: i) the structure of SA corporate market is also represented by large multinational conglomerates and larger corporates, which rely on inter-company financing (for multinationals) and a wide and strong relationship with existing international³⁶ and domestic banks (ii) the corporate structure of South Africa is concentrated - largely divided into very large corporates and small-companies, with a few medium-to large companies in between, therefore limiting the supply of a broader range of corporate issuers (iii) other than the large corporates, most South African companies lack full-fledge treasury functions in their management teams and do not have the necessary exposure or full-appreciation of corporate-bonds as an attractive source of financing.³⁷

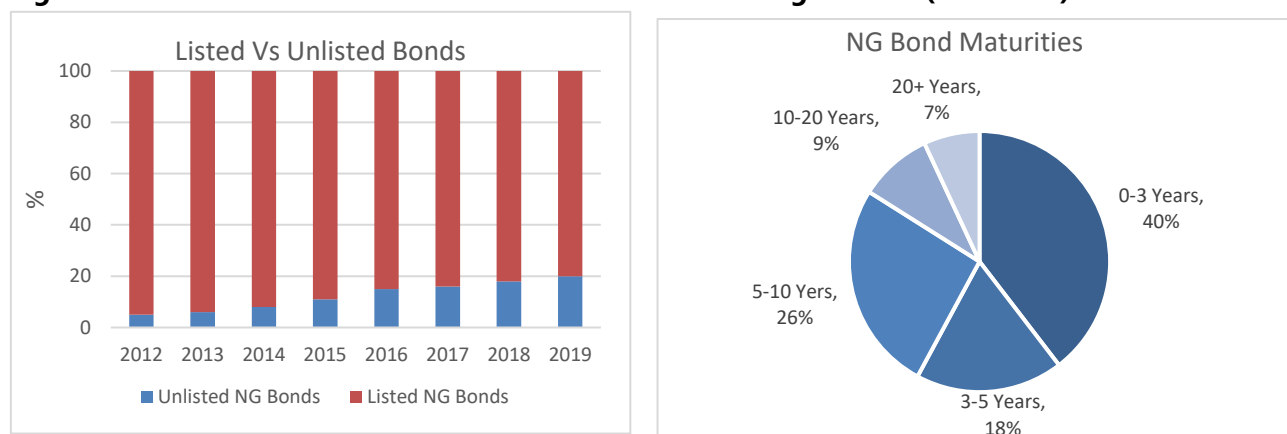
52. South African corporate bond features may not be sufficiently attractive compared to bank financing. Attractiveness of corporate bonds in most emerging markets are usually underscored by features that bank lending cannot provide (i.e. longer maturities and scale) and complemented by ease of access and cost. Furthermore, banks are not incentivized to encourage clients to consider bond-market financing and to keep these assets on their balance sheets as banks are not currently constrained by breaching any large exposure limits. Based on the structure of the South Africa market, demand for corporate bonds seem to be in shorter tenors (e.g. 40 percent in - less than 3 years) – highly comparable to the bank market loan maturities. In other EMEs with more non-government bond market activity, maturities tend to be longer, for e.g. India: more than 65% of the bonds are issued with tenors up to 5 years and 90% up to 10 years, Malaysia has an average tenor of 9.3 years). Meanwhile, the South African bond market is also largely a listed market (see Figure 26 below). Whilst listing brings advantages such as higher disclosure levels, possibly wider investor diversification and increased tradability thus translating to price efficiencies – it also involves additional costs and more rigidity in compliance and structures. Notably, there has been a growing prominence of unlisted bonds, possibly indicating that issuers and investors have recognized the efficiencies and reduced compliance cost through an unlisted route (Figure 29).

³⁴ <http://www.smefinanceforum.org/data-sites/ifc-enterprise-finance-gap>

³⁵ These statistics could be slightly overstated as it is skewed towards MSMEs which in most markets have also limited access to corporate bond markets.

³⁶ As at Q4 2020, approximately 50% of the non-financial corporate sector's debt was denominated in foreign currency (Source: SARB, Financial Stability Review 2020)

³⁷ Source: WB discussions with various institutions from the private sector

Figure 29: Profile of NG Bond Market Based on Outstanding Volume (End-2019)

Source: Strate

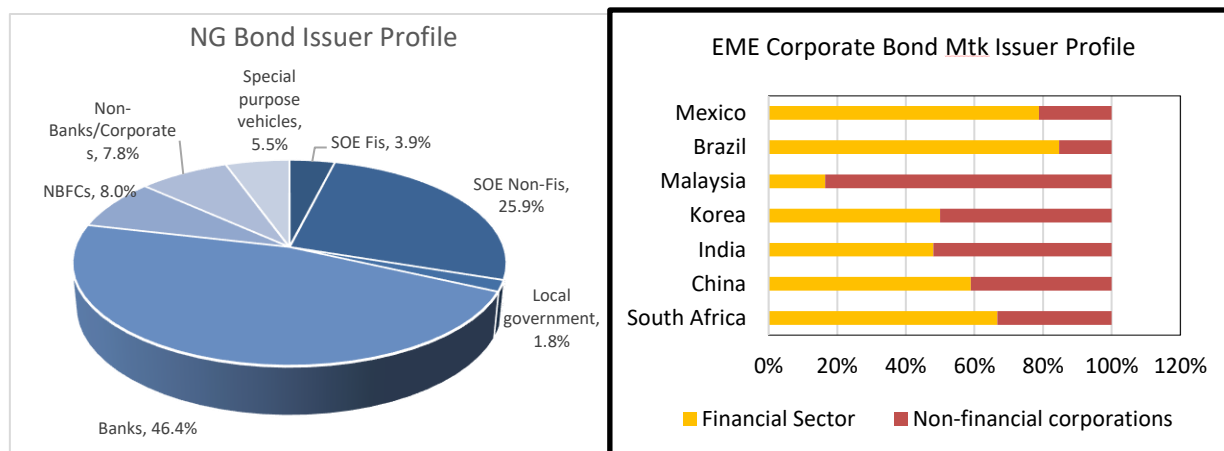
53. Issuers are highly concentrated in the financial services sector and state-owned enterprises (SOEs). The top 10 issuers represented 51 percent of total issuance³⁸ - all of which were large banks, financial groups or financial services entities (e.g. insurance), or infrastructure SOEs (Figure 30). For EMEs, non-government bond markets indeed tend to be represented by financial institutions, SOEs and in some markets – the infrastructure sector and project financing³⁹. This is reflective of the profile of investor market, particularly where it is dominated by wholesale and naturally conservative investors. In South Africa, Pension funds, etc., are very risk averse despite having fairly liberal regulatory space for high yield debt. The investment appetite is driven towards blue chips, highly regulated sectors (e.g. financial services – such as large banks, insurance companies) and SOEs and sub sovereigns which have higher ratings. This is also due to some high-profile credit-risk deterioration in the bond market⁴⁰

³⁸ Source: JSE

³⁹ An outlier is Thailand, where 50% of the issuances are from sectors such as Consumer Staples, Energy, Consumer Discretionary & Materials (Source, Asian Bonds Online and Thailand Bond Market Association)

⁴⁰ E.g. African Bank, and Ecsponent Limited, although the latter's obligation was due on hybrid-instruments

Figure 30: Profile of NG Bond Market Based on Outstanding Volume (End-2019) and Comparisons with other EMEs

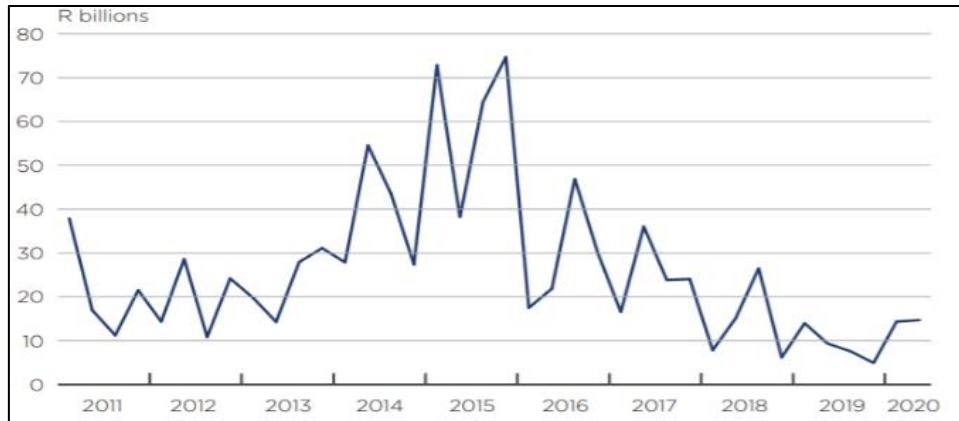


Source: STRATE

Equity markets

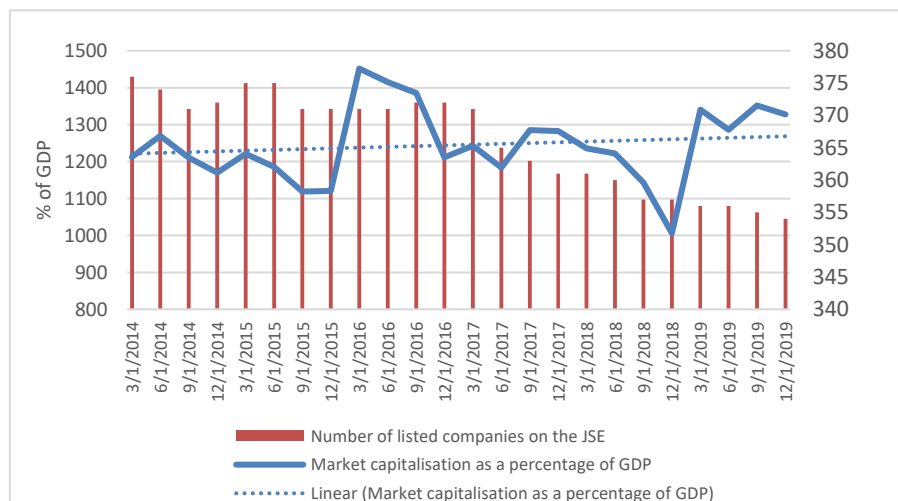
54. South Africa’s market capitalization fluctuated substantially in recent years, but its growth has stagnated and the number of listed issuers has declined. There are about 350 companies listed on the JSE’s main board, as shown below, but the number has been in steady decline in recent years. It was as high as 485 listings in the early 2000s and even higher in earlier years with more than 800 in the late 1990s. In part, this decline is explained by pull factors, where global markets have competed to host listings. Push factors have also been at play, with a decade of weak economic growth dampening the domestic capital market appetite. The issuers in the South African IPO market are primarily domestic, although there are a number of foreign entities that have an inward secondary listing on the JSE. In terms of activity we have seen on the JSE recently, overseas companies have an increased interest in inward listings (JP Morgan, 2018). Inward listings are driven to a large extent by South Africa’s exchange control regulations. The top 10 listed companies also represent 44 percent of market capitalization, underscoring the concentration of the South African capital markets.

Figure 31: South Africa equity market activity



55. Equity trade volumes are also on the decline. Equity trade volumes and the value of shares changing hands have fallen since the global financial crisis of 2008–09. Recent years are also reflective of reducing foreign investor appetite (circa 30 percent of the equity market) as they shy away from South African assets in the wake of weaker results from a sluggish domestic economy. As a globally connected exchange in an open economy, the JSE and its participants are subject to the volatility of global financial markets and domestic constraints, such as the country’s sovereign credit rating. The value of equity trades fell 39.5% in the first half of 2019, with trade volumes halving in the previous year (Figure 32).

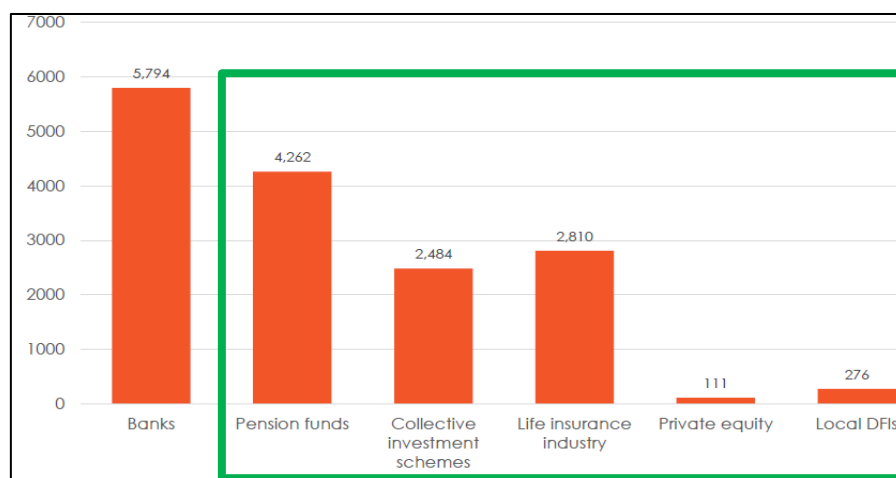
Figure 32: Equity Market Volumes in South Africa



B. Market Intermediaries and Investors

56. Non-Bank Financial Institutions (NBFI) hold the largest proportion of financial sector assets, at about 215 percent of GDP⁴¹, a much higher level than in other emerging markets. Pension funds, long-term insurers, and other investment-vehicles such as Unit Trusts or Collective Investment Schemes (CIS), are the part of the NBFIs that contributes the most to the SA financial sector, accounting for two thirds of total financial assets, significantly large for an emerging market⁴². In particular, pension funds and long-term insurers assets represent approximately 92 percent and 62 percent of GDP respectively at end 2020 (See Table 2 Financial System Structure), holding a large portion of the market liquidity as their funds accounted for approximately 41 percent of the financial sector assets and 78 percent of NBFIs assets in 2016⁴³. The top five insurers represent 74 percent of the long-term insurance market, and the seven largest fund managers control 60 percent of the unit trust assets (Figure 33).

Figure 33: Breakdown of NBFI sector



Sources: Various (SARB, ASISA, SAAVCA etc.)

57. Pension funds dominate the institutional investor base and high concentration in the top 10 funds. In South Africa, the pension fund industry's combined assets under management amounts to \$500 billion and they own approximately 40% of the assets on the JSE. The industry is very concentrated with the top 10 funds representing 30% of the industry; The Government Employees Pension Fund is by far the largest fund with R1.7bn of assets, 40% of industry AUM. Outside of this, the largest funds include:

- Eskom Pension & Provident Fund (R141.2bn)

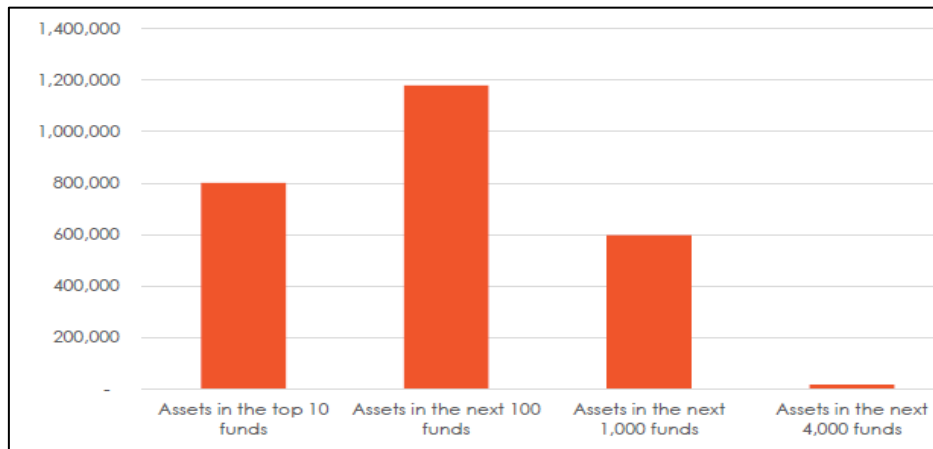
⁴¹ See Table 2 Financial System Structure

⁴² National Treasury

⁴³ South Africa Reserve Bank

- South African Retirement Annuity Fund (Old Mutual), (R108.8bn)
- Central Retirement Annuity Fund (Sanlam) (R101.7bn)
- Sentinel Retirement Fund (R85.2bn)
- Transnet Funds (R84.5bn)

Figure 34: Breakdown of Pension Fund Industry



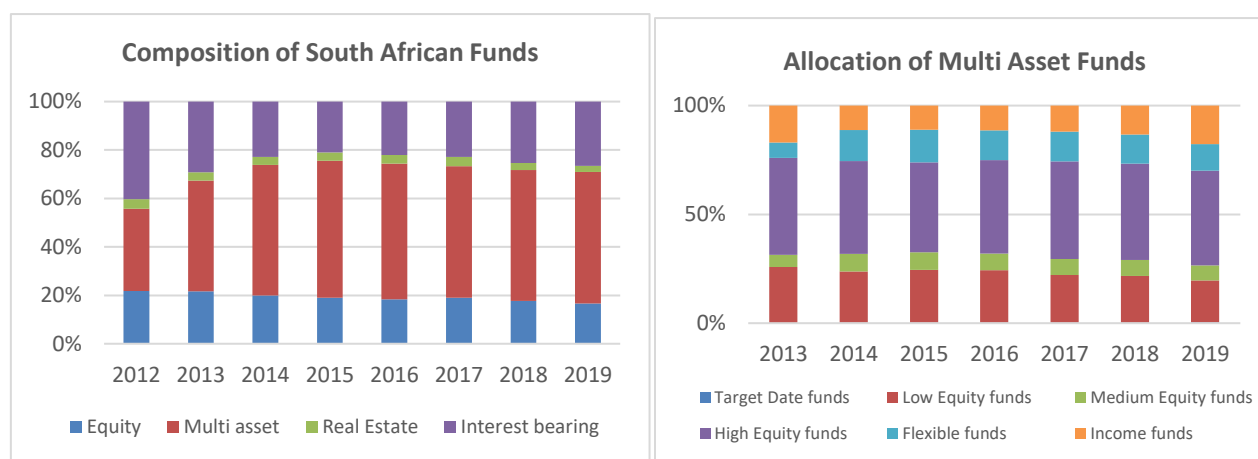
58. Pension funds generally play a significant role in the development of the capital market though, in the case of South Africa, they have had a limited role in channeling long-term financing to the real economy. The current changes to Regulation 28 would establish an explicit bucket for infrastructure investments, subject to certain conditionalities, and an increase in the limit of the private equity (P/E) fund category (currently 5 percent). On infrastructure finance, the separate category may be appropriate, particularly if standardized instruments are going to be developed for public investment purposes, whilst the private-equity category would also leave more space for investments in alternative vehicles under the P/E. In parallel, the industry will look to the industry regulator - Financial Sector Conduct Authority (FSCA) for guidance on how to approach such investments. Regarding pension funds potential increase of ESG exposure, several angles would need to be tackled, such as its integration in the investment process and adoption of recognised international best practices, a standardized taxonomy and aligned consensus between the FSCA and the industry.

59. The insurance industry is sizable, with presence of long-term capital from life-insurance companies albeit concentrated in a few large ones. In the second quarter of 2020, life insurers held more than 92% of the insurance sector's assets, which amounts to more than R3 trillion. In the case of life-insurers, the large value of asset holdings means that these firms play an important role in funding government and the private sector as well as participating in financial markets, thereby supporting liquidity in these markets. However, South Africa has a concentrated life insurance sector with the five largest companies holding more than 70% of total life insurance assets, which poses some systemic risk. In the case of non-life insurers, the asset size of the

industry is lower, at R221 billion (in June 2020), but remains significant. This structure accentuates the high degree of concentration of the financial sector, since the biggest banks are affiliated with NBFs through holding companies or ownerships, taking advantage of significant level of business transactions within the financial group.

60. The fund-management industry has grown fourfold since 2006 but is focused on money market funds. Total assets under management (AUM) across the CIS industry stood at R2.58 trillion spread across 1,650 portfolios as of end September 2020. Whilst the South African funds market has been predominantly equity centric there has been a growing shift towards multi-asset funds which currently represent the bulk of the asset allocation in the industry (2019: 54 percent). Multi-asset funds invest mostly in equities, however in the last 18 months there has been a shift to fixed income and multi asset portfolios during a higher interest-rate environment (Figure 35).

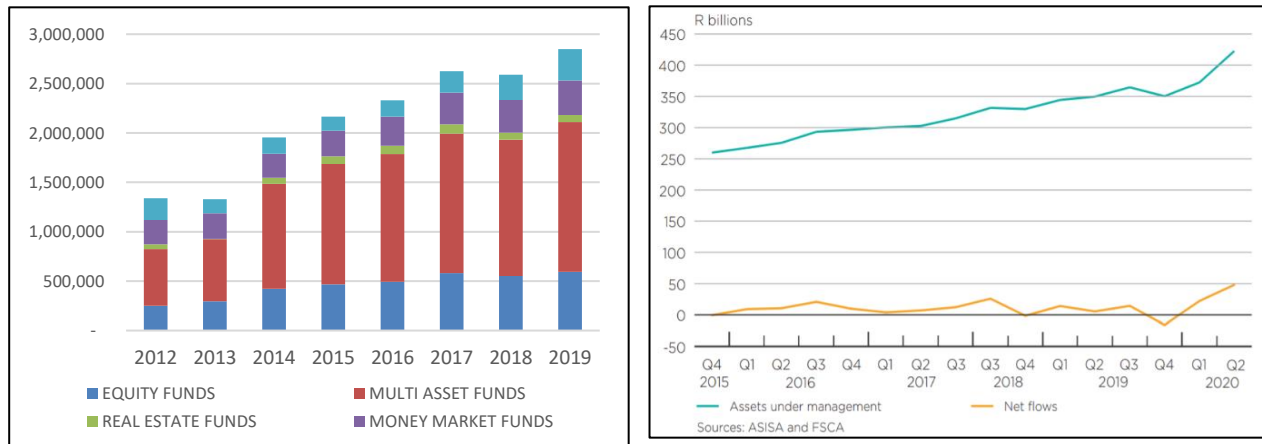
Figure 35: Fund Management Industry (Composition of Industry – LHS, Inflows – RHS)



Source: FSCA

61. Local money market funds (MMFs) have experienced large net inflows in 2020 from domestic investors and intermediaries at 26 and 35 percent respectively. Some of the largest MMFs inflows in recent history were recorded in the first half of 2020, totaling R70 billion. As a result, AUM among MMFs increased to a new high of R422 billion. It is likely that the strong inflows into MMFs were the result of investor demand for highly liquid and relatively stable assets particularly during the COVID-19 period (Figure 36).

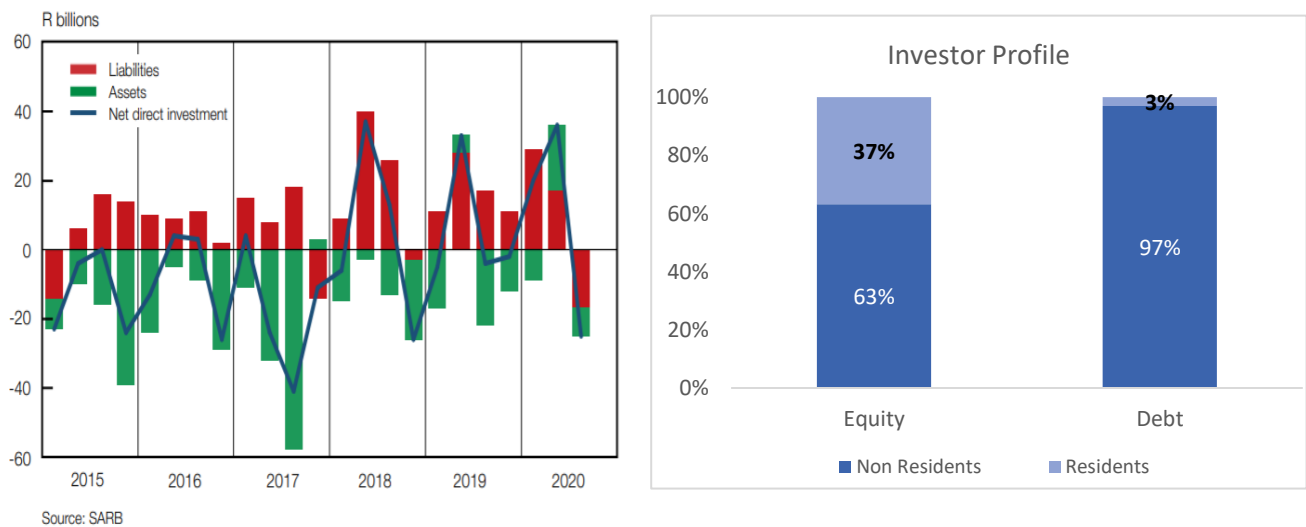
Figure 36: Inflows (ZAR) into Funds (LHS) and Growth in Money Market Funds (RHS)



62. Foreign investors are a relevant source of capital in the South African capital market.

As highlighted earlier, foreign holdings of government bonds is sizable, representing between 30 – 40 percent of holdings, depending on the period. Their participation in the equity market is also substantial at 63 percent. Their contribution to liquidity in the domestic equity and bond markets in South Africa plays as a double-edged sword. On one hand, foreign investors’ appetite has driven volumes, financing and added liquidity - but on the other hand, it had made the domestic markets vulnerable in situations of risk-on in global markets, as investors can easily access liquidity by selling their South African assets. Through this, global and local asset rotation to cash that had started the liquidity squeeze in the South African market in Q1 2020.

Figure 37: Foreign-investor flows and holdings in the non-government securities market



C. Market architecture and infrastructure

63. The Johannesburg Stock Exchange (JSE) has played a leading role in South Africa's capital markets development, but a more diversified market structure is required to continue its deepening. JSE is the 19th largest exchange in the world and the largest of the African continent. Listing includes all relevant market segments in South Africa: equities, non-government debt, and government debt. The equity market (as at end-2019) comprises 354 companies, which have been declining as experienced in most exchanges globally whilst equity market capitalization stands at US\$1,005 billion. Mean whilst, the total nominal amount outstanding for debt instruments listed on the JSE stood at R3.3 trillion as of 31 March 2020. The national government debt is the highest contributor (70 percent) to the total outstanding debt listed on the JSE. This is an unusual arrangement but can be explained by the legacy of JSE's role in SA's capital markets. Government bond markets market value stands at ZAR2.3 billion with average monthly trading for the same 2019 period around ZAR33,514 million. Non-government bond market capitalization as at end 2019, stood at ZAR994.8 billion equivalent to about 31.33 percent of GDP.

64. South Africa's regulatory framework, giving exchanges an exclusive role in organized markets, has supported JSE's dominant role in the domestic capital markets. This framework includes the obligation to hold an exchange license to operate a trading venue and a very broad definition of Self-Regulatory-Organization (SRO) regime for exchanges. The latter involves ample attributions for regulating and supervising trading and post-trading, as well as issuing licenses to its members. Additionally, JSE has key legal attributions on the OTC market to enforce trade matching and reporting (S25 of the FMA), as well as acting as gate to channel settlement instructions to STRATE, the Central Securities Depository. The platform used by JSE for wholesale OTC markets is called Nutron, an Alternative Trading System for both cash and derivative transactions.

65. Recently some competition has been introduced with the licensing of additional exchanges, but impact on competition and greater efficiency is very limited. Four exchanges have been authorized by FSCA after cumbersome and lengthy authorization periods related to shortcomings in the current regulatory framework. Each exchange is focusing on a different niche market that, in principle, is not within the main range of JSE's services. A2X, as a market trading facility (MTF) focuses on secondary market trading of JSE's listings. ZARX and 4AX do primary listings of SMEs and of structured products. Their technology, account structure and settlement cycles are designed to serve mostly retail investors. Equity Express Securities Exchange (EESE) focus is on listing schemes linked to Broad Based Black Economic Empowerment companies (B-BBEE). However, this landscape is far from peer countries with multiple stock exchanges like India and China due to the reasons outlined below.

66. Overall, all new exchanges have lower relative operating costs for their members than JSE although legacy regulatory and operational hurdles limit their potential. Only A2X competes for the same secondary market as JSE, but the former's market share stands at only one percent despite having been in operations for over four years. The current regulatory status quo favoring JSE is an obstacle for any other platform offering a competitive trading alternative.

This is a legacy from the Single-Exchange model, which served well South Africa's capital markets development but that is now preventing a more diversified and competitive ecosystem. An example of a regulatory and operational obstacle is the obligation for JSE members to use JSE's proprietary back-office system (BDA), instead of being able to use a back-office system of their choice that can process transactions from multiple market venues. Another, example is JSE's prerogative to comment and object on trading requirements introduced by the other exchanges. Planned changes to the FMA that are being drafted consulted with market stakeholders would be addressing these issues.

Table 6: Breakdown of Listing across the SA Exchanges

Number of listings on the various exchanges					
As at 31 December	JSE	A2X Markets	4 Africa Exchange	ZAR X	Equity Express Securities Exchange
2018.....	372	16	5	4	5
2019.....	354	33	5	5	4
2020.....	339	40	8	7	4
28 February 2021.....	330	39	8	7	4

Source: SARB

67. The current institutional arrangement for listing and trading Government bond markets under an Exchange is an anomaly when compared to peer EMEs and AEs. The architecture of secondary markets for government bonds is critical for the NT's funding strategy and for banks liquidity management. Trading, post-trading and risk management rules for government bonds are very different to those of equity markets operated by exchanges. However, the legal framework in South Africa establishes that the electronic trading platforms (ETP) need to be operated by licensed exchanges. The National Treasury, JSE and primary dealers have managed to find a satisfactory institutional arrangement to operate the ETP within the constraints of current regulations. However, the ETP only represents around one percent of total secondary market trading, whereas in markets comparable to South Africa the share of electronic trading is above 30 percent. It would be desirable to conduct a review of the government bond market to increase its efficiency and competitiveness by assessing the overall market, OTC and ETP. This should include the regulatory changes enabling the operation of electronic trading platforms outside the perimeter of exchanges.

68. Settlement for all assets is mostly conducted through Strate, the Central Securities Depository, owned by several private entities, with JSE as the majority shareholder. Strate provides registration, settlement, risk management and collateral management services to all markets. Its technology and services are state of the art and it services efficiently all exchange and OTC markets in South Africa. It appears that JSE as the dominant shareholder of STRATE has not been a constraint or have had a negative impact on other trading platforms, but would be recommended that the majority stake be reduced to remove any perception of impartiality. As the NT, SARB and FSCA continue reviewing the capital markets architecture in the context of the

FMA amendments, there are three aspects that could be improved. The first one is the settlement model for government bond markets. Currently the cash leg of the ETP is netted with all other government bond and non-government bond markets. Netting markets with different risk profiles and risk management system can be a source for risk contamination. This could be a problem for the ETP as its market share expands. The second one is the need to improve the interoperability with SARB's collateral management systems. SARB is already addressing this issue for smoother transfer of banks' collateral between both systems. The third one, is the status of systemically relevant infrastructure for Strate as planned in the future amendments of the FMA. This would align Strate's supervision and oversight framework with equivalent structures in peer countries. It would also reinforce its role as a critical infrastructure in South Africa's financial system.

D. Recommendations

69. South Africa's is very well placed to strengthen the role of capital markets to complement bank financing for the real sector, though several important adjustments are needed. The NT, SARB and FSCA have over time actively adjusted policies and regulations to increase the competitiveness of the capital markets. This is a complex process given the size and diversity of South Africa's financial sector and the consensus building it requires. There are three areas, some of which are already considered by the NT and SARB, that would substantially increase the competition in the South Africa's capital markets: 1) increased efficiency and transparency of government bond and money markets; 2) a new licensing and registration regime for issuers and market participants, leading into a more open and competitive capital markets ecosystem, including a reduced role of exchanges as SRO's, in line with international best practices increased, and greater neutrality of market infrastructures; 3) greater role of institutional investors to finance the real economy by increasing flexibility in their investment regulations, improving their capacity and expanding the range of available investment instruments, with emphasis on unlisted options. Below is a summary of main recommendations to enhance competition and efficiency through capital markets.

70. The NT should design and implement a plan to make the ETP as the main trading venue for Government bonds. The ETP is structured around a robust platform managed by MTS in line with most government bond markets in the EU and has worked efficiently despite having a very small market share at under two percent. However, a clearer strategy, with the consensus of NT and primary dealers, should be established to increase its relevance as the main venue for price formation on government bonds in South Africa. The ETP could provide a platform for market making to increase trading volumes (i.e. liquidity) and pricing efficiency to support a more developed yield curve with adequate liquidity distributed across the benchmark maturities. This also has a broader impact on the development of South Africa's bond market in deriving a reliable and low 'risk-free' price-reference for non-government bonds across the maturity spectrum of the yield curve. The recommended steps towards this strategy include: i) comprehensive and systematic monitoring of all trading in government bond markets across all venues (i.e. the ETP, OTC and IRC) so the NT can design a strategy and adjust issuance policies and primary dealers rules as necessary; ii) gather detailed feedback from primary dealers on the underlying issues of

trading on the ETP vs the OTC to assess the necessary changes required in the issuance policy that could improve secondary market liquidity and greater use of the ETP (e.g. more even trading volumes across key yield curve tenors); iii) review of instruments traded in the ETP with the possibility of adding repos and T-Bills ; iv) review of settlement model to reduce potential for risk contamination with markets following laxer settlement rules, such as the ICR and the OTC.

71. The financial authorities should address legal and operational shortcomings in the secured lending market so “classic repos” can replace “sell-buy backs” for financial sector liquidity management. Most of current limitations would be tackled with the planned reform to the FMA such as eliminating the obligation to conduct and settle repos through the Exchange (S25), and enabling the pledging of securities and the disposal of the collateral in situations of default (FMA S39 and Insolvency Law). From an operational perspective, it would be critical to improve the interoperability between SARB’s collateral management system and Strate, as already planned. Finally, it would be important to address the limitations for money market funds and insurance companies to access the repo market by enabling them to conduct reverse repos and access the general collateral repo market respectively. These would require FSCA regulatory amendments. Expanding the repo market to institutional investors would contribute to its depth and efficiency.

72. The planned reform of the FMA should be implemented for improved competition in South Africa’s capital markets and institutional capacity at NT, SARB and FSCA should be enhanced to that end. Planned reforms would align South Africa with best practices in market architecture and regulatory structure. They would also enable the development of new business models for intermediaries and trading venues to compete for more efficient and cost-effective capital markets services. It would be critical that planned reforms are not watered down and that entities (NT, Prudential Authority –PA –in SARB and FSCA) responsible for secondary regulations, oversight and supervision are reinforced as appropriate. There are two areas that would be critical in the planned reforms:

- (i) *A new licensing regime under the responsibility of public sector regulators (PA under SARB or FSCA) depending on the systemic risk implications for financial stability of the entity.* This licensing regime would establish different types of intermediaries and financial markets infrastructure (FMI) with prudential and operational requirements proportionate to their risks. As appropriate, each market infrastructure, such as trading platforms, exchanges and CSDs, would be able to establish additional membership requirements, as long as they are non-discriminatory or impose anticompetitive restrictions. For example, through the obligation to use the FMI’s proprietary software for ancillary services such as the back-office of members. An important expected result of this reform is that OTC markets would be able to establish electronic trading platforms without an onerous exchange license, and that they would be able to interact directly with the settlement infrastructure. The governance of FMIs,

particularly those with systemically relevance, such as CSDs, should ensure market neutrality vis-à-vis their different types of members and connected trading venues.

- (ii) *Revision of the Self-Regulatory Organizations Regime (SRO) towards a greater role of the public sector in licensing, regulation, supervision and oversight, in line with international best practices.* South Africa has had one of the most intensive SRO regimes, when compared to other AEs and EMEs. Overall, it has had a positive impact on market development, similar to other jurisdictions. However, following international market and regulatory developments after the Global Financial Crisis, SRO's have proved to be onerous and with limited capacity to support market innovation, competition. As exchanges have evolved (e.g. with listings), having at the same time strict commercial objectives and regulatory and oversight obligations has increased the potential for situations of conflict of interest. Additionally, the existence of several exchanges, calls for a reduced SRO model and a greater role of the public sector in market oversight.

73. Planned changes to increase the role of institutional investors to finance the real economy through a combination of regulatory adjustments and capacity building needs to be implemented. The implementation of planned reforms on investment regulations would need to be monitored closely for any adjustments that may be needed depending on impact. Additionally, there is a dependency on upstream reforms conducted outside the financial sector. For example, in infrastructure, the focus on upstream reforms avails bankable projects that can be structured in ways institutional investors can contribute to. As far as investment regulations are concerned, recommendations can be grouped as follows:

- (i) *Amendment of the Investment Regulations (Regulation 28) increasing limits for exposure in infrastructure and unlisted instruments.* The reviewed Regulation 28 would establish an explicit bucket for infrastructure investments (subject to certain conditions) and an increase in the limit of the private equity (P/E) fund category. Both changes would increase the potential for a greater role in financing two sectors that would be critical for South Africa, infrastructure and SMEs, particularly in the post-COVID-19 recovery.
- (ii) *Capacity building for the FSCA on the supervision of unlisted assets and infrastructure investments.* Given the novelty of investing in infrastructure finance in a systematic way and in larger sizes, it would be important to develop capacity at the FSCA to conduct the oversight of such investments and to adjust regulations as needed. This is a relatively new territory in many other markets as well. Having a proactive regulator

would support industry initiatives in developing financing solutions for infrastructure and other unlisted assets. In parallel, it would be important for the pension and insurance industry to also develop technical capacity and potentially, new investment vehicles, such as consortiums, to take advantage of economies of scale. This work should also involve other key players in the pension fund industry such as consultants and trustees.

- (iii) *Support broadening the range of instruments offered for long-term investors focusing on instruments supporting Climate Change and Sustainable Development Goals (SDG).* This is a growing area for capital markets financing that could attract international investors into South Africa and mobilize domestic institutional investors. It would also be aligned with the NTs "Strategy for Financing a Sustainable economy". A roadmap would need to be developed identifying a bankable pipeline and suitable instruments, as well as the policy and regulatory changes required at NT and FSCA.

ANNEX I: Literature Review Of Competition Studies In South Africa

A number of academic papers have analyzed competition in the South African banking industry, using the structure conduct performance methodology and nonstructural indicators based on the “New Empirical Industrial organization” reaching different results and conclusions as summarized in Table 1.

Table 1 Competition studies in the South African banking sector.

Author	Study	Type of analysis	Period	Result
Okeahalam, C.	Structure and Conduct in the Commercial Banking sector of South Africa	SCP	1997-1999	Highly concentrated market, collusion
Mlambo and Ncube	Competition and Efficiency in the Banking Sector in South Africa	Nonstructural DEA-PR	1999-2008	Monopolistic competition
Simbanegavia, Greenberg and Gwatidzoc	Testing for Competition in the South African Banking Sector	Nonstructural PR Bresnaham	1998-2007 1992-2008	Monopolistic competition (PR)- Perfect competition cannot be rejected (B)
Simatele, M.	Market Structure and Competition in the South African Banking Sector	Nonstructural PR	1997-2014	Monopolistic competition
Moyo, B.	An analysis of competition, efficiency and soundness in the South African banking sector	Nonstructural Boone indicator Lerner index	2004-2015	Negative effect of competition on efficiency using Lerner. Positive using the Boone indicator
Rapapali and Simbanegavi	Competition in South African Banking: An assessment using the Boone Indicator and Panzar Rosse approaches	Nonstructural Boone indicator PR	2008-2018	Boone suggest strong market power PR Monopoly

Okeahalam (2001)⁴⁴ using the SCP framework study if the highly concentrated structure of the South African banking industry has an impact on the pricing of retail banking deposit products.

⁴⁴ Okeahalam, Charles C. (2001). “Structure and Conduct in the commercial banking sector of South Africa” Presented at TIPS 2001 Annual Forum. <http://www.tips.org.za/files/499.pdf>

The framework assumes that measurements of market structure and concentration can provide reliable inferences regarding the extent of competition or conduct in an industry. The extent of competition affects the price that consumers pay for banking services, which determines the level of profits and performance. The SCP framework suggests that higher concentration leads to higher prices, which in turn lead to higher profits. The findings suggest that the pricing of retail banking products fits with the SCP framework, specifically, banks pay lower rates to depositors and charge higher loan rates to their borrowers than they would if the level of concentration were lower. Concluding that there is a need to introduce greater competition into the retail sector of the banking industry.

Mlambo and Ncube (2011)⁴⁵ analyzed the evolution of competition and efficiency of the banking sector in South Africa using firm-level data for the period 1999–2008 for 26 domestic and foreign banks with a three-step estimation approach. First, measuring efficiency using the data envelopment analysis (DEA) methodology that allows to make a comparison of the relative performance of individual banks by determining a frontier of efficient banks. Second, using the Panzar and Rosse (PR) approach to derive the H-statistic for competitive conditions in banking⁴⁶, and third, by re-estimating the PR model, with the DEA efficiency scores included as an explanatory variable on the grounds that it can be taken as a proxy for managerial ability in competition

The results showed that although average efficiency was improving over the period, the number of efficient banks decreased, suggesting that there is space for improving bank efficiency. Also

⁴⁵ Mlambo, Kupukile and Mthuli Ncube (2011) "Competition and Efficiency in the Banking Sector in South Africa" *African Development Review*, Vol. 23, No. 1, 2011, 4–15

⁴⁶ The H statistic measures the sum of the elasticities of the total revenue of the bank with respect to the bank's input prices. The reduced-form revenue equation to be estimated for each banking system is as follows:

$$\ln(Pit) = \alpha_i + Tt + \beta_1 \ln(W1,it) + \beta_2 \ln(W2,it) + \gamma_1 \ln(Y1,it) + \gamma_2 \ln(Y2,it) + \gamma_3 \ln(Y3,it) + \varepsilon_{it} \quad (1)$$

where *i* denotes bank *i* and the *t*, year *t*. *Pit* is the ratio of total revenue to total assets (including both gross interest revenues and noninterest income), α_i are bank fixed effects, *Tt* are time dummies, *W1,it* is the ratio of interest expenses to total deposits and money market funding (proxy for input price of deposits), and *W2,it* is the ratio of overhead expenses to total assets. The *Yi,t* variables are bank-specific controls. The H-statistic equals $H = \beta_1 + \beta_2$. Under perfect competition, an increase in input prices raises both marginal costs and total revenues by the same amount as the rise in costs. Under a monopoly, an increase in input prices will increase marginal costs, reduce equilibrium output, and (as a result) reduce total revenues. The H-statistic can be interpreted as follows: $H < 0$ indicates a monopoly; $H = 1$ indicates perfect competition; and $0 < H < 1$ indicates monopolistic competition.

founding that for the period under study, the structure of the South African banking industry was characterized by monopolistic competition with an average value of the H-statistic of 0.57 and statistically significant.

Citing concerns over the high concentration in the banking system and the potential of the largest banks to engaged in noncompetitive behavior Simbanegavia, Greenbergb and Gwatidzoc (2015)⁴⁷ analyzed the level of competition in the South African banking sector using the PR approach for the period 1998-2007 and the Bresnahan model for the period 1992-2008.

The PR results suggest that the South African banking sector is monopolistically competitive, while not rejecting the null hypothesis of perfect competition using the Bresnahan approach. The study concludes that banks appear to possess some degree of market power, but do not operate as a cartel suggesting that the high concentration has not adversely affected competition in the sector. However, the authors warned that the risk of anticompetitive behavior remains high given the high concentration and suggest that authorities should monitor banks conduct, and focused on measures that facilitate competition in the sector such as policies that lower switching cost for consumers and policies to bring more contestability in the banking sector.

Simatele (2015)⁴⁸ also applied the PR approach to estimate the relationship between concentration and competition using bank level data for the period 1997-2014. The author estimated a time varying H statistic to explore changes in competition over the period. The results indicate that banks in South Africa operated in monopolistically competitive market, with a relatively low level of market power. The results also showed that competition has been increasing over time despite significant consolidation.

Moyo (2018)⁴⁹ used a data set of 17 local and international banks for the period 2004–2015 to analyze competition and efficiency and see how they affect soundness of South African banks using the Lerner index, the Boone indicator, Z scores and non-performing loans.

⁴⁷ Simbanegavia, Witness, Joshua B. Greenbergb, and Tendai Gwatidzoc (2015) "Testing for Competition in the South African Banking Sector" *Journal of African Economies*, Vol. 24, number 3, 303–324

⁴⁸ Simatele, Munacinga. (2015). "Market Structure and competition in the South African banking Sector". *Procedia Economics and Finance* 30, 825–835.

⁴⁹ Moyo, Busani (2018). "An analysis of competition, efficiency and soundness in the South African banking sector". *South African Journal of Economic and Management Sciences* 21(1), 1–14.

Results showed that the impact of competition on efficiency depended on the measure of competition used. When using the Lerner index there was a negative effect of competition on efficiency while the opposite was true when using the Boone indicator. In the case of bank soundness, competition using the Boone indicator is negatively related to the Z score, implying that competition enhances bank soundness and these results supported the prudent and efficient management hypothesis.

Rapapali and Simbanegavi (2020)⁵⁰ measured the degree of competition using the Boone indicator and the PR methodologies for the period 2008-2018. Results showed a negative and small Boone indicator suggesting strong market power by the banks. The PR with the H statistic marginally negative at -0.06, also suggest monopoly or cartel conduct. Overall, the findings suggest that the conduct of South African banks over the period 2008–2018 can be characterized as 'monopoly' rather than monopolistic competition as found in the earlier studies.

⁵⁰ Rapapali, Mpho and W. Simbanegavi (2020). "Competition in South African Banking: An assessment using the Boone Indicator and Panzar Rosse approaches." South African Reserve Bank Working Paper 20/02 <https://www.resbank.co.za/en/home/publications/publication-detail-pages/working-papers/2020/9819>