

South Africa: Selected Issues



SOUTH AFRICA

SELECTED ISSUES

July 2018

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SOUTH AFRICA

SELECTED ISSUES

June 29, 2018

Approved By
African Department

Prepared by Ana Lucía Coronel (mission chief, AFR), Lone Christiansen (SPR), Ken Miyajima, Alejandro Simone, and Vimal Thakoor (all AFR). Yiruo Li, Shane Radick, and Zhangrui Wang provided research support and Cecilia Prado administrative assistance.

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WHAT LED TO THE DOUBLING OF PUBLIC DEBT IN THE LAST DECADE? WAS DEBT GOOD FOR GROWTH?¹

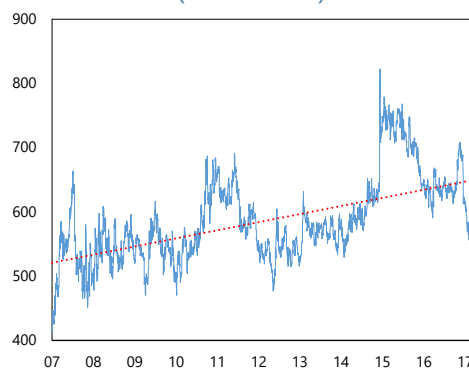
A permanent increase of 4 percentage points of GDP in national government expenditure underlies the doubling of public debt in the last decade. The wage bill accounted for most of the expenditure increase (64 percent), followed by the interest bill (23 percent). The debt expansion, thus, financed a countercyclical fiscal policy centered on current spending, which likely shielded the impact of subdued economic activity, but had limited permanent effects on growth. Had resources devoted to wage increases and debt service payments been invested in more productive outlays, such as highly productive capital expenditure and reforms in key network industries, the growth gains would have been higher.

A. Introduction

1. South Africa's fiscal policy, which has traditionally been sound, is now facing challenges. From FY94/95 to FY08/09 the national government debt declined from 48 percent of GDP to 26 percent in the context of strong economic growth. Since the global financial crisis, however, public debt has roughly doubled, reaching 53 percent of GDP by FY17/18. In the last two fiscal years, the fiscal position has faced significant revenue shortfalls in the context of slowing economic growth and governance weaknesses. Meanwhile, spending pressures have increased, and contingent liabilities from state owned enterprises (SOEs) have materialized. These developments triggered a significant increase in financing needs. Staff projections suggest that on current policies the growth outlook would remain lackluster and debt would continue to rise.

2. Favorable global financing conditions have mitigated financing risks so far, but conditions are becoming less benign. During recent years, South Africa, like other emerging markets, has benefited from foreign exchange inflows that supported the country's borrowing needs. Nevertheless, borrowing costs have increased, especially after credit rating agencies cited low growth and contingent liabilities of SOEs as key vulnerabilities that led to sovereign debt downgrades. Moreover, the favorable global financing backdrop is changing, especially considering monetary policy expectations in the US, and recent changes in appetite toward emerging markets.

Figure 1. Local Currency Sovereign Bond Yield Spread to U.S.
(Basis Point)



Source: Bloomberg, L.P. and IMF staff estimates.

¹ Prepared by Alejandro Simone; reviewed by Ana Lucía Coronel.

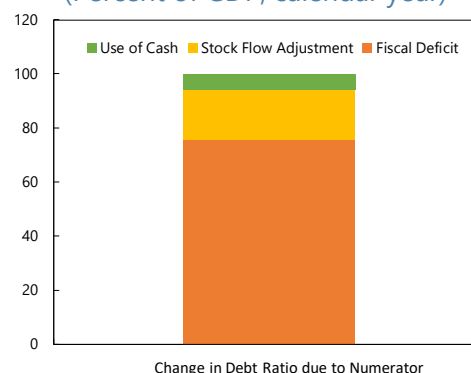
3. Stabilizing debt dynamics at comfortable levels as soon as possible to strengthen economic resilience is advisable. This paper first takes stock of the factors behind the doubling of the national government debt and contingent liabilities between 2007 and 2017, and then extends the analysis at the level of the general government and SOEs. Given the critical role that expenditure played in the accumulation of debt, the paper identifies areas with room for gains in efficiency or rationalization, by using the IMFs Expenditure Assessment Tool (EAT), which benchmarks spending and its composition against comparators.² The paper concludes with a discussion on the impact of debt accumulation on growth.

B. What Drove the Accumulation of Debt and Contingent Liabilities?

National Government Debt

4. The fiscal deficit was the main factor behind national debt accumulation between 2007 and 2017. Changes in the actual debt stock as a share of GDP are due to changes in the numerator (i.e., fiscal deficit, accumulation of cash balances, and a stock-flow adjustment term), or the denominator (i.e., nominal GDP). The stock flow adjustment term includes CPI adjustment of inflation-indexed debt, valuation changes of the foreign currency denominated debt, and other stock flow adjustment movements including from debt management operations.³ Results show that the fiscal deficit accounted for 76 percent of the change in the numerator of the debt ratio, the stock flow adjustment for 18 percent, and the accumulation of the cash balances for the remaining 6 percent.

Figure 2. Breakdown of Debt Numerator Change, 2007–17
(Percent of GDP, calendar year)



Sources: SARB Quarterly Bulletin (March 2018) and Fund staff estimates.

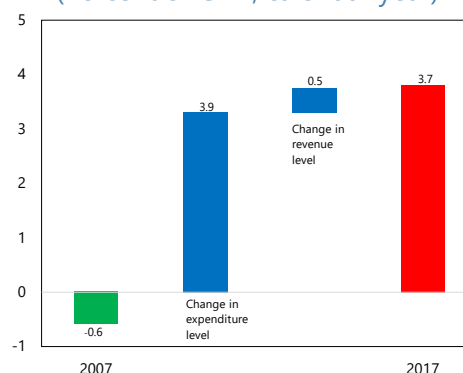
5. An increase in expenditure as a share of GDP accounted for 90 percent of the increase in the deficit, while revenue shortfalls contributed only marginally. A decomposition analysis shows the contribution of each numerator component to the debt increase by breaking the fiscal deficit component into changes in expenditure and revenue as a share of GDP.

² See Escribano and Liu (2017) for a discussion of the methodology and data sources. South Africa's spending level and composition are benchmarked against the Southern African Development Community (SADC) countries, Emerging and Middle-Income Countries (EM), and, in some cases, against the Organization of Economic Cooperation and Development (OECD).

³ The analysis in this section is based on SARB's national government public finance data, which is available already on a calendar year basis through 2017 by level of government. This allows to estimate what type of spending the grants to other levels of governments in the national government accounts are financing. It is assumed that, if local governments spend X percent of their total spending on wages, X percent of the grants the national government sends to the local government are spent on wages assuming money is fungible.

- Expenditure** increases undertaken at the time of the global financial crisis (2008 and 2009 compared to 2007) primarily on the wage bill (1.5 percent of GDP), purchases of goods and services (1 percent of GDP), and social benefits (0.5 percent of GDP) were not clawed back thereafter. Moreover, nominal expenditure ceilings (set based on more favorable growth assumptions) were only marginally adjusted down, under a de-facto presumption that weaker growth was a temporary phenomenon. Compounding these developments, the materialization of contingent liabilities (e.g., support to Eskom in 2015, and support to South African Airlines and the post office in 2017) also contributed in raising the public expenditure-to-GDP ratio.
- Revenue**, on the other hand, largely recovered. Revenue declined by about 3 percentage points of GDP to 24.1 percent of GDP in 2010, due to automatic stabilizer effects and the provision of tax relief. Since then, revenue recovered to 26.4 percent of GDP in 2017, buoyed primarily by the impact of the growth recovery on personal income, VAT, and international trade tax collections, and by tax policy measures, including bracket creep and changes in income tax rates, and adjustment of excise rates.

Figure 3. National Government Deficit, 2007–17
(Percent of GDP, calendar year)



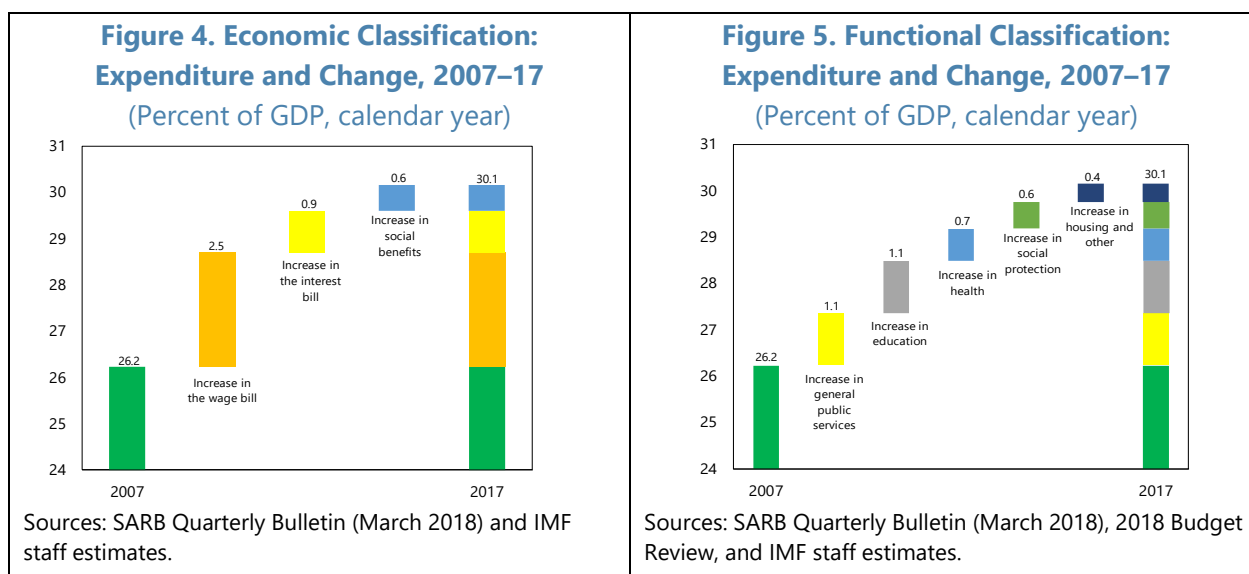
Source: SARB Quarterly Bulletin (March 2018).

6. The wage bill accounts for the bulk of the increase in total expenditure. A decomposition analysis looks at both the economic and the functional classifications of expenditure to identify areas of major changes:

- The economic classification** shows that the wage bill accounts for 64 percent of the increase in expenditure, followed by the interest bill (23 percent) reflecting the debt increase and higher borrowing costs, and social benefits (13 percent) reflecting an expansion in the coverage of social grants that occurred during the period. Reduced capital expenditure and grants (i.e., international transfers) broadly offsets increased expenditure on subsidies and to a lesser extent goods and services (not shown in chart).
- The functional classification** reflects consistently the economic classification results.⁴ The largest area of growth is “general public services”, which captures both the increasing wage and interest bills. Education and health, two of the largest employment sectors, follow

⁴ Given that functional classification data is not directly published for the national government, consolidated government level information was used as a proxy after applying a simple transformation to estimate calendar year data.

— likely reflecting the contribution of the large wage bill increase. Social protection spending increase reflects rising social benefits.



General Government Debt

7. The results derived in the previous section remain largely unchanged when expanding the analysis to the general government.⁵ General government debt is estimated to have increased from 29.3 percent of GDP in 2007 to 55.7 percent in 2017, following a similar debt trajectory as the national government, and suggesting that the debt of the rest of the general government is between 2 and 3 percent of GDP. The debt accumulation arising from local governments is likely limited reflecting the presence of small surpluses or deficits. Provincial governments and extra-budgetary funds are not allowed to borrow. Social security funds have maintained a surplus during the projection period. Local government revenue increases contributed to the general government deficit reduction since 2007. Expenditure therefore played a bigger role in the deficit increase than at the national government level. The wage bill continued to be the main contributor to total expenditure increase (55 percent), followed by purchases of goods and services (19 percent), the interest bill (17 percent), and social benefits (14 percent). There is a net decline in the remaining expenditure categories of about 5 percent of total expenditure.⁶

⁵ While general government revenue, expenditure, and financing data is available from SARB, consolidated general government debt data is not available. General government debt was proxied by adding the bond and loan debt information available to be consistent with the national government debt definition. Data is from the balance sheets of extra-budgetary funds, provincial governments, and local governments. Social security funds do not have loan and bond debt. Given that there is no information on intra-government debt this risks double counting.

⁶ The deficit accounts for a lower share of the change in the numerator (56 percent), which is picked up by the stock flow adjustment that includes residual errors. This change is unlikely to be meaningful, as it mostly represents the fact that general government debt is estimated with error.

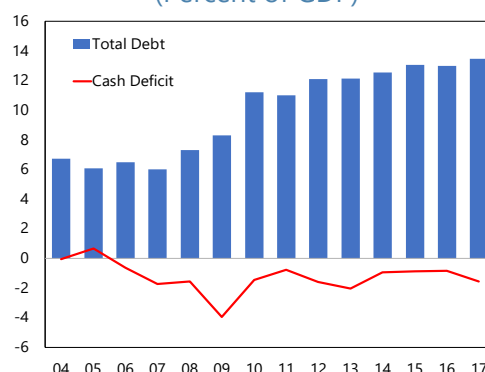
SOE Debt

8. SOE debt has grown rapidly since 2007 driven primarily by non-financial SOEs.⁷ Total SOE loan and bond debt increased from 8 percent of GDP in 2007 to 15.6 percent in September 2017. Non-financial SOEs represented about 86 percent of SOE debt (13.5 percent of GDP) and 86 percent of the overall increase in SOE debt during the period. This reflects the difference in size between the non-financial SOE sector (37 percent of GDP in assets) and the financial SOE sector (5 percent of GDP in assets).

9. Growth in non-financial SOE debt has been driven by insufficient operational results to sustain investment. The non-financial SOEs, as a group, had cash flow deficits in 13 out of the 14 most recent years, and the average cash flow deficit was about 1.6 percent of GDP in the last 10 years. Operational revenue has not been sufficient to sustain the investment program, which has averaged 3 percent of GDP per annum. While the average cash flow deficits remained broadly unchanged during the period due to some improvement in revenue collection, expenditure grew by 0.6 percent of GDP on the back of increased spending on goods and services and interest. Issues at Eskom, the largest non-financial SOE, are illustrative of difficulties SOEs have been facing, including collection of arrears, procurement of key inputs at high costs, overstaffing, operational inefficiencies, delays and cost overruns in the implementation of investment projects, and unfunded mandates.

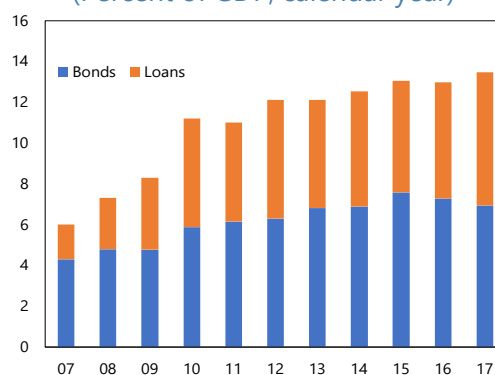
10. SOE borrowing has increasingly taken the form of loans given diminishing interest in market bond issuances. In 2007, about 72 percent of non-financial SOEs obligations were bonds and 28 percent loans. Most recently, in 2017 the mix has been 51 percent for bonds and 49 percent for loans, with increasing loan placements with domestic

Figure 6. Non-financial Public Enterprise Debt and Deficit, 2004–17
(Percent of GDP)



Sources: SARB Quarterly Bulletin (March 2018) and IMF staff estimates.

Figure 7. Composition of Non-Financial SOE Debt, 2007–17
(Percent of GDP, calendar year)



Sources: SARB Quarterly Bulletin (March 2018) and IMF staff estimates.

⁷ Non-financial SOEs covered by the SARB data include Eskom (electricity), Transnet (transportation and logistics), Telkom (telecom), SANRAL (road construction), the water boards, and most of the largest non-financial enterprises and corporations. Similarly, financial SOEs include the Development Bank of South Africa, the Land Bank, and the Industrial Development corporation.

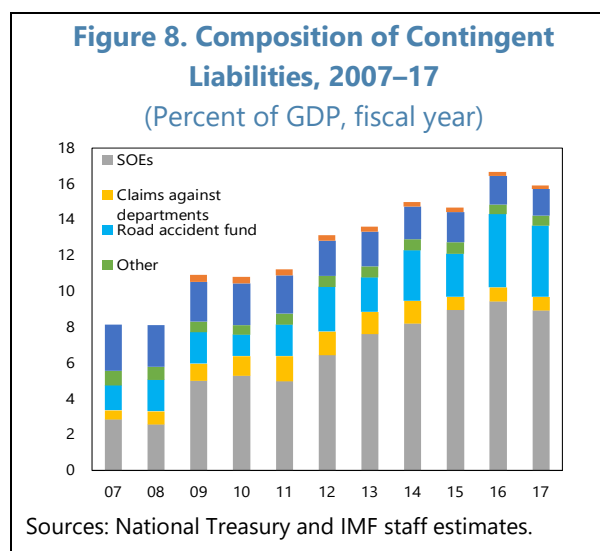
financial institutions and reliance on multilateral financing. With deteriorating finances and limited market appetite for non-financial SOE bonds, a significant share of non-financial SOE debt is guaranteed by the government (see below).

Contingent Liabilities

11. The SOE sector has been a key driver of the expansion in contingent liabilities for the budget. Guarantees on SOE loans are the most frequent types of contingent liabilities and the ones that grew the most. They amounted to 2.9 percent of GDP in FY07/08 and increased to about 9 percent in FY17/18. The largest loan guarantees were to Eskom and the independent power producers, which combined amounted to 7.3 percent of GDP in FY17/18. The independent power producers' initiative was introduced in FY12/13 to alleviate energy shortages at the time.

12. Other sources of contingent liabilities have also been significant. The *Road Accident Fund*, which pays claims to victims of road

accidents, has seen increased claims from 1.4 percent of GDP in FY07/08 to 4 percent in FY17/18, and has been the second most important source of growth of contingent liabilities outside SOEs. Contingent liabilities related to the medical assistance program for civil servants, and claims related to disputed bills together amounted to 2.2 percent of GDP in FY17/18. However, the amount has been declining over time.



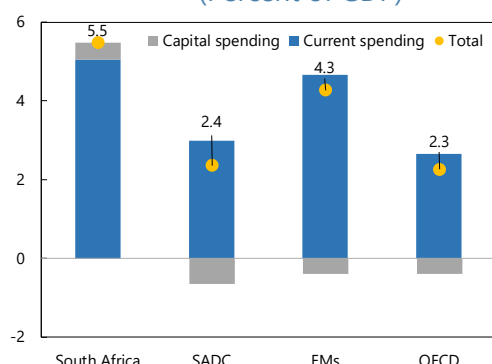
C. Benchmarking of Spending Levels and Composition

Level of Expenditure and Composition by Economic Classification⁸

13. Total spending as a percent of GDP increased significantly more than in comparator country groups in 2007–16. Total spending grew by about 5.5 percentage points of GDP, a rate considerably higher than the one observed in SADC, EM, and OECD countries. Total spending is now broadly at par with the level of spending in other EMs and significantly above the SADC average.

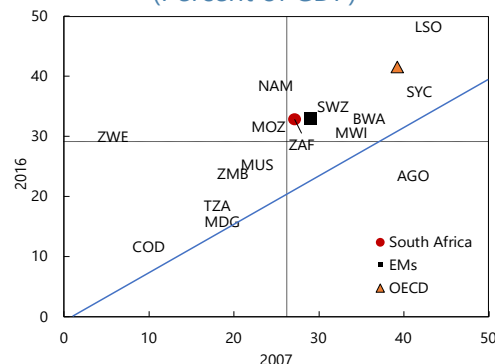
⁸ The fiscal coverage in FAD's expenditure assessment tool is general government for most countries in the sample. For South Africa, the coverage is the consolidated government, which includes the central government, provincial governments, social security funds, transfers to local governments, and some public entities. The latest year available option in the tool is used in some cases to maximize the amount of data on comparators.

Figure 9. Change in Total Spending, 2007–16
(Percent of GDP)



Source: FAD Expenditure Assessment Tool.

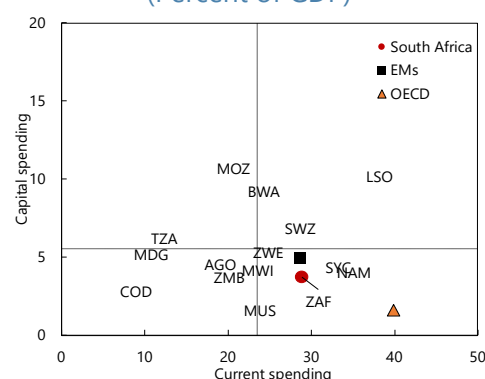
Figure 10. General Government Spending, 2007 and 2016
(Percent of GDP)



Source: FAD Expenditure Assessment Tool.

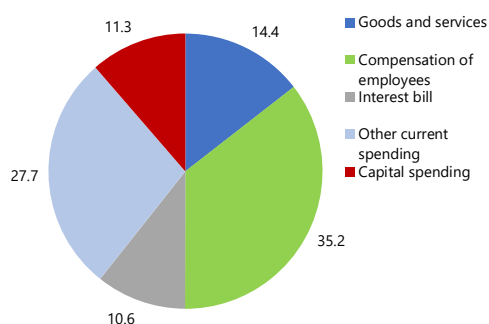
14. The share of budgetary capital expenditures is lower than in the SADC and EM countries. This is because budget capital expenditure has been compressed to accommodate increasing wage and interest bill expenditure. However, this result must be interpreted with caution since in South Africa, SOEs carried out about 3 percentage points of GDP of capital spending on average that is not captured in these figures, given the coverage. Compared to the SADC, South Africa spends more on interest and other current expenditure because of its higher debt levels and more extensive social assistance expenditure.

Figure 11. Current and Capital Spending, 2016
(Percent of GDP)



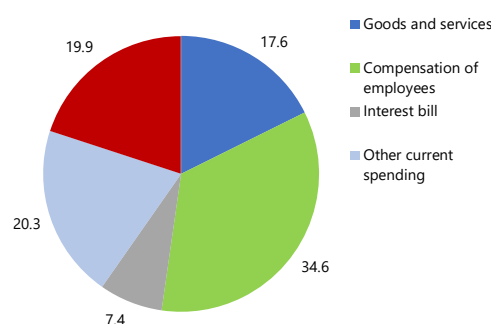
Source: FAD Expenditure Assessment Tool.

Figure 12. South Africa: Expenditure by Economic Classification, 2016
(Percent of total)



Source: FAD Expenditure Assessment Tool.

Figure 13. SADC: Expenditure by Economic Classification, 2016
(Percent of total)



Source: FAD Expenditure Assessment Tool.

15. The wage bill is on the high side of the EM distribution, and is driven by high compensation. Public employment of working age population is lower in South Africa than the EM average, while both the wage bill as a share of GDP and of public expenditure are above the EM average. This points to high compensation as the main reason for the higher wage bill. These findings are consistent with those in a special annex on public employment and compensation in the 2017 Medium Term Budget Policy Statement.

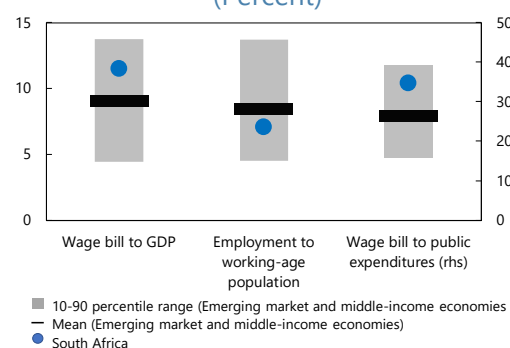
16. The quality of infrastructure compares favorably with respect to that of other EMs and SADC countries, but tends to lag that of OECD countries. Air transport and roads appear to be the areas where South Africa does better even compared to OECD standards. However, in general, the quality of infrastructure lags that of the OECD, in particular on ports and railroads.

Composition of Expenditure by Functional Classification⁹

Education

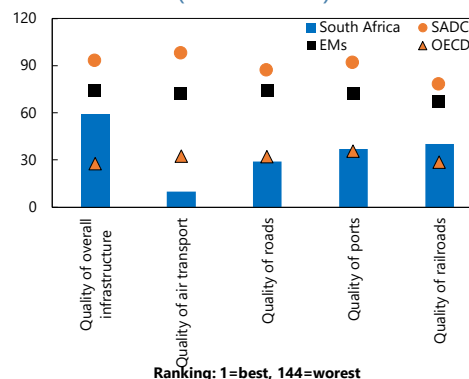
17. There are signs of inefficiency in education spending. Several SADC countries spend less at the primary education level and get better outcomes measured in terms of net enrollment. Also, EMs get considerably better outcomes with a similar level of expenditure. For example, with a similar spending level than South Africa, some SADC countries get a 95 percent enrollment rate. For a more detailed discussion of inefficiencies in education see Mlachila et.al. (2018), and several auditor general reports for a discussion on wasteful expenditure in the sector.

Figure 14. Benchmarking for Wage Bill and Employment
(Percent)



Source: FAD Assessment Tool.

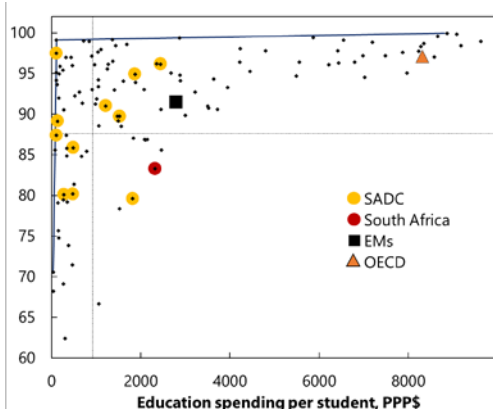
Figure 15. Infrastructure Quality
(Latest Data)



Source: FAD Expenditure Assessment Tool.

⁹ See footnote 8 for the fiscal coverage of the data.

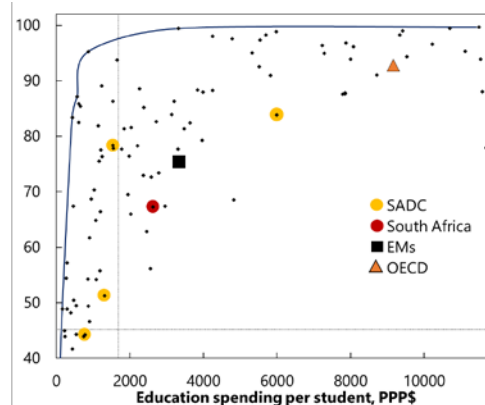
Figure 16. Government Education Spending and Outcome, Primary 1/
(Latest Data)



Source: FAD Expenditure Assessment Tool.

1/ Dashlines are the average of SADC.

Figure 17. Government Education Spending and Outcome, Secondary 1/
(Latest Data)

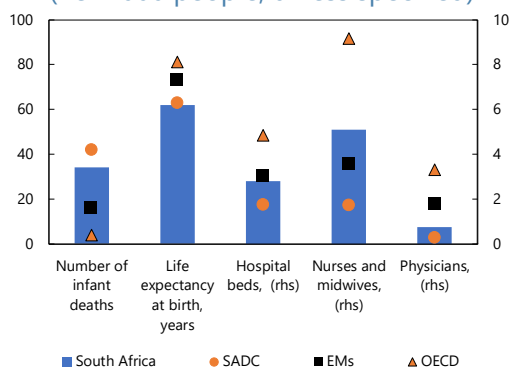


Source: FAD Expenditure Assessment Tool.

1/ Dashlines are the average of SADC.

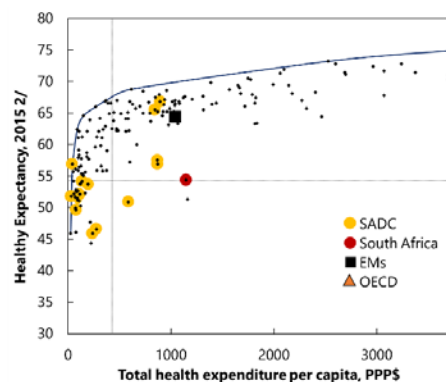
18. The ongoing shift of education spending toward providing free tertiary education spending is unlikely to benefit the most vulnerable. Since the 2016 budget review, spending reallocations were carried out to fund additional tertiary education subsidies. International evidence from many EMs (see Fiscal Policy and Income Inequality (2014), Fiscal Monitor (2007)) suggests that tertiary education spending tends to benefit disproportionately the better off—as is also the case in South Africa—since it is regressive in absolute terms. This is because the poor tend to have weaker educational backgrounds than the non-poor and are less likely to seek university studies. Moreover, students who complete tertiary education typically earn higher wages. As a result, those who can afford tertiary education would be willing to pay for it without any subsidization. By subsidizing students that would have paid in any case, less funds are available to help those in need.

Figure 18. Indicators of Health and Health System
(Per 1000 people, unless specified)



Source: FAD Expenditure Assessment Tool.

Figure 19. Health Efficiency Frontier 1/
(Latest Data)



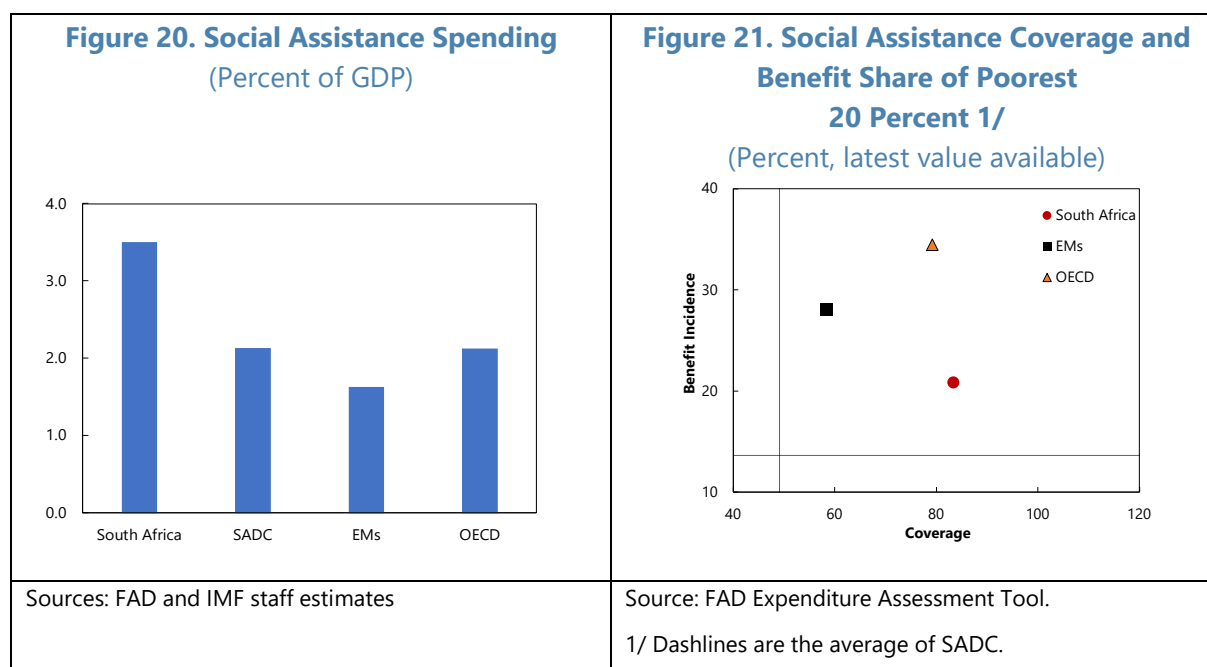
Source: FAD Expenditure Assessment Tool.

1/ Dashlines are average of SADC.

19. Similar evidence of inefficiencies is present in healthcare. While health expenditure is slightly above EM and SADC countries, healthy life expectancy indicators (HALE) are considerably below what EM and several SADC countries achieve.¹⁰ Looking more broadly at other indicators, this is reinforced by relatively high infant mortality, lower life expectancy at birth, and lower number of physicians per 1000 inhabitants, compared to other EMs.

Social Protection

20. Spending on social assistance is considerably higher than in the OECD, EM, and SADC countries.¹¹ This is mainly because of the 83 percent coverage of the poorest 20 percent of the income distribution, which is considerably broader than in most EMs (59 percent) and even OECD countries (79 percent). In terms of benefit incidence, the poorest 20 percent of the income distribution gets 20 percent of the benefits in South Africa compared to 28 percent in EMs on average and 34 percent in OECD countries according to this metric. These metrics likely do not take into account issues in the distribution of social assistance, where intermediaries force beneficiaries to get contracts for other services reducing the effective grant amount that gets to beneficiaries.



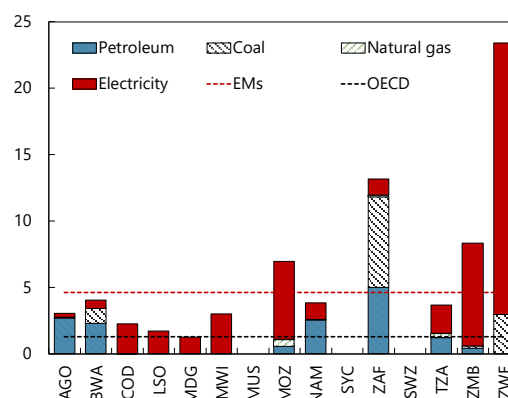
¹⁰ Healthy life expectancy (HALE) is a measure of health expectancy that applies disability weights to health states to compute the equivalent number of years of life expected to be lived in full health.

¹¹ Includes free services subsidy provided by the Treasury to local governments assuming it is targeted to the poor. Coverage is the number of individuals in the quintile who live in a household where at least one member receives the transfer divided by the number of individuals in that quintile. Benefit incidence is equal to the sum of all transfers received by all individuals in the quintile divided by the sum of all transfers received by all individuals in the population.

Economic Affairs

21. Energy subsidies are relatively large compared to SADC, EMs, and OECD countries. IMF (2015) estimates the subsidies at 13 percent of GDP. They derive primarily from coal and petroleum (8 percent of GDP) and electricity (1.2 percent of GDP). Subsidies stem primarily from the exemption of fuel from VAT (foregoing revenue estimated at 1.5 percent of GDP) and from the gap between excise collections on energy products and the valuation of the externalities they generate (including global warming, pollution, congestion).

Figure 22. Energy Subsidies by Product, 2015 1/
(Percent of GDP)



Source: FAD Expenditure Assessment Tool.

1/ Dashlines are the median for countries in the region.

D. Was Debt Good for Growth?

22. The spending increase that drove the large debt accumulation helped smooth the impact of the global financial crisis, but likely did not have a material impact on growth.

National government spending increased by 4 percentage points of GDP in the last decade, of which 3 points occurred during the global financial crisis years. With multipliers estimated between 0.4 and 0.9, the fiscal stimulus likely prevented a sharper decline in growth ranging between 1.2 and 2.7 percentage points during the crisis. However, the expenditure increase over the period 2007–17 was mainly explained by wage and interest payments outlays, and to a lesser extent social benefits. Such composition and the relative inefficiency of spending in health and education suggest that the increase in spending that drove up debt did not have material permanent effects on growth. These findings are broadly consistent with several studies on the impact of fiscal policy on economic activity in South Africa (e.g. Jooste et.al (2013) and those surveyed in Makrelov et. al. (2018)). Overall, although multiplier estimates vary, most studies suggest an impact of the government spending expansion on economic activity during the global financial crisis in the order of magnitude estimated by staff, but limited effects in the longer term¹².

23. The expansion in the wage bill during the last decade has exacerbated budget rigidities, without raising productivity. Increases in the wage bill—a substantive part of the budget—have remained largely untouched during unfavorable economic times, forcing major compression in necessary goods and services and investment grants. The increase in the interest bill

¹²Multiplier estimates tend to be below one in the short term and negligible in the longer term in most studies. However, Makrelov et. al. (2018) argue that these estimates are low because they ignore important financial accelerator channels that were applicable to South Africa's context during the global financial crisis. When these channels are incorporated, peak multipliers of 2.5 and 3.5 can be obtained depending on the response assumed for foreign savings and a more persistent response on output.

associated to the rising debt further compounded the rigidities created by a large wage bill. A meaningful reduction in the wage bill would improve budget flexibility and spread more fairly the burden of adjustment across all segments of the population.

24. SOE finances pose large fiscal risks to the budget, and their large investments have not been optimal for growth. The protracted deficits that SOEs have been running as a group during 13 of the last 14 years, and the need of most SOEs to get government guarantees to borrow, suggest that they have difficulties to sustain investment plans. Turnaround plans for SOEs are urgently needed to ensure their contribution to growth, and mitigate the fiscal risks they pose. Any new government guarantees should be made contingent on efficient performance in line with well-defined turnaround targets.

25. Spending on education and health has absorbed a considerable part of the debt increase, but weak quality service has not resulted in workforce productivity gains. The relatively weak outcomes South Africa achieves compared to other SACU countries and EMs point to the need to control personnel costs, which represent a sizable portion of total expenditure in these sectors, and implement the auditor general recommendations to reduce wasteful expenditure.

26. Social assistance benefits are a valuable policy option to compensate the poor for possible adverse effects from fiscal adjustment. The broad coverage and good targeting make social assistance benefits an effective choice to address adverse consequences of fiscal measures on the poor. Continued efficient spending in this area is likely to have an important payoff, particularly if issues related to the distribution of grants are addressed.

27. The significant debt accumulation observed in the last 10 years could have been used more productively. While the countercyclical fiscal policy at the time of the global financial crisis and the expansion of the safety net that the debt helped finance were appropriate, the significant resources that were spent on wages and associated borrowing costs could have been invested in more productive options. These include additional productive capital expenditure to support private sector activity at the national and subnational levels; structural reforms to increase the productivity of the economy, especially in network industries where large SOEs operate; and improvements in the efficiency of basic education and healthcare. All of these outlays would not only have contributed to increase the productivity of workforce, but also to reduce inequality.

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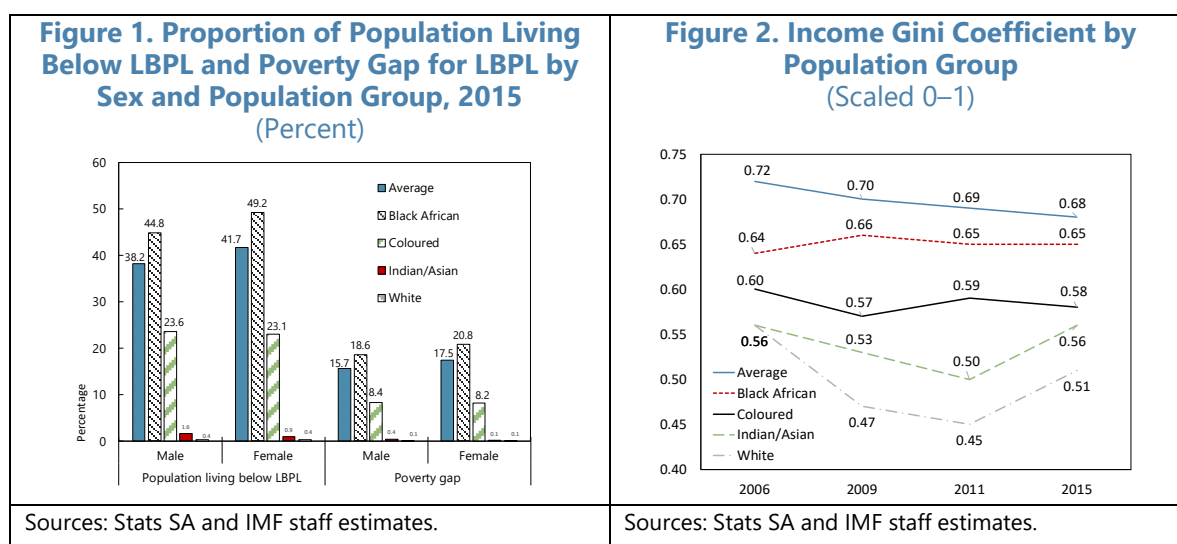
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INEQUALITY IN SOUTH AFRICA: TRENDS AND THE ROLE OF FISCAL POLICY¹

South Africa is one of the most unequal societies globally. While progress has been achieved, the legacies of apartheid continue to weigh on income distribution. Using the latest household and labor force surveys, this paper looks at key trends in poverty and inequality. It also uses fiscal incidence analysis to assess how taxes and social spending components redistribute income. While the analysis finds a large progressive impact of fiscal policy on income, low growth continues to weigh on poverty and inequality. Private-sector led growth should be favored and complemented with efficient public policies to improve the delivery and leverage social grants, and strengthen other policy interventions.

A. Poverty and Inequality: Stylized Facts

1. The aggregate data on poverty and inequality mask significant disparities across age, race, and gender. Children and the elderly are the age groups most affected by poverty. Moreover, poverty levels and severity are highest for black Africans, with black African women facing the highest levels among all groups (Figure 1). Similarly, income inequality levels are highest among black Africans (Figure 2).



2. Poverty is closely correlated with access to employment. Unemployment at end-2017 stood at 26.7 percent, with youth unemployment (15–29 age group) at an alarming 52.2 percent.² Poor households earn less than 40 percent of their income from employment, with the rest being government transfers. In contrast, income from employment accounts for 80 percent of the total

¹ Prepared by Alejandro Simone and Vimal Thakoor; reviewed by Ana Lucía Coronel.

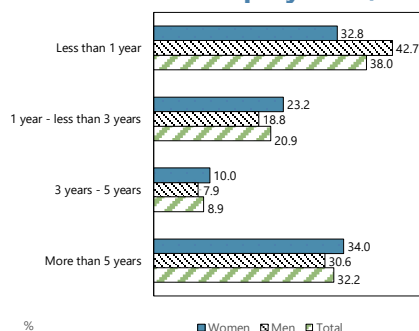
² Including discouraged workers, the rates increase to 36.4 percent and 67.4 percent for the youth.

income for households that move in and out of poverty. Nearly 40 percent of unemployed have never had a job, with the number rising to 60 percent for the youth. One in three of the unemployed were last employed five years ago (Figure 3), with the proportion rising to almost half for those aged between 50 and 65.

3. Employment prospects are largely driven by education levels.

The bulk of the jobs being created are high-skilled, thus favoring higher levels of education. Hence, employment status depends significantly on the level of education, with unemployment lowest for university graduates (Figure 4). The share of labor income in total income largely determines poverty and inequality levels (Leibbrandt et al, 2012).

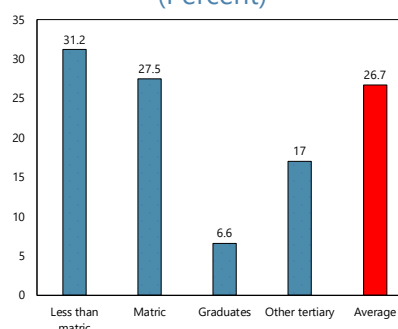
Figure 3. Percentage Number of Unemployed by Duration of Unemployment, 2018Q1



Sources: Stats SA and IMF staff estimates.

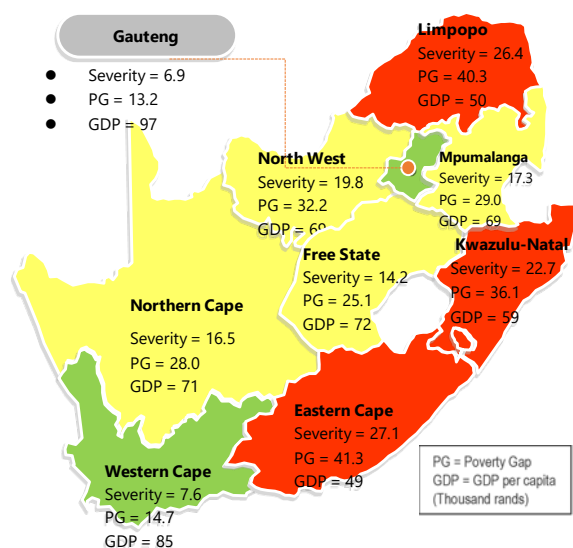
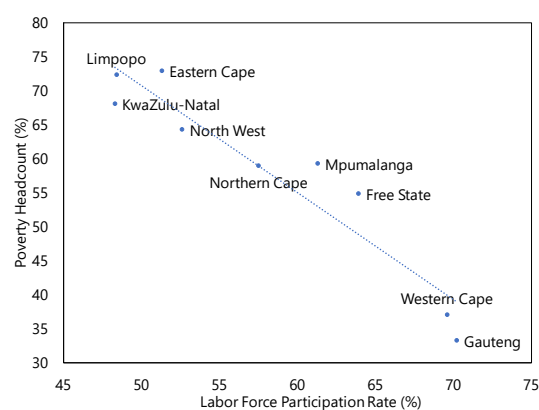
4. Significant spatial disparities persist. Regional gaps between the rich and the poor reflect apartheid-era restrictions on geographical settlement and the associated government spending patterns (Adato, Carter, and May, 2006). While the gaps have declined somewhat, economic and social prospects continue to be closely linked to the location of households, with significant disparities between rural and urban areas and across provinces. Poverty headcount and incidence in rural areas is about twice the level in urban areas (Figure 5). For example, GDP per capita in the poorest provinces (Limpopo and Eastern Cape) is half the level of that in Gauteng, while poverty gaps and severity (headcount and incidence together) are higher. Provinces with the lowest participation in the labor force have the highest incidence of poverty.

Figure 4. Unemployment Rate by Education Status, 2017Q1 (Percent)



Sources: Stats SA and IMF staff estimates.

5. Notwithstanding efforts to promote financial inclusion, access to finance is still constrained for lower-income households, who rely on informal services. Table 1 shows that the bottom quintile of households has half the number of bank accounts of the top quintile. Many of these accounts are only used to receive social grants. However, the bottom quintile's access to loans and credit cards is only one tenth of the access of the top quintile. Hence, bottom quintile households account for 33 percent of loans from "mashonis" (higher-cost informal lenders) compared to 8 percent for the top quintile.

Figure 5. Income Distribution and Poverty Incidence by Province**South Africa: Provincial Labor Force Participation and Poverty, 2015**

Sources: Stats SA and IMF staff estimates.

Note: Colors refer to poverty severity (Red > 20%, 10% < Yellow < 20%, Green < 10%).

Table 1. South Africa: Financial Inclusion by Income Decile

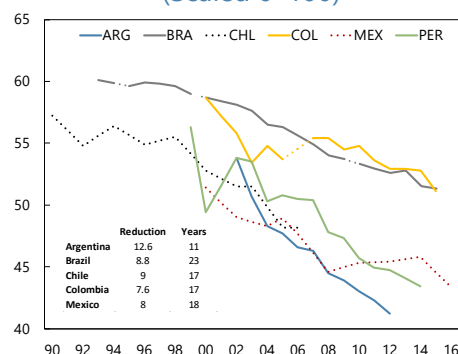
Income decile	Percent of bank accounts	Percent of loans from bank	Percent of credit cards	Percent of loans from microlender	Percent of loans from mashonis	
1		6.3	5.2	3.2	17.2	13.0
2		6.2	2.3	1.6	10.1	19.5
3		7.4	4.2	1.9	14.1	10.1
4		7.9	5.0	2.7	6.1	11.2
5		8.2	4.3	2.9	12.1	9.5
6		10.7	6.9	4.2	3.0	11.8
7		11.8	8.6	5.0	8.1	8.3
8		13.0	13.9	8.5	6.1	8.3
9		13.7	22.3	23.6	13.1	7.1
10		14.8	27.3	46.4	10.1	1.2

Source: NIDS and IMF staff calculations.

6. On current trends, South Africa runs the risk of not achieving its target of reducing income inequality (Gini) to 0.6 by 2030.

Meeting this target would require a radical pick-up in growth from the current anemic levels. Inequality reductions of similar magnitudes have been achieved in other EMs, but over longer periods (Figure 6). Except for Argentina (where a post-crisis recovery contributed to a rapid decline in inequality levels), the other countries (Brazil, Chile, Colombia, and Mexico), took between 17 and 23 years to achieve similar gains.

Figure 6. Evolution of Gini Coefficient, Selected Countries
(Scaled 0–100)

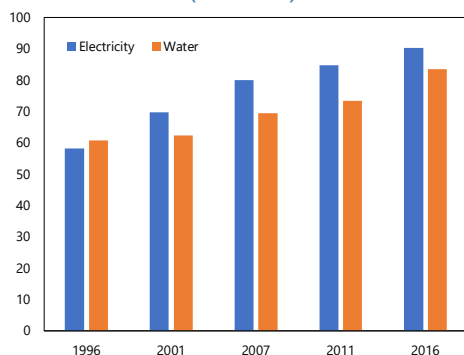


Source: WDI and IMF staff calculations.

7. Several initiatives have been rolled out

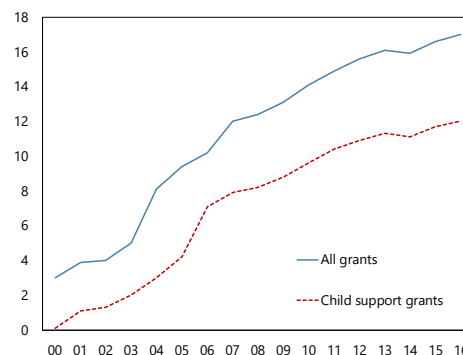
to foster a more inclusive society since the end of apartheid. The government has invested significantly to bridge the poverty and inequality gap. Social spending benefits have been expanded over time, and now include targeted direct cash transfers (old age, disability, and child grants), indirect transfers (e.g. provision of water and sanitation services and housing subsidies for the poor), and in-kind transfers (provision of health and education services). The share of households with access to electricity and water has increased consistently (Figure 7). The coverage of social grants has expanded from 3 million in 2000 to 17 million in 2016, reaching over 30 percent of the population (Figure 8). The Black Economic Empowerment Program was put in place to allow diversification of ownership and increase employment opportunities.

Figure 7. Percent of Households with Access to Electricity and Water
(Percent)



Sources: Stats SA and IMF staff estimates.

Figure 8. Social Grants Disbursed: 2000–16
(Beneficiaries, millions)



Sources: South African Social Security Agency (SASSA) and SOCPEN Database (2000–2016).

B. Why Does Inequality Matter?

8. The relationship between inequality and growth has gained renewed attention.

While endogeneity issues are not fully resolved, inequality can affect growth through various channels. Credit constraints and market imperfections are likely to be more common in unequal societies, limiting low-income households' ability to invest in physical as well as human capital and to mitigate shocks (Galor and Zeira, 1993; Corak, 2013). Carter and Barrett (2006) argue that insufficient access to loans and insurance can inhibit the ability of poor households to accumulate assets, leading them to remain trapped in poverty, while the rich are able to get the financial resources they need to move further ahead. High inequality (including spatial inequality) can give rise to socio-political instability and deepen ethnic tensions with potentially deleterious effects on social cohesion and the sustainability of growth (World Bank, 2009).

9. Given the demographic trends, South Africa needs to create jobs both to absorb new entrants, and to employ low-skilled workers. The working age population is expected to increase by over 2 million until 2030 and over 6 million by 2050 (Table 2). Job creation, at the average levels observed between 2010–16, would imply a rise in the unemployed to 8 million by 2030, and in the worst-case scenario (where job creation remains at a lower level, 2016 elasticity), exceed 10 million. Such an increase in the number of unemployed could fuel social tensions and increase the demand for fiscal transfers.

Table 2. South Africa: Demographics and Employment

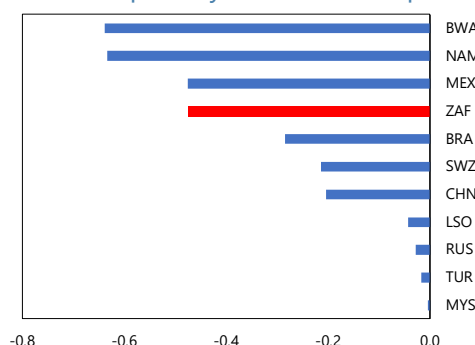
	2016	Average		2015 Elasticity		2016 Elasticity	
		2030	2050	2030	2050	2030	2050
Working age population	36.7	38.9	43.0	38.9	43.0	38.9	43.0
Total Employed	15.8	17.0	19.3	17.9	21.9	15.9	16.2
<i>Formal sector (non-agricultural)</i>	<i>11.0</i>	<i>11.9</i>	<i>13.4</i>	<i>11.4</i>	<i>12.2</i>	<i>11.3</i>	<i>11.9</i>
<i>Informal sector (non-agricultural)</i>	<i>2.6</i>	<i>2.8</i>	<i>3.2</i>	<i>3.5</i>	<i>5.2</i>	<i>2.5</i>	<i>2.3</i>
<i>Agriculture</i>	<i>0.9</i>	<i>1.0</i>	<i>1.3</i>	<i>1.6</i>	<i>3.1</i>	<i>0.9</i>	<i>0.8</i>
<i>Private households</i>	<i>1.3</i>	<i>1.3</i>	<i>1.4</i>	<i>1.5</i>	<i>1.9</i>	<i>1.3</i>	<i>1.2</i>
Unemployed	5.8	6.5	8.0	6.8	8.8	7.3	10.1

Source: STATS SA, Labour Market Dynamics in South Africa, 2016, page 114.

10. Growth in South Africa is pro-poor, but has not contributed to reductions in inequality. Periods of extended growth contribute to declines in poverty (Figure 9). However, with most jobs created in the high-skills sector, inequality has increased as income levels have gone up (Figure 10). This emphasizes the role of fiscal policy as a redistributive instrument.

Figure 9. Income per Capita Growth and Poverty

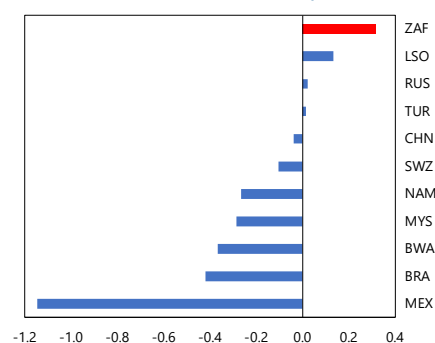
(Impact of a 1-percent increase in per capita income on poverty headcount, in percent)



Sources: World Bank, PovcalNet, IMF, World Economic Outlook Database, and staff calculations.

Figure 10. Income per Capita Growth and Inequality

(Impact of a 1-percent increase in per capita income on Gini)



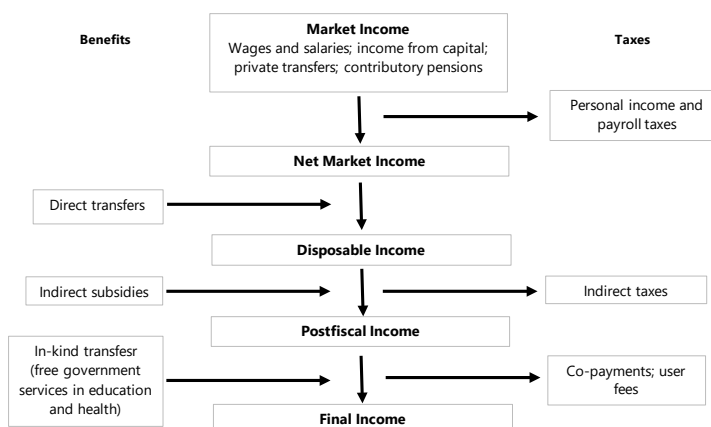
Sources: World Bank, PovcalNet, IMF, World Economic Outlook Database, and staff calculations.

C. Fiscal Policy and Inequality

11. A fiscal incidence analysis is employed to assess how the types of taxes and components of social spending redistribute income, and thus affect inequality. As discussed in Inchauste et. al. (2015), the analysis takes the market income distribution per decile as a starting point and the Gini coefficient associated with it. The Gini coefficient is then recomputed for several definitions of income that reflect the impact of groups of taxes and benefits covered in the analysis to capture their effect on inequality. When the effect of all taxes and benefits being analyzed is reflected together on income (i.e., final income), the Gini coefficient of the resulting income distribution is compared to the market one to get the estimated effect of fiscal policy on inequality.

12. The accounting approach of fiscal incidence analysis is used to compute post-tax and benefit income distributions. This approach examines what is paid and received by households without assessing the behavioral responses that taxes or public spending may trigger. Annex I discusses methodological aspects including the definition of relative and absolute progressivity, the data sources, and relevant caveats.

Figure 11. Moving from Market Income to Final Income



Source: Inchauste and Lustig, 2015.

13. The incidence analysis focuses on a subset of tax and benefit categories given available information. The analysis covers the personal income tax (PIT), unemployment insurance fund levy (UIF), and the skills development levy (SDL) on the direct tax front, and the VAT, fuel excises, and alcohol and tobacco specific excises for indirect taxes. On the social spending side, the analysis covers the incidence of specific components of health and education expenditure, the largest social grants (old age, disability and child grants), and some indirect subsidies (housing subsidy, free water, electricity, and sanitation for the poor).

14. The tax system is mildly progressive. The progressivity of direct taxes (due to a relatively high exemption threshold, progressive rates, and rebates) combined with some progressivity of the general fuel excise in most waves (consumption of fuels is more heavily concentrated among the non-poor) more than offsets the relatively regressive specific excises on alcohol and tobacco (more heavily consumed by the poor) and the relatively less regressive VAT given that basic food items are VAT exempt or face a lower rate (Figure 12). This mildly progressive impact has remained broadly stable across the four waves, averaging 0.02 (Table 3).

Table 3. South Africa: Impact of Tax System on Inequality

	Market Income Gini	Gini of Market Income after Taxes	Net Impact
Wave 1	0.71	0.69	-0.03
Wave 2	0.76	0.74	-0.02
Wave 3	0.76	0.74	-0.02
Wave 4	0.69	0.68	-0.02

Source: IMF staff estimates

15. Social spending is progressive in absolute terms. The most progressive components are the direct cash transfers followed by primary and secondary education and all health expenditure. Nonetheless, tertiary education spending is still progressive in relative terms because of the very skewed market distribution (see Figures 13, 14, and 15). Adding the impact of cash benefits, health, education, free services and housing subsidy benefits to market income results in a significant reduction of the market Gini by an average of 0.18 percent in the four waves. These benefits considerably increase the incomes of the lowest deciles of the distribution (Table 4). The progressivity of social spending has also been increasing mainly due to the expansion of the well-targeted social grants over this period.³ However, given quality concerns with health and education spending, the results may overstate the extent of the actual benefit to the vulnerable from health and education.

³ The coverage of the vulnerable population by the social grants has been expanded by lowering and equalizing the age in which men become eligible for the grant from 65 to 60 years old between FY 2008/09 and 2010/11, and increasing the age until which children can get a child grant from 14 years old in FY 2008/09 to 18 years of age by the 2012/13 budget.

Table 4. South Africa: Impact of Social Expenditure on Inequality

	Market Income Gini	Gini of Market Income after Benefits	Net Impact
Wave 1	0.71	0.58	-0.13
Wave 2	0.76	0.59	-0.16
Wave 3	0.76	0.55	-0.21
Wave 4	0.69	0.50	-0.20

Source: IMF staff estimates

16. The impact of fiscal policy on income inequality is among the largest in emerging markets. The Gini coefficient is reduced on average by 0.2 or about 30 percent of the market income in the four NIDS waves. This compares favorably with an average reduction of 0.06 in a sample of countries analyzed in the Commitment to Equity Initiative (World Bank (2014)) which includes emerging markets such as Brazil, Indonesia, Mexico, and Peru. Despite the favorable impact of fiscal policy on income inequality, South Africa remained the country with the highest Gini for the final income in the sample given the highly unequal market distribution. The estimates below suggest that inequality, as measured by market income, worsened with the global financial crisis, to then go back broadly to still very high pre-global financial crisis levels.

Table 5. South Africa: Combined Impact of the Tax System and Social Expenditure on Inequality

	Market Income	Net Market Income	Disposable Income	Post-Fiscal Income	Final Income	Overall Impact
Wave 1	0.71	0.69	0.63	0.61	0.53	-0.18
Wave 2	0.76	0.74	0.64	0.63	0.55	-0.21
Wave 3	0.76	0.74	0.60	0.59	0.50	-0.26
Wave 4	0.69	0.67	0.54	0.53	0.46	-0.24

Source: IMF staff estimates

17. Several factors account for the significant impact of fiscal policy on inequality in South Africa. The 2017 Fiscal Monitor and World Bank (2014) suggest the following factors account for the favorable outcome: (1) most other EMs spend less in direct cash transfers, which is facilitated by favorable revenue levels in South Africa; (2) direct cash transfers are relatively well targeted given that categorical targeting in South Africa works well as the majority of the poor are children and the old; (3) given how unequal the market distribution of income is compared to other EMs, education and health spending tends to be better targeted to the lower deciles of the income distribution, and contributes to reduce the Gini more; and (4) South Africa collects more of its tax revenue through direct taxes, with a progressive PIT as its main tax instrument, while most other EMs do so with indirect taxes, which tend to be either slightly progressive or regressive.

18. South Africa's spending on targeted transfers is cost effective in reducing income inequality compared to other EMs. Spending on targeted social grants for about 3 percent of GDP during the years of the NIDS waves achieved a reduction in the Gini coefficient averaging 0.1 (i.e. difference between the net market income and disposable income columns), which is more than

what most other countries in the Commitment to Equity sample achieved with all the benefits they provide.

D. Policy Considerations

19. The findings stress the importance of achieving inclusive growth to reduce inequality.

Given the already significant fiscal spending used to address inequality, the limited fiscal space, and the substantial role of fiscal policy in reducing income inequality in South Africa compared to other EMs, the scope to scale up public resources to address inequality is severely constrained. The highly unequal market income distribution and the marked difference in inequality reduction between the periods when growth was relatively strong on a sustained basis and the most recent period of protracted low growth underscore the critical importance of increasing growth and job creation to reduce income inequality.

20. There is room to improve the efficiency of fiscal policy to reduce income inequality in the currently constrained resource environment. The options include:

- **Reconsidering the reduction in cost recovery in tertiary education.** While tertiary education subsidies are relatively progressive in South Africa given a highly unequal market income distribution compared to other EMs, they are a relatively inefficient spending instrument to reduce inequality. Moreover, the benefits of tertiary education are typically captured by the students in the form of higher wages, so those that can afford to pay for their studies will do so without any government intervention. Focusing the limited government resources on those that are qualified but without the means to study would likely allow to provide better support at a lower cost and achieve better results.
- **Improving the efficiency of spending in education and health.** South Africa seems to be spending more resources but getting weaker outcomes in education and health than other countries that spend less. Given that basic education expenditures (i.e. primary and secondary) and health expenditure are progressive in absolute terms, the poor benefit disproportionately from them. Increasing the quality of basic education and health and improving outcomes would likely contribute to increase their impact in reducing inequality.
- **Seeking opportunities to leverage social grants.** This refers to exploring opportunities to use social grants to incentivize beneficiaries to engage in desirable behaviors that are conducive to improving their level of education and health. For example, in Brazil and Mexico, cash transfers are successfully linked to enrollment of family members in school and attendance at nutrition and health clinics. Such links help reduce human capital inequalities (and thus future income inequalities) and current income inequalities.

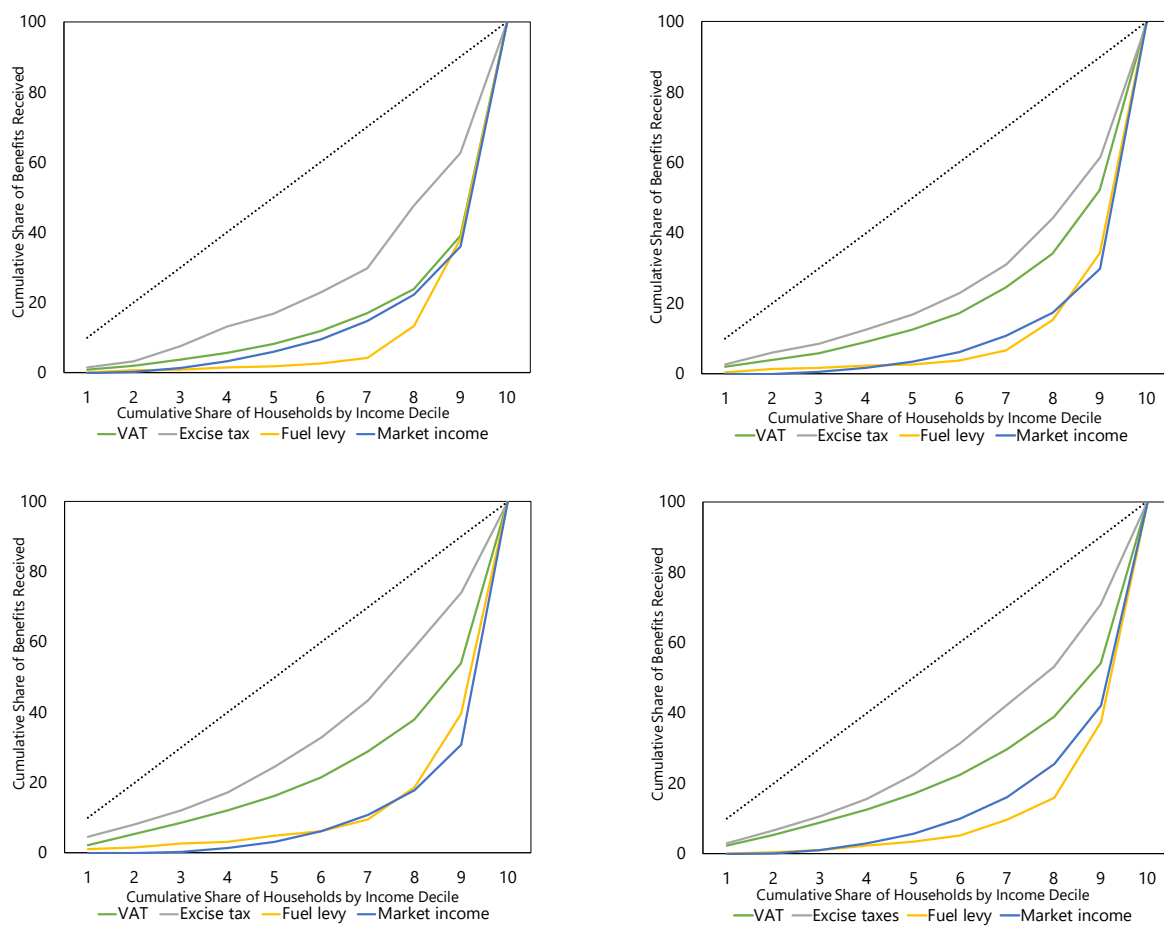
21. Opportunities to achieve significant progressivity gains from the design of the personal income tax going forward will likely be more difficult. This is because of the limited buoyancy observed in recent years, and the fact that the highest marginal tax rate for higher incomes has been increased to 45 percent in the 2017 budget. Such rate is already reaching the

range where the literature suggests that revenues from high income individuals are maximized (50–60 percent) (see IMF (2014)). Further increases may provoke increased tax avoidance efforts, which may result in lower overall revenue, especially in a context of significant capital mobility. Nevertheless, there may be some opportunities to improve progressivity by seeking additional revenue from property taxes, which have favorable distributional properties. Addressing weaknesses in tax administration could also provide additional revenues to finance progressive expenditure.

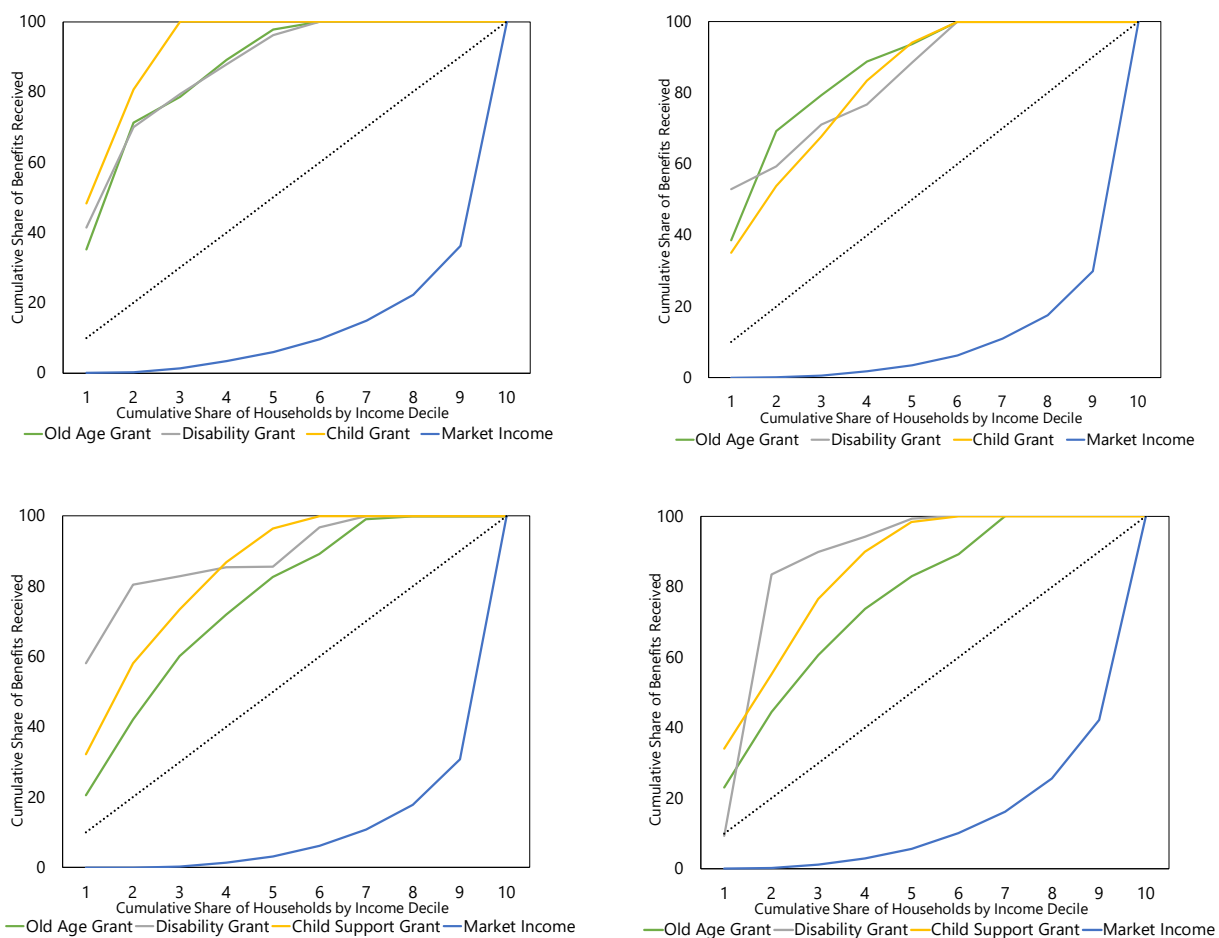
22. Policy responses to spatial inequality need to balance the need to reduce disparities against the need to preserve gains from agglomeration. Kanbur and Venables (2005) suggest a two-pronged strategy of de-concentration of economic activity through the development of human and physical infrastructure, complemented with the removal of impediments of migration of individuals and households to areas of high and rising well-being. For South Africa, this translates into allowing households with limited access to markets and public services to commute to the centers of economic activity and share the benefits of growth. The role of network industries is critical in this regard. Alleviating constraints to urban land and housing will also facilitate the migration of workers from rural areas to the economic centers.

23. Finally, interventions aimed at addressing apartheid legacies need to acknowledge potential unintended perverse consequences. Regulatory and policy uncertainty arising from the implementation of the otherwise well-intended government policies, such as the Black Economic Empowerment Program (BEEP) and land reform, need to balance the negative impact on private investment and growth. These policies can unintentionally contribute to a deterioration in distributional indices by worsening the wage premium or creating incentives for rent-seeking.

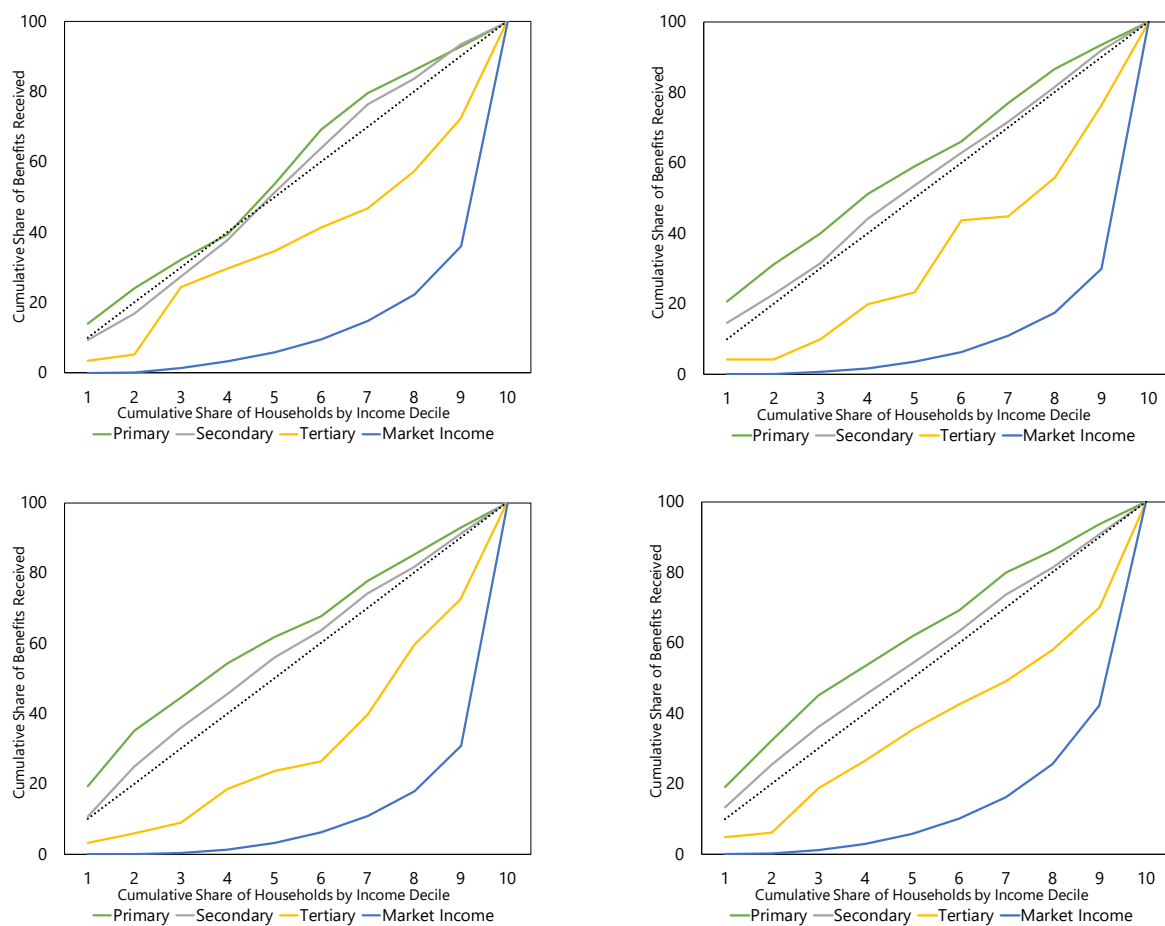
Figure 12. South Africa: Indirect Taxes



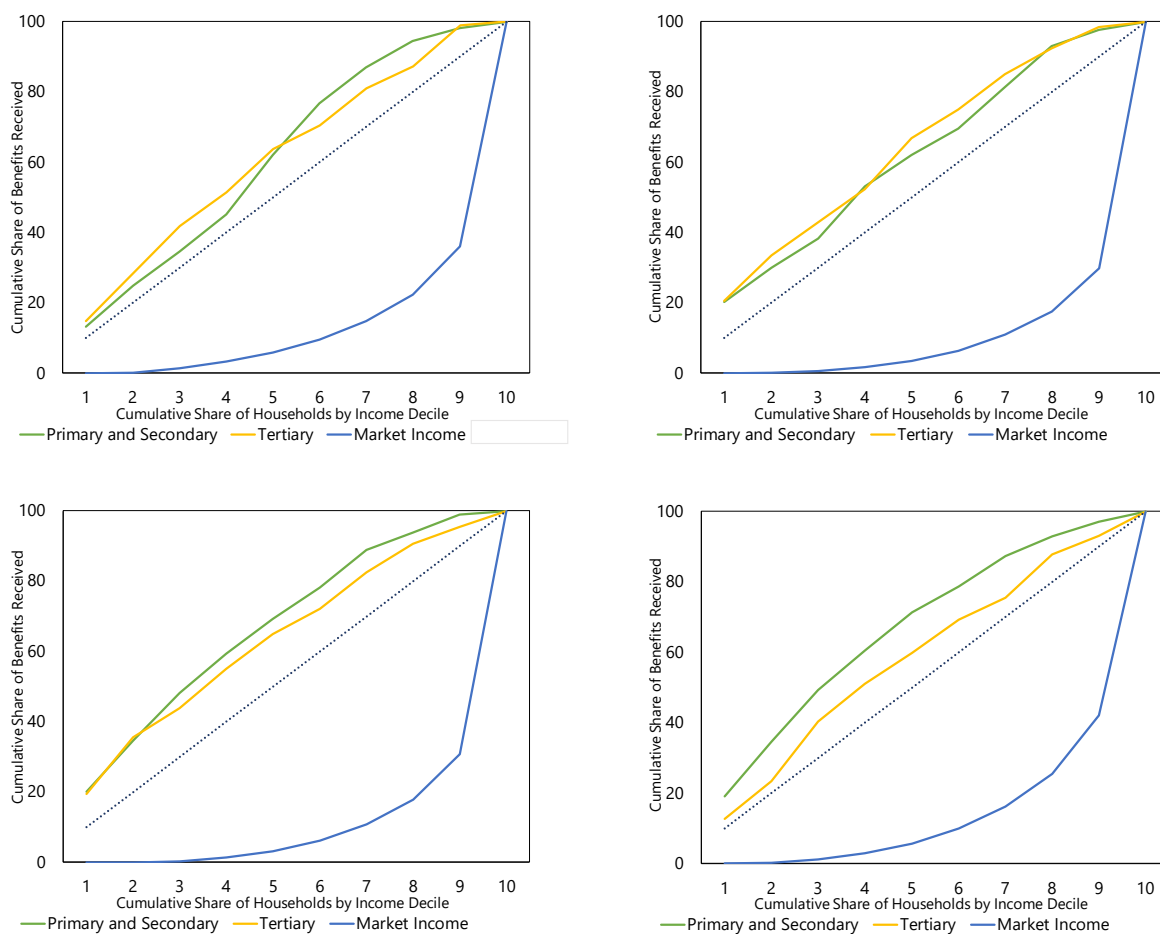
Sources: Stats SA, NIDS, and IMF staff estimates

Figure 13. South Africa: Social Grants

Sources: Stats SA, NIDS, and IMF staff estimates

Figure 14. South Africa: Education

Sources: Stats SA, NIDS, and IMF staff estimates

Figure 15. South Africa: Health

Sources: Stats SA, NIDS, and IMF staff estimates

Annex I. Definitions of Progressivity, Data Sources, and Caveats

1. Progressivity is measured by comparing the share of a specific tax/benefit that is collected/paid by each decile of the income distribution with the share of total income each decile receives and the 45-degree line.

Relative and absolute progressivity of a tax or a benefit is defined as follows:

- A tax is progressive/regressive in relative terms if the cumulative share of the tax paid by the households accounting for X percent of households is lower/higher than their share in income as shown by the market income curve. A tax is progressive/regressive in absolute terms if the cumulative share of the tax paid by X percent of the households is less/more than X percent.
- A benefit is progressive/regressive in relative terms if the cumulative share of the benefit received by the households accounting for X percent of households is higher/lower than their share in income as shown by the market income curve. A benefit is progressive/regressive in absolute terms if the cumulative share of the benefit received by X percent of the households is more/less than X percent.

2. The National Income Dynamics Survey (NIDS) waves and fiscal data from the National Treasury and the SARB are the main data sources. The NIDS cover four 12 months periods in 2008, 2010, 2012, and 2014 (i.e., Waves 1 through 4, respectively) and contains data on household income, expenditures, cash benefits, and utilization of education and health services. The information is complemented with budget spending data primarily to estimate the value of certain benefits such as the average amount paid for several grant types, the average spending on several levels of education and health. Since there is limited information on the amounts paid in taxes in the surveys, taxes such as the personal income tax are computed based on the corresponding tax schedule for the given year obtained from the corresponding national budgets.

3. The methodology is subject to important caveats. For health, education, and other free services more generally, the value of government services does not consider quality. Therefore, the value to recipients may be considerably less than the cost to the government if quality is poor. A similar concern is valid for cash benefits if only a fraction were to get to the intended beneficiaries. The accounting approach used does not ponder behavioral responses that changes in taxes and spending may trigger among individuals or households. Due to data and methodological constraints, the analysis also excludes important taxes (i.e., corporate income, international trade, and property taxes) and spending categories (i.e., infrastructure investments and the certain grants which reach a lower number of beneficiaries such as the care dependency grant).

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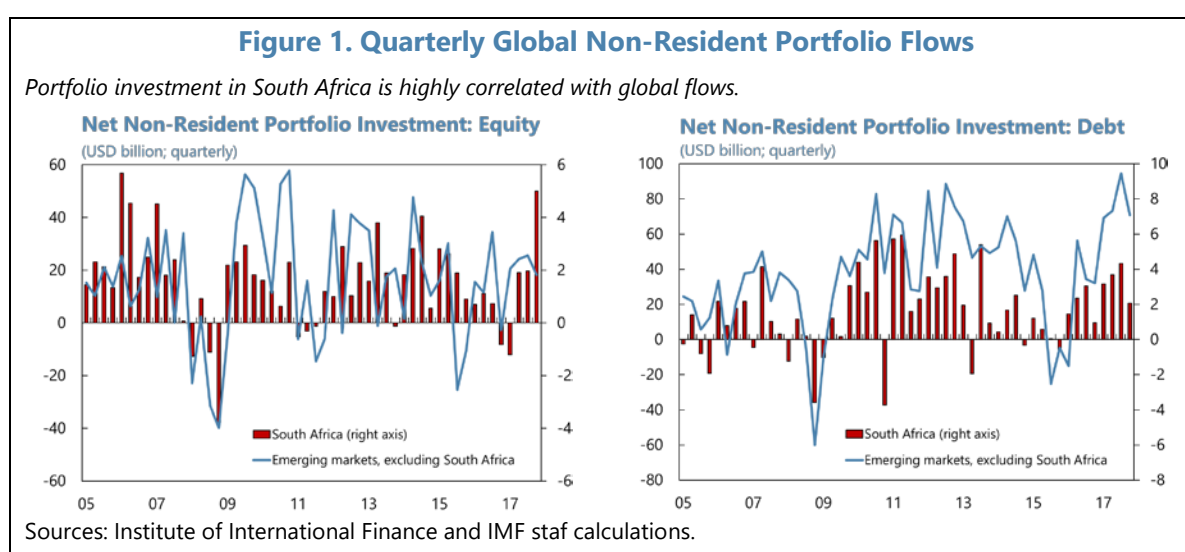
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VULNERABILITIES AND BUFFERS: HOW RESILIENT IS THE SOUTH AFRICAN ECONOMY?¹

South Africa has weathered both external and domestic shocks. However, growth is weak, public sector debt has risen, and the large financial sector, though dominated by a well-capitalized banking sector, is exposed to weak state-owned enterprises. In addition, the current account deficit is financed by capital flows prone to volatility, and while a large share of external debt is denominated in rand, gross external financing needs are nonetheless sizable. In the event downside risks materialize, for example arising from tighter global financial conditions and potentially combined with a sovereign credit rating downgrade, abrupt capital outflows could ensue. This paper provides an overview of South Africa's domestic and external vulnerabilities across all sectors of the economy and assesses the size of existing buffers to absorb the impact of potential adverse shocks.

A. Introduction

1. Accommodative global financial conditions have benefited South African financial markets. During several years, emerging markets have benefitted from portfolio inflows in search for yield. While some episodes of volatility have resulted in bouts of debt and equity outflows, emerging markets have received sizable net inflows. With its deep and liquid financial markets, inflows to South Africa have been similarly notable. Cumulative net non-resident portfolio investment flows (equity and debt) to South Africa during 2012–17 are estimated to have reached close to \$90 billion (Figure 1). And despite some fluctuations, as of May 2018, South African 10-year yields (monthly average) have remained below the January 2016 high of 9.6 percent, which followed changes in ministerial appointments at the National Treasury in December 2015.



¹ Prepared by Lone Christiansen and Ken Miyajima; reviewed by Ana Lucía Coronel.

2. However, South Africa is exposed to risks, and vulnerabilities are present in both domestic and external sectors. As discussed in the 2018 Article IV staff report for South Africa, risks originate from both external and domestic sources, including from tighter global financial conditions, weaker-than-expected growth in trading partners, and a materialization of contingent liabilities from state-owned enterprises (SOEs). Considering South Africa's vulnerabilities, the impact of a materialization of such risks could propagate through the various sectors of the economy. Amid low growth, domestic vulnerabilities largely relate to unfavorable public-sector debt dynamics and weak SOEs. External vulnerabilities arise from significant gross external financing needs and a composition of current account deficit financing that is vulnerable to sudden reversals. The following sections discuss the main domestic and external vulnerabilities and assess existing mitigating factors and buffers to cushion the impact of potential adverse shocks. Possible adverse downside scenarios are discussed toward the end.

B. Domestic Vulnerabilities

Public Sector

3. Low growth and continued fiscal deficits have contributed to rising public sector debt. 2017 marked the fourth consecutive year with growth below two percent, and growth rates above 5 percent have not occurred since before the Global Financial Crisis (GFC). In addition, sustained fiscal deficits of around 4 percent of GDP or above during the past decade have led to an increase in debt. In turn, public-sector debt has doubled since 2007, reaching about 53 percent of GDP in 2017—largely on account of growing central government debt. Overall, South Africa's public-sector debt is now larger as a share of GDP than in many other major emerging market economies.

4. In addition, fiscal risks have grown. Debt of SOEs has risen from 7 percent of GDP in FY2004 to around 14 percent of GDP in FY2016 (Figure 2). Amid weak balance sheets in some SOEs, contingent liabilities could materialize and further weaken public sector balance sheets. For example, as of March 2018, the state-owned electricity company Eskom and South African Airlines had combined outstanding government guarantees corresponding to 7.2 percent of GDP. Alongside, public sector debt ratios remain highly sensitive to continued weak growth. In the event that growth falls permanently 1 percentage point below the baseline over the projection horizon, public sector debt would continue to increase and likely surpass 70 percent of GDP by 2023.

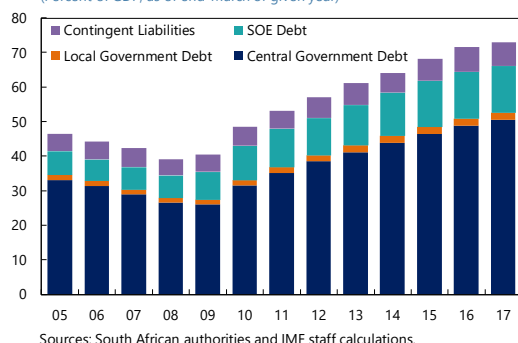
5. Combined with policy uncertainty, domestic vulnerabilities have led to sovereign credit rating downgrades. In April 2017, Fitch was the first credit rating agency to lower South Africa's sovereign local currency rating to below investment grade, noting that the early 2017 cabinet reshuffle would likely result in a change in economic policy direction and that SOE debt could migrate onto the government balance sheet. In November 2017, after the release of the October 2017 Medium-Term Budget Policy Statement (MTBPS), which pointed to a worse-than-previously-projected public-sector debt trajectory, S&P followed suit and reduced the local currency sovereign credit rating to sub-investment grade. As a result, only Moody's rated South Africa as investment grade.

6. The initial market reaction to domestic events highlighted the risks that fiscal vulnerabilities and policy uncertainty pose to the real economy. The release of the MTBPS led to sudden net portfolio outflows of about \$1 billion during the eight business days following the release, prompting a 3½ percent exchange rate depreciation during that time, a sharp pickup in exchange rate volatility, and an increase in 10-year yields (Figure 3). The subsequent downgrade by S&P to sub-investment grade led to the exclusion from Barclays Global Aggregate index and was followed by a close to \$1 billion in portfolio outflows during the subsequent three weeks—a period which was also impacted by uncertainty leading up to the election of the ANC president in December. Overall, with more than 40 percent of local currency government bonds held by nonresidents as of end-2017, this situation highlighted South Africa’s exposure to sudden financial market reactions.

Figure 2. Public Sector Vulnerabilities

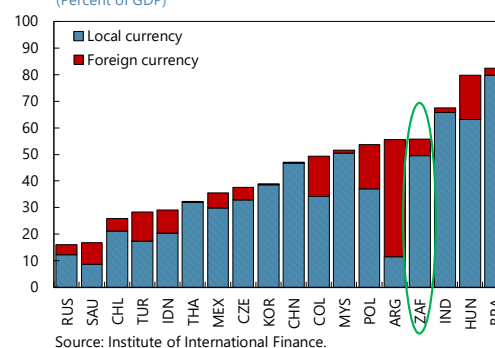
Public-sector debt has increased rapidly...

Broader Public Sector Debt and Contingent Liabilities
(Percent of GDP, as of end-March of given year)



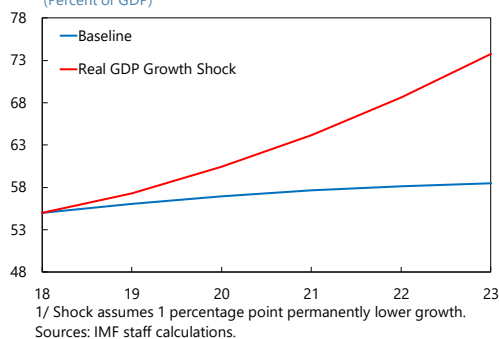
...and is high relative to many peer economies.

Government Debt, 2017Q4
(Percent of GDP)



Debt is vulnerable to continued weak growth.

Gross Public Debt 1/
(Percent of GDP)



Two local-currency credit ratings are now below investment grade.

Local Currency Sovereign Credit Ratings
(Dashed line denotes the lowest investment grade rating)

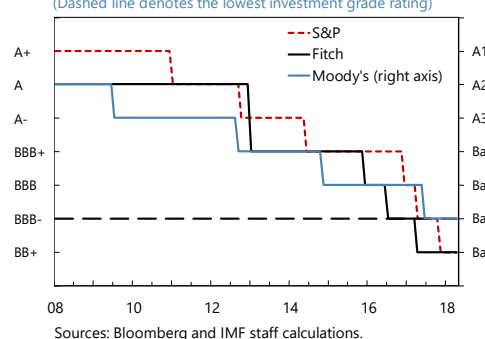
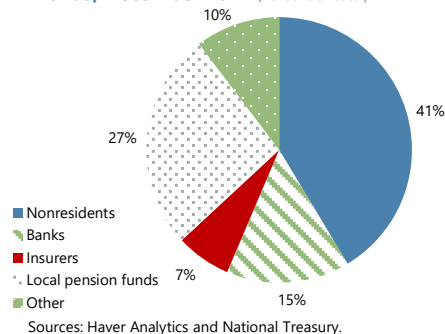


Figure 3. Financial Market Exposure and Developments

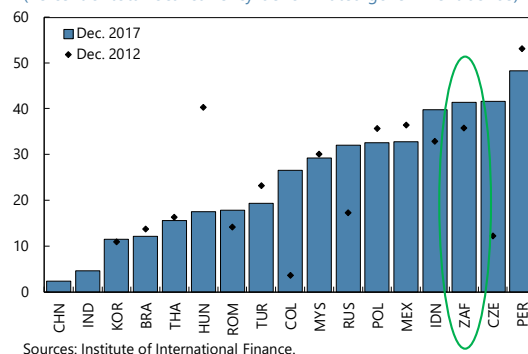
About 40 percent of government bonds are held by nonresidents...

Ownership of Local-Currency Government Bonds, December 2017 (Percent of total)



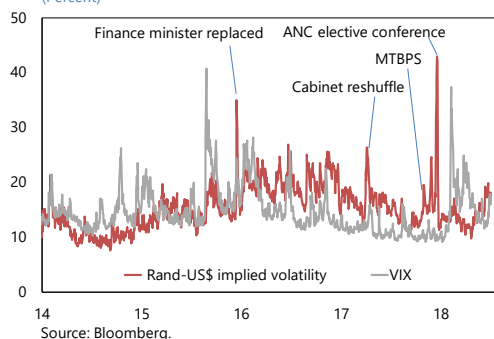
...which is well above nonresident holdings in many other emerging market economies.

Foreign Participation in Local Currency Government Bond Market (Percent of total local currency-denominated government bonds)



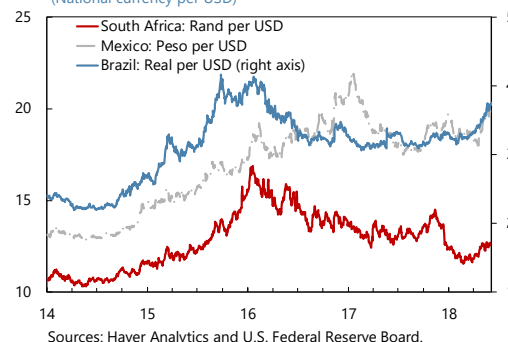
Volatility increased after the MTBPS release and picked up further ahead of the ANC elective conference.

Volatility of Rand-US Dollar and US Equities (VIX) (Percent)



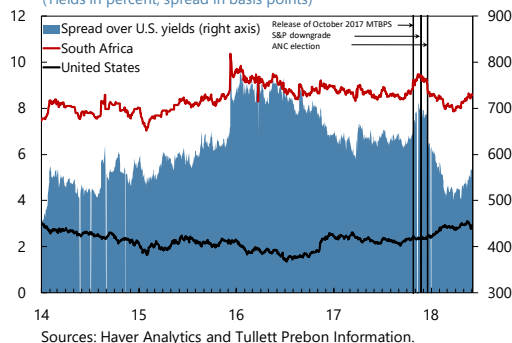
However, the rand later appreciated...

Nominal Exchange Rates (National currency per USD)



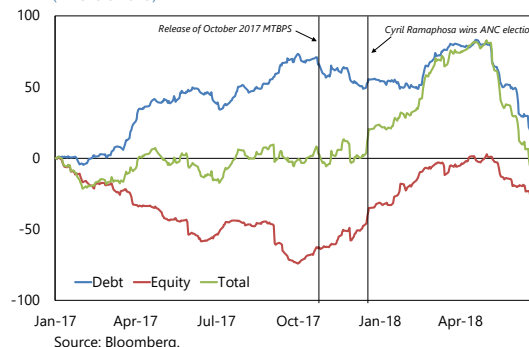
...and yields declined.

10-Year Treasury Bond Yields and Spreads (Yields in percent; spread in basis points)

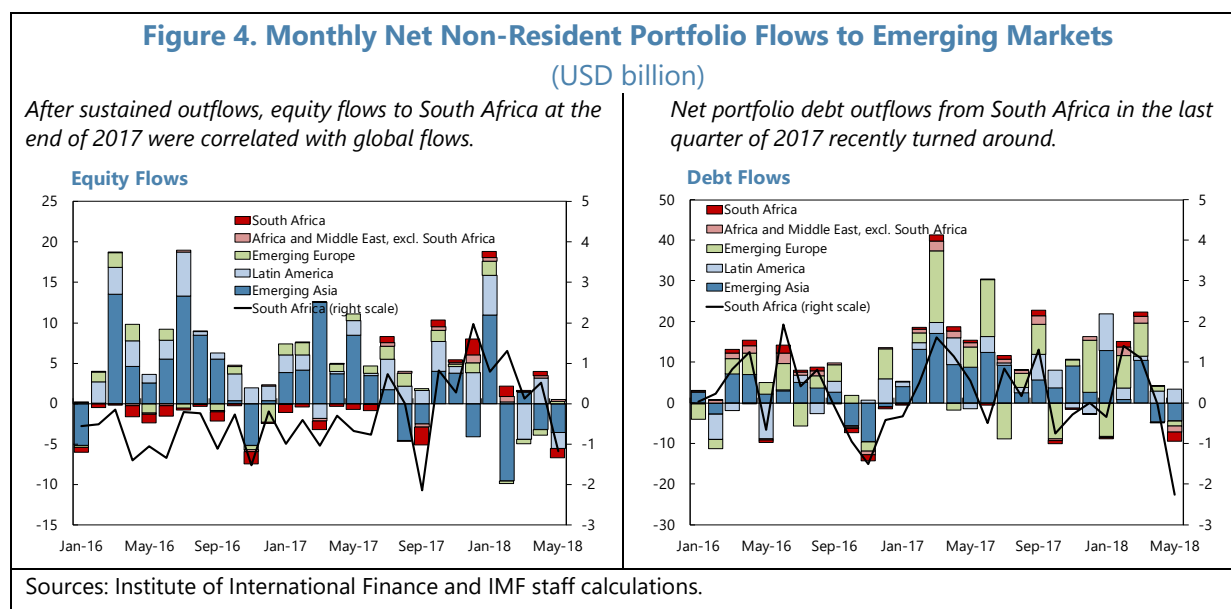


After the election of Cyril Ramaphosa as ANC president, significant net portfolio flows entered South Africa.

Cumulative Non-Resident Net Portfolio Inflows (Billions of rand)



7. The resilience of the South African economy helped reduce the impact on economic stability. The initial market impact of domestic events was relatively short-lived, and 10-year yields remained below 10 percent. In addition, as international companies listed on the Johannesburg Stock Exchange (JSE) have offshore earnings that are unrelated to South Africa-specific factors, they may have benefited from exchange rate depreciation, thereby providing a stabilizing role for equities. In fact, portfolio equity flows recorded a net inflow of \$¼ billion during the three weeks following the S&P downgrade—though this followed equity outflows during several months of 2017 until early October and coincided with global net non-resident equity flows also to other emerging markets (Figure 4). But investment in bonds also strengthened. Following the positive market sentiment after the leadership change in the ruling party, South Africa recorded net non-resident portfolio bond inflows of about \$½ billion in the week following the change—though it was not until early March this year after significant inflows in late February that bond inflows had made up for the outflows that started in October 2017.



Non-financial Private Sector

8. Corporate private sector vulnerabilities are generally manageable but with pockets of vulnerabilities. While non-financial corporate debt has risen, it compares favorably to other major emerging markets (Figure 5). More than half of corporate debt is denominated in local currency, and about three quarters of debt has maturity longer than one year. In addition, profitability appears generally sound in a cross-country perspective. That said, profitability in some sectors (e.g. mining and manufacturing) has weakened during the past several years, and debt at risk among non-financial SOEs has worsened as measured by the interest coverage ratio.² Eskom, as of May 21, 2018, had an outstanding stock of bonds and loans of about R400 billion (8½ percent of 2017 GDP),

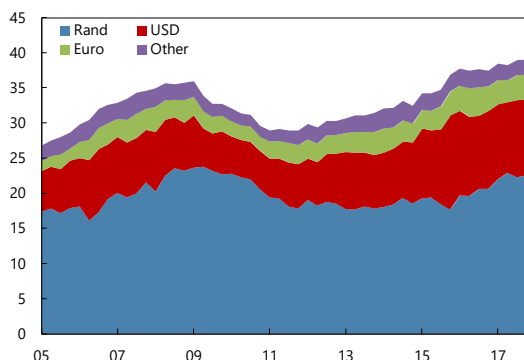
² The interest coverage ratio expresses the extent to which cash flow is sufficient to cover interest payments on debt. A declining ratio suggests an increasing share of debt at risk.

with about R190 billion issued in foreign currency. Hence, with significant government guarantees among some SOEs, vulnerabilities in this sector are closely linked to those that can impact the public sector.

Figure 5. Nonfinancial Corporate Vulnerabilities

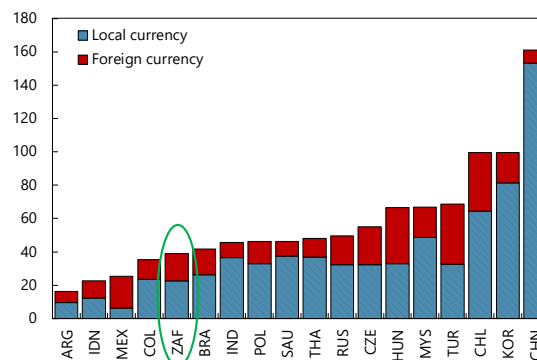
Corporate debt has risen...

South Africa: Non-Financial Corporate Debt
(Percent of GDP)



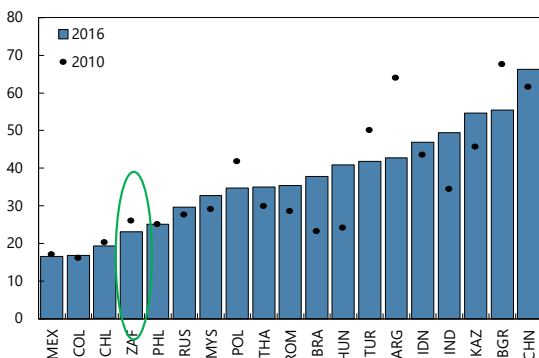
...but does not stand out relative to peers.

Non-Financial Corporate Debt, 2017Q4
(Percent of GDP)



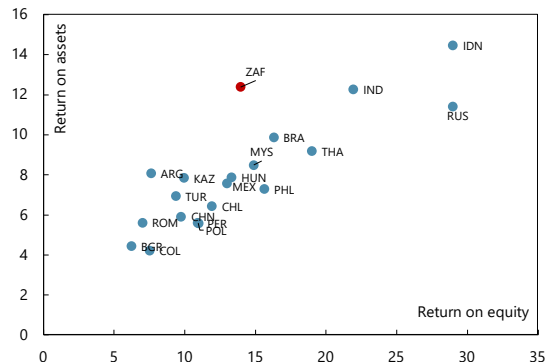
Short-term debt accounts for a relatively low share of overall non-financial corporate debt...

Non-Financial Corporate Short-Term Debt
(Percent of total debt)



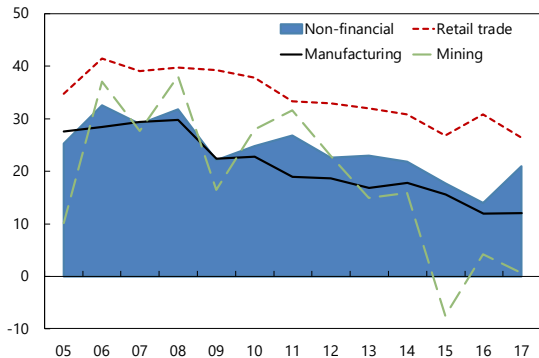
...and average profitability is holding up well.

Non-Financial Sector Profitability, 2016
(Percent)



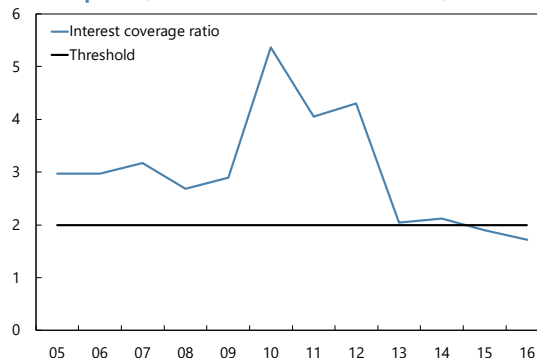
However, profitability in some sectors has worsened...

South Africa: Sectoral Return on Equity
(Percent; capital-weighted mean)



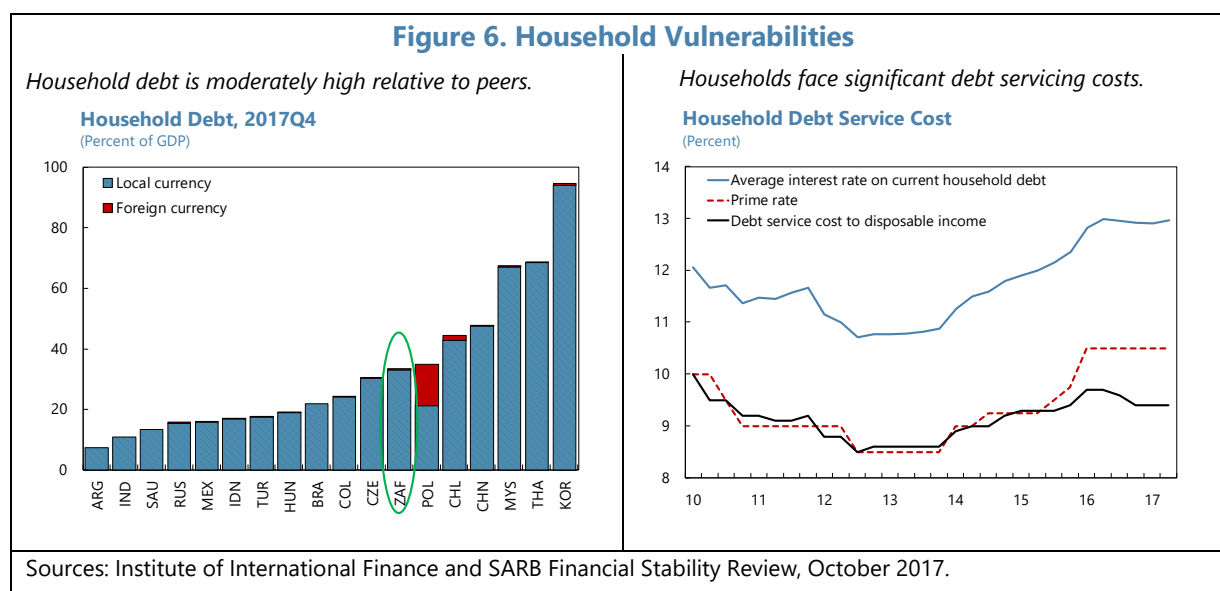
...and payment difficulties could arise on SOE debt.

South Africa: Interest Coverage Ratio in State-Owned Enterprises
(Ratio; threshold of debt at risk assumed at 2)



Sources: IMF Corporate Vulnerability Utility, Institute of International Finance, and SARB Financial Stability Review, October 2017.

9. Aggregate household debt is moderately high in a cross-country perspective, and it should be considered in the context of high poverty and unemployment rates. Household debt has steadily declined since the GFC and virtually all household debt is denominated in rand. However, the level of household debt at 34 percent of GDP at end-2017 is moderately above that in some other major emerging markets (Figure 6). Further, more than half the population lives in poverty and high unemployment continues to constrain household financial positions, posing a risk to debt servicing and limiting access to credit. As of 2017, household debt amounted to 72 percent of disposable income. Furthermore, households face an interest rate spread of around 250 basis points relative to the prime rate, and loans and advances to households remain subdued at around 4 percent year-on-year in April 2018. A further increase in interest rates could therefore put pressure on household debt servicing, and impact bank balance sheets.



Financial sector

10. The financial sector is large and highly integrated with other sectors of the economy.

The size of the financial sector is significant. It is dominated by the highly concentrated banking sector, and financial sector profitability is healthy in a cross-country perspective (Figure 7). Moreover, pension funds also play a significant role, with the Public Investment Corporation (PIC) managing government employees' pension assets. Assets of pension and provident funds (including both official and private self-administered funds) amounted to R 3.5 trillion (76 percent of GDP) as of the third quarter of 2017, with more than half accounted for by official pension funds. In turn, linkages between the financial and other sectors of the economy could potentially propagate adverse shocks to the real economy.

11. Overall, the large and highly concentrated banking sector is well-capitalized and profitable. As of November 2017, banking sector assets corresponded to around 110 percent of GDP, with more than 90 percent of assets accounted for by the five largest banks (Table 1). Capital adequacy is above regulatory requirements, and profitability—while having declined moderately

amid weak economic growth—remains strong. However, a further slowdown in growth could result in an increase in the share of non-performing loans, thereby feeding into bank balance sheets. In addition, the banking sector is exposed to sizable contingent liabilities, though these largely relate to credit lines with international companies located in South Africa.

12. However, there are pockets of vulnerabilities within the sector. On average, banks outside the Top 5 hold equity capital of around 15 percent of unweighted assets—nearly twice the level observed among Top 5 banks.³ However, NPLs among the smaller banks are also significantly higher than among the Top 5, with some smaller banks reporting NPLs of above 20 percent of loans (Tables 1 and 2). Notably, the balance of capital ratios and NPLs for a couple of medium-sized and small banks is near that observed for African Bank when it was moving toward curatorship in 2014 (Figure 7). In addition, non-resident foreign-currency and derivatives funding is relatively large outside the Top 5—at 13 percent of total assets on average, and up to 30–50 percent of assets in some cases. On the funding side, while medium-sized and small banks on average tend to rely more on retail deposits than the Top 5, some individual banks rely heavily on wholesale deposits (Table 3). As such, while the banking system as a whole is well-capitalized and profitable, some smaller, individual banks create vulnerabilities—though in isolation they would likely not be of systemic importance.

Table 1. South Africa: Selected Bank Balance Sheet Items

	Assets (Percent of system assets)	Non-resident FX and derivatives funding (Percent of assets)	Contingent liabilities (Percent of assets)	Non-performing loans (Percent of loans)	SOE lending (Percent of loans)	Equity (Percent of loans)
Top 5	90.6	5.5	8.9	2.3	2.6	8.0
Non-top 5	9.4	12.8	13.0	9.5	2.2	14.8

Sources: SARB BA900 November 2017 and IMF staff calculations.

³ As determined by the size of assets.

Table 2. South Africa: Bank-Level Indicators
(As of November 2017)

	Assets				Liabilities	
	Assets (Percent of total)	Lending to SOE (Percent of assets)	Impairment (Percent of loans)	Total equity (Percent of assets)	NR FX funding and derivatives (Percent of assets)	Contingent liabilities (Percent of assets)
Total	100.0	1.4	2.7	8.7	6.2	9.5
bank 1	24.4	1.9	2.7	8.1	7.7	8.4
bank 2	21.5	1.2	2.7	7.9	5.2	13.1
bank 3	18.6	1.3	2.3	8.4	3.6	10.0
bank 4	17.5	1.7	2.2	7.9	4.6	5.2
bank 5	8.1	0.3	0.5	7.6	6.3	4.0
bank 6	1.7	0.0	12.2	19.8	0.5	0.4
bank 7	1.2	1.3	3.3	12.6	5.9	54.6
bank 8	1.0	0.0	0.2	10.5	13.3	21.8
bank 9	0.9	0.0	3.1	9.9	40.5	7.2
bank 10	0.8	2.9	0.3	13.0	17.7	2.9
bank 11	0.7	0.7	2.4	11.8	29.4	2.3
bank 12	0.6	0.0	28.8	26.7	0.0	0.0
bank 13	0.3	0.0	1.0	17.7	4.8	8.9
bank 14	0.3	0.0	0.0	18.1	22.6	41.2
bank 15	0.2	0.0	0.6	9.4	0.0	1.8
bank 16	0.2	12.6	0.5	10.9	28.4	23.3
bank 17	0.2	0.0	1.9	16.6	48.0	3.6
bank 18	0.2	0.0	1.5	30.3	0.0	10.5
bank 19	0.2	0.0	0.1	9.3	1.0	0.0
bank 20	0.2	0.0	0.1	9.3	1.0	0.0
bank 21	0.2	0.0	5.2	12.2	0.0	7.7
bank 22	0.1	0.0	1.0	11.0	0.0	5.9
bank 23	0.1	0.0	28.0	11.7	0.0	0.0
bank 24	0.1	0.0	1.1	8.5	0.5	0.0
bank 25	0.1	0.0	20.9	7.2	3.9	0.0
bank 26	0.0	0.0	4.7	10.8	0.0	5.7
bank 27	0.0	0.0	2.8	13.6	44.7	20.3
bank 28	0.0	0.0	0.6	10.9	0.0	2.9
bank 29	0.0	0.0	6.1	31.6	0.0	3.2
bank 30	0.0	0.0	0.9	13.4	0.0	3.7
bank 31	0.0	0.0	2.4	10.7	2.3	7.4
bank 32	0.0	0.0	0.0	52.3	0.0	30.5
bank 33	0.0	0.0	34.6	59.8	0.0	0.0
bank 34	0.0	0.0	1.0	68.3	0.0	5.0

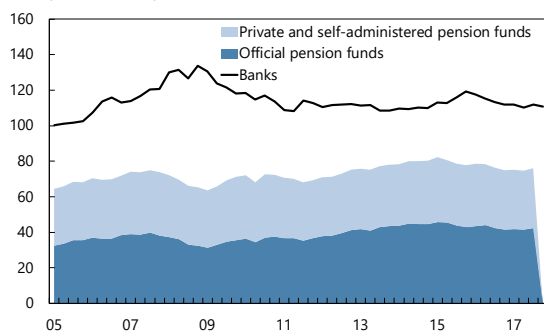
Sources: SARB and IMF staff calculations.

Figure 7. Financial Sector Vulnerabilities

Banks and pension funds are large players in the domestic financial sector.

Banking Sector and Pension Fund Assets

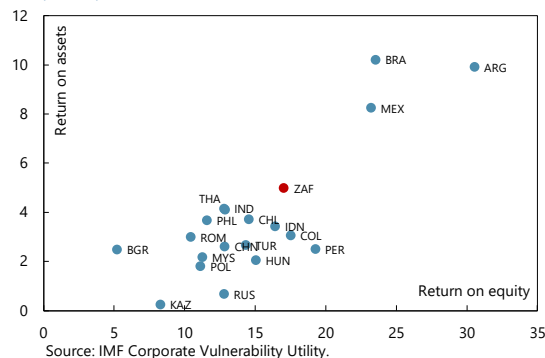
(Percent of GDP)



The financial sector is profitable and compares well to other emerging market economies.

Emerging Markets: Financial Sector Profitability, 2016

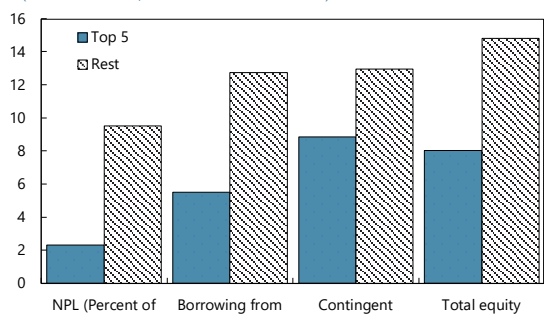
(Percent)



While capital adequacy is generally strong, some banks have high NPL ratios.

Financial Soundness Indicators, Top 5 and Smaller Banks

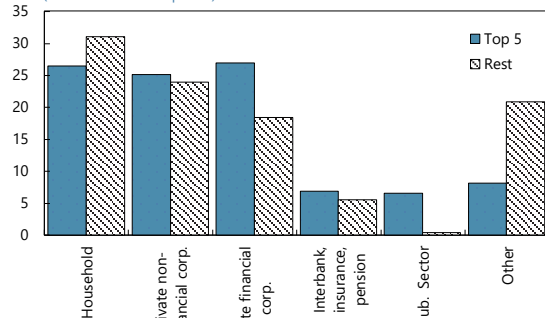
(Percent of assets, unless indicated otherwise)



Household deposits are an important deposit funding source.

Deposits by Type

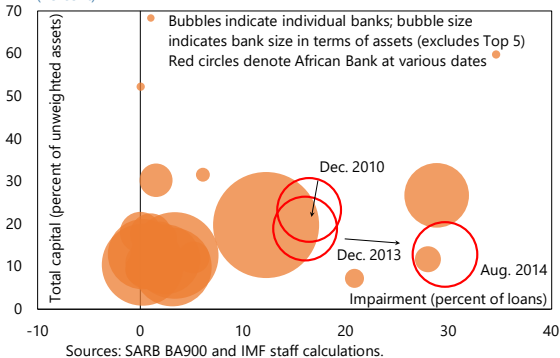
(Percent of total deposits)



Some banks have a capital/NPL-mix that resembles that of African Bank when it was put under curatorship.

African Bank in Bank-Level Perspective

(Percent)



Leading up to its failure, African Bank had faced a rapid deterioration in the quality of loans.

African Bank: Total Capital and NPLs

(Percent)

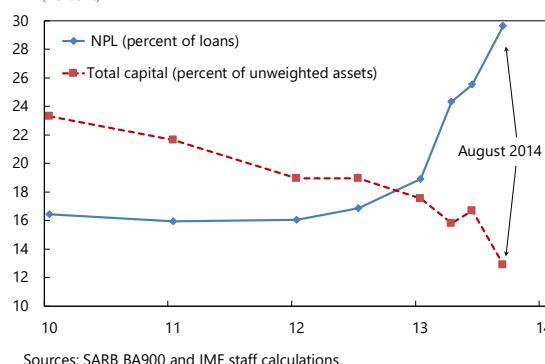


Table 3. South Africa: Banking Sector Reliance on Wholesale Deposits
(Wholesale deposits in percent of total deposits)

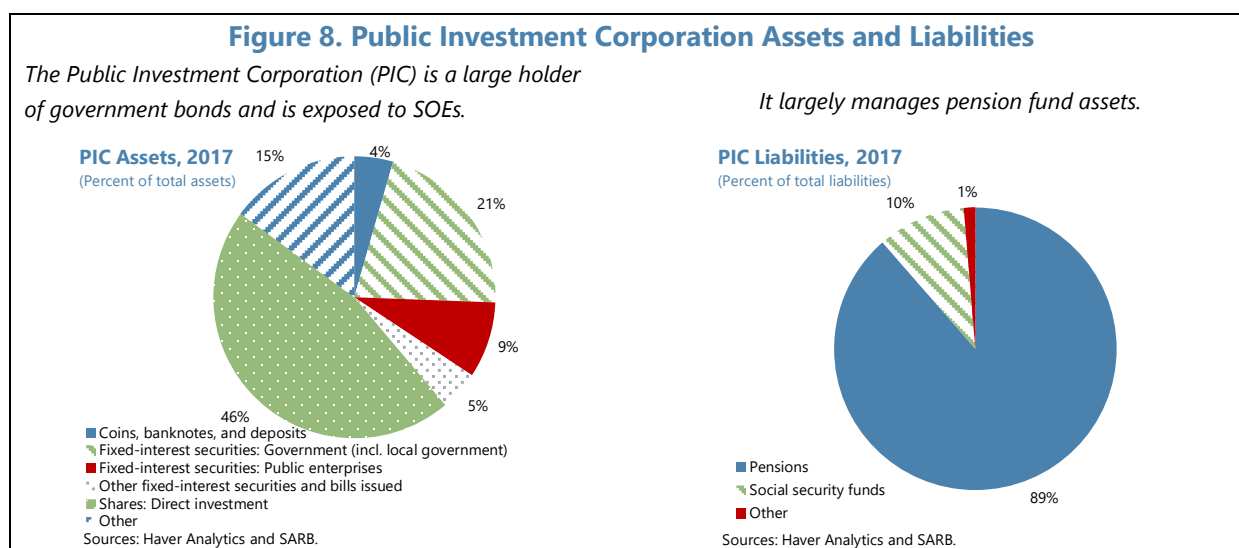
	All sources	Private financial corporations	Private nonfinancial corporations	Insurance, pension, SOEs	Interbank	PIC
Total	61.0	26.2	25.0	5.1	2.7	2.0
bank 1	67.2	24.8	32.8	2.4	3.1	4.2
bank 2	58.9	24.2	27.8	5.9	0.5	0.5
bank 3	59.2	25.4	19.7	6.5	5.2	2.4
bank 4	60.4	28.7	20.1	7.8	2.5	1.2
bank 5	66.6	38.6	21.0	2.7	1.9	2.4
bank 6	2.1	1.0	0.5	0.5	0.0	0.0
bank 7	74.3	16.3	57.1	0.8	0.1	0.0
bank 8	72.5	41.4	28.5	2.0	0.6	0.0
bank 9	71.7	28.1	43.6	0.0	0.0	0.0
bank 10	69.3	22.8	36.8	9.7	0.0	0.0
bank 11	60.0	30.7	12.8	8.6	7.9	0.0
bank 12	88.7	10.0	0.0	17.2	54.8	6.7
bank 13	40.5	6.0	33.8	0.3	0.4	0.0
bank 14	72.1	0.0	63.3	8.8	0.0	0.0
bank 15	65.2	11.0	48.4	4.3	1.5	0.0
bank 16	40.0	31.0	4.0	3.9	1.2	0.0
bank 17	20.1	6.9	9.3	0.0	3.9	0.0
bank 18	32.6	8.6	24.0	0.0	0.0	0.0
bank 19	82.0	61.3	0.0	9.2	11.4	0.0
bank 20	82.0	61.3	0.0	9.2	11.4	0.0
bank 21	54.7	17.9	20.7	13.6	2.4	0.0
bank 22	0.0	0.0	0.0	0.0	0.0	0.0
bank 23	0.0	0.0	0.0	0.0	0.0	0.0
bank 24	53.1	0.0	52.4	0.0	0.7	0.0
bank 25	10.2	0.0	10.2	0.0	0.0	0.0
bank 26	36.8	0.0	36.7	0.0	0.1	0.0
bank 27	24.4	0.0	5.1	0.0	19.2	0.0
bank 28	18.3	0.0	12.6	5.6	0.0	0.0
bank 29	1.9	1.9	0.0	0.0	0.0	0.0
bank 30	21.2	0.0	20.6	0.7	0.0	0.0
bank 31	58.1	0.0	58.1	0.0	0.0	0.0
bank 32	0.0	0.0	0.0	0.0	0.0	0.0
bank 33	98.9	0.0	75.6	0.0	23.4	0.0
bank 34	98.4	0.0	48.1	0.0	50.2	0.0

Sources: SARB and IMF staff calculations.

13. The PIC constitutes a major part of the South African financial sector. Managing a significant share of pension fund assets in South Africa, the government-owned PIC is also the largest asset manager on the African continent, with more than R2.1 trillion (about 46 percent of GDP) of assets under management as of end-2017. Of these, close to 90 percent are those of the Government Employees Pension Fund (GEPF) (Figure 8). PIC assets under management are invested in a variety of asset classes, in particular fixed income and equity. While PIC holds non-negligible

stakes in the banking sector, deposits with banks account for less than 2½ percent of total banking sector deposits.

- **Fixed income.** PIC fixed income investments are exclusively in instruments listed on the Bond Exchange of South Africa. As of end-2017, PIC held about 20 percent of government domestic marketable bonds (R452 billion or close to 10 percent of GDP) and more than 50 percent of SOE debt securities.
- **Equity.** PIC is the largest single institutional investor on the JSE (PIC, 2017). Notably, PIC is a large shareholder in South Africa's major banks, owning in 2017 (as an example) about 12 percent of Standard Bank shares.



14. Overall, with a generally strong banking sector, domestic financial sector vulnerabilities are largely related to its exposure to SOEs. While only about 2½ percent of banking sector bonds and loans are to SOEs, PIC is heavily exposed to large SOEs, including Eskom and Transnet. Hence, in a tail event, a large SOE failure could spill over to the financial sector through the PIC. Furthermore, while PIC deposits account for only a small share of deposits in the banking sector, these are concentrated in few banks. Hence, to the extent an adverse shock prompts a sudden withdrawal of PIC deposits (which amount to about 2 percent of GDP), this could potentially put strains on funding in some banks with potentially systemic impact.

C. External Vulnerabilities

15. Gross external financing requirements are large. While the current account deficit has narrowed to 2.5 percent of GDP in 2017, it remains high relative to that in peer economies (Figure 9) and relative to the estimated norm (see the 2018 Article IV staff report for South Africa). In addition, total external debt has steadily increased, reaching nearly 50 percent of GDP as of end-2017—almost a doubling since end-2007. As a result, external debt service needs are

significant. As of end-2017, short-term debt at remaining maturity amounted to more than 14 percent of GDP, of which more than 50 percent is foreign-currency external debt of the monetary and non-financial private sectors. Public sector and SOE external debt is largely of maturity longer than one year.

16. In addition, the current account deficit is financed primarily by flows prone to reversals. In 2017, the current account deficit was financed entirely by net portfolio flows (equity and debt). In contrast, the more stable foreign direct investment flows continued to record a net outflow, reaching -1.7 percent of GDP last year. Hence, the composition of the current account financing is a source of vulnerability, as abrupt changes in global demand for emerging market assets can result in sudden capital outflows.

17. While IIP assets are large, they are exposed to significant valuation risk. The net international investment position (net IIP) was positive at 12 percent of GDP at end-2017 (when valued in rand-terms), amid large external assets (149 percent of GDP) and liabilities (137 percent of GDP). However, excluding the generally less liquid net FDI position, the net IIP position would have been markedly lower at -20 percent of GDP. Furthermore, FDI assets are vulnerable to sudden valuation changes. For example, the 30 percentage point of GDP increase in the net IIP between 2010 and 2016 is highly related to a rise in the valuation of FDI assets in China—owing in particular to a significant increase in the valuation of an investment in the Chinese technology company, Tencent.⁴ The end-2016 net IIP position of 7 percent of GDP would have been about 20 percent of GDP lower if the increase in FDI assets in China were to be excluded. As such, the positive net IIP position should be interpreted with caution.

D. Mitigating Factors and Existing Buffers

18. While vulnerabilities expose the South African economy to risks, mitigating factors and existing buffers can help cushion the impact of adverse shocks, should they materialize. This section provides an overview of mitigating factors and takes stock of existing buffers, in particular those related to international reserves.

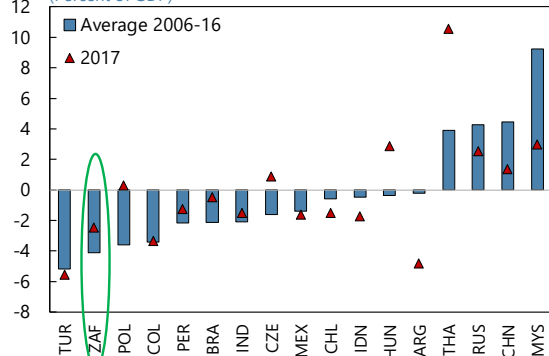
Mitigating Factors

19. South Africa benefits from several mitigating factors. As noted above, together with other major emerging markets, South Africa has benefitted from favorable global market conditions during the past few years, with capital flows highly correlated with global flows. However, the economy's resilience has been reflected in the largely temporary financial market reactions during periods of stress. In addition, the flexible exchange rate provides an automatic cushion in response to shocks. Further, the large financial sector, including with assets corresponding to more than

⁴ Reportedly, South Africa's Naspers paid \$32 million for a stake in Tencent in 2001, which in March 2018 was worth \$175 billion. In March 2018, it was announced that Naspers planned to sell about \$11 billion (2 percent) of Tencent shares, reducing its holding to about 31 percent of shares (see Reuters, 2018, and Financial Times, 2018).

Figure 9. External Sector Vulnerabilities*The current account deficit is large...***Current Account Balances**

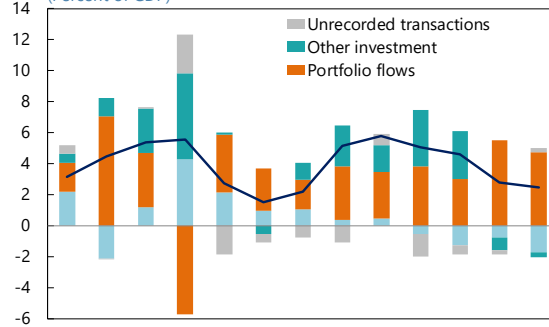
(Percent of GDP)



Sources: National authorities and IMF staff calculations.

*...and financed by flows prone to volatility.***Financial Account**

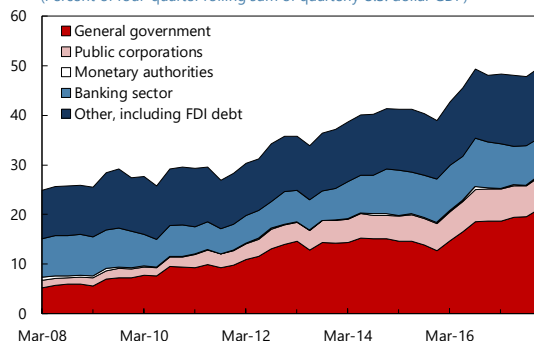
(Percent of GDP)



Sources: South African Reserve Bank and IMF staff calculations.

*External debt has risen...***Breakdown of External Debt by Sector**

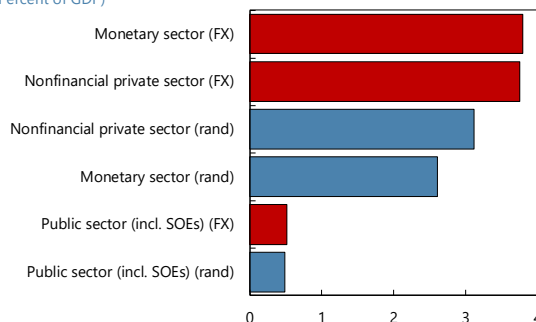
(Percent of four-quarter rolling sum of quarterly U.S. dollar GDP)



Sources: Haver Analytics, SARB, and IMF staff calculations.

*...and external financing requirements are significant.***External Short-Term Debt at Remaining Maturity, end-2017**

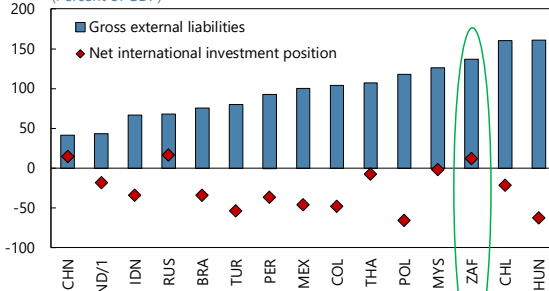
(Percent of GDP)



Sources: South African Reserve Bank and IMF staff calculations.

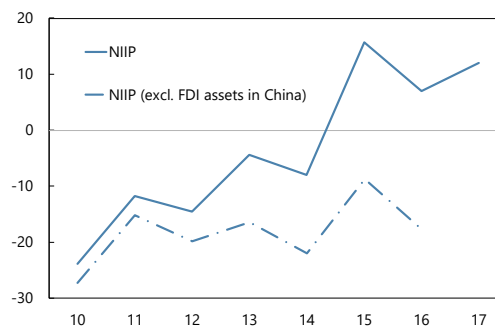
*While the net international investment position is positive, it masks large underlying gross external liabilities...***Gross External Liabilities and NIIP, 2017**

(Percent of GDP)



1/IND: India 2016

Sources: Haver Analytics, national authorities, and IMF staff calculations.

*...and exposure to significant valuation changes, in particular in China.***Net International Investment Position (NIIP)**

Sources: Coordinated Direct Investment Survey and Haver Analytics.

40 percent of GDP managed by the PIC, can provide a buffer in the event of sudden nonresident capital outflows. The low share of foreign currency-denominated government debt (about 10 percent) and long average term to maturity of debt (about 15 years) limit the public sector's exposure to exchange rate risk. The share of overall external debt denominated in foreign currency has also moderated since the GFC and is now below 50 percent of total external debt. Furthermore, while short-term external debt at remaining maturity is non-negligible, more than 40 percent is denominated in rand. About 20 percent of short-term debt (original maturity) is related to FDI debt.

Existing Buffers

20. Reserve adequacy can be assessed against several different metrics. For emerging markets, the Fund considers in particular the Assessing Reserve Adequacy (ARA) metric, which is a weighted sum of four underlying sources for capital flight. Reserves are considered adequate when they are between 100 and 150 percent of the ARA metric. Other indicators include reserves relative to short-term debt at remaining maturity (with an adequacy threshold of 100 percent) and reserves relative to broad money (with an adequacy range of 5–20 percent). For countries with floating exchange rates, the ARA metric is computed with the following variables and weights (IMF, 2016a):⁵

- **Short-term external debt at remaining maturity.** Captures rollover risk. The weight in the ARA metric is 0.3.
- **Other external liabilities.** Captures the risk of nonresident equity and medium- and long-term debt outflows and is computed as the sum of portfolio and other investment liabilities, less short-term external debt at remaining maturity. The weight in the ARA metric is 0.15.
- **Broad money.** Captures the risk of resident outflows. The weight in the ARA metric is 0.05 for countries without capital flows measures and 0.025 for countries with capital flow measures.
- **Exports.** Captures the potential loss of export income. The weight in the ARA metric is 0.05.

21. Reserve adequacy has recently declined, and is low relative to other emerging market economies. While reserve adequacy strengthened in the early 2000s, an increase in other external liabilities during the past decade has heightened the need for additional reserves as reflected in an increase in the ARA metric (Figure 10). In turn, the South African Reserve Bank's (SARB's) efforts to build reserves through 2012 (without targeting a level of the exchange rate) did not continue to strengthen reserve adequacy relative to the metric. As a result, end-2017 reserve adequacy (as measured by the ARA) declined to 64 percent of the unadjusted ARA metric (70 percent of the ARA after accounting for existing capital-flow measures (CFMs))—close to \$30 billion short of

⁵ Weights for fixed exchange rate regimes are larger for other external liabilities, broad money, and exports than for flexible exchange rate regimes, reflecting the additional need for reserves to defend the level of the exchange rate. The ARA metric can also be adjusted for commodity exports, considering that additional reserve accumulation for commodity exporters may be warranted to safeguard against commodity price shocks.

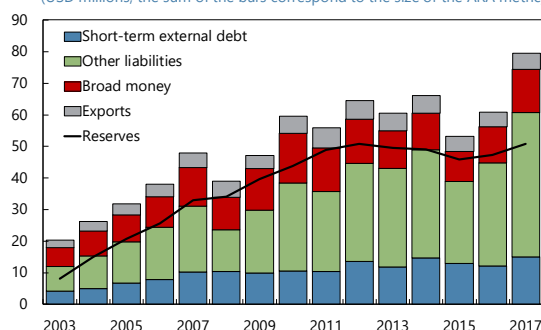
reaching the lower bound of the ARA adequacy range at 100 percent of the ARA metric. In addition, South Africa's level of reserves does not compare favorably relative to many other emerging markets. However, reserves at end-2017 were above the adequacy thresholds for short-term debt at remaining maturity (reserves were at 102 percent of short-term debt at remaining maturity) and broad money (reserves were at close to 20 percent of broad money).

Figure 10. Reserve Adequacy

An increase in other external liabilities has heightened the need for reserves...

Contributions to the Evolution of the ARA Metric

(USD millions; the sum of the bars correspond to the size of the ARA metric)

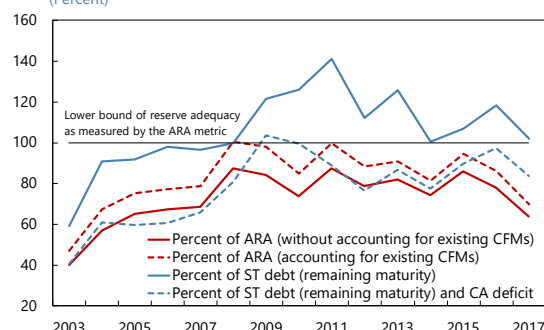


Sources: SARB and IMF staff calculations.

...which fall short of adequacy based on the Assessing Reserve Adequacy (ARA) metric...

South Africa: Measures of Reserve Adequacy

(Percent)

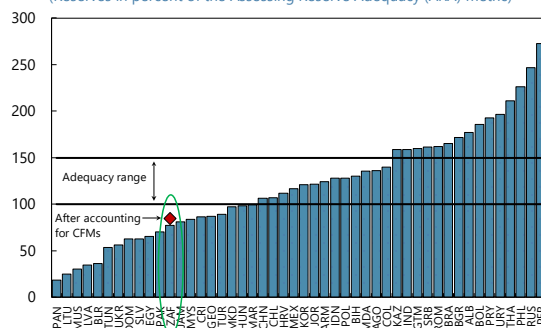


Sources: SARB, World Bank Debt Statistics, and IMF staff calculations.

...and are low relative to many other emerging market reserve levels.

Reserve Adequacy Based on the ARA Metric, 2016

(Reserves in percent of the Assessing Reserve Adequacy (ARA) metric)

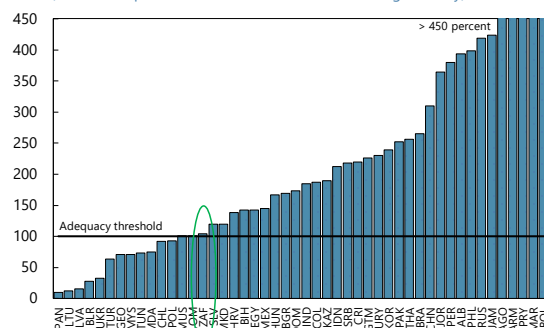


Sources: National authorities and IMF staff calculations.

Reserves relative to short-term debt are above adequacy but do not compare favorably at an international scale.

Reserve Adequacy Based on Short-Term Debt, 2016

(Reserves in percent of short-term debt at remaining maturity)



Sources: National authorities and IMF staff calculations.

22. Beside international reserves, South Africa has access to other parts of the global financial safety net.

- **BRICS Contingent Reserve Arrangement (CRA).** The BRICS CRA was established in 2015 by Brazil, Russia, India, China, and South Africa with the objective of providing protection against global liquidity pressures. CRA resources amount to \$100 billion of which South Africa contributes \$5 billion. Total access to the CRA for South Africa amounts to \$10 billion, of which 30 percent can be accessed without an IMF arrangement.

- **Bilateral swap line with China.** In April 2015, SARB entered into a bilateral currency swap agreement with the People's Bank of China, amounting to CNY30 billion (about \$4.7 billion). The “purpose of the swap line is to support trade and investment between South Africa and China, and to act as a mitigating resource for short term balance of payment pressures” (SARB, 2015). While the initial agreement was for three years, the agreement was extended in 2018 for a further three-year period.

E. Downside Scenarios

23. A tail-risk scenario could have a material impact on the economy. A materialization of downside risks—for example prompted by tighter global financial conditions—potentially combined with a sovereign credit rating downgrade, could prompt sudden and significant non-resident capital outflows. In turn, this could substantially impact the South African economy. For example, the materialization of a large contingent liability could prompt an increase in borrowing costs and a higher deficit and debt ratio, in turn weighing on growth. In a severe downside scenario with significant capital outflows and exchange rate depreciation, this would increase borrowing costs also for SOEs and banks. To the extent that non-resident demand for government bonds dry up, the PIC could potentially step in to help support demand, though this could occur at the expense of funding to banks. In turn, banking sector credit extension would be curtailed, with resulting negative feedback effects to investment and growth. Furthermore, GEPP members' benefits are guaranteed by the state. Hence, if for any reason pensioners are not paid their pension benefits—which should be payable from PIC's investments—the government would have an obligation to fill any remaining gap. Thus, significant macro-financial linkages can result in an adverse economic impact.

24. A sub-investment grade rating of South Africa's sovereign local-currency credit rating by all three credit rating agencies could prompt capital outflows and increased funding costs. In March 2018, Moody's maintained South Africa's sovereign rating at Baa3 (the lowest investment grade) and changed the outlook to stable, reducing the probability of a near-term downgrade to below investment grade. However, in the event a downgrade should occur, a sub-investment grade rating by both S&P and Moody's would prompt exclusion from Citigroup's World Government Bond Index (WGBI), resulting in forced sales of domestic government bonds. In fact, some sales by benchmarkers and index trackers occurred after downgrades of South Africa's local currency rating to below investment grade by Fitch and S&P. As of March 2018, remaining investment grade (IG) sensitive investors appeared to be only those tracking the WGBI. Overall, staff estimates that while in 2016 about 20 percent of local currency government debt was held by IG-sensitive investors (IMF, 2016b), this share has now fallen to around 2 percent (Table 4). Therefore, a sovereign downgrade by Moody's, should it occur, could prompt forced outflows of about \$1½ billion or ½ percent of GDP.⁶ As some outflows have already occurred, this estimate is below staff's 2016 estimate of about 2½ percent of GDP (IMF, 2016b). However, actual outflows could well exceed those arising from forced sales to the extent that negative market sentiment results in additional outflows, not least considering the hedge fund participation in the South African bond market. Furthermore, funding

⁶ Assuming the new baseline and based on two benchmark bonds (R186 and 2023).

costs for the sovereign as well as SOEs and banks could rise after a potential loss by the sovereign of investment-grade status, with resulting impact on spending and growth.

Table 4. South Africa: Potential Forced Nonresident Outflows from Sovereign Downgrade

(Estimated share of benchmarking by nonresident investors as of March 2018)

	R186 10-year	2023 5-year	Average
Investment grade (WGBI, percent)	2	2	2
Non-investment grade (non-WGBI, percent)	98	97	98
Nonresident holdings (share of total, percent)	43	43	43
Domestic marketable government bonds (R billion)	1950	1950	1950
Exchange rate (Rand per USD)	11.8	11.8	11.8
Estimated potential forced outflows (USD billion)	1.3	1.7	1.5
Percent of 2017 GDP	0.4	0.5	0.4

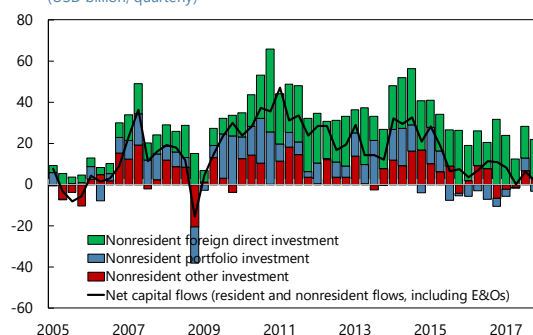
Sources: Bloomberg and IMF staff calculations.

25. Cross-country experiences suggest that outflows could be significant. A number of countries, including South Africa, have faced temporary periods of stress. As the GFC hit the global economy in 2008, nonresident capital abruptly fled several major emerging markets. In the fourth quarter of 2008, Brazil faced net capital outflows of \$15½ billion (about 0.9 percent of 2008 GDP) amid both non-resident and resident outflows (Figure 11). In contrast for South Africa, while portfolio outflows contributed to \$7½ billion in nonresident capital outflows in the fourth quarter of 2008, resident inflows and errors and omissions were more than offsetting. Overall, South Africa did therefore not experience net outflows in any quarter during 2008–09.

26. An adverse scenario in South Africa would likely differ from a typical boom-bust scenario. Amid already weak growth and compressed imports, the current account deficit has narrowed. In 2017, the trade and services balance was positive at 1.4 percent of GDP. Instead, the current account deficit resulted from deficits on the income and transfer accounts amounting to 3 and 0.8 percent of GDP, respectively. Therefore, while significant capital outflows could prompt a decline in imports, they would likely also lead to a short-term improvement in the income account on the back of reduced nonresident holdings of assets (albeit in the context of large IIP stocks). However, external debt servicing costs could rise markedly, not least considering significant gross external financing needs.

Figure 11. Capital Flow Developments 1/*Brazil experienced sudden net capital outflows in 2008...***Brazil: Net Capital Flows**

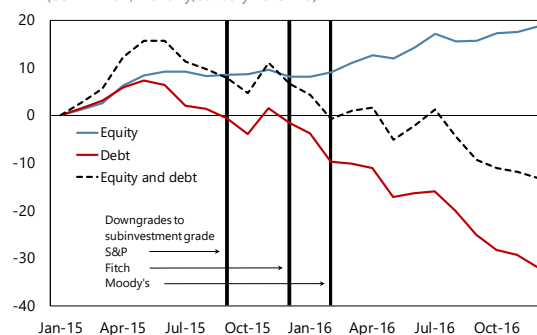
(USD billion; quarterly)



Source: Institute of International Finance.

*...and nonresident outflows following downgrades.***Brazil: Cumulative Net Nonresident Portfolio Inflow**

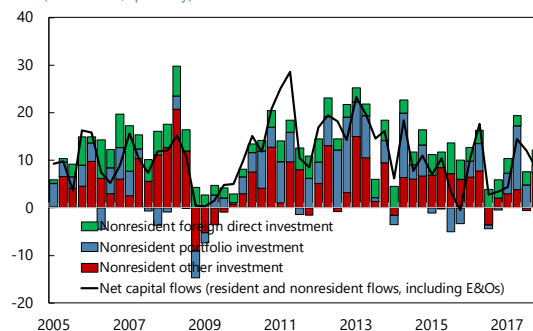
(USD million, monthly; January 2015 = 0)



Source: Institute of International Finance.

*Capital flows to Turkey have also varied...***Turkey: Net Capital Flows**

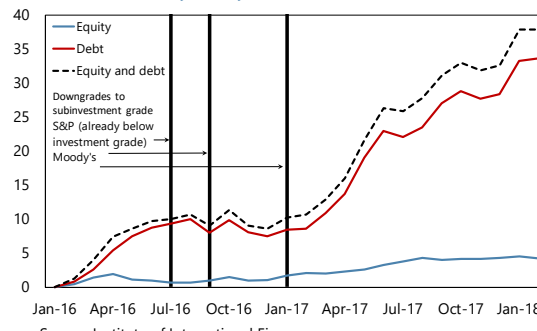
(USD billion; quarterly)



Source: Institute of International Finance.

*...but nonresident flows held up after downgrades.***Turkey: Cumulative Net Nonresident Portfolio Inflow**

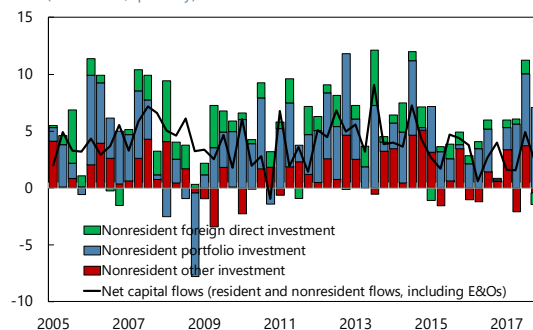
(USD million, monthly; January 2016 = 0)



Source: Institute of International Finance.

*Net capital flows turned negative in the fourth quarter of 2017...***South Africa: Net Capital Flows**

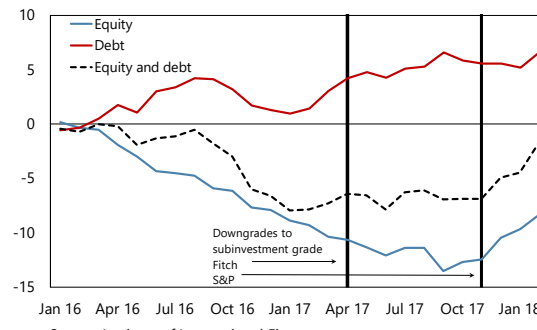
(USD billion; quarterly)



Source: Institute of International Finance.

*...but nonresident portfolio flows held up as nonresident equity inflows countered nonresident debt outflows.***South Africa: Cumulative Net Nonresident Portfolio Inflow**

(USD million, monthly; January 2016 = 0)



Source: Institute of International Finance.

1/ Downgrades may have differential impact on local- and foreign-currency denominated debt outflows depending on whether the local- or foreign-currency rating is downgraded. The charts here do not capture this point.

28. In addition, capital flow responses to sovereign credit rating downgrades have varied.

For Brazil, net nonresident portfolio outflows started a few months before S&P downgraded the local currency sovereign rating to below investment grade in September 2015, and outflows continued through downgrades by Fitch and Moody's and for several months thereafter. Overall, net nonresident portfolio outflows amounted to about 1.1 percent of 2015 GDP during the one year following June 2015. In contrast, for Turkey, downgrades prompted a pause in net nonresident portfolio inflows, which picked up again after the third downgrade below investment grade. For South Africa, after sustained nonresident portfolio outflows during the second half of 2016, monthly net nonresident flows remained broadly constant through 2017.

F. Concluding Remarks**29. The South African economy is resilient, but is exposed to shocks through domestic and external vulnerabilities.**

South Africa has weathered well bouts of volatility in 2017 as the flexible exchange rate has helped cushion the impact of shocks. The large financial sector has also provided a domestic investor base for government bonds. But vulnerabilities exist in both domestic and external sectors of the economy. Domestic public-sector finances have worsened during the past decade and fiscal risks from SOEs have risen. Significant sovereign-financial linkages can propagate shocks, should downside risks materialize. In addition, external financing needs are large and the current account deficit is financed by flows subject to sudden reversals. In turn, potential capital outflows could be significant, should nonresident investors leave South Africa, whether on the back of the materialization of domestic or external shocks.

30. Policies focused on supporting strong and inclusive growth would strengthen resilience.

To further build resilience, policies should be aimed at reducing vulnerabilities through structural reforms to lift growth and fiscal consolidation to rebuild policy buffers. An improved business environment would encourage private investment and support job creation. Alongside a strengthening of public-sector balance sheets, strong and inclusive growth will require maintaining an effective social safety net and modernizing infrastructure to support investment. As opportunities arise and subject to meeting the inflation mandate, accumulation of international reserves toward adequate levels would strengthen buffers.

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